

《中文核心期刊要目总览》收录
Ei Compendex(核心版)收录
百种中国杰出学术期刊
RCCSE 中国权威学术期刊

2019. 11
第35卷 VOL. 35



ISSN 1002-6819
CN 11-2047/S
CODEN NGOXEO

农业工程学报

TRANSACTIONS OF THE CHINESE SOCIETY
OF AGRICULTURAL ENGINEERING

NONGYE
GONGCHENG
XUEBAO



ISSN 1002-6819



中国农业工程学会 主办

农业工程学报

2019 年 6 月第 11 期 总第 363 期 (第 35 卷)

目次

• 农业装备工程与机械化 •

- 玉米变量播种机单体驱动器的设计 丁友强, 杨 丽, 张东兴, 崔 涛, 张凯良, 王满涛 (1)
- 针孔管式小麦精准点播装置设计与吸种性能研究 刘俊孝, 王庆杰, 李洪文, 何 进, 卢彩云 (10)
- 水稻秸秆收集与连续打捆复式作业机设计 谢 伟, 李 旭, 方志超, 全 伟, 罗海峰, 吴明亮 (19)
- 弧形齿滚扎式残膜回收机的设计及参数优化 谢建华, 张凤贤, 陈学庚, 韩英杰, 唐 炜 (26)
- 燕麦籽粒揉搓式除杂装置设计 耿令新, 孙成龙, 左杰文, 金 鑫, 孔令举, 姬江涛 (38)
- 半自动压缩基质型西瓜钵苗移栽机成穴器参数优化 韩长杰, 徐 阳, 尤 佳, 张 静, 袁盼盼 (48)
- 基于高频 PIV 的偏航对风力机叶片尾迹膨胀和叶尖涡耗散影响
..... 马剑龙, 李学彬, 吕文春, 霍德豪, 吴雨晴, 汪建文 (57)

• 农业航空工程 •

- 无人机影像光谱和纹理融合信息估算马铃薯叶片叶绿素含量
..... 陈 鹏, 冯海宽, 李长春, 杨贵军, 杨钧森, 杨文攀, 刘帅兵 (63)
- 基于无人机数码影像的冬小麦氮含量反演 刘帅兵, 杨贵军, 景海涛, 冯海宽, 李贺丽, 陈 鹏, 杨文攀 (75)

• 农业水土工程 •

- 草甸白浆土稻秆氮利用效率及氮肥调控对水稻产量的影响
..... 王秋菊, 焦 峰, 刘 峰, 迟凤琴, 姜 辉, 李鹏绯 (86)
- 水肥气耦合滴灌番茄地土壤 N_2O 排放特征及影响因素分析
..... 雷宏军, 杨宏光, 刘 欢, 潘红卫, 刘 鑫, 臧 明 (95)
- 不同溶质及矿化度对土壤溶液盐离子的影响 郭全恩, 王益权, 南丽丽, 李保国, 曹诗瑜 (105)
- 滨海重度盐碱地微咸水滴灌水盐调控及月季根系生长响应研究 李晓彬, 康跃虎 (112)
- 陕北子洲“7·26”暴雨后坡耕地细沟侵蚀及其影响因素分析
..... 王颢霖, 焦菊英, 唐柄哲, 陈一先, 白雷超, 王 楠, 张意奉 (122)
- 极端暴雨情景模拟下黄河中游区现状下垫面来沙量分析 刘晓燕, 党素珍, 高云飞 (131)
- 基于小流域尺度的黔北喀斯特地区产流产沙特征
..... 李 瑞, 陈 康, 刘瑞禄, 顾再柯, 文雅琴, 黎庆贵, 刘凤仙 (139)

• 农业信息与电气技术 •

- 京津冀 MODIS 长时序增强型植被指数拟合重建方法适用性研究
..... 程琳琳, 李玉虎, 孙海元, 张 也, 詹佳琪, 刘 梅 (148)
- 层次分析法结合熵权法评估农村屋顶光伏系统电能质量
..... 李 峰, 孙 波, 王 轩, 雷文宝, 蒋海峰, 邹德龙 (159)

• 农业生物环境与能源工程 •

- 加热消毒设备处理西瓜重茬基质工艺优化及栽培效果 宋修超, 罗 佳, 马 艳, 刘新红, 周金燕, 严少华 (167)
- 遮阳网对西北地区夏季围栏牛场环境和肉牛生理特征的影响
..... 陈昭辉, 熊浩哲, 张霞霞, 刘继军, 林 梁 (175)
- 基于 CFD 的养殖水体固液旋流分离装置数值模拟与验证
..... 李建平, 吴 康, 何相逸, 陈骏炀, 李明东, 叶章颖, 朱松明 (182)
- 循环水养殖模式下鱼生长对水环境因子的响应模型构建 程香菊, 具家琪, 胡佳纯, 谢 骏, 余德光 (188)
- 稻田水体中毒死蜱和阿维菌素监测及水生动物生态风险评价
..... 陈 诚, 罗 紈, 邹家荣, 贾忠华, 张志秀, 朱卫彬 (195)
- Na^+ 和 K^+ 共存对 A^2/O 工艺脱氮除磷效果及污泥性质的影响
..... 张兰河, 郑 晶, 田 蕊, 陈子成, 郭静波, 贾艳萍, 李 正, 张 健 (206)

• 农业资源循环利用工程 •

- 考虑种养平衡的黄淮海小麦-玉米模式下畜禽承载力估算 楚天舒, 韩鲁佳, 杨增玲 (214)
- 基于系统动力学的东莞有机废弃物替代化肥潜力研究 秦 钟, 隆少秋, 王 璐, 张春霞, 袁 兰 (223)
- 热解温度对回转窑玉米秸秆热解产物理化特性的影响
..... 胡二峰, 吴 娟, 赵立欣, 孟海波, 姚宗路, 汤 森 (233)
- 农林废弃物田间曝氧水-火联动制炭设备及技术研究 校 亮, 袁国栋, 毕冬雪, 韦 婧, 沈冠华 (239)

• 土地整理工程 •

- 采煤预塌陷区超前复垦适宜性评价及复垦方向划定 赵会顺, 胡振琪, 陈 超, 孙杨杨 (245)
- 基于划区轮牧理论的祁连山北麓牧区动态草畜平衡研究 覃 琳, 宋孝玉, 冯湘华 (256)
- 农户土地承包经营权退出意愿影响因素及退出模式研究 牛海鹏, 孙壹鸣 (265)
- 包头市达茂旗居民点空间分布变化及其影响因素分析 周海涛, 宁小莉, 那晓东, 张雪峰, 李婉君 (276)

• 农产品加工工程 •

- 美国花生脱壳加工技术特点及启示 陆 荣, 高连兴, Chen Charles, Butts C L (287)
- “二八灰土”回填地下粮仓浮力预警试验研究 刘海燕, 孟伟新, 王振清, 田栋杰, 徐向楠, 刘 旭 (299)
- 杀菌型水稻秸秆纤维基地膜制造工艺参数优化研究 陈海涛, 陈双超, 刘 爽 (306)
- 基于形态特征参数的茶叶精选方法 吴正敏, 曹成茂, 王二锐, 罗 坤, 张金炎, 孙 燕 (315)
- 油茶籽饼粕中甲醇提取物抑制黄曲霉菌效果及成分分析
..... 王亚萍, 费学谦, 陆宽宽, 姚小华, 郭少海, 王开良 (322)
- 高活性益生菌酵素粉的制备及工艺优化 田怀香, 徐晓琳, 于海燕, 陈 臣 (330)

Transactions
of the Chinese Society of Agricultural Engineering
Vol.35 No.11 Jun. 2019
CONTENTS

• Agricultural Equipment Engineering and Mechanization •

Design of row-unit driver for maize variable rate planter

.....*Ding Youqiang, Yang Li, Zhang Dongxing, Cui Tao, Zhang Kailiang, Wang Mantao* (1)

Design and seed suction performance of pinhole-tube wheat precision seeding device

.....*Liu Junxiao, Wang Qingjie, Li Hongwen, He Jin, Lu Caiyun* (10)

Design of compound machine for rice straw collecting and continuous baling

.....*Xie Wei, Li Xu, Fang Zhichao, Quan Wei, Luo Haifeng, Wu Mingliang* (19)

Design and parameter optimization of arc tooth and rolling bundle type plastic film residue collector

.....*Xie Jianhua, Zhang Fengxian, Chen Xuegeng, Han Yingjie, Tang Wei* (26)

Design on oat-grains purification device with rubbing roller

.....*Geng Lingxin, Sun Chenglong, Zuo Jiewen, Jin Xin, Kong Lingju, Ji Jiangtao* (38)

Parameter optimization of opener of semi-automatic transplanter for watermelon seedlings raised on compression substrate

.....*Han Changjie, Xu Yang, You Jia, Zhang Jing, Yuan Panpan* (48)

Effects of yaw on wake expansion and tip-vortex dissipation of wind turbine blades based on high-frequency PIV

.....*Ma Jianlong, Li Xuebin, Lü Wenchun, Huo Dehao, Wu Yuqing, Wang Jianwen* (57)

• Agricultural Aviation Engineering •

Estimation of chlorophyll content in potato using fusion of texture and spectral features derived from UAV multispectral image

.....*Chen Peng, Feng Haikuan, Li Changchun, Yang Guijun, Yang Junsen, Yang Wenpan, Liu Shuaibing* (63)

Retrieval of winter wheat nitrogen content based on UAV digital image

.....*Liu Shuaibing, Yang Guijun, Jing Haitao, Feng Haikuan, Li Heli, Chen Peng, Yang Wenpan* (75)

• Soil and Water Engineering •

Nitrogen utilization efficiency of rice straw and effect of nitrogen regulation technology on yield in meadow albic soil

.....*Wang Qiuju, Jiao Feng, Liu Feng, Chi Fengqin, Jiang Hui, Li Pengfei* (86)

Characteristics and influencing factors of N₂O emission from greenhouse tomato field soil under water-fertilizer-air coupling drip irrigation*Lei Hongjun, Yang Honguang, Liu Huan, Pan Hongwei, Liu Xin, Zang Ming* (95)

Effects of solute types and degree of mineralization on salt ions in soil release solution

..... *Guo Quanan, Wang Yiquan, Nan Lili, Li Baoguo, Cao Shiyu* (105)

Water-salt control and response of Chinese rose (*Rosa chinensis*) root on coastal saline soil using drip irrigation with brackish water

..... *Li Xiaobin, Kang Yaohu* (112)

Characteristics of rill erosion and its influencing factors in slope farmland after “7·26” rainstorm in Zizhou County, Shaanxi Province

..... *Wang Haolin, Jiao Juying, Tang Bingzhe, Chen Yixian, Bai Leichao, Wang Nan, Zhang Yifeng* (122)

Sediment yield of current underlying surface under simulated extreme rainstorm in middle reaches of Yellow River Basin

..... *Liu Xiaoyan, Dang Suzhen, Gao Yunfei* (131)

Characteristics of runoff and sediment in karst area of northern Guizhou province based on small watershed scale

..... *Li Rui, Chen Kang, Liu Ruilu, Gu Zaike, Wen Yaqin, Li Qinggui, Liu Fengxian* (139)

• Agricultural Information and Electrical Technologies •

Applicability of fitting and reconstruction method of MODIS long-time enhanced vegetation index in Beijing-Tianjin-Hebei

..... *Cheng Linlin, Li Yuhu, Sun Haiyuan, Zhang Ye, Zhan Jiaqi, Liu Mei* (148)

Power quality assessment for rural rooftop photovoltaic access system based on analytic hierarchy process and entropy weight method

..... *Li Feng, Sun Bo, Wang Xuan, Lei Wenbao, Jiang Haifeng, Zou Delong* (159)

• Agricultural Bioenvironmental and Energy Engineering •

Parameter optimization of heating disinfection machine handling watermelon continuous cultivation substrate and cultivation effect

..... *Song Xiuchao, Luo Jia, Ma Yan, Liu Xinhong, Zhou Jinyan, Yan Shaohua* (167)

Effects of sunshade net on environment of fenced feed lot and physiological characteristics of beef cattle in northwest China in summer

..... *Chen Zhaohui, Xiong Haozhe, Zhang Xiaxia, Liu Jijun, Lin Liang* (175)

Numerical simulation and validation of solid-liquid cyclone separation device for aquaculture water based on CFD

..... *Li Jianping, Wu Kang, He Xiangyi, Chen Junyang, Ji Mingdong, Ye Zhangying, Zhu Songming* (182)

Response model construction of fish growth to water environmental factors in recirculating aquaculture mode

..... *Cheng Xiangju, Ju Jiaqi, Hu Jiachun, Xie Jun, Yu Deguang* (188)

Monitoring chlorpyrifos and abamectin in water bodies of paddies and assessment of ecological risk to aquatic animals

..... *Chen Cheng, Luo Wan, Zou Jiarong, Jia Zhonghua, Zhang Zhixiu, Zhu Weibin* (195)

Effect of coexistence of Na^+ and K^+ on sludge properties and microbial community structure in A^2/O process

.....Zhang Lanhe, Zheng Jing, Tian Rui, Chen Zicheng, Guo Jingbo, Jia Yanping, Li Zheng, Zhang Jian (206)

• Agricultural Resource Recycling Engineering •

Livestock carrying capacity estimation in wheat-corn production model of Huang-Huai-Hai Region considering planting-raising balance

.....Chu Tianshu, Han Lujia, Yang Zengling (214)

Potential of partial substitution of chemical fertilizer by organic manures in Dongguan based on system dynamics

.....Qin Zhong, Long Shaoqiu, Wang Lu, Zhang Chunxia, Yuan Lan (223)

Evaluation on pyrolysis characteristics of straw in rotary kiln

.....Hu Erfeng, Wu Juan, Zhao Lixin, Meng Haibo, Yao Zonglu, Tang Sen (233)

Equipment and technology of field preparation of biochars from agricultural and forest residues under aerobic conditions with water-fire coupled method

.....Xiao Liang, Yuan Guodong, Bi Dongxue, Wei Jing, Shen Guanhua (239)

• Land Consolidation and Rehabilitation Engineering •

Suitability evaluation and reclamation objectives for advanced land reclamation in coal mining pre-subsidence area

.....Zhao Huishun, Hu Zhenqi, Chen Chao, Sun Yangyang (245)

Forage-livestock dynamic balance of pasturing area based on rotational grazing theory in northern slope of Qilian Mountains

.....Qin Lin, Song Xiaoyu, Feng Xianghua (256)

Factors affecting farmers' willingness and mode of farmland usufruct abandonment for rural households land contractual operation right.....Niu Haipeng, Sun Yiming (265)

Spatial distribution variation of rural settlements in Damao Banner of Baotou City and its impact factors

.....Zhou Haitao, Ning Xiaoli, Na Xiaodong, Zhang Xuefeng, Li Wanjun (276)

• Agricultural Produce Processing Engineering •

Technology and characteristics of peanut shelling of United States and enlightenment

.....Lu Rong, Gao Lianxing, Chen Charles, Butts C L (287)

Buoyancy early warning of underground granary with “2:8 lime soil” backfilling

.....Liu Haiyan, Meng Weixin, Wang Zhenqing, Tian Dongjie, Xu Xiangnan, Liu Xu (299)

Optimization of manufacturing parameters for sterilizing functional straw fiber mulch

.....Chen Haitao, Chen Shuangchao, Liu Shuang (306)

Tea selection method based on morphology feature parameters

..... *Wu Zhengmin, Cao Chengmao, Wang Errui, Luo Kun, Zhang Jinyan, Sun Yan* (315)

Inhibitory effect of *Aspergillus flavus* and component analysis of methanol extraction from camellia seed cake

..... *Wang Yaping, Fei Xueqian, Lu Kuankuan, Yao Xiaohua, Guo Shaohai, Wang Kailiang* (322)

Preparation and technology optimization of high activity Jiaosu powder with probiotics

..... *Tian Huaixiang, Xu Xiaolin, Yu Haiyan, Chen Chen* (330)