

9
2013
第35卷

ISSN 1003-188X

农机化研究

Journal of Agricultural
Mechanization Research

全国科技精品期刊
全国中文核心期刊



黑龙江省农业机械工程科学研究院 主 办
黑龙江省农业机械学会

ISSN 1003-188X



9 771003 188118

万方数据

农业发展新视点

- 山东省农户粮食生产资源利用效率路径分析 陈秀芝 庞 英(1)
- 基于 RFID 的热带农产品生产农资信息电子标识方法 王玲玲 刘恩平 李玉萍 等(7)
- 秸秆输送技术与设备发展现状及展望 吴永龙 侯书林 赵立欣 等(11)

理论研究

- 基于 SQP 局部搜索遗传算法的泵站优化运行 袁 尧 刘 超(16)
- 图像中被遮挡苹果的还原及定位技术研究 李宏利 何东健(20)
- 基于 UG 的人力驱动农机机构动力特征研究 祁丽霞(24)
- 基于 VC² 反馈调制的农业机器人动力系统研究 田凤国 许景辉 田凤山(30)
- 六足步行机构的运动分析与仿真 季亚超 师帅兵 高 鹏(35)
- 基于多种小波熵和信号熵的植物电信号特征提取 付会凯(38)
- 新型地下粮仓的机械通风系统设计与仿真研究 张海红 曹宪周(41)
- 基于 LabVIEW 农作物变量喷雾算法研究 陈爱武 刘志壮(44)
- 基于能值理论的雄县耕地资源利用效率研究 周亚鹏 张海涛 杨 扬 等(48)
- 丘陵山区基本农田空间布局优化及评价 侯俊国 杨朝现 信桂新 等(54)
- 基于 FLUENT 的花生收获机清选气流场模拟与分析 刘 帅 胡彩旗 王东伟 等(60)
- 锥篮离心机转鼓结构有限元仿真与模态分析 蒙 文(65)
- 河北省农业科技进步贡献率的测定与分析 周晓娟 景志英(70)
- 三江平原井灌水稻精准灌溉系统研究 李 馨 王思宁(74)

设计制造

- 基于 C# 的嵌入式农机 GPS 辅助导航串口通信程序的设计 王 鹏 王 熙(78)
- 滚筒气吸播种装置吸孔的流场仿真及优化设计—基于 Fluent, Gambit 吕 军 张祖立(82)
- 固化成型实验台螺旋送料机构探讨与优化设计 刘俭英 白雪卫 李永奎(86)
- 温室多参数监测系统设计 潘 苗 俞阿龙 李新慧(90)
- 农机维修配件质量追溯系统设计研究 马 飞 徐 恒 王 炼 等(96)
- 六足步行机的设计与研究 高 鹏 师帅兵 季亚超(100)
- 豆类脱皮机理及螺旋揉搓式豆类脱皮机设计研究 张志杉 孙传祝(104)
- 基于 LED 光源的导光式诱虫板的研究 李天华 熊飞岍(108)
- 基于 WSN 的奶牛信息采集传输系统的研究 李长悦 何东健(112)
- 丘陵山区双履带式小型动力底盘的设计 杜蒙蒙 姬江涛 杜新武 等(116)
- 基于温湿度的多模式温室设备控制策略设计 田宏武 申长军 郑文刚(120)
- 间歇联动式农作物收获测产设备的研制 杨存志 赵德春 蔡晓华(125)
- 注入式变量施药控制系统设计 王锦江 孙 星 严荷荣 等(129)
- 机器人串果采摘末端执行器设计及仿真 谈建豪 陈 燕 向和平 等(133)

鱼脑提取装置的设计研究	钟绿祥 辜松 (137)
基于 GPS 的除草机器人导航控制系统设计及仿真	陈姗姗 陈树人 韩红阳 等 (141)
温室大棚电动自走式撒肥机的设计	申屠留芳 张洪宇 杨刚 等 (145)
鲜红枣清洗烘干设备中清洗浸泡风干装置的设计	李传峰 陈超 丁羽 等 (148)
基于电桥电路的温室作业柔性底盘转向控制系统的设计	杨露 郭康权 丁新民 (151)
水稻田间管理机通用底盘的设计	杨刚 申屠留芳 孙星钊 等 (156)

试验研究

6HT-600 型核桃破壳加工成套设备的优化研究	崔宽波 李忠新 杨莉玲 等 (159)
基于数字图像处理的凤梨花卉品质参数检测的研究	熊宇鹏 毛罕平 左志宇 等 (163)
基于水射流马铃薯清洗机械的设计与试验	蔡维 张燕 梁栋 (169)
甘蔗斩种机切断机构的模拟实验研究	李岩舟 周清 陈渊 等 (173)
水田高地隙喷杆喷雾机的设计与试验研究	陈刚 陈树人 杨八康 (177)
夏玉米不同种植模式对机械化收获影响的试验研究—基于黄淮海地区	赵学观 徐丽明 崔涛 等 (181)
玉米秸秆皮瓤叶分离机械剖切机构的试验研究	于克强 王德福 (186)
南方梅雨季节下 Venlo 型温室小气候数值模拟研究	周伟 汪小昆 (190)
提高苜蓿茎秆干燥速率的试验研究	刘景艳 刘伟峰 张欣达 等 (194)
种苗负压夹持手的设计与试验	贾冬冬 辜松 杨艳丽 等 (198)
机械振动式沙棘采收机的试验研究	王敏 曹肆林 何义川 等 (202)
次氯酸杀菌水对温室黄瓜生长特性的影响	尹义蕾 王莉 李邵 等 (205)

新技术应用

PLC 与变频器在滴灌系统中的应用	刘义 王熙 (209)
数字图像处理技术在变量农药喷洒装置中应用的研究	张红旗 王春光 张永 等 (213)
ZigBee 技术在温室无线监测系统中的应用	蒋峰 赵伟 (218)
PLC 通讯在温室控制系统中的应用—基于 VB 和三菱 MX 软件	孙小华 王福顺 (223)

环境与能源动力工程

秸秆沼气预处理技术的研究与探讨	徐泽敏 赵国明 牟莉 (227)
太阳能辅助加热沼气池自动控制系统设计	秦国栋 吴湘莲 张征宇 等 (231)
喷油提前角对共轨柴油机燃用生物柴油性能的影响	李达 谭泽飞 (234)

综述

新疆兵团残膜机械化回收现状分析	王鹏 曹卫彬 张鹏 等 (237)
轮胎—土壤相互作用研究综述	韦鹏飞 陈浩 王良杰 等 (243)
沿海发达地区农民专业合作社的农业社会化服务功能	王勇 (246)
西南丘陵山地套作小型多功能底盘的应用前景分析	吕小荣 丁为民 (250)

Journal of Agricultural Mechanization Research

Vol. 35 No. 9 2013

Contents

New View of Agricultural Development

- Path of Farmer Grain Production Resources Utilization Efficiency in Shandong Chen Xiuzhi et al. (1)
- A Identification Method on Agriculture of Tropical Agricultural Production Based on RFID Wang Lingling et al. (7)
- Development and Prospect of Straw Conveyor Technology and Equipment Wu Yonglong et al. (11)

Theory Study and Discussion

- Genetic Algorithm Integrated with Sequential Quadratic Programming for Solving Optimal Pump Scheduling Problem Yuan Yao et al. (16)
- Study on Technology of Restore and Location of Apples Uander Occluded Li Hongli et al. (20)
- Dynamic Characteristics Study of Manual-drive Agricultural Mechanism Based on UG Qi Lixia (24)
- The Research of Agricultural Robot Power System Based on the VC² Feedback Modulation Tian Fengguo et al. (30)
- Motion Analysis and Simulation for a Hexapod Robot Ji Yachao et al. (35)
- Feature Extraction of Plant Electrical Signals Based on Multi-wavelet Entropy and Signal Entropy Fu Huikai (38)
- Optimal Design and Simulation on Mechanical Ventilation System of Small Underground Granary Zhang Haihong et al. (41)
- Algorithmic Research for Crops Variable Rate Spraying Based on LabVIEW Chen Aiwu et al. (44)
- Energy Theory Study Xiongxi County Land Resources Utilization Efficiency Zhou Yapeng et al. (48)
- Spatial Layout Optimization and Evaluation of Basic Farmland in Hilly Area Hou Junguo et al. (54)
- Simulation and Analysis of Airflow Field in Peanut Harvester Based on FLUENT Liu Shuai et al. (60)
- Finite Element Simulation and Modal Analysis of Drum Structure of Conical Basket Centrifugal Meng Wen (65)
- The Determination and Analysis of Agricultural Science and Technology Progress Contribution Rate in Hebei Province Zhou Xiaojuan et al. (70)
- Research on Precision Irrigation System of Well-irrigation Rice in Sanjiang Plain Li Xin et al. (74)

Design and Manufacture

- Embedded GPS Aided Navigation of Agricultural Machinery the Design of Serial Communication Program Based on the C# Wang Peng et al. (78)
- The Inspiratory Flow Field Simulation and Optimization Design of Cylinder Pneumatic Seeding Apparatus—Based on Fluent, Gambit Lv Jun et al. (82)
- Discussion of Screw Conveying Mechanism for Compression Forming Experiment Equipment and its Optimization Design Liu Jianying et al. (86)
- Design of Multi-parameter Monitoring System in Greenhouse Pan Miao et al. (90)
- Design of Quality Traceability System for Agricultural Machinery Repair Parts Based on RFID Ma Fei et al. (96)
- The Six Walking Mechanism Design and Research Gao Peng et al. (100)
- The Mechanism of Peas Peeling and Design of Planet-knead-type Peas Peeling Machine Zhang Zhishan et al. (104)
- Study on LED Light Guide Pest-trap Plate Li Tianhua et al. (108)
- Research on Cow's Information Collection and Transmission System Based on WSN Li Changyue et al. (112)
- Design of a Small Double-tracked Power Chassis Used in Mountainous Areas Du Mengmeng et al. (116)
- Multi-mode Control Strategy Design of Greenhouse Equipment Based on Temperature and Humidity Tian Hongwu et al. (120)

The Development of Intermittent Linkage Type Crops Harvest in Measuring Equipment	Yang Cunzhi et al. (125)
Control System Design of Injective Variable Rate Spraying	Wang Jinjiang et al. (129)
Design and Simulation of Robot's End-Effector for String-fruit Picking	Tan Jianhao et al. (133)
Design and Experiment of a Fish Brain Extraction Machine	Zhong Lvxiang et al. (137)
Design and Simulation of GPS-based Weeding Robot Navigation Control System	Chen Shanshan et al. (141)
Design of Greenhouse Electric Self-propelled Fertilizer Distributor	Shentu Liufang et al. (145)
The Design of Device for Cleaning Soaking and Airing in the Fresh Red Jujube Cleaning and Drying Equipment	Li Chuanfeng et al. (148)
The Steering Control System Design of Flexible Chassis for Conservatory Work Based on Bridge Circuit	Yang Lu et al. (151)
The Design of a Versatile Chassis for Rice Land Management Machine	Yang Gang et al. (156)

Experiment and Research

The Optimization Research of 6HT-600 Walnut Shell Broken Process Equipment	Cui Kuanbo et al. (159)
Bromeliad Quality Parameters Detection Based on Digital Image Processing	Xiong Yupeng et al. (163)
Mechanical Design and Test Based Water Jet Potato Cleaning	Cai Wei et al. (169)
Simulation Experimental Study of Cutting Mechanism of the Sugarcane Planting	Li Yanzhou et al. (173)
The Design and Experimental Study of Rice High Clearance Boom Sprayer	Chen Gang et al. (177)
Trial Research of Influence of Different Summer Maize Planting Patterns on Mechanized Harvest in Huanghuaihai Region	Zhao Xueguan et al. (181)
Experimental Study on Cutting-stem Mechanism of Separating Machinery for Corn Stalk Skin Flesh Leaf	Yu Keqiang et al. (186)
Venlo-type Greenhouse Microclimate Simulation Research in the Plum Rainy Weather of South China	Zhou Wei et al. (190)
Study on Enhancing Alfalfa Stem Drying Rate	Liu Jingyan et al. (194)
Design and Test of Seedlings Negative Pressure Adsorption Hands	Jia Dongdong et al. (198)
Experimental Research on Sea Buckthorn Picker of Mechanical Vibration Type	Wang Min et al. (202)
Study on the Influence of Hypochlorite Sterilization Water on Cucumber Growth Characteristic	Yin Yilei et al. (205)

Application of New Technology

The Application of PLC and Inverter in the Drip Irrigation System	Liu Yi et al. (209)
The Research of Digital Image Processing Technology Applied in Variable-rate Pesticide Sprayer	Zhang Hongqi et al. (213)
ZigBee Technology Application in Green House Wireless Monitoring System	Jiang Feng et al. (218)
The Application of PLC Communication in Greenhouse Control System Based on VB and Mitsubishi MX Software	Sun Xiaohua et al. (223)

Environment and Energy Power Engineering

Discussion and Research Progress on Pretreatment of Straw Biogas	Xu Zemin et al. (227)
Design of Solar Assisted Heating Biogas Digester Automatic Control System	Qin Guodong et al. (231)
Effect of Fuel Injection Advance Angle on Characteristics of Common Rail Diesel Engine Fueled with Bio-diesels	Li Da et al. (234)

Summary

The Current Situation Analysis of Mechanical Recovery of Plastic Film Residue in Xinjiang Corps	Wang Peng et al. (237)
Analysis of Tire Soil Interaction	Wei Pengfei et al. (243)
Function of Agricultural Socialized Service of Farmers Professional Cooperative in Coastal Developed Areas	Wang Yong (246)
Application Prospect Analysis of Small Multi-function Chassis in Intercropping of Southwest Hilly Area	Lv Xiaorong et al. (250)

Basic Parameters of the Journal: CN 23-1233/S * 1979 * m * A4 * 252 * zh * P * ¥20.00 * 1500 * 60 * 2013-09