

2
2013
第35卷

ISSN 1003-188X

农机化研究

Journal of Agricultural
Mechanization Research

全国中文核心期刊
全国科技精品期刊



黑龙江省农业机械工程科学研究院
黑 龙 江 省 农 业 机 械 学 会

主 办

ISSN 1003-188X



9 771003 188118

万方数据

农业发展新视点

- 四旋翼无人机在农田信息获取中的应用 姬江涛 庖菲菲 贺智涛 等(1)
有限元法在农业物料力学研究中的应用进展 白欣欣 刘继展 李萍萍(5)

理论研究与探讨

- 黄瓜茎维管束图像分割与三维可视化技术研究 闫伟平 杜建军 郭新宇(9)
基于灰色遗传参数动物育种值的 BLUP 估计 周晓晶 林 增(14)
粗纤维物料方捆打包机进草机构运动学仿真分析 范子胜 张立新 葛 云 等(18)
粉碎机分离装置气-固两相流研究—基于 FLUENT 曹丽英 武 佩(23)
金华市农业机械化发展水平总体评价的研究 刘丽敏 周益君(27)
黑龙江省玉米产量变化的预测分析—基于支持向量机的实证研究 罗正媛 汤 洋(30)
行走式植树挖坑机的工作原理及结构分析 黄 伟 娄玉印 韦 宁 等(35)
基于 ANSYS 桉树皮切碎机的有限元分析 郑广平 娄玉印 李兆龙 等(40)
基于 TM 的混合分解模型提取水稻种植面积研究 吴 黎 张有智 解文欢 等(44)
基于 BP 神经网络的花生外衣完整性识别方法 仇阿根 熊利荣 赵阳阳(48)

设计制造

- 2BFD-2C 型花生覆膜播种机的设计 赵建亮 尚书旗 华 伟 等(51)
新型带式精量排种器的设计研究 耿端阳 李 丹 张道林 等(56)
新型水稻抛栽工作装置设计 王玉兴 陈 振 姚庆伟 等(60)
自动化增氧机控制算法与控制系统设计 孙园园 刘昌华(65)
高垄平台滴灌带铺设机的设计与试验 田佰亮 杨悦乾 赵淑红 等(69)
猕猴桃采摘机器人的研究与设计 高 浩 王 虎 陈 军(73)
带秸秆粉碎装置的玉米收获机割台设计 周德义 王子佳 宋平平(77)
采摘机器人避障末端臂的设计与试验 丁加军 刘桂芝 杨文亮(81)
玉米移栽机自动送苗装置的研究 宋小雨 张晋国 王学良 等(85)
螺旋式平贝等级筛分机设计与试验 宋 江 卢松卓 王 明 等(89)
螺旋揉搓式豌豆脱皮机设计 孙传祝 王相友 张志杉 等(94)
温室节水自动喷灌系统的设计 于华丽 赵晓顺 高立艾(98)
蚕茧自动排列输送装置设计 刘小瑞 何培祥(101)
果园挖坑施肥机与控制系统设计 雷王利 陈 军(105)
基于 COSMOS 农机金相试样切割机的设计 徐 炳 孙维连 王会强 等(108)

试验研究

- 油菜发芽期和苗期抗旱性鉴定评价方法 谢小玉 张 兵 陈思岑(112)
折叠式玉米收获机割台的试验 陈延鑫 张道林 许振冻 等(117)
秸秆覆盖对中小型土壤动物动态变化的影响 张 赛 王龙昌(121)

- 正镶白旗风沙土农田实施保护性耕作研究 曹洁 赵士杰(126)
谷物产量智能测产监测器的设计与试验 仇华铮 陈树人 张林林(130)
风蚀地表颗粒含量提取技术—基于决策树图像分类 王淮亮 李玉宝 高君亮等(134)
机械损伤对荔枝生理与果皮形态的影响 陈燕 蔡伟亮 向和平等(138)
松木粉/PVC 复合材料蠕变性能研究 段洁利 蒋恩臣 胡圣荣(142)
IS-5 型深松整地机设计与试验 何延东 刘刚(146)
小型桑树伐条机切割部分试验研究 赖仁盛 孙永厚 靳国才(150)

新技术应用

- 基于卡尔曼滤波的粮食干燥温湿度控制方法 姜永成 张成龙 牛津桥等(154)
丘陵山区枇杷园水肥集成自动灌溉控制系统研究 吕家圣 袁军(159)
基于 RFID 与 Zigbee 的牛场远程监测系统设计 吴沧海 何火娇 熊焕亮等(163)
农村温室养殖温度控制器设计与实现 刘晓红(167)
中草药收获机夹持带转速智能控制研究 黄金侠 王俊发 赵化启等(171)
优质稻米追溯体系中 RFID 阅读器的研究 赵文颖 周修理 李艳军等(176)
农业机器人行走方向识别及仿真 许国瑞 崔天时 李晓莉(181)
魔芋精粉加工生产线储料罐料位测控系统设计 陈应舒(185)
基于 ZigBee 技术的土壤温度无线检测系统研究 谢忠兵 武佩 韩国栋等(189)
农业机械基础数据采集系统的研究 陈秀华(192)
智能应答农技推广短信平台的设计 张华千 滕桂法 刘小利(197)
自适应模糊 PID 控制在茶叶杀青机中的应用 郝朝会 孙传祝 苏夏侃(201)

环境与能源动力工程

- 燃烧室结构对 NO_x 与 Soot 排放影响的数值模拟 姜勇 张良(205)
柴油机燃用生物柴油的经济性和排放特性 范晨阳 徐斌 刘亚哲等(210)
旋转刮刀生物质粉喂料器的实验研究 张倩 李志合 李永军等(214)
烤烟秸秆厌氧发酵产沼气的动力学研究 丁琨 田光亮 苏有勇等(217)
生物质发酵过程中温度控制系统设计—基于 AT89C51 刘洪波 周修理 李艳军等(221)
牛粪高浓度批次厌氧发酵试验研究 吴丽丽 刘天舒 黄希国等(225)
农村小型水电站计算机监控系统 张珊珊 赵玉林 纪越(229)
PLC 自动控制在沼气发电中的应用 杨鹏跃 李伟清(233)
沼液添加量对干湿耦合厌氧发酵的影响研究 刘野 王忠江(237)
基于滑转条件下的履带车辆原地转向特性研究 罗恩志 冯江 张敏等(240)

综述

- 贫困山区农机购置补贴政策实施绩效及对策—以湘西州为例 柳一桥(244)
果园采摘平台行走机构的研究现状及发展趋势 刘大为 谢方平 李旭等(249)
[期刊基本参数] CN 23-1233/S * 1979 * m * A4 * 252 * zh * P * ¥20.00 * 1500 * 61 * 2013-02

Journal of Agricultural Mechanization Research

No. 2 2013

Contents

New View of Agricultural Development

The Application of Quad-Rotor UAV in Farmland Information Acquisition Ji Jiangtao et al. (1)

Research Progress in the Application of Finite Element Method to Mechanical Properties of Agricultural Materials Bai Xinxin et al. (5)

Theory Study and Discussion

Study on Segmentation and Three-dimensional Visualization Technology of Vascular Bundles in Cucumber Stems Yan Weiping et al. (9)

BLUP of Breeding Values Based on Grey Genetic Parameters Zhou Xiaojing et al. (14)

Kinematics Simulation Analysis of Grass Fed Bodies of Crude Fiber Materials's Square Bales Baler Fan Zisheng et al. (18)

Study on Air-solid Two-phases Flow in the Sieving Set-up of a Hammer Mill—Based on FLUENT Cao Liying et al. (23)

Study on the Overall Evaluation of the Level of Agricultural Mechanization Development in Jinhua Liu Limin et al. (27)

The Prediction Analysis on Maize Yield Changes in Heilongjiang Province—Empirical Research Based on Support Vector Machine(SVM) Luo Zhengyuan et al. (30)

The Work Principle and Structure Analysis of the Walking Type Digging Machine for Planting Trees Huang Wei et al. (35)

The Finite Element Analysis of the Eucalyptus Bark Cutting Machine Zheng Guangping et al. (40)

The Mixture Model Extraction of Rice Planted area Based on TM Data Wu Li et al. (44)

Identification Method of the Detection of Completeness of Peanut Surface Based on BP Neural Network Qiu Agen et al. (48)

Design and Manufacture

Design of the 2BFD-2C Peanut Membrane Planter Zhao Jianliang et al. (51)

Study on a Belt Type of Precision Seed-metering Device Geng Duanyang et al. (56)

New Working Device Design to Paddy Throwing Transplanter Wang Yuxing et al. (60)

Design of Control Algorithm and System for Automotive Oxygen-increasing Machine Sun Yuanyuan et al. (65)

The Design and Test of Machine of Laying the Drip Tape on the High Ridging Platform Tian Bailiang et al. (69)

Research and Design of Kiwi Fruit Harvesting Robot Gao Hao et al. (73)

Design of Corn Harvester Header With System of Stalk Cutting Zhou Deyi et al. (77)

Design and Testing for a Obstacle Avoidance End Arm of Picking Robot Ding Jiajun et al. (81)

Research on Corn Seedling Transplanting Machine Automatic Feed Devices Song Xiaoyu et al. (85)

Design and Test of Spiral Fritillaria Ussuriensis Grade Screen Vessel Song Jiang et al. (89)

Design of a Screw Rubbing-type Pea Dehulling Machine Sun Chuanzhu et al. (94)

Design of Automatically Sprinkling Irrigation System to Water Saving in Greenhouse Yu Huali et al. (98)

The Design of Automatic Arrange Transportation Device of Cocoon Liu Xiaorui et al. (101)

The Design of Orchard Digging Fertilizing Machine and Control System Lei Wangli et al. (105)

Research on Agricultural Metallographic Sample Cutting Machine Based on COSMOS Xu Bin et al. (108)

Experiment and Research

Method of identification for Characteristics of Drought-against on Germination and Seedling Growth of Rape Materials Xie Xiaoyu et al. (112)

Experiment of the Foldable Header of Corn Harvester Chen Yanxin et al. (117)

The Influence About Straw Coverage for Medium-scale and Small Soil Animals of the Dynamic Variation Zhang Sai et al. (121)

Study on the Test of Aeolian Sandy Soil through Conservation Tillage in Zhengxiangbai Qi	Cao Jie et al. (126)
Design and Test of Cereal Production, Intelligent Yield Monitor	Chou Huazheng et al. (130)
<i>Extraction of the Wind Erosion Surface Particle Content—Based on Decision Tree Classification Algorithms</i> ...	Wang Huailiang et al. (134)
Research on the Respiration and Peel Shape of Litchi in Mechanical Damage	Chen Yan et al. (138)
Study of the Creep Behavior of Pine Powder / Polyvinyl Chloride Composites	Duan Jieli et al. (142)
Design and Experiment of 1S-5 Subsoil Cultivator	He Yandong et al. (146)
Experimental Investigation of the Cutting Part for Mini-type Mulberry Branch Cutting Machine	Lai Rensheng et al. (150)

Application of New Technology

A High-precision Control method of Temperature and Humidity Based on Kalman Filter	Jiang Yongcheng et al. (154)
The Research on Automatic Integrated Control System for the Combination of Water and Fertilization Using at the Loquat Park in the Hilly Areas	Lv Jiasheng et al. (159)
Design of Remote Monitoring System of Dairy Farm Based on RFID and Zigbee CC2430 Technology	Wu Canghai et al. (163)
Design and Implement on the Temperature Control System of Greenhouse in Rural	Liu Xiaohong et al. (167)
Research on Intelligent Controlling in the Gripping-belt Velocity of Chinese Traditional Herbal Harvesting Machine	Huang Jinxia et al. (171)
Research of the RFID Reader in Quality Rice Tracing System	Zhao Wenying et al. (176)
Identification and Simulation of Agricultural Robot Walking Direction	Xu Guorui et al. (181)
Design of Measuring and Controlling System of the Material Level in the Storage Tank for the Production Line of Konjac Flour	Chen Yingshu et al. (185)
Soil Temperature Detection System Based on ZigBee Technology Research	Xie Zhongbing et al. (189)
Research on Agricultural Machinery Basic Data Acquisition System	Chen Xiuhua(192)
Design of SMS Platform with Intelligent Response Function in Agro-technical Popularization	Zhang Huaqian et al. (197)
Application Study of Adaptive Fuzzy PID Control Used in Green Removing of Tea	Hao Chaohui et al. (201)

Environment and Energy Power Engineering

Numerical Simulation of the Swirl Ratio on NO _x and Soot	Jiang Yong et al. (205)
Economic and Emission Properties of CRDI Engine Fueled With Pistache Seed Biodiesel	Fan Chenyang et al. (210)
Characteristics of Rotary Blades Feeder for Biomass Powder	Zhang Qian et al. (214)
Kinetic of Biogas Generation by Anaerobic Fermentation of Tobacco Straws as Feed Stock	Ding Kun et al. (217)
Design of the Biomass's Temperature Control System—Based on AT89C51	Liu Hongbo et al. (221)
Experimental Study on High-solid Anaerobic Digestion of Dairy Manures	Wu Lili et al. (225)
Rural Small Hydropower Station Computer Monitoring and Control System	Zhang Shanshan et al. (229)
PLC Automatic Control in the Application of Biogas Power Generation	Yang Pengyue et al. (233)
The Effect of the Additive Amount of the Biogas Slurry on the Dry and Wet Coupling Anaerobic Fermentation	Liu Ye et al. (237)
Pivot Steering Characteristics of Tracked Vehicle Based on Skid Condition	Luo Enzhi et al. (240)

Summary

Agricultural Machinery Purchase Subsidy Policy Implementation of Performance, Problems and Solutions in Poor Mountainous Areas—Taking Xiangxi State as an Example	Liu Yiqiao et al. (244)
Research Status and Development Trend of Running Gear in Orchard Picking Platform	Liu Dawei et al. (249)
Basic Parameters of the Journal: CN 23-1233/S * 1979 * m * A4 * 252 * zh * P * ¥20.00 * 1500 * 61 * 2013-02	