

目 次

· 数字化赋能宜居宜业和美乡村建设专题 ·

- 数字乡村建设对农民精神文明发展水平的影响研究 金绍荣, 冯乐, 贾益鸣 (002)
- 数字经济如何缓解农村居民健康不平等问题——以电子商务为例 刘晗, 张应良 (016)
- 数字基础设施建设对农村集体经济的影响——基于新质生产力的视角 任赞杰, 任金政 (028)

· 农业与生命科学 ·

- 埃塞俄比亚芥菜中 *BcMYB28* 基因调控硫苷代谢分析 王艳花, 邵伟兴, 方莎, 安冬燕 (038)
- 微润灌溉布设方式对芹菜品质及农残的影响 邢天琪, 杜韵, 黄健,
刘秀萍, 王颖, 李小凤, 王全红, 李元 (053)
- 生草栽培对大雅柑生长及结果的影响 雍顺圆, 陈倩, 傅豪, 郭启高, 曾明 (063)
- 家蚕腹肢表型修饰基因的筛选 廖睿, 张柱林, 童晓玲 (074)
- 短梗木霉与芽孢杆菌固体共培养物 WP 剂型研制 邬伊萍, 王静文, 张亚轩, 刘铜 (090)
- 基于 SNP 标记的云南黄连分子身份证构建 李月仙, 姜太玲, 严炜,
沈绍斌, 肖明昆, 白丽娜, 段春芳, 罗鑫, 车彬, 张林辉 (103)

· 经济研究 ·

- 中国农业新质生产力: 水平测度、时空分异与空间收敛性分析 葛明, 谭旭煜 (113)
- 碳交易促进地方环境治理投资降低研究——基于碳交易试点的准自然实验 张建锋,
伍旺, 张应良 (128)

· 地球与环境科学 ·

- 地膜和生物炭对菜地土壤剖面温室气体的影响 贺阳剑, 江长胜,
张文晓, 徐诗文, 李廷勋, 郝庆菊 (141)
- 砷(III 和 V)在水绵体系中的去除和转化研究 张劲梅, 刘莹, 王茜, 刘璟 (154)
- 1960—2021 年内蒙古高温干旱复合事件特征分析 刘宏宇, 海全胜, 刘美萍, 常菲 (164)
- 基于 LSTM 的山区流域洪水预报模型研究 金保明, 曾泓源, 卢旺铭, 陈朝清, 康 顺 (177)

· 工程与信息技术 ·

- 基于 Q 学习的源荷扰动下交直流微电网负荷频率控制方法 邹玉意, 陈勇,
刘越智, AHMED Lotfy Haridy, ESAM H. Abdelhameed (188)
- 基于 CFD 的果园喷雾机风送系统结构与试验 李震, 李云伍, 宋锐, 何烨, 黄祥飞 (199)
- 基于 YOLO 检测算法的引体向上有效计数方法及系统 程广鑫, 石志鸣, 赵行, 仇业鹏 (213)
- 生物质水热液化碳稳定同位素分馏机制研究 午紫阳, 沈娟章, 谭卫红 (223)
- 提高农作物产量的农业配水规划数学模型 张静文, 吴文娟 (234)
- 基于深度学习的手绘草图三维建模自动化算法研究和应用 汪伟, 郑丹丹 (242)

JOURNAL OF SOUTHWEST UNIVERSITY
(NATURAL SCIENCE EDITION)

Vol. 47 No. 5

Total No. 365

May 20, 2025

CONTENTS

A Study on the Impact of Digital Rural Construction on the Development Level of

Farmers' Spiritual Civilization JIN Shaorong, FENG Le, JIA Yiming (002)

How Does the Digital Economy Reduce Health Inequalities of Rural Residents?

——Take E-commerce as An Example LIU Han, ZHANG Yingliang (016)

The Impact of Digital Infrastructure Construction on Rural Collective Economy

—A Perspective of New Productivity REN Zanjie, REN Jinzheng (028)

BcMYB28 Involved in the Regulation of Glucosinolate Metabolism in

Brassica carinata L. WANG Yanhua, SHAO Weixing, FANG Sha, AN Dongyan (038)

The Impact of Micro-Irrigation Layout Methods on the Quality and

Pesticide Residues of Celery XING Tianqi, DU Yun, HUANG Jian,

LIU Xiuping, WANG Ying, LI Xiaofeng, WANG Quanhong, LI Yuan (053)

Effects of Grass Cultivation on Growth and Fruit of *Citrus reticulata* Dayagan

..... YONG Shunyuan, CHEN Qian, FU Hao, GUO Qigao, ZENG Ming (063)

Screening of Phenotypic Modifying Genes of Ventral Appendage of

Silkworms, *Bombyx mori* LIAO Rui, ZHANG Zhulin, TONG Xiaoling (074)

Preparation of Wettable Powder for Solid Co-Culture of *Trichoderma breve* LN006 and

Bacillus velezensis ZJ WU Yiping, WANG Jingwen, ZHANG Yaxuan, LIU Tong (090)

Construction of Molecular Identity of *Coptis teeta* Wall. Based on

SNP Markers LI Yuexian, JIANG Tailing, YAN Wei, SHEN Shaobin,

XIAO Mingkun, BAI Lina, DUAN Chunfang, LUO Xin, CHE Bin, ZHANG Linhui (103)

Agricultural New Quality Productivity of China: Horizontal Measurement,

Spatiotemporal Differentiation and Spatial Convergence Analysis GE Ming, TAN Xuyu (113)

A Study on the Effect and Mechanism of Carbon Trading to Promote the Reduction of Provincial Investment in Environmental Governance ——Based on a Quasi-Natural Experiment of Carbon Trading Pilot	ZHANG Jianfeng, WU Wang, ZHANG Yingliang (128)
Effects of Mulching and Biochar on Greenhouse Gas Concentrations in Soil Profiles of Vegetable Field	HE Yangjian, JIANG Changsheng, ZHANG Wenxiao, XU Shiwen, LI Tingxun, HAO Qingju (141)
Removal and Conversion of Arsenic (III and V) in <i>Spirogyra</i> sp. System	ZHANG Jinmei, LIU Ying, WANG Xi, LIU Jing (154)
Analysis of Characteristics of Compound High Temperature and Drought Events in Inner Mongolia from 1960 to 2021	LIU Hongyu, HAI Quansheng, LIU Meiping, CHANG Fei (164)
Research on Flood Forecasting Model for Mountainous Basin Based on LSTM	JIN Baoming, ZENG Hongyuan, LU Wangming, CHEN Chaoqing, KANG Shun (177)
Load Frequency Control Method for AC-DC Microgrid with Power and Load Disturbance Based on Q-learning	ZOU Yuyi, CHEN Yong, LIU Yuezhi, AHMED Lotfy Haridy, ESAM H. Abdelhameed (188)
Structural Design and Experiment of a Wind Delivery System for Orchard Sprayer Based on CFD	LI Zhen, LI Yunwu, SONG Rui, HE Ye, HUANG Xiangfei (199)
A Method and System for Effectively Counting Pull-Ups Based on YOLO Detection Algorithm	CHENG Guangxin, SHI Zhiming, ZHAO Hang, QIU Yepeng (213)
Mechanism of Carbon Stable Isotope Fractionation of Biomass Hydrothermal Liquefaction	WU Ziyang, SHEN Juanzhang, TAN Weihong (223)
A Mathematical Model of Agricultural Water Distribution Planning for Improving Crop Yield	ZHANG Jingwen, WU Wenjuan (234)
Research and Application of a Deep Learning-Based Automated 3D Modeling Algorithm for Hand-Drawn Sketches	WANG Wei, ZHENG Dandan (242)