



中文核心期刊
中国科技核心期刊
中国科学引文数据库(CSCD)来源期刊
RCCSE中国核心学术期刊(A)
中国农林核心期刊

ISSN 2095-1191

CODEN NNXAAB

南方农业学报

Nanfang Nongye Xuebao

第52卷 第4期 2021年4月

Journal of Southern Agriculture

Vol.52 No.4 Apr. 2021

4
2021

广西壮族自治区农业科学院 主办
Sponsored by Guangxi Academy of Agricultural Sciences



科学出版社 出版
Published by Science Press

南方农业学报

Nanfang Nongye Xuebao

第52卷 第4期 2021年4月

目 次

优秀青年学者论坛

- 847 基于转录组测序筛选影响从江香猪产仔数的候选基因 张福平,唐靓婷,王嘉福,冉雪琴,李升,黄世会
857 番茄Trihelix家族SIP1亚家族基因(SlGT-33)克隆表达分析及功能研究 崔宝禄,陈国平

专题:玉米

- 867 玉米ZmEXO70s基因家族鉴定及苗期耐热性关联分析 冯信,张春梅,王宏伟
879 玉米肌动蛋白解聚因子ZmADF4基因克隆、转录活性及表达分析 王欣,黄君,李高科
888 黄淮海糯玉米品种基因型与环境互作效应分析 魏常敏,许卫猛,邢永锋,宋万友,李桂芝,陈国立,周文伟
897 长江中游春播与夏播玉米籽粒脱水及机收质量差异分析 梁如玉,黄益勤,展茗,刘志辉,王燕,刘永忠,杨仁能,汪恒进
908 利用分子标记辅助选择技术创制耐铝玉米种质 邓磊,潘金卫,杨文鹏,任洪,王伟,柏光晓
916 叶面喷施 γ -氨基丁酸对糯玉米产量形成及光合特性的影响 李武,涂攀峰,李光玉,蔡若琪,李余良,李坤,祁喜涛,卢文佳,刘建华
924 吐丝期干旱对夏玉米叶绿素荧光特性和产量的影响 张美微,李志源,鲁振,乔江方,刘京宝,李川,张盼盼,赵霞,牛军,黄璐
931 花期干旱胁迫对不同夏玉米品种花后干物质积累运转及产量的影响 穆心愿,夏来坤,谷利敏,张凤启,张君,丁勇,齐建双,唐保军,赵发欣,邢健伟
942 玉米秸秆生物炭对天人菊土壤理化性质及根际土壤真菌群落结构的影响 姚彤,胡晓龙,贾永红,张富荣
951 农田机械碾压对土壤物理特性及玉米生长和产量的影响 齐红志,余天雨,刘天学
959 贵州春玉米机械粒收适宜品种筛选及影响因素研究 陈杜,杨锦越,罗英舰,卢平,郑迎霞,魏鹏程,叶开梅,宋碧,张军
967 缓释尿素一次性施用在玉米减氮增效中的作用 李欢,李扬,杨清夏,吴开贤,何澍然,赵平,张小卓,龙光强

植物保护·农业气象

- 976 番茄匍柄霉SlCmr1基因克隆及其敲除载体的构建 黄萍,刘洪,王慧,周倩

- 984 芒果葡萄座腔菌对3种杀菌剂的敏感性测定 赵江,余知和,李其利,唐利华,郭堂勋,黄穗萍,莫贱友,孙明艳
- 995 生防菌爪哇棒束孢对斜纹夜蛾的防效与安全性评价 苏湘宁,刘伟玲,王萌,梁晓宇,黄少华,廖章轩,李传瑛,章玉苹
- 1002 鸦胆子废渣抑菌活性成分分析 何博,黄燕,陈琳,王灿灿,曾东强,唐文伟
- 1012 广西北部湾入侵植物互花米草内生可培养细菌多样性及促生防病活性分析 李慧颖,申乃坤,吴家法,杨立芳,吴宛容,邓礼霞,姜明国

园艺·园林·林业

- 1022 菜心EMS诱变条件优化与突变体库构建 张艳,洪晓如,黎庭耀,沈卓,杨易,周轩,陈汉才
- 1030 铅、锌、镉单一及复合胁迫对多年生黑麦草生长及生理特性的影响 石慧芳,席溢,张茂,裴应杰,黄本用,李金孟,杨克超
- 1040 有机肥施用量和干旱时期对番茄产量及品质的影响 王光梅,胡兵辉
- 1050 油棕果实发育及中果皮内含物含量和抗氧化酶活性的变化规律 石鹏,王永,张大鹏
- 1058 三叶木通果肉提取物的体外抗氧化及抑制 α -葡萄糖苷酶和乙酰胆碱酯酶能力 丁林玲,谢颖欣,高伟,于丽娟,李宏,王振兴,张雪春
- 1066 商洛市食用菌重金属污染风险与健康风险评价 董照锋,赵宇,李娟,任岗
- 1073 不同砧木对甜樱桃红灯生长、产量及果实品质的影响 李玉生,吴永杰,陈龙,赵艳华,吴雅琴,程和禾

畜牧·兽医·水产·蚕桑

- 1082 隆林山羊CIDEc基因的克隆及组织表达分析 邹菊红,江雨航,张叁保,高小童,申玉建,韦英明,黄大安,黄艳娜,蒋钦杨
- 1090 斑马鱼血管新生相关因子PTPRB的原核表达及其多克隆抗体制备 冯鹏霏,肖蕊,张永德,林勇,宋漫玲,潘传燕,余艳玲,罗辉,罗洪林
- 1098 慢性氨氮胁迫对凡纳滨对虾生理生化指标及血蓝蛋白基因表达的影响 顾楠,戴习林
- 1108 不同凡纳滨对虾养殖群体的微卫星遗传多样性分析 唐芳,温贝妮,刘红
- 1116 不同年龄阶段安格斯牛与湘西黄牛屠宰性能和肉品质的比较 孙鏖,雷虹,何芳,李剑波,浣成,张佰忠,易康乐

农业信息技术·农业经济

- 1124 基于MaxEnt模型的绞股蓝潜在适生区预测 邵周玲,周文佐,杨帆,李凤,周新尧
- 1132 国际食用植物油价格对我国食用植物油价格的非对称传导分析 周婕

本期执行编辑:王晖

期刊基本参数:CN 45-1381/S*1940*m*A4*292*zh*P* ¥ 45.00*1000*33*2021-04

Journal of Southern Agriculture

Vol.52 No.4, 2021

Contents

Outstanding Young Scholars Forum

- 847 Selection of candidate genes affecting litter size of Congjiang Xiang pig by transcriptome sequencing ZHANG Fu-ping, TANG Liang-ting, WANG Jia-fu, RAN Xue-qin, LI Sheng, HUANG Shi-hui
857 Cloning expression analysis and functions of SIP1 subfamily gene (*SIGT-33*) in tomato Trihelix family CUI Bao-lu, CHEN Guo-ping

Special Subject : Maize

- 867 Identification of *ZmEXO70s* gene family in maize and its correlation with heat tolerance at seedling stage FENG Xin, ZHANG Chun-mei, WANG Hong-wei
879 Cloning, transcription activity and expression analysis of actin-depolymerizing factor 4, *ZmADF4* in maize (*Zea mays L.*) WANG Xin, HUANG Jun, LI Gao-ke
888 Genotype×environment interaction effect of waxy maize varieties in Huang-Huai-Hai Region WEI Chang-min, XU Wei-meng, XING Yong-feng, SONG Wan-you, LI Gui-zhi, CHEN Guo-li, ZHOU Wen-wei
897 Comparison of grain dehydration and mechanical harvest quality between spring-sown maize and summer-sown maize in the middle reaches of Yangtze River LIANG Ru-yu, HUANG Yi-qin, ZHAN Ming, LIU Zhi-hui, WANG Yan, LIU Yong-zhong, YANG Ren-neng, WANG Heng-Jin
908 Breeding aluminum-tolerant maize germplasm using molecular marker-assisted selection DENG Lei, PAN Jin-wei, YANG Wen-peng, REN Hong, WANG Wei, BAI Guang-xiao
916 Effects of foliar spraying of γ-aminobutyric acid on yield formation and photosynthetic characteristics of waxy corn LI Wu, TU Pan-feng, LI Guang-yu, CHAI Ruo-qi, LI Yu-liang, LI Kun, QI Xi-tao, LU Wen-jia, LIU Jian-hua
924 Effects of drought stress on chlorophyll fluorescence characteristics and yield of summer maize at silking stage ZHANG Mei-wei, LI Zhi-yuan, LU Zhen, QIAO Jiang-fang, LIU Jing-bao, LI Chuan, ZHANG Pan-pan, ZHAO Xia, NIU Jun, HUANG Lu
931 Effects of drought stress during flowering on post-flowering dry matter accumulation and transfer and yield of different maize cultivars MU Xin-yuan, XIA Lai-kun, GU Li-min, ZHANG Feng-qi, ZHANG Jun, DING Yong, QI Jian-shuang, TANG Bao-jun, ZHAO Fa-xin, XING Jian-wei
942 Effects of corn stalk biochar on soil physicochemical properties and fungal community structure in the rhizosphere of *Gaillardia pulchella* Foug. YAO Tong, HU Xiao-long, JIA Yong-hong, ZHANG Fu-rong
951 Effects of mechanical compaction on soil physical properties, maize growth and yield in farmland QI Hong-zhi, YU Tian-yu, LIU Tian-xue
959 Selection and influencing factors of spring maize varieties suitable for mechanical harvesting in Guizhou CHEN Du, YANG Jin-yue, LUO Ying-jian, LU Ping, ZHENG Ying-xia, WEI Peng-cheng, YE Kai-me, SONG Bi, ZHANG Jun
967 Effects of slow-release urea one-time application on nitrogen reduction and efficiency improvement in maize cropping LI Huan, LI Yang, YANG Qing-xia, WU Kai-xian, HE Shu-ran, ZHAO Ping, ZHANG Xiao-zhuo, LONG Guang-qiang

Plant Protection · Agrometeorology

- 976 Cloning and knockout vector construction of *SlCmr1* gene in *Stemphylium lycopersici* HUANG Ping, LIU Hong, WANG Hui, ZHOU Qian
984 Susceptibility of Botryosphaeriaceous isolates from mango to three fungicides ZHAO Jiang, YU Zhi-he, LI Qi-li, TANG Li-hua, GUO Tang-xun, HUANG Sui-ping, MO Jian-you, SUN Ming-yan

- 995 Control effects of biocontrol strain *Isaria javanica* on *Spodoptera litura* (Fabricius) and evaluation safety SU Xiang-ning, LIU Wei-ling, WANG Meng, LIANG Xiao-yu, HUANG Shao-hua, LIAO Zhang-xuan, LI Chuan-ying, ZHANG Yu-ping
- 1002 Antifungal active chemical constituents of *Brucea javanica* residue HE Bo, HUANG Yan, CHEN Lin, WANG Can-can, ZENG Dong-qiang, TANG Wen-wei
- 1012 Diversity of culturable endophytic bacteria in invasive plant *Spartina alterniflora* of Guangxi Beibu Gulf and their bio-control effect and plant-growth-promoting activity LI Hui-ying, SHEN Nai-kun, WU Jia-fa, YANG Li-fang, WU Wan-rong, DENG Li-xia, JIANG Ming-guo

Horticulture · Landscape Architecture · Forestry

- 1022 Optimization of EMS mutagenesis condition and construction of mutant library in flowering Chinese cabbage ZHANG Yan, HONG Xiao-ru, LI Ting-yao, SHEN Zhuo, YANG Yi, ZHOU Xuan, CHEN Han-cai
- 1030 Effects of single and combined stresses of lead, zinc and cadmium on growth and physiological characteristics of perennial ryegrass SHI Hui-fang, XI Yi, ZHANG Mao, PEI Ying-jie, HUANG Ben-yong, LI Jin-meng, YANG Ke-chao
- 1040 Effects of organic fertilizer application rate and intermittent drought period on yield and quality of tomato WANG Guang-mei, HU Bing-hui
- 1050 Change pattern of fruit development, mesocarp inclusions contents and antioxidant enzyme activity in oil palm SHI Peng, WANG Yong, ZHANG Da-peng
- 1058 In vitro antioxidant activities, α -glucosidase and acetylcholinesterase inhibition ability of *Akebia trifoliata* pulp extracts DING Lin-ling, XIE Ying-xin, GAO Wei, YU Li-juan, LI Hong, WANG Zhen-xing, ZHANG Xue-chun
- 1066 Assessment on pollution risk and health risk of heavy metal in edible fungi in Shangluo City DONG Zhao-feng, ZHAO Yu, LI Juan, REN Gang
- 1073 Effects of different rootstocks on the growth, yield and fruit quality of sweet cherry Hongdeng LI Yu-sheng, WU Yong-jie, CHEN Long, ZHAO Yan-hua, WU Ya-qin, CHENG He-he

Animal Science · Veterinary Science · Aquaculture · Sericulture

- 1082 Cloning and tissue expression analysis of *CIDEc* gene in Longlin goat ZOU Ju-hong, JIANG Yu-hang, ZHANG San-bao, GAO Xiao-tong, SHEN Yu-jian, WEI Ying-ming, HUANG Da-an, HUANG Yan-nan, JIANG Qin-yang
- 1090 Prokaryotic expression and polyclonal antibody preparation of *Danio rerio* angiogenesis related factor PTPRB FENG Peng-fei, XIAO Rui, ZHANG Yong-de, LIN Yong, SONG Man-ling, PAN Chuan-yan, YU Yan-ling, LUO Hui, LUO Hong-lin
- 1098 Effects of chronic ammonia nitrogen stress on physiology and biochemistry indexes and hemocyanin gene expression of *Litopenaeus vannamei* GU Nan, DAI Xi-lin
- 1108 Microsatellite genetic diversity in different *Litopenaeus vannamei* breeding populations TANG Fang, WEN Bei-ni, LIU Hong
- 1116 Comparative study of slaughter performance and meat quality of Angus cattle and Xiangxi yellow cattle of different ages SUN Ao, LEI Hong, HE Fang, LI Jian-bo, HUAN Cheng, ZHANG Bai-zhong, YI Kang-le

Agricultural Information Technology · Agriculture Economics

- 1124 Prediction of potential suitable areas of *Gynostemma pentaphyllum* (Thunb.) Makino based on MaxEnt model SHAO Zhou-ling, ZHOU Wen-zuo, YANG Fan, LI Feng, ZHOU Xin-yao
- 1132 Asymmetric transmission of international edible vegetable oil prices to China's edible vegetable oil prices ZHOU Jie