

2022 年 第 12 卷 第 4 期 (总第 103 期)

目 次

#### 装备与机械化

农业机器人技术现状及典型应用	·王瑞雪	朱立成	赵 博	王长伟	贾晓峰	徐庆钟	(5)
畜禽粪污堆肥技术装备发展现状与趋势	苏佳佳	李凤鸣	李 伟	高晓宏	郭 炜	罗金海	(12)
有机肥施肥机研究现状与发展思路	・ 吴 建	耿 胤	周彦君	林川尧	邓佳	王 攀	(19)
农用无人机监督检验平台建设内容相关建议	·杜书荣	董晓明	王 威	吴豪豪	吴其深	白岩森	(23)
苔麸机械化装备发展现状及国际合作建议				·王博	尚小龙	马 腾	(28)
玉米生产机械化沟垄全覆膜高速穴播技术应用与推广				·杨启东	李 参	李增荣	(32)
油莎豆收获装备设计与试验		·李健	刘文亮	张 亮	王新阳	张煜晗	(36)
我国农业机械标准发展现状及建议						·董云雷	(40)
信息与电气化							
农业装备工业互联网平台建设与应用前景常亚洲	边恺	潘海涛	李玄浩	伊瑞涯	孙战胜	赵洪满	(43)
基于 BP_Adaboost 的农机行驶轨迹状态识别							
李亚硕 伏伟浩	贾晓峰	赵博	苏仁忠	徐名汉	庞在溪	张悦如	(48)
农业气象灾害远程智能预警系统设计						·祁卓平	(54)
我国智慧农业发展概况与前景						·刘晶	(58)
生物环境与能源							
鸡粪堆肥系统设计原则 梁 浩	赵明杰	闫 飞	李 辉	郭宪峰	张雪立	曹哲统	(61)
菌剂添加比对厨余垃圾厌氧发酵的影响				·李谟军	梅 鑫	张 玲	(65)
农副产品加工与贮藏							

半干面货架期研究现状及展望……………………………张国强 张学阁 王 超 李世岩 贾 甲 王 崇 梁晓军 (69)

### 食品科学与工程

水土工程			
膜下滴灌水肥一体化研究进展	张恒嘉 곀	李福强	(78)
设计制造与理论研究			
禾本科牧草种子采集装置设计与试验李凤鸣 李伟王强 刘伟	高晓宏 责	苏佳佳	(83)
小区联合收获机清选装置试验与参数优化 王 浩 王嘉伟 巨孟凯	韩翔涛 关	郎德聪	(88)
农田地形测绘无人机增稳系统设计与实现 杜蒙蒙 李若男 姬江涛	王鹏飞 佰	可 平	(97)
摇杆操控型农机转向控制策略	赵建贵 着	蒿晟昆	(102)
基于灵敏度分析的木薯播种机自动排种装置机架结构优化 陈林涛 牟向伟 薛俊祥	梁攀程 蓝	蓝 莹	(109)
6P-400 型荞麦脱皮机设计与试验梁 博 裴二鹏 王 显	巨孟凯 关	郎德聪	(117)
科研与教学			
中英涉农工程类人才培养模式与机制对比			
	刘汉武 文	刘冉	(125)
我国高校创新创业教育文献计量学研究		+H	(101)
杜 哲 李心平 庞 靖 王升升 金 鑫 马义东	与福丽 寸	于 吼	(131)
农学与生物技术			
火龙果设施高产栽培技术	ŧ	甘海玲	(136)
农业经济管理			
甘肃省镇原县油菜籽产业竞争优势度分析		胀菊霞	
基于产业链分析的汉中茶产业转型发展路径及策略		顾欣雨	
区域公用品牌竞争力评价及提升路径——以沾化冬枣为例郭瑾瑜 黄 钰	李万斌 省	崔茂森	(150)

数字赋能解决农业发展困境的思路与举措——基于西安绿色农业发展现状调查 …………………………………… 张彤璞(155)

# AGRICULTURAL ENGINEERING Vol. 12 No.4 2022 Contents

### **Equipment and Mechanization**

Current Situation and Typical Application of Agricultural Robot Technology	
WANG Ruixue, ZHU Licheng, ZHAO Bo, WANG Changwei, JIA Xiaofeng, XU Qingzhong	(5)
Development Status and Trend of Livestock and Poultry Manure Composting Technology and Equipment	
SU Jiajia, LI Fengming, LI Wei, GAO Xiaohong, GUO Wei, LUO Jinhai	(12)
Research Situation and Development Ideas of Organic Fertilizer Applicator	
WU Jian, GENG Yin, ZHOU Yanjun, LIN Chuanyao, DENG Jia, WANG Pan	(19)
Suggestions on Construction of Agricultural UAV Supervision and Inspection Platform	
DU Shurong, DONG Xiaoming, WANG Wei, WU Haohao, WU Qishen, BAI Yansen	(23)
Development Status of Teff Mechanization Equipment and Suggestions on International Cooperation	
WANG Bo, SHANG Xiaolong, MA Teng	(28)
Application and Popularization of High Speed Hole Sowing Technology with Full Film Covering on	
Furrow and Ridge for Maize Production Mechanization YANG Qidong, LI Can, LI Zengrong	(32)
Design and Experiment on Harvesting Equipment of Cyperus Bean	
LI Jian, LIU Wenliang, ZHANG Liang, WANG Xinyang, ZHANG Yuhan	(36)
Development Status and Suggestions of Agricultural Machinery Standards in China DONG Yunlei	(40)

### **Information and Electrification**

Construction and Application Prospects of Agricultural Equipment Industrial Internet Platform ···· CHANG Yazhou, BIAN Kai, PAN Haitao, LI Xuanhao, YI Ruiya, SUN Zhansheng, ZHAO Hongman (43) Recognition of Agricultural Machinery Operation Trajectory Based on BP\_Adaboost ······ LI Yashuo, FU Weihao, JIA Xiaofeng, ZHAO Bo, SU Renzhong, XU Minghan, PANG Zaixi, ZHANG Yueru (48) Design of Remote Intelligent Early Warning System for Agrometeorological Disasters ······ QI Zhuoping (54)

## **Biological Environment and Energy**

#### Processing and Storage of Farm and Sideline Products

Research Status and Prospect of Extending Shelf Life of Semi-dry Noodles

··· ZHANG Guoqiang, ZHANG Xuege, WANG Chao, LI Shiyan, JIA Jia, WANG Chong, LIANG Xiaojun (69)

Food Science and Engineering	
Determination Method and Test of Pesticide Residues in Edible Fungi ······ LI Li	(75)
Water-soil Engineering	
Research Advances on Integration of Water and Fertilizer under Mulched Drip Irrigation	
WANG Yong, ZHANG Hengjia, LI Fuqiang	(78)
Design, Manufacture and Theoretical Research	
Design and Experiment of Pick Device for Gramineous Grass Seed	
LI Fengming, LI Wei, WANG Qiang, LIU Wei, GAO Xiaohong, SU Jiajia Experiment and Parameter Optimization of Cleaning Device of Plot Combined Harvester	(83)
······ WANG Hao, WANG Jiawei, JU Mengkai, HAN Xiangtao, ZHENG Decong	(88)
Design and Implementation of Stability Augmenting System of Agricultural Topographic Surveying Drone	
DU Mengmeng, LI Ruonan, JI Jiangtao, WANG Pengfei, HE Ping	(97)
Steering Control Strategy of Rocker-operated Agricultural Machinery	(
ZHANG Yu, LI Zhiwei, ZHAO Jiangui, HAO Shengkun	(102)
Optimization of Frame Structure of Automatic Seed Metering Device of Cassava Planter Based on	(100)
Sensitivity Analysis CHEN Lintao, MOU Xiangwei, XUE Junxiang, LIANG Pancheng, LAN Ying	(109)
Design and Test of 6P-400 Buckwheat Peeling Machine LIANG Bo, PEI Erpeng, WANG Xian, JU Mengkai, ZHENG Decong	(117)
Entrice De, TET Expends, White Main, Ve Weingkar, Entrice Decong	(117)
Scientific Research and Teaching	
A Comparative Study on Training Mode and Mechanism of Agricultural Engineering Talents	
between China and Britain LIU Xian, SONG Zhenghe, DONG Renjie,	(105)
LIU Yanhong, ZHU Zhongxiang, WANG Yingkuan, LIU Hanwu, LIU Ran	(125)
Bibliometrics Research on Innovation and Entrepreneurship Education of Chinese University	(121)
DU Zhe, LI Xinping, PANG Jing, WANG Shengsheng, JIN Xin, MA Yidong, MA Fuli, YU Fan	(131)
Agronomy and Biotechnology	
High Yield Cultivation Techniques of Pitaya Fruit in Protected Cultivation	(136)
Management of Agricultural Economy	
Competitive Advantage Degree Analysis of Rapeseed Industry in Zhenyuan County of Gansu Province	
BAI Yonghui, ZHANG Juxia	(140)
Development Path and Strategy of Hanzhong Tea Industry Transformation Based on Industry Chain Analysis	
LI Xiaomin, GU Xinyu	(145)

Evaluation and Improvement Path of Regional Public Brand Competitiveness: A Case Study of Zhanhua Winter Jujube ...... GUO Jinyu, HUANG Yu, LI Wanbin, CUI Maosen (150) Ideas and Measures for Digital Empowerment to Solve Dilemma of Agricultural Development: Based on Investigations of Green Agricultural Development in Xi'an ...... ZHANG Tongpu (155)