

# 江苏农业科学

第 50 卷 第 14 期 2022 年 7 月 20 日

## 目 次

### ● 专论与综述

- 茄科植物黄萎病研究进展 ..... 周 帅, 卢 扬, 陈恩发, 等(1)
- 园林植物再生与遗传转化体系研究进展 ..... 李懿鑫, 果弘毅, 储歆彤, 等(12)
- 农药污染场地土壤中有机物分析方法研究进展与展望 ..... 胡学波, 夏 冰, 应蓉蓉, 等(22)
- 根系分泌物研究现状及趋势——基于 CiteSpace 的知识图谱分析 ..... 张 杨, 朱 林, 程云龙, 等(34)

### ● 生物技术

- 日本结缕草耐盐基因 *ZjbHLH106* 的克隆及序列分析 ..... 谢 琦(46)
- 秋茄 *WRKY* 基因家族的生物信息学分析 ..... 丁祥青, 胡敏杰, 向 双, 等(50)

### ● 遗传育种与耕作栽培

- 播种密度对滨海稻区水直播稻生长发育的影响 ..... 杜 萌, 马凌霄, 隋 鑫, 等(61)
- 基施树脂包膜尿素替代追肥对冬小麦产量、氮肥利用效率及经济效益的影响  
..... 薛亚光, 韩 笑, 刘海翠, 等(67)
- 外源氯化钙对铅胁迫下水稻幼苗生长、SPAD 值和荧光特性的影响 ..... 李雪梅, 黄禹翕, 蔡晓婧, 等(73)
- 烤烟新品种渠首 1 号对低氮胁迫的响应 ..... 李雪君, 吴 疆, 吴家静, 等(80)
- 芝麻生长对水分胁迫的响应及抗旱性鉴定 ..... 刘晓丹, 关丽云, 高 阳, 等(85)
- 基于 GGE 双标图分析菜用甘薯登记品种的丰产稳产及适应性 ..... 戴习彬, 周志林, 李荣德, 等(92)

### ● 植物保护

- 3 种助剂对 22% 氟啶虫胺胍悬浮剂表面张力及雾化分散的影响 ..... 王 果, 刘德江, 卢鑫羽, 等(97)
- 气象因素对河北省小麦麦长管蚜种群动态的影响 ..... 孙小诺, 韩晓清, 王蓉蓉, 等(103)
- 西藏青稞穗腐病病原菌鉴定与室内药剂筛选 ..... 杜 娟, 申李琦琦, 聂丽妍, 等(108)

●园艺与林学

2 株薏苡内生菌促生特性及其对种子萌发的影响 ..... 普凤雅,谷书杰,何永宏,等(115)

成都地区避雨栽培葡萄苗期光合特性及耐弱光性分析 ..... 王 沛,王 进,刘 芳,等(122)

外源海藻糖对低温胁迫下辣椒、茄子苗期光合作用及生理特性的影响  
..... 祖丽皮耶·托合提麦麦提,古丽孜叶·哈力克,艾力江·麦麦提(132)

响应面法优化黑木耳新品种森盛 1 号液体发酵条件 ..... 解修超,贾 娇,宋 玉,等(138)

苹果砧木 T337 不同组织内生菌群落及其功能预测 ..... 程 欢,张东华,张俊忠,等(144)

增施 CO<sub>2</sub> 与补光互作对辣椒光合特性及产量的影响 ..... 王翠丽,邹 兰,杨世梅,等(155)

●畜牧兽医与水产蚕桑

胆固醇和磷脂酰胆碱对山羊精液冷冻保存效果的影响 ..... 胡家达,吴海智,薛昌安,等(159)

无毒性产气荚膜梭菌  $\alpha$  毒素重组蛋白的自诱导分泌表达及免疫原性分析  
..... 魏后军,范志宇,胡 波,等(166)

●贮藏加工与检测分析

加工辣椒无损品质检测方法及典型相关性分析 ..... 巩雪峰,陈 鑫,李 红,等(170)

多聚赖氨酸对梨果采后青霉病防治及其抗性诱导机制 ..... 窦 勇,胡佩红,田林双,等(177)

●农业工程与信息技术

山地水平圆盘式排种器设计及 EDEM 仿真试验 ..... 李帅奇,王应彪,李 玮,等(183)

基于改进残差网络的水稻害虫识别 ..... 雷建云,陈 楚,郑 禄,等(190)

基于 YOLOv4 的胡瓜钝绥螨自动检测计数 ..... 李建兴,刘振宇,马 莹,等(199)

基于联盟区块链的进口农产品溯源系统研究 ..... 应 毅,王志瑞,刘亚军,等(207)

耕作方式对小麦根系构型及生长趋势的影响 ..... 杨艳山,丁启朔,赵亚平,等(214)

基于模糊 Borda 法评价昼夜温差对番茄秧苗生长的影响 ..... 黄 媛,李瑜玲,高欣娜,等(219)

基于不同建模方法的土壤 pH 值无人机遥感影像反演 ..... 王 羿,丁鸣鸣,何 菁,等(224)

●资源与环境

碳达峰背景下中国农业碳排放测算及其时空动态演变 ..... 黄晓慧,杨 飞(232)

不同商品发酵菌剂对牛粪堆肥微生物群落的影响 ..... 赵欧亚,侯利敏,孙世友,等(239)

丛枝菌根真菌和生物炭联合施用对土壤有机碳组分及团聚体的影响 ..... 陈雪冬,刘雪龙,吴孔阳,等(245)

连作对辽细辛土壤理化性质和根际微生物群落特征的影响 ..... 于春雷,高 嵩,孙文松(250)

螯合剂对施加生物质炭土壤无机磷组分的影响 ..... 杨 洋,于亚辉,张秀双,等(259)

# JIANGSU AGRICULTURAL SCIENCES

Vol. 50 No. 14 July 20 2022

## CONTENTS

### Monograph and Review

- Research progress on verticillium wilt of Solanaceae species ..... Zhou Shuai, *et al* (1)
- Research progress on regeneration and genetic transformation system of garden plants ..... Li Yixin, *et al* (12)
- Research progress and prospects of methods for analysis of organic compounds in soil of pesticide contaminated sites  
..... Hu Xuebo, *et al* (22)
- Research status and trend of root exudates—Knowledge graph analysis based on CiteSpace ..... Zhang Yang, *et al* (34)

### Bio-technology

- Cloning and sequence analysis of salt tolerance gene *ZjbHLH106* from *Zoysia japonica* ..... Xie Qi (46)
- Bioinformatics analysis of *WRKY* gene family in *Kandelia candel* ..... Ding Xiangqing, *et al* (50)

### Genetics and Breeding • Tillage and Cultivation

- Effect of seeding density on growth and development of water direct – seeded rice in seashore rice region  
..... Du Meng, *et al* (61)
- Influences of basal application of resin – coated urea instead of topdressing on yield formation, nitrogen use efficiency and  
economic benefits of winter wheat ..... Xue Yaguang, *et al* (67)
- Impacts of exogenous  $\text{CaCl}_2$  on growth, SPAD and fluorescence characteristics of rice seedlings under lead stress  
..... Li Xuemei, *et al* (73)
- Response of a new flue – cured tobacco cultivar Qushou No. 1 to low nitrogen stress ..... Li Xuejun, *et al* (80)
- Response of sesame growth to water stress and drought resistance identification ..... Liu Xiaodan, *et al* (85)
- Analysis of high yield, stability and adaptability of registered varieties of vegetable sweet potato based on GGE biplot  
..... Dai Xibin, *et al* (92)

### Plant Protection

- Effect of three additives on surface tension and atomization dispersion of sulfoxaflo 22% SC ..... Wang Guo, *et al* (97)
- Impacts of meteorological factors on population dynamics of english grain aphid in Hebei Province ... Sun Xiaonuo, *et al* (103)
- Identification of pathogenic bacteria of ear rot of highland barley in Tibet and screening of indoor chemicals  
..... Du Juan, *et al* (108)

### Horticulture and Forestry

- Growth – promoting characteristics of two coix endophytes and their effects on seed germination ..... Pu Fengya, *et al* (115)
- Analysis of photosynthetic characteristics and low light tolerance of grape seedlings under rain – shelter cultivation in  
Chengdu area ..... Wang Pei, *et al* (122)

Effects of exogenous trehalose on photosynthetic and physiological characteristics of pepper and eggplant seedlings under chilling stress .....	<i>Zulipiye Tuohetimaimiti,et al</i> (132)
Optimization of liquid fermentation conditions for a new black fungus variety Sensheng No. 1 by response surface methodology .....	<i>Xie Xiuchao,et al</i> (138)
Endophytic microbial community analysis and function prediction in different tissue parts of apple rootstock T337 .....	<i>Cheng Huan,et al</i> (144)
Effects of elevated CO <sub>2</sub> and supplemental light interaction on photosynthetic characteristics and yield of chili peppers .....	<i>Wang Cuili,et al</i> (155)

**Husbandry and Veterinary · Aquaculture and Sericulture**

Influence of cholesterol and phosphatidylcholine on cryopreservation of goat semen .....	<i>Hu Jiada,et al</i> (159)
Auto – induction secretory expression and immunogenicity analysis of a nontoxic recombinant <i>Clostridium perfringens</i> α – toxin .....	<i>Wei Houjun,et al</i> (166)

**Storage and Processing · Detection**

Nondestructive quality detection method and canonical correlation analysis of processed pepper .....	<i>Gong Xuefeng,et al</i> (170)
Control and resistance induction mechanism of polylysine to postharvest penicillium in pear fruit .....	<i>Dou Yong,et al</i> (177)

**Agricultural Engineering and Information Technology**

Design and EDEM simulation test of mountain horizontal disc seeder .....	<i>Li Shuaiqi,et al</i> (183)
Identification of rice pests based on improved residual network .....	<i>Lei Jianyun,et al</i> (190)
Automatic detection and counting of <i>Amblyseius cucumeris</i> Oudemans based on YOLOv4 .....	<i>Li Jianxing,et al</i> (199)
Study on traceability system of imported agricultural products based on consortium blockchain .....	<i>Ying Yi,et al</i> (207)
Impacts of tillage methods on configuration and growth trend of root of wheat .....	<i>Yang Yanshan,et al</i> (214)
Evaluation of effect of temperature difference between day and night on growth of tomato seedlings based on fuzzy Borda method .....	<i>Huang Yuan,et al</i> (219)
Soil pH UAV remote sensing image inversion based on different modeling methods .....	<i>Wang Yi,et al</i> (224)

**Resources and Environment**

Calculation and spatial – temporal dynamic evolution of China’s agricultural carbon emission under background of carbon peak .....	<i>Huang Xiaohui,et al</i> (232)
Effects of different commercial fermentation agents on microbial community in cow manure composting .....	<i>Zhao Ouya,et al</i> (239)
Influences of combined application of AM fungi and biochar on soil organic carbon components and aggregates .....	<i>Chen Xuedong,et al</i> (245)
Impacts of continuous cropping on soil physicochemical properties and rhizosphere microbial community characteristics of <i>Asarum heterotropoides</i> .....	<i>Yu Chunlei,et al</i> (250)
Effect of chelating agent on inorganic phosphorus components in biochar soil .....	<i>Yang Yang,et al</i> (259)