

农业发展新视点

- 水稻秸秆直接还田技术配套机具研究进展 孙妮娜 王晓燕 李洪文 等(1)
光电检测技术在马铃薯品质检测中的研究进展 屠振华 张成龙 王瑶瑶 等(8)

理论研究与探讨

- 免耕圆盘刀破茬过程运动特性研究 白晓虎 齐 华(14)
基于因素空间的油葵联合收获机故障诊断推理机制 李 茜 张学军 朱兴亮(19)
基于最大横截面积的马铃薯分级及切割策略研究 林泽鸿(24)
基于 SPH 算法的深松铲土壤切削过程仿真及试验研究 曹中华 崔晋波 湛小梅 等(28)
不同转速和不同水平风速对离心式喷头喷雾漂移的影响 卢佳节 陈家兑 吴扬东 等(35)
基于 UG 的空气压缩机参数优化分析 王 功(42)
基于模态的玉米高速精密排种器振动特性分析 刘 虎 周纪磊 方会敏 等(47)
基于 Solidwork 的拖拉机耕犁装置的设计与仿真 黄诗鸿(52)
勾轮式玉米排种器运动机理的研究 李 鑫 籍俊杰 冯晓静(57)
一种铰接式玉米田间管理机的运动学与动力学分析 申屠留芳 秦绍波 孙星钊 等(62)

设计制造

- 小型手扶自走式棉田培土机的设计与试验 杨庆璐 王学诗 范国强 等(69)
农业四旋翼飞行器的研究 苏晓光 姜重然 于莉莉 等(75)
牵引式马铃薯联合收获机的设计与试验 万恩超 尚书旗 王东伟 等(80)
耕作土壤地表三维形貌测量装置设计与试验研究 刘雪宁 李旭英 张永志 等(85)
2BMD-3/6 型花生膜上穴播机的设计与试验 刘晓东 王东伟 何晓宁 等(90)
玉米免耕精密播种机漏播补偿系统的研究 陈 刚 孙宜田 孙永佳 等(95)
基于 STM32 单片机控制的电动微耕机研制 张 强 杨光友(100)
PID 神经元网络在水稻秧棚控制系统中的应用研究 黄金侠 侯 艳 宋国义 等(105)
辣椒介电参数测量误差分析及改进研究 鄢金山 史增录 靳 伟 等(110)
9YYB12 型智能青饲料打捆缠膜一体机液压系统的设计 张成保 刘学峰 李青江 等(116)
可控微环境气雾立体栽培监测监控系统设计与实现 申再贺 马春燕 陈 燕 等(121)
麻山药收获机振动松土装置的设计 邢 旭 秦 祯 曹少波 等(126)
电磁波辐射法大颗粒谷物含水率测试试验台研制 李博识 黄操军 赵 晶 等(131)
气吸式单、双排精密通用排种器的设计与试验 赵立军 颜珊珊 王宇杰 等(136)

往复螺杆背负式水肥机控制系统设计 石世纪 罗翔 杜毅鹏 等(142)

一种玉米地残膜捡拾机的设计与试验研究 王建吉 孙旖彤 弥宁 等(148)

新型秸秆还田犁翻旋耕复式作业机结构设计 陈书法 解法旺 孟宪清(154)

试验研究

水稻气力有序抛栽秧苗运动过程研究 姚颖杰 王玉兴 唐艳芹 等(159)

苏打盐碱地改良剂喷施自润式减阻深松机的设计与试验 向美琦 姜立民 王景立(166)

蕉园自走式压穴施肥机设计与试验 杨洲 张卓伟 李君 等(171)

基于 Hege 16 的水稻脱粒及其损伤影响因素试验研究 徐李 陈树人 周静 等(178)

新型甘蔗剥叶机仿真与试验研究 沈中华 黄博(183)

筑床施药机喷施性能参数试验研究 杨雪峰 李应珍 张树君 等(189)

新技术应用

基于拉曼光谱的稻叶瘟病害程度划分研究 谭峰 于洋 才巧玲 等(194)

玉米播种机控制中的英语复合句语义分析 张燕(198)

基于计算机视觉的气吸滚筒式精密排种器控制系统 王平岗 杨德义 吴东林(202)

基于大数据和 QT 的农机配件供应链云平台系统设计 周倩 周林妹 康丽军(207)

基于足球比赛运动的避障系统开发设计 郭铜樑 任波(212)

除草机器人路标识别多模式匹配算法研究—面向中英文混合环境 宋锦博(217)

基于无人机光谱分析的农田监测系统应用 张乐春(222)

英语语言理解的名词聚类在收割机控制中的应用 冉茂杨(226)

基于 PLC 的玉米播种机设计与试验 胡元乾(230)

环境与能源动力工程

鸡腿菇热风干燥工艺参数优化 李国鹏 谢焕雄 王嘉麟 等(233)

履带式拖拉机运动控制系统设计与试验 宋裕民 梁健明 邱绪云 等(242)

基于 ANSYS 的拖拉机液压气动系统结构设计和仿真 谢忠华(249)

农业废弃物花生壳热解气化利用研究 李钢 王珏 邓天天(254)

船式拖拉机底板非光滑表面减阻机理研究 周明刚 陈龙 刘明勇 等(258)

拖拉机发动机故障诊断系统设计—基于虚拟仪器和 CAN 总线 王峰(264)

[期刊基本参数] CN 23-1233/S * 1979 * m * A4 * 268 * zh * P * ¥20.00 * 1500 * 50 * 2019-07

Journal of Agricultural Mechanization Research

Vol. 39 No. 1 2017

Contents

New View of Agricultural Development

- Study on the Quality Evaluation of Main Crop Production Mechanization in China Chen Qiaomin et al. (1)
Study on the Extension Mode of Agricultural Service Corporation of UAV for Plant Protection Leng Zhijie et al. (6)

Theory Study and Discussion

- Prediction of Total Power in Agriculture Machinery Based on LM-BP Neural Network Zhang Li et al. (10)
Force Analysis and Motion Simulation of the 3ZT-3 Cultivator Fertilizer Machine Chi Hongwei et al. (15)
Finite Element Simulation and Analysis of Aoil Cutting Based on ANSYS/LS_DYNA Software with an Oscillating Subsoiler
..... Liu Xiaohong et al. (19)
Finite Element Analysis of Ride a Straddle Frame for Dwarf and Close Planting Jujube Harvester Li Linlin et al. (25)
Research on Dynamic Characteristics of Vibratory Harvesting for Sea Buckthorn Peng Jun et al. (32)
Research and Analysis of the Optimum Gap of the Screw Extraction Device Based on EDEM Software Zhou Yanli et al. (38)
Precision Agriculture Wireless Ssensor Network Terminal Node Localization Wang Lishu et al. (43)
Modeling and Simulation Analysis of Harvester Walking Mechanism Based on Adaptive Finite Element Numerical Calculation Method
..... Cai Pan(47)

Design and Manufacture

- Innovative Design and Experimental Research on Self-suction Jet Aerator Sun Xincheng et al. (52)
Design and Experiment of a No-tillage and Wide Band Wheat Planter with Subsoilers Based on EDEM Diao Huailong et al. (58)
Design of Auto-washing Device for Seedling Tray Gao Yuanyuan et al. (63)
Design and Analysis of Key Components of the Automatic Feeding Device for Seedling Transplanting Machine Ma Zhen et al. (68)
Design and Research of Flexible Robotic Platform for Kiwi Fruit Harvesting Robot Chen Zixiao et al. (72)
The Structure Design of Hydraulic Drive Lotus Root Digging Machine Liu Peng et al. (78)
Design and Analysis of a Plant Root Soil Composite in Situ Shear Test Devices Liu Wei et al. (82)
Design and Experiment of Cotton Top-cutting Machine Based on PLC Xie Qing et al. (87)
The Growth Device and Preliminary Test for Hydroponic Spinach Based on Ozone Concentration Liu Nan et al. (92)
Design of Cherry Picking Robot Based on PLC High-speed Parallel Automatic Control Fu Yao(96)
Research and Implementation of the Information Management System of the Potato Tissue Culture Seedling Inoculation Robot Based on Web
..... Shao Dong et al. (101)
Design of Small Scraper Automatic Grain Collecting Machine Guo Dewei et al. (106)
The Design and Analysis of Potato Planting Machine Based on Vibration Sorting Technology Jiang Huakai et al. (111)
Design and Experiment on Greenhouse Multi-function Rail Vehicle Tian Subo et al. (116)

| | |
|--|---------------------------|
| Design and Experimental Research of Apple Seedling Planting Machine | Wang Pengfei et al. (122) |
| Microwave Detection Plants Based on Target Precision Spraying Machine | Wang Xiaozhi et al. (127) |
| Intelligent Control System Design of Wireless Irrigation for Seedling Based on ARM and STM32 | Liu Hongyan et al. (132) |
| Design and Test of Key Parts on Air-assisted Rice Broadcast Sower | Sun Nina et al. (137) |
| Design and Parameter Optimization of Seedling Expeller Mechanism Based on Matlab | Han Zhenhao et al. (142) |
| Finite Element Analysis and Structural Improvements for the Ditching Equipment of Planting Fruit tree Saplings ... | He Jianhua et al. (147) |
| Design and Experiment on Vibrating Sieve Type Jujube Multilayer Purification and Grader Machine | Lu Bing et al. (152) |

Experiment and Research

| | |
|---|----------------------------|
| Experiment on Shelling Machine of Flaxseed | Ding Jinfeng et al. (158) |
| Analysis on Transmission Parameters of Four-wheel Drive Corn Harvester | Shi Xin et al. (165) |
| Measurement and Analysis of Farmland Surface Roughness | Xu Zhufeng et al. (171) |
| Paddy Strains between Weeding Member Working Mechanism and Weeding Track Test | Niu Chunliang et al. (177) |
| Experimental Study on Peanut Pods Mechanical Property | Wang Jing et al. (182) |
| The Performance Parameters Analysis and Optimazation of Pickup Test–Device | Yu Zhihong et al. (187) |
| Bench Test of Mountainous Orchard Crawler Transporter | Zheng Penglin et al. (192) |

Application of New Technology

| | |
|---|---------------------------|
| TRIZ Application in Research of Dry–land High–speed Transplanter | Yan Hua et al. (197) |
| Research of Tea Garden Path Planning Based on Machine Vision | Ma Zhiyan et al. (202) |
| Design for Intelligent Control System for Ultra Low Power Wireless Sensor Based on MSP430 and ZigBee | Wei Chun et al. (207) |
| Design of Night Picking Robot Based on RSSI Signal Intensity Location Method | Ma Yongbing(212) |
| Design for Weeding Robot Based on Embedded Web and ZigBee Gateway | Li Biqing et al. (217) |
| Design of the Seedling Mechanism of Vegetable Seedling Tray Based on PLC Control and Virtual Prototyping Technology | Jiang Yanlei et al. (222) |

Environment and Energy Power Engineering

| | |
|---|-----------------------------|
| Design and Performance Test of Biomass Pellet Burner | Xia Xuning et al. (218) |
| Dynamic Simulation of Tractor Equipped with Multi–range Hydro–mechanical CVT during Ploughing | Wang Quansheng et al. (232) |

Summary

| | |
|---|----------------------------|
| Research and Popularization of the Application of Peanut Harvesting Mechanization Technology | Gao Xuemei et al. (237) |
| Research Status of Mechanical Intra–Row Weed Control in Row Crops | Liu Wen et al. (243) |
| Present Situation and Problem Analysis of the Technology of Fertilizer Mechanization in China | Fu Yuchao et al. (251) |
| The Research and Development of The Falling Tree Fruits and Nuts Collect and Pick–up Technology | Zhou Yuanhang et al. (256) |
| Research Status and Development Trend of Corn Fertilizing Technology and Fertilizing Machine | Li Kun et al. (264) |
| Basic Parameters of the Journal: CN 23–1233/S * 1979 * m * A4 * 268 * zh * P * ¥20.00 * 1500 * 51 * 2017–01 | |