

江苏农业科学

第 46 卷 第 19 期 2018 年 10 月 5 日

目 次

● 专论与综述

- 我国近 10 年植物致病真菌生物学特性研究综述 王桂清, 曾 路, 马 迪, 等(1)
- 土地利用变化对区域陆地碳储量的影响研究综述 唐 睿, 彭开丽(5)
- 纤维小体结构及其功能的研究进展 朱兆静, 潘 虎, 郭 俊, 等(12)

● 生物技术

- 山葡萄北冰红冷适应蛋白 *COR413-12* 基因分离及特征分析 王学娟(17)
- 棉花 ERF-B3 亚组转录因子基因 *GhERF5-1* 的克隆及表达 郭文婷, 张鹏飞, 李潇玲, 等(20)
- 山西省运城市番茄黄化曲叶病毒的分子鉴定 郝浩永, 滕红梅, 刘 缙, 等(25)
- 金胆胆草 SRAP 遗传多样性及主要成分相关性分析 刘 珊, 何伟明, 陈 宇(30)
- 7 个燕麦品种的 ISSR 遗传多样性分析 余青青, 王普昶, 赵丽丽, 等(34)
- 蓝杆藻 ATCC 51142 中 α -酮戊二酸脱羧酶的克隆与表达 谢琮琮, 许文武, 李至敏, 等(37)
- 蒙古黄芪 AFLP 分子标记反应体系的建立与优化 姜志艳, 杨慧楠, 邵学勤(40)
- 褐苞薯蓣 ISSR-PCR 反应体系的建立与优化 高慧新, 封 毅, 王孝勋, 等(43)

● 遗传育种与耕作栽培

- 镉对不同镉积累类型小麦幼苗的影响 胡铁柱, 冯素伟, 丁位华, 等(46)
- 小麦不同穗位、花位的品质研究 李小利, 姜小苓, 李 淦, 等(50)
- 氯吡苯脲对小麦籽粒淀粉组分含量及淀粉粒度分布特征的影响 彭佃亮, 李美芹, 唐玉海, 等(54)
- 大麦种质资源株高和耐盐性分析 张英虎, 沈会权, 周春霖, 等(56)
- 外源硒对谷子植株体内谷胱甘肽过氧化物酶及品质的影响 张兰兰, 孙冬雪, 庞立欣, 等(59)
- 长江中下游地区近 20 年水稻生产与优势的变化 杨秉臻, 金 涛, 陆建飞(62)
- 高直链淀粉玉米和糯玉米籽粒发育过程中与淀粉合成相关酶活性的比较
..... 张彦荣, 赵金涛, 郭新梅, 等(68)
- 生石灰对铅污染酸性植烟土壤理化性质和烟草铅含量的影响 谈俊豪, 齐绍武, 朱 益, 等(71)
- 植物生长调节剂对烟草生长发育及产质量的影响 王念磊, 张海伟, 焦绍赫, 等(76)
- 施氮量和留叶数互作对红大鲜烟叶素质及产量的影响 陈 颐, 鲁康兴, 周 彬, 等(80)
- 有机肥及地膜对土壤温度及春小麦水分利用效率的影响 李 鹤, 李曙光, 刘新潮, 等(85)

● 植物保护

- 北方一作区马铃薯早疫病病菌群体 SSR 遗传结构分析 谷 青, 赵冬梅, 张 岱, 等(88)
- 播期与密度对棉花黄萎病的影响 郭志军, 冯自力(92)
- 外源喷施水杨酸对冬瓜枯萎病的防治效果及机制 李红杰(95)
- 不同纬度松墨天牛生活史及其行为学观察 温小遂, 李 金, 邓 礼, 等(99)
- 水分与基质组合生境对空心莲子草不定根诱导形成贮藏根的影响 芦旭然, 李华成, 陈中义(103)
- 江苏省迟熟中粳新品系稻瘟病抗病基因检测与抗性评价 朱勇良, 范方军, 谢裕林, 等(106)

落羽杉属树种赤枯病发生规律及其防治药剂筛选	冯 婷,张 凡,殷云龙,等(110)
鸡粪沼液对果树 5 种病原菌的抑菌杀菌作用	王洪涛,王英姿,石 洁,等(114)

●园艺与林学

采摘期内库尔勒香梨品质指标变化规律及相关关系	广新梅,徐崇志,王绪春,等(118)
授粉品种对绿宝苹果坐果和果实品质的影响	王 燕,张志晓,江 文,等(121)
植物根际促生细菌菌肥对新疆灰枣根际土壤解钾效果及其与有机酸的相关性	朱舒亮,刘胜亮,李 静,等(125)
丛枝菌根真菌对大叶女贞耐盐性的影响	张爱娣,郑仰雄,黄东兵(129)
灰树花生理成熟期到出菇期生理生化初探	叶建强,宋 冰,李 玉,等(133)
湖北不同种源红椿天然居群的种实表型变异	蔡京勇,陈文学,汪 洋,等(137)
基于色彩模式的秋色叶植物的叶色研究	许丽颖,刘斗南,赵玥琪,等(142)
复合微生物肥料功能菌的筛选及其对黄瓜幼苗的促生作用	王巧玲,范广璞,杨 猛,等(146)
薄壳山核桃树下套种茭作紫山药栽培技术规范	王强盛,杭玉浩,王晓莹,等(150)
镉砷低积累萝卜品种的筛选	陈 雪,沈方科,张增裕,等(152)
日光温室水氮减量对番茄生长、产量及品质的影响	张玲丽,张学科(156)
不同生长素处理对 2 个微型月季品种扦插生根的影响	瞿 辉,邵和平,叶晓青,等(159)
光照和 NaCl 胁迫对 3 种锦葵科植物种子萌发的影响	丁 丁,郭艳超,左永梅,等(163)

●畜牧兽医与水产蚕桑

16S rRNA 甲基化酶 RmtB 耐药重组菌的构建及其稳定性研究	陈 琳,管远红,黄东璋,等(167)
乳酸菌发酵饲料对断奶仔猪生长性能和肠道健康的影响	张 铮,石青松,朱伟云,等(170)
鲜喂饲用苕麻对肉兔生产性能、肉质及经济效益的影响	邝良德,谢晓红,郭志强,等(174)
2 株鸡源芽孢杆菌的分离鉴定与药敏试验	陈永亮,高 尚,王彦红(176)
江苏地方猪遗传资源保护与开发利用	赵旭庭,朱满兴,潘雨来,等(179)
二花脸猪卵巢卵泡发育过程中可溶性鸟苷酸环化酶和一氧化氮合酶活性变化及其定位	丁 威,邢 军,周燕芬,等(181)
饲料不同蛋白水平对山猪生长性能、育肥及胴体性能的影响	蔡东森,周 涛,陈海军,等(187)
致病性荧光假单胞菌 FK-1 的分离鉴定及其感染草鱼后免疫因子的变化研究	张志鹏,王 会,阎 华,等(190)

胎次、分娩季节、品种和杂交方式对母猪繁殖性能的影响	张 茂,孙艳发,许卫华,等(194)
生态基对养殖池塘中浮游植物变化的影响	张 扬,李连星,刘 兴,等(198)
番茄红素复合添加剂对肉鸡生长性能、免疫器官指数及肉质的影响	付兴周,路志芳,申海燕(202)

●贮藏加工与检测分析

辐照处理对冷鲜鸡肉的品质的影响	赖宏刚,蒋云升,张元嵩,等(206)
副干酪乳杆菌 FM-LP-4 菌株的高密度培养条件优化	王 英,周剑忠,施亚萍,等(211)
麦苗运动饮料抗疲劳功能研究	刘 媛,戚露月,顾伟光,等(216)
金钱草中多酚超声辅助提取工艺优化及其抗氧化活性	楚红英,罗 晓,李 瑜(219)
中条山 3 种复叶葡萄白兰地的加工及品质分析	师守国,王滋浩,李善菊(223)
响应面法优化超声提取油茶壳总黄酮及抑菌性研究	彭 玲(227)

●农业工程与信息技术

液体物理性质对微孔压电超声雾化效果的影响	张建桃,汤镇安,尹选春,等(231)
基于 FCM-SVM 的生猪红外热图像自动分割方法	陈松楠,朱艳平,杜永强(238)

旱地玉米免耕播种机机架的模式及谐响应分析	贾贺鹏,王应彪,李 明,等(241)
新疆 C-5 型草车的液压系统设计	陈恒峰,郭 辉,郭伟宏,等(245)
化肥码垛机器人的轨迹规划及仿真试验	郭瑞峰,彭战奎,张文辉,等(249)
不同近红外光谱预处理方法对胡杨叶片含水量检测模型的影响	胡艳培,白铁成,陈好斌,等(253)
一种利用太阳能提升温室灌溉用井水温度装置的设计与试验	史 勇,肉孜·阿木提(257)
联合收割机传动效能动态测量与试验分析	邵 堃(261)
基于物联网的水稻大田智能预警监控系统	易 宁,刘有珠(264)
SPA-PLS 和 GA-PLS 算法预测胡杨叶片含水量的对比	王 涛,白铁成,喻彩丽,等(269)

●资源与环境

江苏省水稻高温热害气象指数保险区划	任义方,赵艳霞,高 苹,等(273)
耐盐、低温适生芽孢杆菌 TS1、TS3 的拮抗及降解纤维素活性分析	吴晓晖,谢永丽,陈 兰,等(277)
聊城市位山灌区耕层土壤磁化率和有机碳的空间变异分析	赵 璐,刘子亭,陈 琳,等(282)
基于分形理论的乌蒙山区建设用地空间结构研究	尹晓媛,李建华,付星基,等(286)
水稻秸秆高效降解菌株的筛选鉴定及其降解产物分析	尹 蕾,王伟舵,陈子璇,等(292)
紫外辐射在不同水体衰减影响因素分析	薛 艳,王锦旗,宋玉芝,等(297)
稻草-狐尾藻治理养殖废水效应研究	唐红琴,董文斌,李忠义,等(302)
黄河三角洲季节性干旱区土地利用变化及生态效应	李俊翰,高明秀(306)
浙江省农业面源污染风险分析及防治对策	姜 茜,孙炜琳(311)
不同膜材包膜尿素对黑土生物学活性的影响	刘兴斌,王 月,陈振华,等(315)
保水剂对土壤铜形态和植物吸铜的影响	房瑜静,秦端端,陈望舒,等(319)
基于 Modis-TVDI 方法的山东小麦生长季旱情遥感监测	陈 振,刘 涛,梁守真,等(323)
油浴法测定土壤有机质消煮方式的改进研究	余跑兰,肖小军,段彬林,等(328)
腐殖酸肥料与氮肥配施对土壤理化性质的影响	裴瑞杰,王俊忠,冀建华,等(331)
基于水分管理的稻田养分流失潜力分析及其拟合预测模型	冯国禄,杨 斌,鲁栋梁,等(335)
苏北滨海盐碱土壤盐碱化特征	王 彤,封超年,靳瑞萍,等(339)

●农业经济与管理

丝绸之路经济带农业发展与农民收入的时空耦合演变分析	张晓莉,朱 琳(344)
农村土地经营权抵押贷款政策满意度及其影响因素分析——基于河南省 1 428 农户的调查	李景初(350)
基于 LMDI 模型的中国粮食安全变化的耕地因素分解	郝瑞彬,尹力军,殷书柏(355)
新型农村社区“三位一体”可持续发展循环实证分析	伊庆山(359)
基于风险考量的有机农产品供应链利益分配问题	高 阔,江 康(363)
基于系统动力学的“互联网+”农业信息化创新发展研究	穆 丽(368)
产地市场培育对蔬菜合作社发展的重要性——以东海县北芹蔬菜专业合作社为例	王伟明,郑子松,沈贵银,等(373)
新型农业经营主体经营效益及其影响因素分析——基于江苏省苏州市的调查	王志斌,程培堃,殷志扬(376)
供给侧改革视角下河南省农业产业结构调整与优化研究	安红霞(382)
中国农业农村现代化发展水平及空间分布差异研究	祝志川,张国超,张君妍,等(386)
CAC 框架下食品安全风险交流机制对我国的启示	李华明,李 董,祭 芳,等(392)

JIANGSU AGRICULTURAL SCIENCES

Vol. 46 No. 19 October 5 2018

CONTENTS

Monograph and Review

- Study on biological characteristics of plant pathogenic fungi in China in recent 10 years: a review Wang Guiqing, et al(1)
Impact of land use change on regional land carbon storage: a review Tang Rui, et al(5)
Research progress on structure and function of cellulosome Zhu Zhaojing, et al(12)

Bio-technology

- Separation and characterization of cold – adapted gene *COR413 – I2* from Beibinghong amur grape Wang Xuejuan(17)
Cloning and expression of cotton ERF – B3 subgroup transcription factor gene *GhERF5 – I* Guo Wenting, et al(20)
Molecular identification of tomato yellow leaf curl virus in Yuncheng, Shanxi Province Hao Haoyong, et al(25)
Analysis of genetic diversity by SRAP and correlation of main components of *Conyza blinii* Liu Shan, et al(30)
Analysis of genetic diversity of seven oat cultivars based on ISSR Yu Qingqing, et al(34)
Cloning and expression of α – ketoglutarate decarboxylase from *Cyanothece* sp. ATCC 51142 Xie Congcong, et al(37)
Establishment and optimization of AFLP molecular marker reaction system of *Astragalus membranaceus* var. *mongholicus*
..... Jiang Zhiyan, et al(40)
Establishment and optimization of ISSR – PCR reaction system of *Dioscorea persimilis* Gao Huixin, et al(43)

Genetics and Breeding • Tillage and Cultivation

- Effects of cadmium on wheat seedlings with different cadmium accumulation types Hu Tiezhu, et al(46)
Study on quality of different spikelet position and floret position of wheat Li Xiaoli, et al(50)
Effects of exogenous CPPU on contents of starch components and distribution characteristics of starch granules in wheat grains
..... Peng Dianliang, et al(54)
Analysis of plant height and salt tolerance of barley germplasm resource Zhang Yinghu, et al(56)
Effects of exogenous selenium on glutathione peroxidase activity and quality in millet Zhang Lanlan, et al(59)
Study on change of rice production and advantage in the middle and lower reaches of the Yangtze River in recent 20 years
..... Yang Bingzhen, et al(62)
Comparison of activities of enzymes related to starch synthesis during grain development of high – amylose maize and waxy maize
..... Zhang Yanrong, et al(68)
Effects of quicklime on physical and chemical properties of Pb – polluted acid tobacco soil and lead content of tobacco
..... Dan Junhao, et al(71)
Impacts of plant growth regulators on growth, yield and quality of tobacco Wang Nianlei, et al(76)
Effects of interaction between nitrogen application rate and remained leaf number on fresh leaf quality and yield of tobacco “Hongda”
..... Chen Yi, et al(80)
Influences of organic fertilizer and plastic film on soil temperature and water use efficiency of spring wheat Li He, et al(85)

Plant Protection

- Population structure analysis of potato early blight based on SSR in northern China Gu Qing, et al(88)
Effects of different sowing dates and plant densities on cotton verticillium wilt Guo Zhijun, et al(92)
Study on control effect and mechanism of exogenous salicylic acid on wax gourd wilt disease Li Hongjie(95)
Study on life history and behavior mechanism of *Monochamus alternatus* in different latitudes of Jiangxi Province
..... Wen Xiaosui, et al(99)
Effects of water and substrate combination habitat on storage root formation of alligator weed by adventitious root induction
..... Lu Xuran, et al(103)
Rice blast resistance evaluation and related gene detection of newly released mid – season japonica rice lines in Jiangsu Province
..... Zhu Yongliang, et al(106)
Occurrence regulation of *Taxodium* red blight and its fungicide screening in lab Feng Ting, et al(110)

Inhibitory and bactericidal effects of chicken manure biogas slurry on five kinds of fruit pathogen Wang Hongtao,et al(114)

Horticulture and Forestry

On change rule and correlation of Korla fragrant pear quality indices in picking period Guang Xinmei,et al(118)

Effects of pollination cultivars on fruit setting rate and quality of Bramley apple Wang Yan,et al(121)

Effect of plant rhizosphere – promoting bacterial fertilizer on potassium decomposition of rhizosphere soil of Xinjiang Jujube and its correlation with organic acids Zhu Shuliang,et al(125)

Effects of arbuscular mycorrhizal fungi on salt tolerance of *Ligustrum lucidum* Zhang Aidi,et al(129)

Preliminary study on physiological and biochemical characteristics of *Grifola frondosa* during physiological maturity and fruiting stage Ye Jianqiang,et al(133)

Phenotypic diversity of fruits and seeds of *Toona ciliata* natural populations from different provenances in Hubei Province Cai Jingyong,et al(137)

Study on leaf color of fall color plants based on color pattern Xu Liying,et al(142)

Screening of functional bacteria for compound microbial fertilizer and their role in growth of cucumber seedlings Wang Qiaoling,et al(146)

Technical specification for cultivation of purple yam by ridge cultivation under pecan Wang Qiangsheng,et al(150)

Screening of radish cultivars with cadmium and arsenic low accumulation Chen Xue,et al(152)

Effects of water and nitrogen reduction on growth, yield and quality of tomato in sunlight greenhouse Zhang Lingli,et al(156)

Impacts of different auxin treatments on cutting rooting of two mini – rose cultivars Qu Hui,et al(159)

Effects of light and NaCl stress on seed germination of three Malvaceae plants Ding Ding,et al(163)

Husbandry and Veterinary · Aquaculture and Sericulture

Construction and stability of 16S rRNA methylase RmtB resistant recombinant bacteria Chen Lin,et al(167)

Effects of fermented feed with lactic acid bacteria on growth performance and intestine health of weaned piglets Zhang Zheng,et al(170)

Effects of fresh fodder ramie – supplemented diets on production performance, meat quality and economic benefits of rabbits Kuang Liangde,et al(174)

Separation, identification and susceptibility test of two strains of *Bacillus* from grass chicken Chen Yongliang,et al(176)

Protection, development and utilization of local pig genetic resources in Jiangsu Province Zhao Xuting, et al(179)

Bioactivity changes and localization of ovarian nitric oxide synthase (NOS) isoforms and soluble guanylyl cyclase (sGC) α1 and β1 subunits during ovarian follicular development of Erhualian pigs Ding Wei,et al(181)

Effects of different protein levels of feed on growth performance, fattening and carcass performance of wild pigs Cai Dongsen,et al(187)

Separation and identification of *Pseudomonas fluorescens* strain FK – 1 from *Ctenopharyngodon idellus* and its effect on immune factor metabolism Zhang Zhipeng,et al(190)

Effects of parity,parturition season,variety and crossing system on reproductive performance of sows Zhang Mao,et al(194)

Influences of ecological basic on changes of phytoplankton in cultured ponds Zhang Yang,et al(198)

Effects of lycopene compound additives on growth performance,immune organ index and meat quality of broilers Fu Xingzhou,et al(202)

Storage and Processing · Detection

Effect of 60Co – γ irradiation on quality of fresh chilled chicken Lai Honggang,et al(206)

Optimization of high – density cultivation conditions of *Lactobacillus paracasei* FM – LP – 4 Wang Ying,et al(211)

Study on anti – fatigue function of sport drinks with wheat seedlings Liu Yuan,et al(216)

Optimization of ultrasonic – assisted extraction process of polyphenols from *Lysimachia christinae* and its antioxidant activity Chu Hongying,et al(219)

Process and quality analysis of three kinds of wild grape brandy from Zhongtiao Mountain Shi Shouguo,et al(223)

Optimization of supersonic extraction conditions of total flavonoids from camellia shell by response surface methodology and its antibacterial activity Peng Ling,et al(227)

Agricultural Engineering and Information Technology

Effects of liquid physical properties on microporous piezoelectric ultrasonic atomization Zhang Jiantao,et al(231)

Automatic segmentation method of infrared thermal image of pig based on FCM – SVM Chen Songnan,et al(238)

Modal and harmonic response analysis of dryland corn no – till planter frame Jia Hepeng,et al(241)

Design of hydraulic system of Xinjiang C – 5 grass car	Chen Hengfeng ,et al(245)
Trajectory planning and simulation test analysis of chemical fertilizer palletizing robot	Guo Ruifeng ,et al(249)
Effects of different near – infrared spectral pretreatment methods on leaf water content detection model of populus	Hu Yanpei ,et al(253)
Design and test of a device using solar energy to enhance temperature of well water for irrigation in greenhouse	Shi Yong ,et al(257)
Dynamic measurement and test analysis of transmission efficiency of combine harvester	Shao Kun(261)
Study on intelligent early warning and monitoring system for rice field based on internet of things	Yi Ning ,et al(264)
Prediction of leaf water content in <i>Populus euphratica</i> using SPA – PLS and GA – PLS algorithm	Wang Tao ,et al(269)

Resources and Environment

Meteorological index insurance division for rice high temperature disaster in Jiangsu Province	Ren Yifang ,et al(273)
Analysis of antagonism and cellulose – degrading activity of bacillus strains TS1 and TS3 with salt tolerance and low temperature suitability	Wu Xiaohui ,et al(277)
Analysis of spatial variability of topsoil magnetic susceptibility and organic carbon in Weishan irrigation area of Liaocheng, Shandong Province	Zhao Lu ,et al(282)
Study on construction land space structure in Wumeng mountainous area based on fractal theory	Yin Xiaoyuan ,et al(286)
Screening and identification of efficient degradation strain of rice straw and analysis of its degradation products	Yin Lei ,et al(292)
Analysis of factors affecting attenuation of ultraviolet radiation in different water bodies	Xue Yan ,et al(297)
Study on effect of straw – <i>Myriophyllum</i> on governance of aquaculture wastewater	Tang Hongqin ,et al(302)
Land use change and ecological effects in seasonal arid regions of the Yellow River Delta	Li Junhan ,et al(306)
Risk analysis and control countermeasures of agricultural non – point source pollution in Zhejiang Province	Jiang Qian ,et al(311)
Effects of urea coated by different membrane on biological activity of black soil	Liu Xingbin ,et al(315)
Effects of water retaining agent on transformation of Cu forms in soil and Cu uptake of plant	Fang Yujing ,et al(319)
Remote sensing monitoring of drought in wheat growing season in Shandong Province based on Modis – TVDI method	Chen Zhen ,et al(323)
Improvement of cooking way of oil bath method used to analyze soil organic matter contents	Yu Paolan , et al(328)
Effects of combined application of humic acid and nitrogen fertilizers on soil physical and chemical properties	Pei Ruijie ,et al(331)
Analysis of nutrient loss potential of paddy field based on water management and its fitting prediction model	Feng Guolu ,et al(335)
Principal component analysis of coastal soil salinization in northern Jiangsu	Wang Tong ,et al(339)

Agricultural Economy and Management

Spatiotemporal coupling coordination between agricultural development and farmers’ income in Silk Road Economic Belt	Zhang Xiaoli ,et al(344)
Analysis of satisfaction degree of rural land management mortgage policy and its influential factors—Based on survey of 1428 households in Henan Province	Li Jingchu(350)
Decomposition of cultivated land factors for China’s food security change based on LMDI model	Hao Ruibin ,et al(355)
Empirical study on three – in – one sustainable development cycle of new rural community	Yi Qingshan(359)
Study on benefit distribution of organic agricultural product supply chain based on risk considerations	Gao Kuo ,et al(363)
Study on development of “Internet + ” agricultural informatization innovation based on system dynamics	Mu Li(368)
Importance of origin market cultivation for development of vegetable cooperatives—A case study on Beiqin Vegetable Cooperative in Donghai County, Jiangsu Province	Wang Weiming ,et al(373)
Analysis of management benefit and its influencing factors of new agricultural business entities—Based on investigation of Suzhou, Jiangsu Province	Wang Zhibin ,et al(376)
Adjustment and optimization of agricultural industrial structure in Henan Province from perspective of supply side reform	An Hongxia(382)
Study on development level and spatial distribution difference of China’s agricultural and countryside modernization	Zhu Zhichuan ,et al(386)
Study on food safety risk communication mechanism under framework of Codex Alimentarius Commission	Li Huaming ,et al(392)