

植物保护学报

2024年 第51卷 总目次

第1期

文献综述

- 封面文章: 上行效应与下行效应在番茄潜叶蛾防控中的应用 胡珊珊 谢丹 Ismoilov Khasan 王明慧 韩鹏 (1)
- 氮添加调控陆地昆虫食物网的级联效应 刘婧茜 张蓉 朱猛蒙 赵紫华 (12)

研究论文

- 麦二叉蚜唾液蛋白基因 *Sg1655* 时空表达谱及其抑制小麦防御反应的功能 孙钰 张雨濛 刘晓蓓 陈巨莲 张勇 解海翠 (20)
- 黏虫丝氨酸蛋白酶抑制剂基因的克隆及抗球孢白僵菌功能分析 张春雨 杨洪佳 胡育硕 王艺晓 樊东 (28)
- 不同功能植物对棉花蚜虫及其捕食性天敌的影响 彭雪凡 周晓通 维尼热·买合木提 上官一磊 戈峰 张建萍 蔡志平 (39)
- 成株期小麦对获草谷网蚜的田间抗蚜性和耐蚜性评价 胡想顺 赵洁 姜子河 韩顺琴 蔚睿 吴舒舒 王建锋 赵惠燕 刘同先 韩德俊 (50)
- 内共生菌 *Buchnera* 协助蚜虫抑制寄主植物的防御反应 卢盈希 杨青兰 康涵韦 冯婧婧 宁干喜 王永模 (69)
- 异色瓢虫人工繁育中滞育成虫的冷藏条件 李贝 李家旭 刘文 王小平 (78)
- 繁育寄主植物对浅黄恩蚜小蜂生防潜能的影响 赵悦 钱胤凯 章思腾 张凯 张俊杰 王晶 (88)
- 异色瓢虫对苹果-蛇床草微景观中两种蚜虫的捕食功能反应及选择偏好性 蔡志平 张兴瑞 肖云丽 张建萍 戈峰 (96)
- 密度对甜菜夜蛾幼虫色型分化的影响 李家旭 龚建福 刘文 王攀 司升云 王小平 (106)
- 咀嚼诱导对茶树抗茶小绿叶蝉的影响 吕晓彤 周孝森 邹佳婷 辛肇军 蔡晓明 罗学平 蔡红兵 边磊 (114)
- 食物对兹沃尔新小绥螨生长发育和繁殖的影响 马敏 焦硕 刘宇 王恩东 范青海 (123)
- 2021年湖南省草地贪夜蛾迁飞路径及虫源地分析 谭泗桥 王梓轩 何健璇 马智能 尹丽 张政兵 张永生 (132)
- 美国白蛾入侵江西省及其各市的综合风险分析 常祥琪 严璇 严婧 李冬 梁玉勇 曾菊平 (141)
- 宁夏回族自治区和浙江省光肩星天牛对柳属植物的寄主适应性 郭帅 谷奇 陆鹏飞 乔海莉 李玉春 (154)
- 新疆杏李园梨小食心虫成虫消长动态及迷向防治效果 曹华毅 杨龙 潘云飞 王亚桥 冯宏祖 陆宴辉 (170)
- 绿僵菌与FKBP52联合使用对西花蓟马的毒力 尹仙枫 朱凯辉 王芳 张蓉 王福莲 涂雄兵 (178)
- 微生物杀虫剂联合施用对草地贪夜蛾幼虫的防治效果 朱凯辉 贾静静 秦双 涂雄兵 吉训聪 (186)
- 异烟酸甲酯/ α -环糊精微胶囊制备及其对蓟马的引诱效果分析 陈艺欣 林硕 田厚军 林凌鸿 李恒 陈勇 魏辉 (193)
- 球孢白僵菌定殖提高番茄对灰霉病抗性及其作用机理 隋丽 路杨 周麟妍 李南楠 张正坤 李启云 (203)
- 利用CRISPR/Cas13a编辑技术获得马铃薯抗PVX植株 涂振 钟子阳 陈汝豪 杨曼华 詹晓慧 陈家茹 马恢 聂碧华 (211)
- 禾谷镰刀菌-玉米互作根系分泌物组分的鉴定及其抑菌活性分析 王云 江林 杨倩 谢珊珊 (219)
- 117个玉米品种对禾谷镰孢根腐病的抗性鉴定及根腐病对苗势与产量的影响 金嵘 贾娇 吴宏斌 柴海燕 苏义臣 苏前富 (228)
- 83份西农系小麦品种(系)抗性鉴定及抗病基因分子检测 程蓬 郭璇 辛秀丽 仝嘉垚 解慕华 郭梦莹 郝肖娜 元魏魏 李强 王保通 (237)
- 苹果树腐烂病菌 *VmMFS1~VmMFS3* 基因的功能分析 张琼 刘昭阳 高承宇 杜旋 冯浩 黄丽丽 (249)
- 拟南芥转录因子IDD4不同突变体对灰葡萄孢菌的抗性分析 李林倩 张豪 徐晓东 于德嘉 张国斌 鲁旭蓉 陈健鑫 王云月 杨红玉 (261)

第2期

文献综述

- 封面文章: 苹果蠹蛾对高效氯氟氰菊酯的抗性现状、机制及治理策略 刘雨茜 胡超 马尧 鞠迪 杨念婉 李玉婷 高萍 杨雪清 (269)
- 生物农药白僵菌杀虫剂的研发进展 农向群 王广君 王以燕 李梅 袁善奎 冯士骞 涂雄兵 张泽华 (278)
- 农田微塑料及混合污染物对蚯蚓影响的研究进展 高佳楠 张硕 吕绍旗 张志伟 肖能文 (294)

研究论文

- 核盘菌自噬相关基因 *SsATG5* 和 *SsATG8* 的功能分析 刘勇 张宇宇 付艳苹 谢甲涛 姜道宏 程家森 (302)
- 小麦条锈病生防菌株的筛选、鉴定及其防治效果 肖珂雨 贾瑞敏 杨利飒 马青 王阳 (314)

小麦茎基腐病防治药剂及抗病品种的筛选 付燕子 朱运启 王 峭 朱立林 王保通 李 强 (324)

贝莱斯芽胞杆菌 ZF145 抑菌物质提取方法比较及成分鉴定 曾先锋 覃诗扬 谢学文 石延霞 柴阿丽 李宝聚 李 磊 (334)

糖苷水解酶基因 *FvGHI6-2* 参与拟轮枝镰孢菌生长发育及致病性 任志国 刘 宁 陈 悦 孙蔓莉 曹志艳 董金皋 (342)

复合微生物菌肥 KMM 减缓苹果再植病害机制 于松涛 张铭一 陈 蕊 李 波 曹克强 王树桐 (352)

珞吡草唑与噁草酮复配应用于大豆-玉米带状复合种植田的效果评价 高兴祥 冯 克 张国福 杨素梅 李 美 李 健 金 岩 张耀中 (361)

环磺酮的除草活性及对玉米的安全性评价 汪雅妃 柴 茵 胡 伟 殷 凡 张晶旭 王时兵 赵 宁 操海群 廖 敏 (369)

水稻锯齿叶矮缩病毒对褐飞虱生长发育和生殖的影响 刘健丽 李学文 欧阳钰莹 郭齐汤 尤民生 林 胜 (377)

敲除 *OsLRR-RLK18* 基因提高水稻对褐飞虱的抗性 唐璎璩 蒯 鹏 邱 晨 吕 静 娄永根 (383)

瓜实蝇蜕皮激素合成通路 Halloween 基因鉴定及 *Shade* 的功能分析 王 韵 马 梦 李伟军 王进军 魏 冬 (394)

2015—2021 年亚洲玉米螟对 Cry1Ie 杀虫蛋白的敏感性监测 王月琴 静大鹏 刘凯强 王振营 何康来 (405)

采用饲喂法和微注射法评价 Cry2Aa 蛋白对二化螟盘绒茧蜂的安全性 董欣鑫 李梦雨 马伟华 蔡万伦 华红霞 (413)

亚洲小车蝗响应高效氯氰菊酯胁迫的转录组及抗性相关基因分析 高海燕 杨旭兵 闫 锋 孙彦楠 张 玉 高书晶 (421)

啮氧菌酯对意大利蜜蜂幼虫生长发育及免疫应答的影响 段辛乐 王如意 熊曼琼 王梨竹 覃 淦 黄少康 李江红 (432)

金龟子绿僵菌对苜蓿生长的影响及对苜蓿抗蚜性的诱导作用 刘 蓉 蔡 霓 农向群 王广君 涂雄兵 冯士骞 张泽华 (442)

球孢白僵菌与杀螨剂混配对二斑叶螨的毒力测定及其田间防治效果 王好岭 王桂萍 张伟丽 董紫旭 王希波 李海天 谢丽霞 于 毅 (450)

华南 205 木薯二倍体及其同源四倍体对朱砂叶螨取食胁迫的生理响应 韦婉玲 何 文 阮丽霞 梁振华 杨海霞 陈会鲜 李恒锐 黄珍珠 (456)

黄野螟性信息素分泌腺形态及超微结构 钱沉鱼 苏钟琪 温秀军 马 涛 (467)

寄主转换对棉蚜存活率与营养代谢的影响 朱凯辉 尹仙枫 王 芳 王福莲 张 蓉 涂雄兵 (475)

不同光环境对梨小食心虫成虫寿命和繁殖的影响 焦涸燧 杨小凡 冉红凡 路子云 刘文旭 马爱红 李建成 (484)

人工饲料对黄带犀猎蝽生长发育、繁殖及捕食效能的影响 陈苏怡 李晓光 史爱民 石萍丽 石安宪 彩万志 李 虎 (491)

第3期

文献综述

封面文章: 传毒媒介基因组中内源性病毒元件多样性及功能的研究进展 何雨娟 张传溪 陈剑平 李俊敏 (501)

昆虫隐存种的鉴定方法及其在有害生物防控与物种保护中的应用 王茗毅 毛锐锐 周 昊 张楚格 魏淑花 张 锋 欧阳芳 (511)

昆虫不育技术在害虫防治中的应用和研究进展 顾俊文 王靖怡 张 琪 (527)

研究论文

肿瘤坏死因子受体相关因子基因 *TRAF4* 促进烟粉虱与共生菌 *Portiera* 的共生关系 李娜娜 赵正阳 韦凯恒 洪继生 闫金阳 栾军波 (536)

糖苷水解酶家族基因 *AghyGH1a* 参与莲草直胸跳甲对皂苷的代谢 李泽坤 孙利媛 王苑馨 贾 栋 杨 军 马瑞燕 (545)

凹唇壁蜂雌成虫滞育期、休眠期和破茧期肠道菌群多样性分析 王光召 马艺翔 秦敬泽 游银伟 马朋涛 李雨莉 门兴元 宋莹莹 张 凯 李 霞 王桂萍 于 毅 (556)

锈色粒肩天牛幼虫头部感受器扫描电镜观察 梁 志 徐倩然 郑永鑫 张升伟 顾天滋 张龙娃 (568)

替代寄主米蛾卵驯化对夜蛾黑卵蜂相关生物学参数的影响 李维薇 王德海 刘正玲 李 伟 宁德凯 罗 嵘 詹筱国 史爱民 王春娅 谢永辉 (578)

食物氮含量对意大利蝗生长发育和卵巢面积的影响 陈 妍 董化楠 季 荣 何 岚 张永军 丁国蝉 (585)

中国梨喀木虱对六种非寄主越冬植物的适应性 赵龙龙 高 欣 薛 涪 冀佳悦 魏明峰 马瑞燕 (592)

黄淮海地区不同种植结构下点蜂缘蝽的发生规律 魏中艳 辛相启 孙炳剑 严丹侃 孙家峰 潘志金 范志业 李梦姣 陈剑平 孙宗涛 (600)

额尔齐斯河流域灌木昆虫群落特征及对环境因子和植物群落特征的响应 赵远娥 雷子怡 万育欣 周成龙 易光平 季 荣 (609)

陕西省兴平市玉米田草地贪夜蛾的发生动态及关键防治技术 董金慧 宋梁栋 李方向 王忠娣 牛晓萍 南江磊 成卫宁 (619)

草地贪夜蛾核型多角体病毒对草地贪夜蛾的毒力及其侵染特征 彭倩 易磊 曾洋 施玉双 傅悦 湛祖文 (629)

水稻OsAGO家族成员特征及对RGDV和SRBSDV的响应 魏莹 林冬煊 刘鸿飞 徐荣荣 朱永生 吴建国 赵珊珊 (636)

广东省不同稻区稻瘟病菌生理小种鉴定及无毒基因分析 汪文娟 陈凯玲 杨健源 封金奇 朱小源 苏菁 (645)

柑橘黄龙病菌过氧化物还原酶基因*CLasPrx*的克隆及功能分析 左溪如 王淘 陈焯 闫亚娜 黄桂艳 李瑞民 (654)

纽荷尔脐橙树体中黄龙病菌的分布规律及其对叶片组织结构和木质素合成的影响 蒋松良 张文卓 张凤 韩健 马先锋 金燕 (663)

*MjCdtf1*基因对桃褐腐病菌生长、产孢和致病力的影响 杨静雅 曾哲政 肖媛玲 蔡民政 吴沛珊 魏闻恺 阴伟晓 罗朝喜 (672)

马铃薯疮痂病拮抗菌JYC1217的鉴定及其生防促生特性 黄勋 丰加文 金春林 邓琳梅 张潇方 徐亚锦 杨艳丽 刘霞 (684)

咯菌腈与解淀粉芽胞杆菌X-119复配对葡萄灰霉病的防效 焦甜甜 沈凤英 王娇 刘晓宁 李星 李亚宁 (698)

瑞香素对烟草青枯病的防治效果及其作用机理 杨亮 韩松庭 李吉秀 王垚 李石力 江厚龙 陈少鹏 丁伟 (709)

亚致死浓度烯啶虫胺对水稻抗性物质及褐飞虱生殖参数的影响 王怀奇 董俏俏 王婷婷 邓迪 丁雨婷 张文 赵旭东 戈林泉 (719)

代谢酶抑制剂PX对除草剂防除稗草的增效作用 张静 郭静 孔令伟 杨柳 郑燕 陶波 (731)

第4期

文献综述

封面文章:我国重大病虫害防控综合技术研发与示范专项顶层布局及实施进展 熊炜 王红波 张凯 许璇 汤启国 李岩 (741)

泛素化修饰在水稻与稻瘟病菌互作中的研究进展 宁柠 杨南 陈倩 (752)

研究论文

88份四川省小麦后备品系抗条锈性评价及抗性基因的分子检测 张兴宗 黄亮 夏先全 张华 陈万权 夏崇靖 刘天国 (764)

链梗葡萄孢菌基因组中致病效应因子的预测及功能验证 郭娜娜 张帆 吴明德 杨龙 李国庆 张静 (774)

禾谷镰孢菌小G蛋白FgSpg1的生物学功能 吴一可 赵晨钟 王晓妍 张承启 (782)

一株内蒙古自治区武川县马铃薯黑胫病菌的分离鉴定及全基因组分析 孙平平 张磊 魏旭 张竞丹 夏占峰 李正男 (794)

生防菌XNB-02的鉴定及其对烟草赤星病的防病机理 田琳 陈娜 曹尚 陈婧 艾绥龙 杨照 王平平 王阳 (804)

酸模根际解淀粉芽胞杆菌SH-53发酵条件优化及其生防作用 王楠 廖永琴 申云鑫 赵江源 陈齐斌 杨佩文 (817)

野尻链霉菌9-13对大豆炭疽病原菌的抑制活性及作用机制 石姐姐 连金番 邱德柱 居骋 张楠 殷越 李本金 杜宜新 (830)

烟草根系分泌物成分的鉴定及青枯雷尔氏菌对其的趋化性 冯亚丽 杜晨阳 叶慧敏 谭军 王瑞 赵秀云 (841)

花生根腐病原菌尖镰孢菌对噁霉灵的抗性风险评估 雷腾宇 马福嵘 闫晓静 袁会珠 陈淑宁 郝晓娟 (852)

乙蒜素对苹果树腐烂病的防治效果与其作用机理 苏晓州 常翠莲 高承宇 贺艳婷 田润泽 王少龙 冯浩 黄丽丽 (863)

小麦田除草剂双唑草酮的作用特性 于硕 李明宇 胡萌萌 连磊 金涛 彭学岗 陈秀涛 王金信 刘伟堂 王恒智 (875)

不同繁殖状态的梨小食心虫触角转录组分析及嗅觉相关基因鉴定 曹炜晔 王萌 李俊峰 许子昕 王怡 马瑞燕 李捷 孔维娜 (882)

取食抗感品种紫花苜蓿的苜蓿斑蚜唾液腺转录组差异分析 古文鑫 朱凯辉 刘长仲 涂雄兵 (899)

玉米大豆间作模式对草地贪夜蛾发生为害及产量的影响 谢炜峰 徐富强 郭井菲 唐照磊 陈红松 张俊杰 王振营 (910)

草地贪夜蛾对玉米和五种非禾本科作物的寄主选择性与寄主适合度及为害风险 邱良妙 刘其全 陈秀琴 卢学松 刘必炮 (918)

性诱芯诱捕器对冬暖式大棚中番茄潜叶蛾的诱集效果及关键影响因素分析 王桂萍 李霞 陈桢莉 王好岭 赵文萱 马艺翔 王光召 彭昱绮 韩晨星 刘靖齐 于毅 (928)

红火蚁回避虫生真菌的化学生态学机制分析 雷妍圆 李群臣 符展源 朱惠政 Hussin Abid 官昭瑛 (935)

基于@RISK软件评估红火蚁在中国的潜在防控成本 王晓亮 徐艳玲 冯晓东 马晨 秦誉嘉 李志红 (944)

米蛾卵和柞蚕卵对松毛虫赤眼蜂人工扩繁效率影响的比较 陈锦宏 秦睿嫔 王潇雨 刘小侠 张松斗 李贞 (952)

亚洲白僵菌的分离鉴定及其对铜绿丽金龟幼虫的致病力 王文杰 王志敏 李松 白勇章 曹驰 王泱洋 梁革梅 尹姣 李克斌 (960)

雷斯青霉菌诱变菌株YB4粗毒素对枸杞线角木虱若虫的毒力及其稳定性分析 黎秋雨 李金鹏 马桃花 洪波 贾彦霞 (970)

研究简报

桃蛀螟在安徽省薄壳山核桃产区的发生规律及防控技术 梁志 杨旭涛 周溪 王朝晖 胡俊 彭凡 张龙娃 (979)

第5期

草地有害生物专辑

文献综述

草地植物保护学科研究现状与展望 李霜 那日苏 花立民 涂雄兵 (981)

草地生境破碎化对蝗虫暴发及其天敌昆虫多样性影响的研究概述 张海翔 曹梓渝 崔艺凡 王颖 孙伟 班丽萍 张蓉 魏淑花 (988)

维生素A类物质在昆虫中的研究进展 张希圣 李霜 冯士骞 涂雄兵 (998)

sRNA移动在植物与植食性昆虫互作中的作用 李霜 冯士骞 王敏 蔚建军 李治平 杨蕾 洪林 (1006)

狼毒扩张的微生物生态学研究进展 郭丽珠 林克剑 郝丽芬 李宇宇 李佳欢 何玮 (1014)

我国草原鼠害防治靶向诱饵研究进展 袁帅 刘亚坤 付和平 武晓东 (1023)

天然草原植物病害研究进展 钱亚妮 李晓鹏 牛欣 杨浩 李春杰 俞斌华 (1033)

研究论文

基于文献计量学和Meta分析方法评估高原鼠兔干扰对高寒草甸植物与土壤的影响 蔡新成 魏才卜 楚彬 花立民 (1045)

高原鼠兔和高原鼯鼠干扰下高寒草甸植物群落多样性与土壤生态化学计量的变化 杨丽艳 宋梅玲 王玉琴 王宏生 周睿 (1056)

高寒草甸和高寒草原高原鼠兔的生态阈值确定及为害预测模型构建 花蕊 花立民 林克剑 王磊 包达尔罕 楚彬 (1068)

高原鼯鼠鼠丘不同演替阶段植物功能群的特征及其影响因素 张静 叶国辉 孙文倩 董隆明 张志莹 花立民 (1078)

高原鼯鼠干扰对高寒草甸植物群落地上-地下生物量分配格局和土壤理化性质的影响 刘济泽 董瑞 花立民 楚彬 叶国辉 (1090)

新疆北部荒漠草原黄兔尾鼠种群参数的季节比较 应亚奇 王乐文 王大伟 阿帕尔·阿布都吾甫尔 努尔古丽·努尔旦 李璇 王晓彤 阿布都克尤木·卡德尔 宋英 李宁 刘晓辉 (1099)

新疆阿勒泰地区草原鼠害现状调查及鼠类多样性分析 闫浩杰 王大伟 阿帕尔·阿布都吾甫尔 林峻 吴建国 王晓彤 阿布都克尤木·卡德尔 易光平 王健 宋英 李宁 刘晓辉 (1108)

基于微卫星标记的高原鼯鼠种群遗传多样性分析 拉毛草 王钰 根呷羊批 赵晓燕 张新 王康 周俗 (1117)

高原鼠兔个性特征对繁殖成功率的影响 王苏芹 陈欣扬 王蓉 谈昭贤 张妍 王义弘 姚宝辉 曲家鹏 (1124)

甘肃省天然草原蝗虫群落结构及生态位 钱秀娟 王兴铎 郑成卓 刘长仲 (1134)

内蒙古新巴尔虎左旗草原蝗虫多样性分析 伟军 萨拉 朱宾宾 呼斯勒 刘昊 白海涛 胡晓彬 刘毅 (1147)

巴彦淖尔市天然草地昆虫多样性及其与植被的相关性分析 殷怡婷 张能 闫冲 查干 王冬梅 郭永平 勤格勒 李胜旺 畅笑 涂雄兵 李霜 王广君 (1158)

宁夏苜蓿草田主要害虫与天敌昆虫发生动态和相关性及其对气候因子的响应 苗淼 徐洋帆 张海翔 王颖 张蓉 魏淑花 班丽萍 (1169)

新疆草原马铃薯鳃金龟幼虫的空间分布型及其与微地形的关系 陈毅君 腾达 范毅 加马力丁·吾拉扎汗 阿依多斯·托力肯努尔 穆拉迪力·玉荪 邓桃 任金龙 赵莉 (1179)

不同类型草原围栏封育对昆虫多样性的影响 曹梓渝 张海翔 熊昌宇 崔艺凡 王颖 石淳 班丽萍 张蓉 魏淑花 (1189)

祁连山北麓天然草原主要蝗虫雄性外生殖器形态特征分析 钱秀娟 曹宁 王兴铎 刘长仲 (1203)

意大利蝗雌成虫对植物的取食特性 康文静 李金星 任金龙 赵莉 (1211)

青海省门源草原毛虫取食特性及其防控经济阈值 房文娇 李霜 王思宇 成利 王成 陈秀娟
石浩玉 冯欣澳 涂雄兵 冯士骞 常静 任金龙 王广君 (1218)

冷蒿粗提物协同金龟子绿僵菌对亚洲小车蝗存活及生长发育的影响
..... 李霜 畅笑 王敏 杨蕾 洪林 那日苏 涂雄兵 张泽华 (1226)

九种药剂对沙漠蝗的室内药效评价 张希圣 Allan Mweke 冯士骞 John Huria Nderitu 涂雄兵 (1234)

干扰 *VmCarEs-6* 基因影响苜蓿斑蚜对高效氯氟氰菊酯的敏感性 郝浩阳 朱凯辉 牙森·沙力 涂雄兵 (1240)

祁连山中段狼毒入侵退化草甸群落格局及环境解释 刘咏梅 董幸枝 李潇雨 朱志梅 李艳莹 (1248)

第6期

文献综述

封面文章: 脱落酸信号途径在调控植物抗虫反应中的作用与机理 郭景然 姜永根 (1259)

我国大豆农药产品登记现状及存在问题与展望 杨园园 李凯楠 石伟山 陈长军 叶文武 王源超 (1268)

树蜂科昆虫信息化学物质研究进展 贾若峰 陆鹏飞 乔海莉 (1279)

研究论文

浙江省不同水稻亚种上稻瘟病菌种群分布及生理小种组成
..... 郝中娜 邱海萍 毛雪琴 柴荣耀 张震 王艳丽 王教瑜 (1296)

不同遗传变异下稻曲病菌的生物学特性及对杀菌剂的敏感性分析
..... 方安菲 杨雯钰 张世芸 王林栋 张瑞璇 杨军 (1306)

小豆 *VaWRKY70* 基因克隆及其抗锈病功能的验证 姚砚文 孙伟娜 丁欣 殷丽华 柯希望 左豫虎 (1317)

北京市房山区葡萄白腐病病原菌鉴定及快速产孢培养基优化
..... 白清圆 陈德志 何诗颖 王颖 陈旭君 张宗英 (1327)

棘孢木霉菌与枯草芽孢杆菌共培养的最适碳源及其促进机理
..... 郭富强 彭治鑫 李清钰 张成省 郭亚利 朱迪 张维 苟剑渝 赵福彬 高贵 赵栋霖 (1335)

立枯丝核菌融合群 AG-5 生防菌株筛选、鉴定及其防治效果
..... 张贵森 王勇 史晓晶 赵劲宇 刁红亮 马瑞燕 (1347)

棘孢木霉菌与枯草芽孢杆菌共培养菌液对烟草黑胥病及根际微生态的影响
..... 李淑琪 张希芬 韩小斌 苟剑渝 田维强 赵栋霖 张成省 (1359)

云南省苹果褐座壳菌分布及其对杀菌剂的敏感性 罗强 莫艳芳 张义杰 施竹凤 陈齐斌 杨佩文 (1373)

基于 MaxEnt 模型预测油菜茎基溃疡病菌在我国的潜在地理分布 顾昕敏 王俊 田艳丽 胡白石 (1383)

龟纹瓢虫视蛋白基因 *pj-lw* 和 *pj-uv1* 的克隆及表达谱分析
..... 葛亚菲 万岩然 胡雪娇 董丽萍 张煜人 王亚超 范凡 魏国树 (1393)

普通大蓟马复眼结构、趋光行为及视蛋白基因表达规律
..... 宁恒亨 王朝政 蒿文勇 金海峰 李芬 吴少英 (1403)

锈色粒肩天牛化学感受基因鉴定与分析 周敏 梁志 郑永鑫 顾天滋 张胜男 张龙娃 (1413)

黄淮海麦区小麦品种苗期与成株期对蚜虫抗性综合鉴定
..... 刘晓蓓 张雨濛 Francis Frédéric 程雨蒙 张勇 陈巨莲 (1427)

α -茄碱对马铃薯块茎蛾生长发育及代谢解毒的影响
..... 闫寒 董文博 高玉林 侯清芳 周钰佳 陈昱儒 刘明月 李芬 吴少英 (1438)

水稻二氢吡啶二羧酸还原酶 OsDHDPR 的抗虫功能分析 陈林 吕静 蒯鹏 姜永根 (1449)

球孢白僵菌和金龟子绿僵菌与四种药剂混配使用对棉蚜的毒力 张宇 刘冰 张金林 陆宴辉 (1457)

黏质沙雷氏菌分离鉴定及对桃小食心虫的致病性
..... 何佳美 张怀江 孙丽娜 闫文涛 岳强 窦术英 赵毅渊 李汪辣子 仇贵生 (1466)

景观组成异质性对稻田节肢动物功能群数量和多样性影响的尺度效应
..... 夏志想 李金花 杨泉峰 蔡笃程 郑华 (1476)

基于 MaxEnt 模型的柳脊虎天牛及其寄主植物潜在适生区预测
..... 张嘉敏 李玉春 王霞 巴依苏拉 鲍婉婷 郝恩华 陆鹏飞 程业森 (1484)

松墨天牛在山西省的潜在地理分布和扩张风险分析
..... 范世明 张楠 王森 刘磊 崔浩 刘燕 崔绍朋 张志伟 高瑞贺 (1496)

基于 MaxEnt 模型的双条杉天牛全球适生区预测及分析 孙漂 李涵 郝恩华 陆鹏飞 乔海莉 (1506)

基于 MaxEnt 模型预测茶方胸小蠹在中国的潜在适生区 郑晓毅 王钦召 田语卿 陈心韵 刘兴平 (1518)

研究简报

补充营养对小菜蛾成虫寿命、生殖和能量物质的影响 潘秦剑 苏律鸣 沈俊宇 聂泽香 刘同先 (1531)

基于线粒体 *COI* 基因及形态特征的削尾足距小蠹鉴定
..... 易显荣 魏姿涵 赵鹏 朱佳宜 赵碧英 徐志美 刘小侠 (1533)

JOURNAL OF PLANT PROTECTION

2024 Vol. 51

CONTENTS

No. 1

Reviews

- Integrated management of tomato leaf miner *Tuta absoluta* via bottom-up and top-down effects Hu Shanshan, et al. (1)
 Nitrogen addition regulates cascade effects of food webs on grassland insects Liu Jingxi, et al. (12)

Research reports

- Spatio-temporal expression profiles and functional suppression of wheat defense responses by a salivary protein gene, *SgI655*, from the spring-grain aphid *Schizaphis graminum* Sun Yu, et al. (20)
 Cloning of the serine protease inhibitor from oriental armyworm *Mythimna separata* and analysis of its anti-*Beauveria bassiana* function Zhang Chunyu, et al. (28)
 Effects of different functional plants on cotton aphids and their predatory natural enemies Peng Xuefan, et al. (39)
 An evaluation of resistance and tolerance of wheat varieties to the grain aphid *Sitobion miscanthi* at the adult stage in the field Hu Xiangshun, et al. (50)
 Aphid endosymbiont *Buchnera* assists the aphid in inhibiting plant defenses Lu Yingxi, et al. (69)
 Cold storage for artificial rearing of diapause adults of multicolored Asian lady beetle *Harmonia axyridis* Li Bei, et al. (78)
 Effects of breeding host plants on the biocontrol potential of *Encarsia sophia* against whitefly pests Zhao Yue, et al. (88)
 Functional response and predation preference of multicolored Asian lady beetle *Harmonia axyridis* to two aphids in the micro-landscape of apple and Monnier's snowparsley *Cnidium monnieri* Cai Zhiping, et al. (96)
 Effect of density on the larval color morph differentiation in beet armyworm *Spodoptera exigua* Li Jiaxu, et al. (106)
 Effect of indole treatment on the resistance to tea tree tea leafhopper *Empoasca onukii* Lü Xiaotong, et al. (114)
 Effects of diets on the growth, development, and reproduction of the predatory mite *Neoseiulus zwoelferi* Ma Min, et al. (123)
 Analysis of the migration path and source areas of fall armyworm *Spodoptera frugiperda* in Hunan Province in 2021 Tan Siqiao, et al. (132)
 Comprehensive risk analysis of fall webworm *Hyphantria cunea* invasion in Jiangxi Province and its cities Chang Xiangqi, et al. (141)
 Host adaptation of Asian longhorn beetle *Anoplophora glabripennis* to *Salix* species in Ningxia and Zhejiang, China Guo Shuai, et al. (154)
 Adult population dynamic of the oriental fruit moth *Grapholita molesta* and the control efficacy of sex pheromone disorientation against it in a plumcot orchard in southern Xinjiang Cao Huayui, et al. (170)
 Synergistic toxicity of *Metarhizium anisopliae* and FKBP52 against the western flower thrips *Frankliniella occidentalis* Yin Xianfeng, et al. (178)
 Control effect of insect pathogenic fungi combined with biogenic insecticides on the larvae of fall armyworm *Spodoptera frugiperda* Zhu Kaihui, et al. (186)
 Preparation of methyl isonicotinate/ α -cyclodextrin microcapsules and their attractant effect on thrips Chen Yixin, et al. (193)
 Enhanced tomato resistance to gray mold by fungus *Beauveria bassiana* colonization and its mechanism of action Sui Li, et al. (203)
 Generation of PVX resistant potato plants by CRISPR/Cas13a editing technology Tu Zhen, et al. (211)
 Identification of root exudate components during the *Fusarium graminearum*-maize interaction and their antifungal activity Wang Yun, et al. (219)
 Identification for resistance of 117 maize varieties against root rot caused by phytopathogenic fungus *Fusarium graminearum* and the effects of root rot on seedling vigor and yield Jin Rong, et al. (228)
 Disease resistance evaluation and molecular detection of resistance genes of 83 Xinong wheat varieties (lines) Cheng Peng, et al. (237)
 Functional analysis of three facilitator superfamily protein genes *VmMFS1-VmMFS3* in apple *Valsa* canker pathogen *Valsa mali* Zhang Qiong, et al. (249)
 Analysis of resistance of different mutants of IDD4 transcription factor to fungal pathogen *Botrytis cinerea* in *Arabidopsis thaliana* Li Linqian, et al. (261)

No. 2

Reviews

- Current status, mechanism, and management strategy of codling moth *Cydia pomonella* resistance to λ -cyhalothrin Liu Yuxi, et al. (269)
 Advances in development of *Beauveria* entomopathogenic fungi as bio-insecticides Nong Xiangqun, et al. (278)
 Progress in researches on the influence of microplastics and mixed pollutants on earthworms Gao Jianan, et al. (294)

Research reports

- Functional analysis of autophagy-related genes *SsATG5* and *SsATG8* in pathogenic fungus *Sclerotinia sclerotiorum* Liu Yong, et al. (302)
- Screening, identification and biocontrol efficacy of antagonistic bacterial strain against wheat stripe rust Xiao Keyu, et al. (314)
- Screening of fungicides and disease-resistant varieties for wheat *Fusarium* crown rot Fu Yanzi, et al. (324)
- Comparison of the extraction method and identification of antimicrobial substances from *Bacillus velezensis* strain ZF145 Zeng Xianfeng, et al. (334)
- Glycoside hydrolase gene *FvGHI6-2* is involved in the growth and pathogenicity of mycotoxigenic fungus *Fusarium verticillioides* Ren Zhiguo, et al. (342)
- The mechanism of compound microbial fertilizer KMM alleviating apple replant disease Yu Songtao, et al. (352)
- Effect of combination of pyroxasulfone and metribuzin in maize and soybean intercropping patterns Gao Xingxiang, et al. (361)
- Evaluation of the herbicidal activity and safety of tembotrione to maize Wang Yafei, et al. (369)
- Effects of rice ragged stunt virus on the growth, development and reproduction of the brown planthopper *Nilaparvata lugens* Liu Jianli, et al. (377)
- Knocking out *OsLRR-RLK18* in rice enhances the resistance to brown planthopper *Nilaparvata lugens* Tang Yingying, et al. (383)
- Identification of Halloween genes involved in ecdysone synthesis and functional analysis of *shade* in melon fruit fly *Zeugodacus cucurbitae* Wang Yun, et al. (394)
- Susceptibility monitoring to CryIIe in Asian corn borer *Ostrinia furnacalis* from 2015 to 2021 Wang Yueqin, et al. (405)
- Safety evaluation of Cry2Aa protein on *Cotesia chilonis* using feeding and micro-injection methods Dong Xinxin, et al. (413)
- Analysis of transcriptome and resistance-related genes induced by beta-cypermethrin in the grasshopper *Oedaleus asiaticus* (Orthoptera: Oedipodidae) Gao Haiyan, et al. (421)
- Effects of picoxystrobin on the development and immune response of Italian honey bee *Apis mellifera ligustica* larvae Duan Xinle, et al. (432)
- Effects of entomopathogenic fungus *Metarhizium anisopliae* on alfalfa growth promotion and anti-aphid induction Liu Rong, et al. (442)
- Determination of the virulence of *Beauveria bassiana* mixed with acaricides against two-spotted spider mite *Tetranychus urticae* and its field control efficiency Wang Haoling, et al. (450)
- Physiological responses of cassava SC205 diploids and their autotetraploids to feeding stress by carmine spider mite *Tetranychus cinnabarinus* Wei Wanling, et al. (456)
- Morphology and ultrastructure of the sex pheromone gland of lepidopteran pest *Heortia vitessoides* Qian Chenyu, et al. (467)
- Effect of host transformation on the survival rate and nutritional metabolism of cotton aphid, *Aphis gossypii* Zhu Kaihui, et al. (475)
- Effects of different light environments on adult longevity and reproduction of oriental fruit moth *Grapholita molesta* Jiao Huitan, et al. (484)
- Effects of artificial diet on the growth, development, reproduction, and predatory efficiency of the assassin bug *Sycanus bifidus* Chen Suyi, et al. (491)

No. 3

Reviews

- Recent advances in understanding the diversity and functional roles of endogenous viral elements within the genomes of virus-transmitting vectors He Yujuan, et al. (501)
- Identification techniques for cryptic insect species and their applications in pest control and biodiversity conservation Wang Mingyi, et al. (511)
- Research progress and application on sterile insect technology for pest control Gu Junwen, et al. (527)

Research reports

- Tumor necrosis factor receptor-associated factor gene *TRAF4* promotes the symbiosis between tobacco whitefly *Bemisia tabaci* and primary endosymbiotic bacterium *Portiera* Li Nana, et al. (536)
- Glycoside hydrolase family gene *AghyGHIa* is involved in saponin metabolism in alligator weed flea beetle *Agasicles hygrophila* Li Zekun, et al. (545)
- Analysis of intestinal microbiota diversity in female adult diapause, post-diapause and cocoon-breaking stages of mason bee *Osmia excavata* Wang Guangzhao, et al. (556)
- Observation of sensilla on the larval head of rusty-spotted longhorn beetle *Apriona swainsoni* using scanning electron microscopy Liang Zhi, et al. (568)
- Effects of domestication of factitious host *Corcyra cephalonica* eggs on related biological parameters of egg parasitoid *Telenomus remus* Li Weiwei, et al. (578)
- Effects of nitrogen content in food on the growth, development, and ovarian area of Italian locust *Calliptamus italicus* Chen Yan, et al. (585)
- Adaptability of the winter form of Chinese pear psylla *Cacopsylla chinensis* on six non-host overwintering plants Zhao Longlong, et al. (592)

Occurrence patterns of bean bug <i>Riptortus pedestris</i> in different cropping structures in the Huang-Huai-Hai region	Wei Zhongyan, et al. (600)
Characteristics of shrub insect community and its response to environmental factors and plant community characteristics in the Irtysh River Basin	Zhao Yuan'e, et al. (609)
Occurrence dynamics and key control techniques of fall armyworm <i>Spodoptera frugiperda</i> in maize field of Xingping City, Shaanxi Province, China	Dong Jinhui, et al. (619)
Virulence and infectious characteristics of a <i>Spodoptera frugiperda</i> multiple nucleopolyhedrovirus to fall armyworm <i>Spodoptera frugiperda</i>	Peng Qian, et al. (629)
Characteristics of argonaute protein family members and their responses to rice gall dwarf virus and southern rice black-streaked dwarf virus infections in rice	Wei Ying, et al. (636)
Identification of physiological races and analysis of avirulence genes of rice blast fungus <i>Magnaporthe oryzae</i> in different rice regions of Guangdong Province	Wang Wenjuan, et al. (645)
Cloning and functional analysis of a peroxiredoxin gene, <i>CLasPrx</i> , from huanglongbing pathogen <i>Candidatus Liberibacter asiaticus</i>	Zuo Xiru, et al. (654)
Distribution patterns of <i>Candidatus Liberibacter asiaticus</i> in Newhall navel orange trees and their impact on the leaves tissue structural changes and lignin synthesis	Jiang Songliang, et al. (663)
<i>MjCdtfl</i> gene affects mycelial growth, sporulation and pathogenicity of peach brown rot fungus <i>Monilinia fructicola</i>	Yang Jingya, et al. (672)
Identification of the antagonistic strain JYC1217 against potato common scab and its biocontrol and growth-promoting properties	Huang Xun, et al. (684)
The control effect of fludioxonil combined with <i>Bacillus amyloliquefaciens</i> X-119 on grape gray mold	Jiao Tiantian, et al. (698)
Control efficacy of daphnetin against tobacco bacterial wilt and its action mechanism	Yang Liang, et al. (709)
Effects of sublethal concentrations of nitenpyram on resistance substances in rice and reproductive parameters of the brown planthopper <i>Nilaparvata lugens</i>	Wang Huaiqi, et al. (719)
Synergistic effect of metabolic enzyme inhibitor PX on barnyardgrass control	Zhang Jing, et al. (731)

No. 4

Reviews

Top design and progress in comprehensive technology research, development, and demonstration for the prevention and control of major pests and diseases in China	Xiong Wei, et al. (741)
Advance in the research on protein ubiquitination modification in the interaction between rice and blast fungus <i>Magnaporthe oryzae</i>	Ning Ning, et al. (752)

Research reports

Evaluation of resistance to stripe rust and analysis of <i>Yr</i> resistance genes of 88 wheat backup lines in Sichuan Province	Zhang Xingzong, et al. (764)
Genome-wide prediction and functional identification of pathogenic effectors of fungus <i>Streptobotrys caulophylli</i>	Wu Nana, et al. (774)
Biological function of the small GTPase FgSpg1 in fungal pathogen <i>Fusarium graminearum</i>	Wu Yike, et al. (782)
Isolation and whole genome analysis of a pathogenic bacterial strain causing potato blackleg in Wuchuan County, Inner Mongolia Autonomous Region	Sun Pingping, et al. (794)
Identification of the biological control bacterium XNB-02 and its action mechanism in prevention of the tobacco brown spot	Tian Lin, et al. (804)
Optimization of fermentation conditions and biocontrol effect of <i>Bacillus amyloliquefaciens</i> SH-53 from rhizosphere of rumex	Wang Nan, et al. (817)
Antifungal activity and action mechanism of <i>Streptomyces nojiriensis</i> 9-13 against fungal pathogens associated with soybean anthracnose	Shi Niuniu, et al. (830)
Chemical identification of tobacco root exudates and their chemotaxis effects on <i>Ralstonia solanacearum</i>	Feng Yali, et al. (841)
Risk assessment of resistance in fungus <i>Fusarium oxysporum</i> causing peanut root rot to hymexazol	Lei Tengyu, et al. (852)
Control efficacy and action mechanism of ethylclicin on apple <i>Valsa</i> canker	Su Xiaozhou, et al. (863)
Herbicidal characteristics of herbicide-bipyrazone in wheat fields	Yu Shuo, et al. (875)
Analysis of adult antennal transcriptome and identification of olfaction-related genes in oriental fruit moth <i>Grapholita molesta</i> with different reproductive status	Cao Weiye, et al. (882)
Analysis of spotted alfalfa aphid <i>Therioaphis trifolii</i> salivary gland transcriptome differences based on feeding on susceptible and resistant varieties of <i>Medicago sativa</i>	Gu Wenxin, et al. (899)
Effects of maize-soybean intercropping on the occurrence and damage of fall armyworm <i>Spodoptera frugiperda</i> and the yield	Xie Weifeng, et al. (910)
Host selectivity, fitness, and risk analysis of fall armyworm <i>Spodoptera frugiperda</i> to maize and five non-gramineous crops	Qiu Liangmiao, et al. (918)

Analysis of the trapping effect and key influencing factors of tomato leafminer *Tuta absoluta* sex attractant traps in solar greenhouses Wang Guiping, et al. (928)

Analysis of the chemical ecological mechanism by which red imported fire ant *Solenopsis invicta* avoids entomopathogenic fungi Lei Yanyuan, et al. (935)

Assessment of potential control costs for the red imported fire ant *Solenopsis invicta* in China using @RISK software Wang Xiaoliang, et al. (944)

Comparison of the impact of host eggs from rice meal moth *Corcyra cephalonica* and Chinese tussar moth *Antheraea pernyi* on the artificial rearing efficiency of the pine caterpillar egg parasitoid *Trichogramma dendrolimi* Chen Jinhong, et al. (952)

Isolation and identification of the insect pathogenic fungus *Beauveria asiatica* and its pathogenicity to copper-green chafer *Anomala corpulenta* larvae Wang Wenjie, et al. (960)

Stability analysis and virulence of crude toxin from the mutagenic strain YB4 of *Penicillium raistrickii* against psyllid *Bactericera gobica* nymphs Li Qiuyu, et al. (970)

Notes

Occurrence patterns of yellow peach moth *Conogethes punctiferalis* on pecan and chemical control techniques in Anhui Province Liang Zhi, et al. (979)

No. 5

Special issue for grassland pests

Reviews

Research status and prospects of grassland plant protection discipline Li Shuang, et al. (981)

Review of impacts of grassland fragmentation on grasshopper outbreaks and natural enemy insect diversity Zhang Haixiang, et al. (988)

Research progress on vitamin A substances in insects Zhang Xisheng, et al. (998)

Research progress on the interaction between plants and herbivorous insects based on sRNA movement Li Shuang, et al. (1006)

Advances in the study on microbial ecology associated with *Stellera chamaejasme* expansion Guo Lizhu, et al. (1014)

Research progress of targeted bait for rodent pest control in grasslands of China Yuan Shuai, et al. (1023)

Progress in researches on natural grassland diseases Qian Yani, et al. (1033)

Research reports

Assessing the effects of plateau pika *Ochotona curzoniae* disturbance on vegetation and soil in alpine meadow: insights from bibliometric and meta-analytical approaches Cai Xincheng, et al. (1045)

Changes of plant community diversity and soil ecological stoichiometry in alpine meadow under the disturbance of plateau pika *Ochotona curzoniae* and plateau zokor *Myospalax baileyi* Yang Liyan, et al. (1056)

Determination of ecological thresholds and construction of hazard prediction models for plateau pika *Ochotona curzoniae* in alpine meadows and alpine steppes Hua Rui, et al. (1068)

Plant functional group characteristics in different successional stages of plateau zokor mounds and influencing factors Zhang Jing, et al. (1078)

Effects of plateau zokor *Eospalax baileyi* disturbance on the aboveground-belowground biomass allocation pattern of plant communities and soil physicochemical properties in alpine meadow Liu Jize, et al. (1090)

Seasonal fluctuations in population parameters of yellow stepped voles in the desert steppe of northern Xinjiang Ying Yaqi, et al. (1099)

Survey of grassland rodent damage and analysis of rodent diversity in Altay Prefecture, Xinjiang Yan Haojie, et al. (1108)

Genetic diversity analysis of the plateau zokor *Eospalax baileyi* population using microsatellite markers Lamaocao, et al. (1117)

Effects of personality on reproductive success in plateau pika *Ochotona curzoniae* Wang Suqin, et al. (1124)

Diversity and spatial niche of grasshoppers in alpine steppe of Gansu Province Qian Xiujuan, et al. (1134)

Diversity analysis of grasshoppers in the grasslands of Xinbaerhu Left Banner, Inner Mongolia Wei Jun, et al. (1147)

Analysis of insect diversity and its correlation with vegetation in the natural grasslands of Bayannur, Inner Mongolia Yin Yiting, et al. (1158)

Dynamic and correlation of major pests with natural enemies and response to climatic factors in alfalfa fields in Ningxia Miao Miao, et al. (1169)

Relationship between microtopography and spatial distribution patterns of summer chafer *Amphimallon solstitiale* (L.) in Xinjiang grasslands Chen Yijun, et al. (1179)

Effects of different types of steppe fencings on insect diversity Cao Ziyu, et al. (1189)

Comparison of male external genitalia of nine grasshoppers in the pasture at the northern foot of the Qilian Mountains Qian Xiujuan, et al. (1203)

Feeding characteristics of adult female Italian locust *Calliptamus italicus* on plants Kang Wenjing, et al. (1211)

Studies on feeding characteristics of grassland caterpillar *Gynaephora menyuanensis* and its economic threshold for control in Qinghai Fang Wenjiao, et al. (1218)

Synergistic efficacy of prairie sagebrush *Artemisia frigida* crude extract and entomopathogenic fungus *Metarhizium anisopliae* on the development of resistant grasshopper *Oedaleus decorus asiaticus* Li Shuang, et al. (1226)

- Evaluation of indoor efficacy of nine pesticides on desert locust *Schistocerca gregaria* Zhang Xisheng, et al. (1234)
- Interference with the *VmCarEs-6* gene affects the sensitivity of spotted alfalfa aphid *Therioaphis trifolii* to lambda-cyhalothrin Hao Haoyang, et al. (1240)
- Spatial pattern of degraded alpine communities invaded by *Stellera chamaejasme* and environmental interpretation in the central Qilian Mountain Liu Yongmei, et al. (1248)

No. 6

Reviews

- Role of the abscisic acid-signaling pathway in plant defenses against insect herbivores and the underlying mechanisms Guo Jingran, et al. (1259)
- Present situation, existing problems, and prospects of soybean pesticide product registration in China Yang Yuanyuan, et al. (1268)
- Advances in the studies on semiochemicals of family Siricidae Jia Ruofeng, et al. (1279)

Research reports

- Population distribution and physiologic race composition of rice blast fungus *Magnaporthe grisea* isolates on different rice subspecies in Zhejiang Province Hao Zhongna, et al. (1296)
- Biological characteristics of the rice false smut pathogen *Ustilagoideia virens* with different genetic variations and their sensitivities to fungicides Fang Anfei, et al. (1306)
- Cloning and functional verification for rust resistance of the *VaWRKY70* gene in adzuki bean Yao Yanwen, et al. (1317)
- Identification of the pathogen causing grape white rot in Fangshan District, Beijing, and preparation of a rapid sporulation medium Bai Qingyuan, et al. (1327)
- Optimal carbon source for co-culture of *Trichoderma asperellum* HG1 and *Bacillus subtilis* Tpb55 and its promoting mechanisms Guo Fuqiang, et al. (1335)
- Screening, characterization, and control efficacy of biocontrol strains against *Rhizoctonia solani* AG-5 Zhang Guisen, et al. (1347)
- Biocontrol potential and rhizospheric microecological effects of co-cultivation of *Trichoderma aspinosum* and *Bacillus subtilis* against tobacco black shank Li Shuqi, et al. (1359)
- Distribution of white root rot pathogen *Rosellinia necatrix* in Yunnan Province and its sensitivity to fungicides Luo Qiang, et al. (1373)
- Prediction of the potential geographical distribution of fungal pathogen *Leptosphaeria maculans* in China based on MaxEnt model Gu Xinmin, et al. (1383)
- Molecular cloning and expression profiling of opsin genes *pj-lw* and *pj-uv1* in the ladybird *Propylea japonica* Ge Yafei, et al. (1393)
- Structure of Asian bean thrips *Megalurothrips usitatus* compound eye, phototaxis behavior and expression regularity of opsin gene Ning Hengheng, et al. (1403)
- Identification and analysis of chemosensory genes in rusty-spotted longhorn beetle *Apriona swainsoni* (Coleoptera: Cerambycidae) Zhou Min, et al. (1413)
- Comprehensive aphid resistance evaluation of wheat varieties at seedling and adult stages in Huang-Huai-Hai region of China Liu Xiaobei, et al. (1427)
- Effects of α -solanine on growth, development and metabolic detoxification of potato tuber moth *Phthorimaea operculella* Yan Han, et al. (1438)
- Functional analysis of the *Oryza sativa* dihydrodipicolinate reductase in rice resistance against insect pests Chen Lin, et al. (1449)
- Toxic efficiency of biocontrol fungi *Beauveria bassiana* and *Metarhizium anisopliae* jointly with four insecticides on controlling cotton aphid *Aphis gossypii* Zhang Yu, et al. (1457)
- Isolation and identification of *Serratia marcescens* and analysis of pathogenicity against peach fruit moth *Carposina sasakii* He Jiamei, et al. (1466)
- Scale effect of landscape compositional heterogeneity on the abundances and diversity of arthropod functional groups in early paddy fields Xia Zhixiang, et al. (1476)
- Prediction of the potential suitable zone of Namangan longhorn beetle *Xylotrechus namanganensis* and its host plant based on the MaxEnt model Zhang Jiamin, et al. (1484)
- Analysis of potential geographical distribution and expansion risk of Japanese pine sawyer beetle *Monochamus alternatus* in Shanxi Province Fan Shiming, et al. (1496)
- Prediction and analysis of global suitability of juniper bark borer *Semanotus bifasciatus* based on MaxEnt model Sun Piao, et al. (1506)
- Prediction of potential suitable of tea shot-hole borer *Euwallacea fornicatus* in China based on MaxEnt model Zheng Xiaoyi, et al. (1518)

Notes

- Effect of supplemental nutrition on adults' lifespan, reproduction and energy components of diamondback moth *Plutella xylostella* Pan Qinjian, et al. (1531)
- Identification of camphor shoot borer *Xylosandrus mutilatus* based on the mitochondrial *COI* gene and morphological characteristics Yi Xianrong, et al. (1533)