

# 江苏农业科学

第 51 卷 第 7 期 2023 年 4 月 5 日

## 目 次

### ● 专论与综述

- 植保无人机施药防治水稻病虫害的研究进展 ..... 徐广春,徐 鹿,石伟山,等(1)  
玉米南方锈病抗性机制及抗病育种研究进展 ..... 张军刚,郭海斌,许海涛,等(7)  
基于卷积神经网络的农业病虫害识别研究综述 ..... 李子涵,周省邦,赵 戈,等(15)  
硒降低稻米主要重金属污染的研究进展 ..... 向旭敏,肖春梅,熊雨舟,等(23)  
不同秸秆还田方式对农田生态环境的影响综述 ..... 张 旭,邢思文,吴玉德(31)  
石墨烯材料在农业领域的应用研究进展 ..... 史大炜,伍 纲,杨其长,等(39)

### ● 生物技术

- 甜瓜遗传转化技术的优化及 DRs 类基因的应用 ..... 万丽丽,王转革,汤 谙,等(49)  
不同高粱品种碳代谢相关酶、SPS 基因表达的比较分析 ..... 徐洪超,商 靖,吕 鑫,等(59)

### ● 遗传育种与耕作栽培

- 稻虾共作模式下水稻品种和施肥方式的筛选试验 ..... 张玉山,黄晓声,梁志辉,等(66)  
马铃薯光合效率遗传分析及综合评价 ..... 谢 锐,金晓蕾,韩志刚,等(73)  
长江中下游 7 个冬小麦品种产量和品质性状的杂种优势及配合力分析  
..... 孙 皓,赵 斌,王 瑞,等(81)

- 外源水杨酸对低温胁迫下谷子幼苗生长的影响 ..... 闫 锋(86)  
外源 DA - 6 调控干旱胁迫下棉花种子萌发的生理机制 ..... 娄 慧,朱金成,杨若欢,等(91)  
不同水氮用量对马铃薯产量、品质及水氮利用的影响 ..... 郝喜英,胡晨阳,魏 伟,等(97)  
黄淮海不同类型玉米干物质积累、分配与转运特征 ..... 王昌亮,吴西利,常建智,等(103)

## ●园艺与林学

- 一氧化氮对茶树不同组织响应铝胁迫的影响 ..... 邢安琪,田志强,储睿文,等(110)  
多组学手段揭示嫁接茶树接穗对砧木的影响 ..... 周泳臣,刘颖,郑文忠,等(118)  
不同类型及不同品种百合的杂交亲和性与胚挽救 ..... 周敏,赵秋燕,张迪,等(132)  
不同凋落物水浸提液对杉木种子萌发和幼苗早期生长的化感作用 ..... 李梦琪,赵冲,罗航,等(138)  
吉林省引进甜瓜种质资源表型遗传多样性分析 ..... 于翠香,谭化,张海燕,等(147)

## ●贮藏加工与检测分析

- 玉米种子萌芽过程中污染性微生物多样性鉴定 ..... 肖婉钰,王盼,孙艺嘉,等(154)  
基于电子舌和人工感官评价的菜用大豆食用品质特性分析 ..... 程茜,黄璐,沈旭,等(161)  
香稻荀当3号香味成分与土壤养分相关性分析 ..... 王学良,王忠妮,李祖军,等(168)

## ●农业工程与信息技术

- 基于内外共生理论的农业精准信息服务框架构建研究 ..... 任妮,罗瑞,花梦婷,等(174)  
基于时序 Sentinel-2 的河北地下水漏斗区作物单双季种植遥感监测 ..... 郑翔宇,李存军,刘玉,等(182)  
基于隶属函数法的宁夏滴灌玉米灌溉制度研究 ..... 蒋正文,岳宏伟,陈娇,等(190)

## ●资源与环境

- 有机种植与常规种植蔬菜地土壤细菌群落多样性分析 ..... 曾广娟,冯阳,吴舒,等(197)  
化肥减量配施微生物菌肥及土壤调理剂对重茬马铃薯生长发育和土壤质量的影响 ..... 张建鹏(205)  
小麦秸秆及其生物炭对植烟土壤养分、酶活性及细菌群落结构的影响

..... 张燕,李亮生,陈伟,等(213)

- 腐殖酸和生物质炭对土壤磷素转化及甘蔗生长的影响 ..... 刘芸淳,潘俊臣,莫碧霞,等(220)  
黄孢原毛平革菌联合生物炭对鸡粪好氧堆肥木质素降解和腐熟度的影响 ..... 翟森茂,毛欣宇,陈星,等(227)

## ●“乡村振兴”专栏

- 乡村振兴背景下财政支农支出效率测度与区域比较 ..... 张永江,袁俊丽,刘雨潇(236)  
职业培训、受教育程度与家庭农场经营绩效 ..... 钱致禾,李亦然,魏君霖,等(244)  
乡村振兴背景下济州岛柑橘品牌包装知识产权对中国农产品的借鉴意义——以江西省信丰县脐橙品牌为例  
..... 孙巍,郜伟光,沈鸿猷,等(251)

# JIANGSU AGRICULTURAL SCIENCES

Vol. 51 No. 7 April 5 2023

## CONTENTS

### Monograph and Review

- Research progress on control of rice diseases and insect pests with UAV for plant protection ..... *Xu Guangchun, et al(1)*  
Research progress on rust resistance mechanism and resistance breeding of southern maize ..... *Zhang Jungang, et al(7)*  
Study on agricultural pest identification based on convolutional neural network: a review ..... *Li Zihan, et al(15)*  
Research progress of selenium reducing heavy metal pollution in rice ..... *Xiang Xumin, et al(23)*  
Effects of different straw returning methods on farmland ecological environment: a review ..... *Zhang Xu, et al(31)*  
Research progress on application of graphene materials in agriculture ..... *Shi Dawei, et al(39)*

### Bio-technology

- Optimization of genetic transformation technology and application of DRs genes in melon ..... *Wan Lili, et al(49)*  
Comparative analysis of carbon metabolism related enzymes and *SPS* gene expression in different sorghum cultivars  
..... *Xu Hongchao, et al(59)*

### Genetics and Breeding · Tillage and Cultivation

- Screening of rice cultivars and fertilization methods under rice – freshwater lobster co – cropping ..... *Zhang Yushan, et al(66)*  
Genetic analysis and comprehensive evaluation of potato photosynthetic efficiency ..... *Xie Rui, et al(73)*  
Heterosis and combining ability of yield and quality traits for seven winter wheat cultivars in middle and lower reaches of  
Yangtze River ..... *Sun Hao, et al(81)*  
Influences of exogenous salicylic acid on growth of foxtail millet seedlings under low temperature stress ..... *Yan Feng(86)*

- Physiological mechanism of exogenous DA – 6 regulates seed germination of cotton under drought stress  
..... *Lou Hui, et al(91)*

- Effects of different water and nitrogen dosage on yield, quality and water and nitrogen utilization of potatoes  
..... *Hao Xiying, et al(97)*

- Characteristics of dry matter accumulation, distribution and translocation of different maize cultivars in Huang – Huai – Hai areas  
..... *Wang Changliang, et al(103)*

### Horticulture and Forestry

- Impacts of nitric oxide on response of different tissues to aluminum stress in *Camellia sinensis* ..... *Xing Anqi, et al(110)*  
Effect of grafted tea scion on rootstock by multiple omics methods ..... *Zhou Yongchen, et al(118)*  
Study on cross compatibility and embryo rescue of hybrid lily with different types and varieties ..... *Zhou Min, et al(132)*

Allelopathy of different litter water extracts on seed germination and early seedling growth of <i>Cunninghamia lanceolata</i> .....	<i>Li Mengqi, et al(138)</i>
--	------------------------------

Phenotypic genetic diversity of introduced melon germplasm resources in Jilin Province .....	<i>Yu Cuixiang, et al(147)</i>
--	--------------------------------

## Storage and Processing · Detection

Identification of contaminative microorganisms diversity during germination of maize seeds .....	<i>Xiao Wanyu, et al(154)</i>
--	-------------------------------

Study on edible quality characteristics of vegetable soybeans based on electronic tongue and sensory evaluation .....	<i>Cheng Xi, et al(161)</i>
---	-----------------------------

Study on the correlation between aroma components and soil properties of fragrant rice “Goudang 3” .....	<i>Wang Xueliang, et al(168)</i>
--	----------------------------------

## Agricultural Engineering and Information Technology

Study on construction of agricultural precision information service framework based on theory of internal and external symbiosis .....	<i>Ren Ni, et al(174)</i>
--	---------------------------

Remote sensing monitoring of single and double cropping in groundwater funnel area of Hebei Province based on Sentinel – 2 time series .....	<i>Zheng Xiangyu, et al(182)</i>
--	----------------------------------

Study on drip irrigation system of maize in Ningxia area based on membership function method .....	<i>Jiang Zhengwen, et al(190)</i>
--	-----------------------------------

## Resources and Environment

Analysis of bacterial community diversity under organic and conventional planting .....	<i>Zeng Guangjuan, et al(197)</i>
---	-----------------------------------

Influences of chemical fertilizer reduction combined with microbial fertilizer and soil conditioner on growth and soil quality of continuous potatoes .....	<i>Zhang Jianpeng(205)</i>
---	----------------------------

Effects of wheat straw and its biochar on soil nutrients, enzyme activity and bacterial community structure of tobacco planting soil .....	<i>Zhang Yan, et al(213)</i>
--	------------------------------

Impacts of humic acid and biomass carbon on soil phosphorus conversion and sugarcane growth .....	<i>Liu Yunting, et al(220)</i>
---	--------------------------------

Influences of biochar combined with <i>Phanerochaete chrysosporium</i> on lignin degradation and humification during chicken manure composting .....	<i>Zhai Senmao, et al(227)</i>
--	--------------------------------

## Rural Revitalization

Efficiency measurement and regional comparison of financial support for agriculture in the context of rural revitalization .....	<i>Zhang Yongjiang, et al(236)</i>
--	------------------------------------

Vocational training, educational attainment and family farm business performance .....	<i>Qian Zhihe, et al(244)</i>
--	-------------------------------

Reference significance of Jeju Island citrus brand packaging intellectual property to Chinese agricultural products under background of rural revitalization—Taking Xinfeng navel orange brand in Jiangxi Province as an example .....	<i>Sun Wei, et al(251)</i>
--	----------------------------