



ISSN 0578-1752  
CODEN CKNYAR

# 中国农业科学

SCIENTIA AGRICULTURA SINICA

第 54 卷 第 12 期

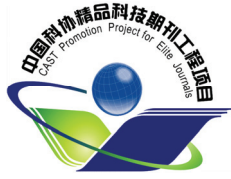
Vol. 54 No. 12

# 2021



中国农业科学院  
中国农学会

主办



## 目次

### 作物遗传育种·种质资源·分子遗传学

- 2487-2498 doi: 10.3864/j.issn.0578-1752.2021.12.001  
水稻粒宽突变体 gw87 的基因定位及候选基因分析  
张翔宇 郭佳 王三 陈聪萍 孙昌辉 邓晓建 王平荣
- 2499-2509 doi: 10.3864/j.issn.0578-1752.2021.12.002  
海岛棉种质资源表型性状的遗传多样性分析及综合评价  
杨涛 黄雅婕 李生梅 任丹 崔进鑫 庞博 于爽 高文伟
- 2510-2522 doi: 10.3864/j.issn.0578-1752.2021.12.003  
48 份玉米自交系抗病性的精准鉴定  
赵子麒 赵雅琪 林昌朋 赵永泽 余宇潇 孟庆立 曾广莹 薛吉全 杨琴

### 耕作栽培·生理生化·农业信息技术

- 2523-2537 doi: 10.3864/j.issn.0578-1752.2021.12.004  
14-3-3 蛋白在水稻籽粒灌浆过程中的互作靶蛋白鉴定及其对外源激素的响应  
张志兴 敏秀梅 宋果 陈花 许海龙 林文雄
- 2538-2546 doi: 10.3864/j.issn.0578-1752.2021.12.005  
增密对我国玉米产量-叶面积指数-光合速率的影响  
侯佳敏 罗宁 王溯 孟庆锋 王璞

### 植物保护

- 2547-2558 doi: 10.3864/j.issn.0578-1752.2021.12.006  
四川玉米小斑病菌交配型组成与育性分析  
孙小芳 刘敏 潘婷敏 龚国淑
- 2559-2569 doi: 10.3864/j.issn.0578-1752.2021.12.007  
解淀粉芽孢杆菌 HMB33604 的抑菌物质及对马铃薯黑痣病的防治效果  
李扬凡 邵美琪 刘畅 郭庆港 王培培 陈秀叶 苏振贺 马平
- 2570-2580 doi: 10.3864/j.issn.0578-1752.2021.12.008  
新型土壤消毒一体机提高棉隆土壤分布均匀性  
方文生 曹勘程 王秋霞 颜冬冬 李园 靳茜 赵奇龙 仇耀康 赵宏明

### 土壤肥料·节水灌溉·农业生态环境

- 2581-2594 doi: 10.3864/j.issn.0578-1752.2021.12.009  
不同磷肥品种在石灰性土壤中的磷形态差异  
吉冰洁 李文海 徐梦洋 牛金璨 张树兰 杨学云

2595-2607

doi: 10.3864/j.issn.0578-1752.2021.12.010

减氮覆膜对黄土旱塬小麦产量及养分吸收利用的影响

刘凯 谢英荷 李廷亮 马红梅 张奇茹 姜丽伟 曹静 邵靖琳

2608-2618

doi: 10.3864/j.issn.0578-1752.2021.12.011

绿洲灌区不同施氮水平下玉米绿肥间作模式的水分利用特征

李含婷 柴强 王琦明 胡发龙 于爱忠 赵财 殷文 樊志龙 范虹

## 园艺

2619-2629

doi: 10.3864/j.issn.0578-1752.2021.12.012

黑暗和光照处理对马铃薯块茎愈伤效果影响的比较

魏亚楠 彭慧 杨乾 郑晓渊 唐中祺 朱艳 颀建明 毕阳

2630-2643

doi: 10.3864/j.issn.0578-1752.2021.12.013

树冠覆膜对沙糖橘采后保鲜性能的影响

朱智锋 刘萍 许让伟 陈传武 邓崇岭 牛英 朱壹 王鹏蔚 邓秀新 程运江

2644-2652

doi: 10.3864/j.issn.0578-1752.2021.12.014

荷兰鸢尾‘玉妃’花色变异关键结构基因分析

林兵 陈艺荃 钟准钦 叶秀仙 樊荣辉

## 食品科学与工程

2653-2665

doi: 10.3864/j.issn.0578-1752.2021.12.015

碱提甘蔗皮多糖提取工艺、初步结构及其对 $\alpha$ -葡萄糖苷酶的抑制作用

王萱萱 刘春宇 谢贝昱 张淑淑 王丹阳 朱振元

## 畜牧·兽医·资源昆虫

2666-2674

doi: 10.3864/j.issn.0578-1752.2021.12.016

蜡样芽孢杆菌致吐毒素的毒性作用与生物合成研究进展

崔一芳 郑敏 丁双阳 朱奎

2675-2688

doi: 10.3864/j.issn.0578-1752.2021.12.017

蜂胶提取物对脂多糖诱导小鼠急性乳腺炎及乳腺屏障功能的保护作用

宋美洁 欧爱群 薛晓锋 吴黎明 寿旗扬 王凯

2689-2698

doi: 10.3864/j.issn.0578-1752.2021.12.018

基于LC-MS技术研究氟氯苯氧菊酯对西方蜜蜂工蜂幼虫代谢的影响

虞龙涛 杨何妍 苏宇晨 颜伟玉 吴小波

## CONTENTS

---

**CROP GENETICS & BREEDING·GERMPLASM RESOURCES·MOLECULAR GENETICS**

---

2487-2498 doi: 10.3864/j.issn.0578-1752.2021.12.001

**Gene Mapping and Candidate Gene Analysis of Grain Width Mutant *gw87* in Rice**

ZHANG XiangYu, GUO Jia, WANG San, CHEN CongPing, SUN ChangHui, DENG XiaoJian, WANG PingRong

---

2499-2509 doi: 10.3864/j.issn.0578-1752.2021.12.002

**Genetic Diversity and Comprehensive Evaluation of Phenotypic Traits in Sea-Island Cotton Germplasm Resources**

YANG Tao, HUANG YaJie, LI ShengMei, REN Dan, CUI JinXin, PANG Bo, YU Shuang, GAO WenWei

---

2510-2522 doi: 10.3864/j.issn.0578-1752.2021.12.003

**Precise Evaluation of 48 Maize Inbred Lines to Major Diseases**

ZHAO ZiQi, ZHAO YaQi, LIN ChangPeng, ZHAO YongZe, YU YuXiao, MENG QingLi, ZENG GuangYing, XUE JiQuan, YANG Qin

---

**TILLAGE & CULTIVATION·PHYSIOLOGY & BIOCHEMISTRY·AGRICULTURE INFORMATION TECHNOLOGY**

---

2523-2537 doi: 10.3864/j.issn.0578-1752.2021.12.004

**Identification of 14-3-3 Client Proteins in Rice Grains and Their Response to Exogenous Hormones During the Grain Filling Stage**

ZHANG ZhiXing, MIN XiuMei, SONG Guo, CHEN Hua, XU HaiLong, LIN WenXiong

---

2538-2546 doi: 10.3864/j.issn.0578-1752.2021.12.005

**Effects of Increasing Planting Density on Grain Yield, Leaf Area Index and Photosynthetic Rate of Maize in China**

HOU JiaMin, LUO Ning, WANG Su, MENG QingFeng, WANG Pu

---

**PLANT PROTECTION**

---

2547-2558 doi: 10.3864/j.issn.0578-1752.2021.12.006

**Mating Type and Fertility of *Cochliobolus heterostrophus* Causing Southern Corn Leaf Blight in Sichuan Province**

SUN XiaoFang, LIU Min, PAN TingMin, GONG GuoShu

---

2559-2569 doi: 10.3864/j.issn.0578-1752.2021.12.007

**Identification of the Antifungal Active Compounds from *Bacillus amyloliquefaciens* Strain HMB33604 and Its Control Efficacy Against Potato Black Scurf**

LI YangFan, SHAO MeiQi, LIU CHANG, GUO QingGang, WANG PeiPei, CHEN XiuYe, SU ZhenHe, MA Ping

---

2570-2580 doi: 10.3864/j.issn.0578-1752.2021.12.008

**A New Integrated Soil Disinfection Machine Improves the Uniformity of Dazomet in Soil**

FANG WenSheng, CAO AoCheng, WANG QiuXia, YAN DongDong, LI Yuan, JIN Xi, ZHAO QiLong, QIU YaoKang, ZHAO HongMing

---

**SOIL & FERTILIZER·WATER·SAVING IRRIGATION·AGROECOLOGY & ENVIRONMENT**

---

2581-2594 doi: 10.3864/j.issn.0578-1752.2021.12.009

**Varying Synthetic Phosphorus Varieties Lead to Different Fractions in Calcareous Soil**

JI BingJie, LI WenHai, XU MengYang, NIU JinCan, ZHANG ShuLan, YANG XueYun

---

2595-2607

doi: 10.3864/j.issn.0578-1752.2021.12.010

**Effects of Nitrogen Reduction and Film Mulching on Wheat Yield and Nutrient Absorption and Utilization in Loess Plateau**

LIU Kai, XIE YingHe, LI TingLiang, MA HongMei, ZHANG QiRu, JIANG LiWei, CAO Jing, SHAO JingLin

2608-2618

doi: 10.3864/j.issn.0578-1752.2021.12.011

**Water Use Characteristics of Maize-Green Manure Intercropping Under Different Nitrogen Application Levels in the Oasis Irrigation Area**

LI HanTing, CHAI Qiang, WANG QiMing, HU FaLong, YU AiZhong, ZHAO Cai, YIN Wen, FAN ZhiLong, FAN Hong

**HORTICULTURE**

2619-2629

doi: 10.3864/j.issn.0578-1752.2021.12.012

**Effects of Dark and Light Treatments on Wound Healing of Potato Tubers**

WEI YaNan, PENG Hui, YANG Qian, ZHENG XiaoYuan, TANG ZhongQi, ZHU Yan, XIE JianMing, BI Yang

2630-2643

doi: 10.3864/j.issn.0578-1752.2021.12.013

**Influence of Plastic Film Covering of Tree Canopy on Fruit Postharvest Storage Performance in Shatangju Tangerine**

ZHU ZhiFeng, LIU Ping, XU RangWei, CHEN ChuanWu, DENG ChongLing, NIU Ying, ZHU Yi, WANG PengWei, DENG XiuXin, CHENG YunJiang

2644-2652

doi: 10.3864/j.issn.0578-1752.2021.12.014

**Analysis of Key Genes About Flower Color Variation in *Iris hollandica***

LIN Bing, CHEN YiQuan, ZHONG HuaiQin, YE XiuXian, FAN RongHui

**FOOD SCIENCE AND ENGINEERING**

2653-2665

doi: 10.3864/j.issn.0578-1752.2021.12.015

**Extraction Technology, Preliminary Structure and  $\alpha$ -glucosidase Inhibition of Polysaccharide with Alkaline-Extracted from Sugarcane Peel**

WANG XuanXuan, LIU ChunYu, XIE BeiYu, ZHANG ShuShu, WANG DanYang, ZHU ZhenYuan

**ANIMAL SCIENCE·VETERINARY SCIENCE·RESOURCE INSECT**

2666-2674

doi: 10.3864/j.issn.0578-1752.2021.12.016

**Advances of Biosynthesis and Toxicity of Cereulide Produced by Emetic *Bacillus cereus***

CUI YiFang, ZHENG Min, DING ShuangYang, ZHU Kui

2675-2688

doi: 10.3864/j.issn.0578-1752.2021.12.017

**Protective Effects of Chinese Propolis Extract Against Lipopolysaccharide-Induced Acute Mastitis and Mammary Barrier Functions in Mice**

SONG MeiJie, OU AiQun, XUE XiaoFeng, WU LiMing, SHOU QiYang, WANG Kai

2689-2698

doi: 10.3864/j.issn.0578-1752.2021.12.018

**The Effect of Flumethrin on Metabolism of Worker Larvae of *Apis mellifera* with LC-MS Technique**

YU LongTao, YANG HeYan, SU YuChen, YAN WeiYu, WU XiaoBo