



ISSN 1002-2090  
CODEN HBNDDES

# 黑龙江八一农垦大学 学报

JOURNAL OF HEILONGJIANG  
BAYI AGRICULTURAL UNIVERSITY



**2020 .2**

第 32 卷 Vol.32

# 黑龙江八一农垦大学学报

第 32 卷第 2 期

(总第 157 期)

2020 年 4 月

## 目 次

### 作物科学

- 不同栽培方式对寒地水稻生长发育和穗部性状的影响 ..... 郭晓红,徐令旗,胡月,等(1)  
水肥耦合对烤烟干物质积累、磷吸收和分配的影响 ..... 邵红英,李健铭,姚德贵,等(10)  
玉米盐碱响应基因 *ZmERF1* 和 *ZmERF2* 的分子特性分析 ..... 程殿君,郭耀祖,吴庚锦,等(17)

### 动物科学

- 胎牛血清对猪精子常温负压保存质量的影响 ..... 李井春,王硕,李雁冰,等(27)  
RS4 型抗性淀粉对大鼠血清免疫球蛋白含量、免疫器官发育和盲肠黏膜形态结构的影响  
..... 李凌岩,高伟星,杨敏娜,等(32)

### 食品科学

- 乳熟中期水稻茎中水溶性膳食纤维提取工艺研究 ..... 曲鹏宇,李志江,李丹,等(37)  
豌豆蛋白糖基化改性工艺的优化研究 ..... 鹿保鑫,林欣梅,李艳清(43)  
黑木耳芥菜大黄米韧性饼干生产工艺的优化 ..... 冯彩月,王正金,王力,等(51)

### 生物技术

- 产酸芽孢杆菌的获得及其发酵液对水稻种子萌发的影响 ..... 李可,吕可欣,孙冬梅(60)  
间氯过氧化苯甲酸可控性氧化 2-巯基萘醌类化合物的合成与鉴定 ..... 申贵男,郝莹莹,张雷,等(68)

### 农业工程与信息技术

- 基于区块链的茶叶可信溯源系统的设计与实现 ..... 汪家伟,饶元,常仲禹(74)  
基于深度学习的农作物病害叶片的图像超分辨率重建 ..... 代强,乔焰,程曦,等(82)  
基于 C 语言模拟计算的 cdPCR 最佳反应通孔数分析 ..... 周德良(91)  
黑龙江垦区大马力拖拉机的应用及需求分析 ..... 于志成,胡军,衣淑娟,等(97)  
基于太阳能发电的农业物联网多功能供电系统 ..... 杨昌登,盖新鹏,闫星源,等(103)

### 经济与管理

- 基于二水平 Logistic 模型农村消费者食品安全风险认知研究 ..... 雷风雪,高齐圣(111)  
基于耦合协调模型的安徽省土地生态安全与经济发展关系评价研究 ..... 何如海,饶旻,杨晗宇,等(119)  
武夷山地区茶农参加茶业同业公会意愿研究 ..... 柯文静,周林毅(125)  
大庆转型发展全面振兴实践路径及保障机制研究 ..... 唐立兵,张平(133)

[期刊基本参数]CN23-1275/S\*1981\*b\*A4\*138\*zh\*P\*¥8.50\*1000\*19\*2020-04

# JOURNAL OF HEILONGJIANG BAYI AGRICULTURAL UNIVERSITY

Vol.32 No.2

(sum.157)

Apr.2020

## CONTENTS

### CROP SCIENCE

- Effects of different cultivation methods on growth and panicle traits of rice in cold region  
..... Guo Xiaohong, Xu Lingqi, Hu Yue, et al(1)
- Effects of water and fertilizer coupling on dry matter accumulation, phosphorus uptake and distribution in flue-cured tobacco  
..... Shao Hongying, Li Jianming, Yao Degui, et al(10)
- Molecular Characteristics of Maize Salt-alkaline Response Genes *ZmERF1* and *ZmERF2*  
..... Cheng Dianjun, Guo Yaozu, Wu Gengjin, et al(17)

### ANIMAL SCIENCE

- Effect of fetal bovine serum on the quality of porcine sperm under normal temperature and negative pressure  
..... Li Jingchun, Wang Shuo, Li Yanbing, et al(27)
- Effects of resistant starch type 4 on body immunity and cecal morphology of growing rats  
..... Li Lingyan, Gao Weixing, Yang Minna, et al(32)

### FOOD SCIENCE

- Extraction process of water soluble dietary fiber from rice stem in milky period ..... Qu Pengyu, Li Zhijiang, Li Dan, et al(37)
- Study on optimization of glycosylation modification of pea protein ..... Lu Baoxin, Lin Xinmei, Li Yanqing(43)
- Process optimization of semi hard biscuit composed of black fungus, shepherd's purse and rhubarb rice  
..... Feng Caiyue, Wang Zhengjin, Wang Li, et al(51)

### BIO-TECHNOLOGY

- Acquisition of acid - producing bacillus and the effect of its fermentation on rice seed germination  
..... Li Ke, Lv Kexin, Sun Dongmei(60)
- Synthesis and identification of 2-thio naphthoquinones by controlled oxidation of *m*-chloroperoxybenzoic acid  
..... Shen Guinan, Hao Yingying, Zhang Lei, et al(68)

### AGRICULTURAL ENGINEERING AND INFORMATION TECHNOLOGY

- Design and implementation of trusted tea traceability system based on blockchain  
..... Wang Jiawei, Rao Yuan, Chang Zhongyu(74)
- Image super-resolution reconstruction of crop disease leaves based on deep learning ..... Dai Qiang, Qiao Yan, Cheng Xi, et al(82)
- Analysis of the optimum number of reaction holes of cdPCR based on simulation calculation of C language ..... Zhou Deliang(91)
- Application and demand analysis of high horsepower tractor in Heilongjiang agricultural reclamation  
..... Yu Zhicheng, Hu Jun, Yi Shujuan, et al(97)
- Multifunctional power supply system of agricultural internet of things based on solar power generation  
..... Yang Changdeng, Gai Xinpeng, Yan Xingyuan, et al(103)

### ECONOMICS AND MANAGEMENT

- Research on food safety risk perception of rural consumers based on two-level logistic model ..... Lei Fengxue, Gao Qisheng(111)
- Evaluation of the relationship between land ecological security and economic development in anhui province based on the  
coupling eoordination model ..... He Ruhai, Rao Qin, Yang Hanyu, et al(119)
- Study on the influence of tea farmers' willingness to participate in tea trade association in WuYi mountain area  
..... Ke Wenjing, Zhou Linyi(125)
- Research on path and guarantee mechanism of comprehensive revitalization based on Daqing's transformation and development  
..... Tang Libing, Zhang Ping(133)