



中国核心期刊（遴选）数据库全文收录期刊
中国学术期刊综合评价数据库统计源期刊
中国学术期刊（光盘版）全文收录期刊
中文科技期刊数据库全文收录期刊

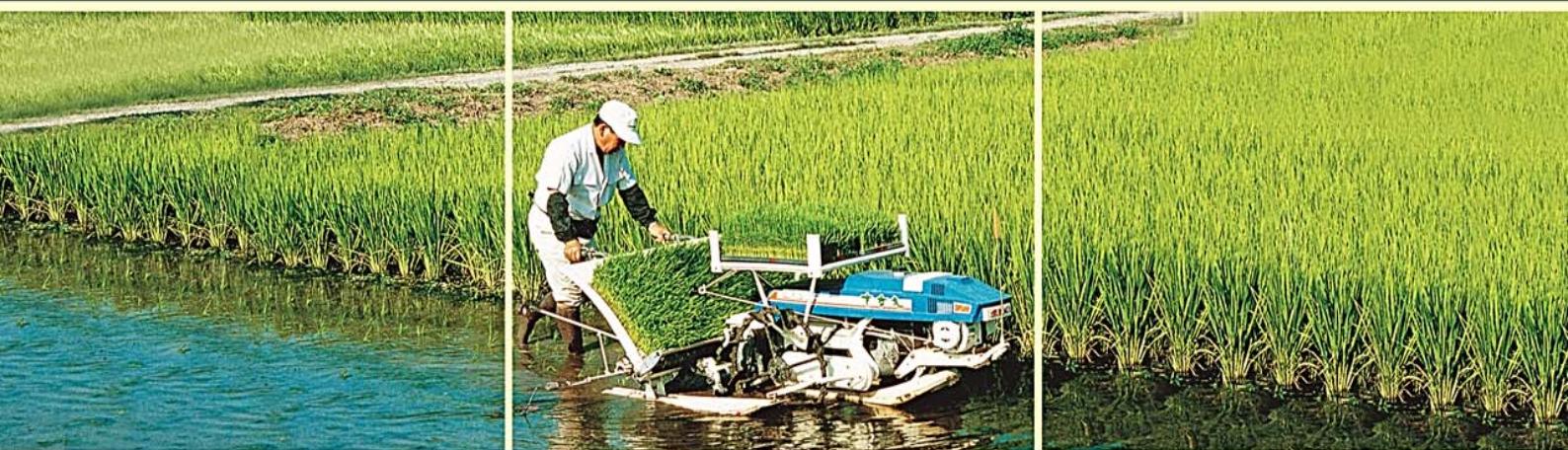
ISSN 1674-1161
CN 21-1559/S

农业科技与装备

AGRICULTURAL SCIENCE&TECHNOLOGY AND EQUIPMENT

2019年第3期

nongye keji yu zhuangbei



ISSN 1674-1161

05>
9 771674 116083

主管单位：辽宁省农村经济委员会
主办单位：辽宁省农业机械化研究所
协办单位：辽宁省农机学会 辽宁省农学会
辽宁省农业工程学会



农业科技与装备

NONGYE KEJI YU ZHUANGBEI

2019年第3期
(总第291期)
5月20日出版
双月刊
(1979年4月创刊)

主管单位 辽宁省农村经济委员会
主办单位 辽宁省农业机械化研究所
出版发行 农业科技与装备杂志社
印刷单位 沈阳市东实印刷厂
主编 高希君
副主编 刘欣 王帅
地址 沈阳市东陵路90号
邮政编码 110161
电话 024-88416286(传真)
电子邮箱 nykjzb@163.com
网址 <http://www.lnsnjs.com.cn>
国内统一出版物号 CN 21-1559/S
国际标准连续出版物号 ISSN 1674-1161
发行范围 国内公开发行
订阅 全国各地邮局
邮发代号 8-211
每期定价 15.00元

声明 如需转载本刊文章及图片,请注明摘
明 自《农业科技与装备》杂志,并寄样刊。

中国核心期刊(遴选)数据库全文收录期刊
中国学术期刊综合评价数据库统计源期刊

目次

品种与栽培

- 北方地区玉米新品系产量性状分析 张晶(01)
高粱去留分蘖比较试验 张蕊(03)

土肥与环境

- 氮素对大豆和玉米轮作下植株干物质积累与产量的影响 ... 李士良(05)
微量元素水溶肥料对苹果增产效应的试验研究 陈海英(09)
采矿区植被恢复工程设计研究 杨晓光(11)

林学与植保

- 松树赤松毛虫的发生与防治 李和爽(14)
朝阳县林业有害生物普查研究 谭丽娟(16)
菌核生枝顶孢霉次生代谢物对桃褐斑致病菌的抑制效果
..... 姚秀英,刘南南,王桂清(18)

农业工程

- 深松铲入土力学分析与振动减阻机理研究 张雷(23)
新型外置式密集烤房回潮机的设计与应用试验
..... 闫凯,杨晓东,王桂荣,孙刚,王刚,谭新伟,张健(27)
穴盘苗移栽机取送苗装置设计与试验 夏本立,马世林(29)
基于PLC的智能全自动包装机的创新设计
..... 于佳,孙荣国,宋金楷(32)
全自动液体软包装机关键机构设计 邢艳(34)
露天养护多肉植物自动遮阳遮雨装置设计
..... 邱巍,王磊,衣立夫,杨明(36)
杆塔组立的虚拟施工系统研究
..... 韩刚,张健,张鑫,徐梓馨,于生泽,周闯(38)
不同消解方法测定农产品中硒元素的研究 许刚(40)
不同方法去除糙米中抗营养因子对其营养成分的影响研究
..... 寇帅,毛鹏,代岚,姜忠丽,张之琼(42)
食用棉籽蛋白液—液—固三相萃取法脱酚试验研究
..... 唐小媛,肇立春,张馨月,刘健,贾紫薇,窦一莲(45)

欢 迎 订 阅

中国学术期刊(光盘版)全文收录期刊
中文科技期刊数据库全文收录期刊

MU CI

不同蒸煮条件对糙米多酚含量及抗氧化活性的影响

..... 刘璐,路飞,傅靖晗,贾存莹,王晓陶(47)

紫薯全粉面条制作工艺优化研究

..... 杜好,闵钟熳,顾晶晶,周玉洁,丁增拉姆,高路(50)

板栗薏米营养方便米粥的研制

..... 徐娴,涂向辉,王丹,朱晶(52)

南瓜发酵蛋糕的研制 董晓颖(55)

技术推广

水稻秸秆还田机械化作业技术模式研究 毕金德(58)

智能化移动日光温室的建造 佟景春(60)

马铃薯生产机械化技术及效益分析 樊禹铭(62)

食品用塑料包装中有害物质迁移研究进展

..... 常南,李娜,郭德超(64)

影响蛹虫草生长发育及产量的因素 闫丽丽(66)

榛蘑人工栽培技术研究进展 邓正正(69)

太阳能光伏电池发电性能影响因子研究 丁文龙,常静(71)

论坛交流

兴城市花生生产全程机械化现状与发展方向分析 隋勇(76)

基于 DEA 模型的蒙东地区配电网供电效率评估研究

..... 张茜如,吴军,吴国斌(78)

“分类培养、融合发展、实践递推”三位一体的农业机械化专业建设改革

与实践研究 ... 张静,韩长杰,周军,郭辉,张绢,李雪莲(81)

“混合教学模式”下高职院校计算机基础教学策略探究 张乾(84)

生态环境类通识教育核心课程体系建设与改革研究

..... 张晶,姜波,张涛,汤俊(87)

食品加工技术概论课程建设与改革研究

..... 杨慧,郑煜焱,杨强,李苏红,张春红(89)

中高职一体化教学改革实践研究 卢延颖(91)

欢 迎 赐 稿

AGRICULTURAL
SCIENCE&
TECHNOLOGY
AND EQUIPMENT

NO.3,2019
(Total NO.291)
May 20
Bimonthly
(Started in April 1979)

Administered by

Liaoning Province Rural Economy
Committee

Sponsored by

Liaoning Province Agricultural
Mechanization Institute

Published and Distributed by

Journal of Agricultural S&T and
Equipment

Printed by

Shenyang DongShi Printing House

Editor in Chief

GAO Xijun

Ddputy Editor in Chief

LIU Xin,WANG Shuai

Address

No.90,Dongling Road,Shenyang 110161

Telephone(Fax)

024-88416286

E-mail

nykjzb@163.com

<http://www.lnsnjs.com.cn>

CN 21-1559/S

ISSN 1674-1161

For reproduction of any articles and pictures
from AGRICULTURAL SCIENCE&TECHNOLOGY
AND EQUIPMENT,please indicate the
source and send us a sample book.



Contents

Variety and Cultivation

- Analysis on Yield Characters of Maize New Strain in Northern Area *ZHANG Jing(01)*
Comparative Experiment on Tillering of Sorghum *ZHANG Rui(03)*

Soil-fertilizer and Environment

- Effects of Nitrogen on Dry Matter Accumulation and Yield of Soybean and Maize under Rotation *LI Shiliang(05)*
Experimental Study on Effect of Microelement Water-soluble Fertilizer on Apple Yield Increasing *LI Haiying(09)*
Study on the Engineering Design of Vegetation Restoration in Mining Area *YANG Xiaoguang(11)*

Forestry and Plant Protection

- Occurrence and Control of Dendrolimus Spectabilis *LI Heshuang(14)*
Study on Census of Forest Pests in Chaoyang County *TAN Lijuan(16)*
Inhibitory Effect of Secondary Metabolite of Acremonium Sclerotigenum on Alternaria Alternate *YAO Xiuying, LIU Nannan, WANG Guiqing(18)*

Agricultural Engineering

- Research on Mechanical Analysis and Vibration Drag Reduction Mechanism of Deep-shovel into Soil *ZHANG Lei(23)*
Design and Application Test of a New External Concentrated Oven Moisture Machine *YAN Kai, YANG Xiaodong, WANG Guirong, SUN Gang, WANG Gang, TAN Xinwei, ZHANG Jian(27)*
Design and Experiment on Seedling Picking and Feeding Mechanism of Plug Seedling Transplanter *XIA Benli, MA Shilin(29)*
An Innovative Design of Intelligent Automatic Packaging Machine based on PLC *YU Jia, SUN Rongguo, SONG Jinkai(32)*
Design of Key Mechanism of Automatic Liquid Flexible Packaging Machine *XING Yan(34)*
Design of Automatic Sunshade and Rain Shield for Outdoor Maintaining Succulent Plants *QIU Wei, WANG Lei, YI Lifu, YANG Ming(36)*

- Study on Virtual Construction System of Transmission Tower Erection *HAN Gang, ZHANG Jian, ZHANG Xin, XU Zixin, YU Shengze, ZHOU Chuang(38)*
Research on Determination of Selenium in Agricultural Products by Different Digestion Methods *XU Gang(40)*
Research on Effect of Removing Anti-nutritional Factors in Brown Rice on Its Nutritional Composition by Different Methods *KOU Shuai, MAO Peng, DAI Lan, JIANG Zhongli, ZHANG Zhiqiong(42)*
Experimental Study on Dephenolization of Edible Cottonseed Protein by Liquid-liquid-solid three-phase Extraction *TANG Xiaoyuan, ZHAO Lichun, ZHANG Xinyue, LIU Jian, JIA Ziwei, DOU Yilian(45)*
Effects on Polyphenol Contents and Antioxidant Activity of Brown Rice under Different Cooking Conditions *LIU Lu, LU Fei, FU Jinghan, JIA Cunying, WANG Xiaotao(47)*
Study on the Process Optimization of Purple Potato Powder Noodles *DU Hao, MIN Zhongman, GU Jingjing, ZHOU Yujie, DING Zenglamu, GAO Lu(50)*

- Study on Nutritious Instant Rice Porridge for Chinese Chestnut and Myotonin *XU Xian, TU Xianghui, WANG Dan, ZHU Jing(52)*
Development of Pumpkin Fermented Cake *DONG Xiaoying(55)*

Technology Extension

- Research on Mechanized Technical Model of Rice Straw Returning to Field *BIN Jinde(58)*
Intelligentized Management of Mobile Solar Greenhouse Construction *TONG Jingchun(60)*
Analysis on Production Mechanization Technology and Benefit of Potato *FAN Yuming(62)*
Research Progress on Migration of Harmful Substances in Plastic Packaging for Food *CHANG Nan, LI Na, GUO Dechao(64)*
Factors Affecting the Growth and Yield of Cordyceps Militaris *YAN Lili(66)*
Research Progress on Artificial Cultivation Technology of Armillaria Mellea *DENG Zhengzheng(69)*
Study on Factors Affecting the Performance of Solar Photovoltaic Cells *DING Wenlong, CHANG Jing(71)*

Forum and Communication

- Analysis on the Present Situation and Development Direction of Peanut Production in Xingcheng City *SUI Yong(76)*
Research on Evaluation of Power Supply Efficiency of Distribution Network in Eastern Mongolia based on DEA Model *ZHANG Xiru, WU Jun, WU Guobin(78)*
Construction Reform and Practice of "Classified Cultivation, Integrative Development, Practice Recurrence" *ZHANG Jing, HAN Changjie, ZHOU Jun, GUO Hui, ZHANG Juan, LI Xuelian(81)*
Study on Teaching Strategy of Computer Basic Course under Blended Teaching Model in Polytechnic College *ZHANG Qian(84)*
Research on the Construction and Reform of Core Curriculum System of General Education in Ecological Environment *ZHANG Jing, JIANG Bo, ZHANG Tao, TANG Jun(87)*
Study on Curriculum Construction and Reform of Introduction to Food Processing Technology *YANG Hui, ZHENG Yuyan, YANG Qiang, LI Suhong, ZHANG Chonghong(89)*
Research on Teaching Reform and Practice in the Integration of Secondary and Higher Vocational Education *LU Yanying(91)*