



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

ISSN 1000-4440

CN 32-1213/S

江苏农业学报

Jiangsu Journal of Agricultural Sciences

第37卷 第1期

Vol. 37 No.1

2021年2月

江苏省农业科学院 主办

ISSN 1000-4440



万方数据

江苏农业学报

第三十七卷
第一期

二〇二一年二月二十八日

江苏省农业科学院

江苏农业学报

第 37 卷 第 1 期 2021 年 2 月 28 日

目 次

遗传育种·生理生化

- 一个水稻斑马叶突变体的遗传分析和基因定位 陈海元 朱晓妹 张所兵 张云辉 方先文 (1)
- 基于特征数据的水稻种子分类识别方法 黄琼 杨红云 万颖 (8)
- 不同播种量对小麦泰科麦 33 干物质积累转运、旗叶光合特性及产量构成的影响
..... 吕广德 殷复伟 王超 李宁 钱兆国 吴科 (16)
- 玉米自交系响应高温、干旱胁迫的关键基因及通路 姚启伦 霍仕平 张俊军 (29)
- 大豆 *GmGols2-1* 基因高温胁迫诱导表达及转基因烟草鉴定
..... 邱爽 张军 何佳琦 李铭杨 周雨明 邬长乐 袁洪森 刘嘉仪 翟莹 (38)
- 蚕豆 *VjGAS1* 基因的异源过表达延迟拟南芥开花 高营 林云 袁星星 薛晨晨 陈新 朱月林 (44)

植物保护

- 基于全基因组序列的黄单胞菌分泌蛋白质预测及其特征分析 覃悦 祝友朋 韩长志 (53)
- 四川地区藜麦叶斑病原菌的分离及鉴定 廖映凯 罗吉 许芮涵 苟琳 邱爱东 (60)
- 基于深度残差网络的玉米病害识别 刘翱宇 吴云志 朱小宁 范国华 乐毅 张友华 (67)
- 侵染江苏猕猴桃的北方根结线虫 (*Meloidogyne hapla*) 形态学描述和分子特征分析
..... 范亚磊 赵敏 邓晟 刘瑞显 姚焕钊 魏利辉 冯辉 (75)

耕作栽培·资源环境

- 基于 Sentinel 2A/B 时序数据的黑龙港流域主要农作物分类 宋宏利 雷海梅 尚明 (83)
- 太行山丘陵区不同林龄核桃树固碳释氧量及冠下土壤碳储量
..... 张敏 王明伟 刘欣宇 刘利生 于家悦 刘洋 齐国辉 (93)

畜牧兽医·水产养殖

- 猪流行性腹泻病毒感染对猪小肠上皮细胞 I 型干扰素产生通路的影响
..... 丁芳艺 宋海鑫 梁荣 苗晋锋 费荣梅 刘永杰 余祖功 张金秋 (99)

园 艺

- 西瓜品种(品系)对蔓枯病的抗性鉴定与评价
..... 徐彦刚 姚协丰 李良俊 徐锦华 任润生 张曼 刘广 姜丽娜 朱凌丽 侯茜 徐建 羊杏平 (106)

辣根素水乳剂对连作辣椒生长及土壤酶活性的影响	高晶霞 吴雪梅 牛勇琴 高 昱 谢 华(116)
授粉品种对红富士苹果果实糖积累及其代谢相关酶活性的影响	徐臣善 徐爱红 萧蓓蕾 赵海洲 潘恩敬 王明友(121)
柑橘胁迫响应基因 <i>WRKY47</i> 的克隆与表达分析	沈 丹 杨 莉 胡 威 匡柳青 郭文芳 卢 婷 刘德春 刘 勇(129)
基于候选基因开发 gSSR 标记加密黄花菜和萱草种间遗传图谱	高 阳 侯非凡 熊 雄 公菲菲 王金耀 邢国明 李 森(139)
梓叶槭和五小叶槭果实形态特征和扩散特性	马文宝 姬慧娟 代林利 张宇阳 帅 伟 姜欣华 于 涛(150)
基于多特征融合和 LightGBM 的金线莲品系识别	陈舒迪 柴琴琴 张 勋 黄泽豪 林 羽 徐 伟(155)
小农户管理行为对苹果园郁闭度的影响	张俊娜 王 冲 张 东 杨 晨(163)

加工贮藏·质量安全

真空冷冻干燥与热风干燥对桑果品质的影响	李勋兰 魏召新 彭芳芳 尹旭敏 韩国辉(169)
海藻酸钠复合天然化学物质涂膜对鲜切莲藕保鲜效果的影响	张春洁 Mohamed Hawali Bata Gouda 王俊豪 彭思佳 孔晓雪 张秋婷 罗海波(175)
密花香薷总皂苷提取工艺优化及其生物活性	石子林 李军乔 王雅琼 金占林(185)
枇杷花多酚对脂肪酶的抑制作用	黄桂丽 王毓宁 马佳佳 隋思瑶 孙灵湘(192)
鲢鱼酶解产物的特性及其对乳酸菌的抗冻保护作用	崔美丽 刘永乐 俞 健 李向红 罗阳阳 李 彦 王发祥(197)
超高效液相色谱-三重四级杆串联质谱法测定茶叶中黄酮醇糖苷种类及含量	董 方 张群峰 阮建云(204)
基于近红外光谱的金鲳鱼新鲜度快速检测技术	方 瑶 谢天铧 郭 渭 白雪冰 李振波 李鑫星(213)

农业经济·农业信息

创意休闲农业的空间分布格局及影响因素——以江苏省为例	王国权 王 欣 王金伟 李 莹 黄 迪(219)
基于 CIM 模型的长江禁捕政策执行风险	赵 玲 吴雁萍(230)

综 述

蚕豆遗传图谱与 QTL 定位研究进展	周仙莉 滕长才 张红岩 林 夕 刘玉玲 吴小燕 侯万伟 刘玉皎(237)
气候变暖和 CO ₂ 浓度升高对农作物的影响	杨敏慎 刘晓雨 郭 辉(246)
生姜多类型化学物质与药理作用及药食同源研究进展	强姝婷 国 慧 熊浩荣 杨振安(259)
果树在园艺疗法中的应用	李 刚 唐 玲 颜志明 张斌斌 杨 勇 罗海蓉 贾俊丽 万春雁(267)

JIANGSU JOURNAL OF AGRICULTURAL SCIENCES

Vol.37 No.1 February 28 2021

CONTENTS

CROP GENETICS AND BREEDING · PHYSIOLOGY AND BIOCHEMISTRY

- Genetic analysis and gene mapping of a zebra leaf mutant in rice
..... CHEN Hai-yuan, ZHU Xiao-mei, ZHANG Suo-bing, ZHANG Yun-hui, FANG Xian-wen (1)
- Classification and recognition method of rice seeds based on feature data HUANG Qiong, YANG Hong-yun, WAN Ying (8)
- Effects of sowing amounts on dry matter accumulation and distribution, photosynthetic characteristics of flag leaves and yield composition of wheat TKM 33 LYU Guang-de, YIN Fu-wei, WANG Chao, LI Ning, QIAN Zhao-guo, WU Ke (16)
- Key genes and pathways of maize inbred lines responding to heat and drought stress ... YAO Qi-lun, HUO Shi-ping, ZHANG Jun-jun (29)
- Expression of soybean *GmGols2-1* induced by heat stress and identification of *GmGols2-1* transgenic tobacco
..... QIU Shuang, ZHANG Jun, HE Jia-qi, LI Ming-yang, ZHOU Yu-ming, WU Chang-le, YUAN Hong-miao, LIU Jia-yi, ZHAI Ying (38)
- Heterologous overexpression of *Vicia faba VjGAS1* gene delays flowering in transgenic *Arabidopsis*
..... GAO Ying, LIN Yun, YUAN Xing-xing, XUE Chen-chen, CHEN Xin, ZHU Yue-lin (44)

PLANT PROTECTION

- Prediction and characteristic analysis of *Xanthomonas campestris* secretory protein based on whole genome sequence
..... QIN Yue, ZHU You-peng, HAN Chang-zhi (53)
- Isolation and identification of leaf spot disease pathogen of *Chenopodium quinoa* in Sichuan
..... LIAO Ying-kai, LUO Ji, XU Rui-han, GOU Lin, QIU Ai-dong (60)
- Corn disease recognition based on deep residual network
..... LIU Ao-yu, WU Yun-zhi, ZHU Xiao-ning, FAN Guo-hua, YUE Yi, ZHANG You-hua (67)
- Morphological description and molecular characteristic analysis on *Meloidogyne hapla* which infect kiwifruit in Jiangsu province
..... FAN Ya-lei, ZHAO Min, DENG Sheng, LIU Rui-xian, YAO Huan-zhao, WEI Li-hui, FENG Hui (75)

FARMING AND CULTIVATION · RESOURCE AND ENVIRONMENT

- Crop classification based on Sentinel 2A/B time series data in Heilonggang river basin
..... SONG Hong-li, LEI Hai-mei, SHANG Ming (83)
- Carbon fixation and oxygen release amount and soil carbon storage under the canopy of walnut trees with different forest ages in hilly areas of Taihang Mountain ZHANG Min, WANG Ming-wei, LIU Xin-yu, LIU Li-sheng, YU Jia-yue, LIU Yang, QI Guo-hui (93)

ANIMAL HUSBANDRY AND VETERINARY SCIENCES · AQUICULTURE

- Effects of porcine epidemic diarrhea virus infection on IFN- β production pathway in porcine intestinal epithelial cells
..... DING Fang-yi, SONG Hai-xin, LIANG Rong, MIAO Jin-feng, FEI Rong-mei, LIU Yong-jie, YU Zu-gong, ZHANG Jin-qiu (99)

HORTICULTURE

- Identification and evaluation of the resistance to gummy stem blight caused by *Stagonosporopsis citrulli* of some watermelon varieties (strains) XU Yan-gang, YAO Xie-feng, LI Liang-jun, XU Jin-hua, REN Run-sheng, ZHANG Man, LIU Guang, LOU Li-na, ZHU Ling-li, HOU Qian, XU Jian, YANG Xing-ping (106)

- Effect of athomin water emulsion on growth and soil enzyme activities of continuous cropping pepper
 GAO Jing-xia, WU Xue-mei, NIU Yong-qin, GAO Yu, XIE Hua(116)
- Effects of pollination varieties on sugar accumulation and metabolism related enzyme activities in red Fuji apple fruit
 XU Chen-shan, XU Ai-hong, XIAO Bei-lei, ZHAO Hai-zhou, PAN En-jing, WANG Ming-you(121)
- Cloning and expression analysis of stress response gene *WRKY47* in citrus
 SHEN Dan, YANG Li, HU Wei, KUANG Liu-qing, GUO Wen-fang, LU Ting, LIU De-chun, LIU Yong(129)
- Enhancement of the interspecific genetic map density for *Hemerocallis citrina* and *H. fulva* by developing gSSR markers based on candidate genes
 GAO Yang, HOU Fei-fan, XIONG Xiong, GONG Fei-fei, WANG Jin-yao, XING Guo-ming, LI Sen(139)
- Fruit morphological and dispersal characteristics of *Acer catalpifolium* Rehd. and *A. pentaphyllum* Diels
 MA Wen-bao, JI Hui-juan, DAI Lin-li, ZHANG Yu-yang, SHUAI Wei, JIANG Xin-hua, YU Tao(150)
- Identification of *Anoectochilus roxburghii* strains based on multi feature fusion and LightGBM
 CHEN Shu-di, CHAI Qin-qin, ZHANG Xun, HUANG Ze-hao, LIN Yu, XU Wei(155)
- Effect of smallholder farmers' management behavior on the canopy density of apple orchard
 ZHANG Jun-na, WANG Chong, ZHANG Dong, YANG Chen(163)

PROCESSING AND STORAGE · QUALITY SAFETY

- Effects vacuum freezing drying and hot air drying on qualities of mulberry fruit
 LI Xun-lan, WEI Zhao-xin, PENG Fang-fang, YIN Xu-min, HAN Guo-hui(169)
- Effects of sodium alginate and natural chemical composite coating on quality of fresh-cut lotus root during storage
 ZHANG Chun-jie, BATA GOUDA Mohamed-hawali, WANG Jun-hao, PENG Si-jia, KONG Xiao-xue, ZHANG Qiu-ting, LUO Hai-bo(175)
- Optimization on the extraction process of total saponins from the *Elsholtzia densa* Benth. and its biological activity
 SHI Zi-lin, LI Jun-qiao, WANG Ya-qiong, JIN Zhan-lin(185)
- Inhibitory effect of loquat flowers polyphenolics on lipase activity
 HUANG Gui-li, WANG Yu-ning, MA Jia-jia, SUI Si-yao, SUN Ling-xiang(192)
- Characteristics and cryoprotective effect of silver carp muscle hydrolysates on *Lactobacillus plantarum*
 CUI Mei-li, LIU Yong-le, YU Jian, LI Xiang-hong, LUO Yang-yang, LI Yan, WANG Fa-xiang(197)
- Determination of flavonol glycosides in teas by ultra-high performance liquid chromatography combined with triple four-bar tandem mass spectrometry
 DONG Fang, ZHANG Qun-feng, RUAN Jian-yun(204)
- Rapid detection technology of pomfret freshness based on near infrared spectroscopy
 FANG Yao, XIE Tian-hua, GUO Wei, BAI Xue-bing, LI Zhen-bo, LI Xin-xing(213)

AGRICULTURAL ECONOMY AND INFORMATION

- Spatial distribution pattern of creative leisure agriculture and its influencing factors——A case study of Jiangsu province
 WANG Guo-quan, WANG Xin, WANG Jin-wei, LI Ying, HUANG Di(219)
- Implementation risks of the prohibition of fishing in Yangtze River based on CIM model
 ZHAO Ling, WU Yan-ping(230)

REVIEW

- Research advance of genetic linkage map and QTL location in *Vicia faba* L.
 ZHOU Xian-li, TENG Chang-cai, ZHANG Hong-yan, LIN Xi, LIU Yu-ling, WU Xiao-yan, HOU Wan-wei, LIU Yu-jiao(237)
- Effects of climate warming and elevated CO₂ concentration on crops
 YANG Min-shen, LIU Xiao-yu, GUO Hui(246)
- Research progress on chemical substances, pharmacological action, homology of medicine and food of *Zingiber officinale* Rosc.
 QIANG Shu-ting, GUO Hui, XIONG Hao-rong, YANG Zhen-an(259)
- Application of fruit trees in horticultural therapy
 LI Gang, TANG Ling, YAN Zhi-ming, ZHANG Bin-bin, YANG Yong, LUO Hai-rong, JIA Jun-li, WAN Chun-yan(267)