

目 次

气候变暖背景下黄淮海平原北部冬小麦生育期霜冻灾害发生规律
 马尚谦 潘志华 郑大玮 宋玉 黄娜 潘宇鹰 韩国琳 王佳琳
 张子源 王子忠 彭瑞琦 孙国峰 刘聪(1)

匀播和施氮量对冬小麦群体、光合及干物质积累的影响
 张金汕 贾永红 孙鹏 刘冲 王欢 罗四维 石书兵(12)

水稻芽期耐寒性综合评价及耐寒指标筛选
 金明 刘旭升 逢洪波 王泽 赵宗耀 韩康顺 李彦利 贾玉敏(25)

滴灌带型配置与覆膜方式对新疆甜菜产量形成特性的影响
 林明 阿不都卡地尔·库尔班 陈友强 刘华君
 潘竞海 周远航 孙振才 王志敏(36)

微孔膜灌溉随水施不同肥量对黄瓜光合参数、养分特征、品质及产量的影响
 杜清洁 杨亚勇 张嘉欣 李娟起 肖怀娟 王吉庆(45)

农田野花带群落构建及其稳定性特征
 谢哲城 高亦珂 吴学峰 徐俊 刘烨 李湛东 张启翔(57)

苦参碱不同给药途径对小鼠肠道菌群的影响
 曹志刚 王弘 张华 孙盼盼 孙耀贵 范阔海 尹伟 李宏全 孙娜(69)

苜蓿皂苷对 X 射线照射小鼠造血系统的影响
 张明 李志威 刘建宇 张靖雪 郭志鹏 曲根 严学兵 郭玉霞(78)

二乙酰胺三氮脒对大鼠非酒精性脂肪肝病的作用初步分析
 朱斌 何晟 付亚丽 谢娜娜 张源淑(85)

基于基因调控网络对鸡胚皮肤发育的枢纽基因和关键通路分析
 胡斯乐 勿都巴拉 陈宇杰 丽春 霍红雁 白海花 吴江鸿(96)

基于神经网络和机器学习的白羽肉鸡体重估测算法
 庄超 沈明霞 刘龙申 姚文 郑荷花 王梦雨(107)

生鲜农产品多车型冷链物流车辆路径优化..... 李军涛 刘明月 刘朋飞(115)

加工肉制品适用风味代盐剂的配方设计与优化	张莹	张一凡	王世博	周幸	李平兰(124)
玉米种肥同穴与膜下滴灌一体机的设计与试验	曲浩	石林榕	辛尚龙	赵武云	王锋 刘洋礼 杨金发(135)
温室多层立体栽培联合补光对生菜产量及品质的影响	方慧	程瑞锋	伍纲	仝宇欣	刘庆鑫(147)
基于区域协同的我国耕地保护补偿框架构建及其测算	温良友	张蚌蚌	孔祥斌	党昱譞	王轩(155)
基于感知价值的东北黑土区农户保护性耕作技术采用行为	王淇韬	郭翔宇	刘二阳(172)		
基于生态位的鄱阳湖平原区高标准农田建设障碍因子诊断	夏敏峰	余慧敏	李爽	但承龙(182)	
山区县域“生产-生活-生态”空间格局演化及其生态环境效应 ——以豫西登封市为例.....	贾琦(191)				
基于 CiteSpace 的土壤生态系统服务研究热点与趋势	陈甜倩	高阳	冯喆	杨杨	吴克宁 赵华甫(204)
循环型农业清洁流域建设 ——以柘皋河流域为例.....	王芊	郑利杰	朱昌雄(220)		
政府介入农业有害生物风险防控的博弈分析.....	郑思宁	赵家豪(233)			
经济政策不确定性对中国粮食安全的影响	苏芳	刘钰	黄德林	薛冰	周潮 马静(245)
新冠肺炎疫情对我国猪肉价格的影响.....	贾铨	夏春萍	覃琼霞(259)		
新冠疫情对消费者购买渠道选择的冲击.....	刘灵芝	石梦微	肖邦明(272)		

CONTENTS

- Characteristics of frost disasters in the growth period of winter wheat in northern Huang-Huai-Hai Plain under the background of climate warming
..... MA Shangqian, PAN Zhihua, ZHENG Darwei, SONG Yu, HUANG Na, PAN Yuying, HAN Guolin, WANG Jialin, ZHANG Ziyuan, WANG Zizhong, PENG Ruiqi, SUN Guofeng, LIU Cong (1)
- Effect of uniform pattern and N application rate on colony, photosynthesis and dry matter accumulation of winter wheat ZHANG Jinshan, JIA Yonghong, SUN Peng, LIU Chong, WANG Huan, LUO Siwei, SHI Shubing (12)
- Comprehensive evaluation of cold tolerance and selection of cold tolerant evaluation indicators of rice at the germination stage
..... JIN Ming, LIU Xusheng, PANG Hongbo, WANG Ze, ZHAO Zongyao, HAN Kangshun, LI Yanli, JIA Yumin (25)
- Effects of different drip irrigation belt configurations and film mulching methods on yield formation characteristics of sugar-beet in Xinjiang
..... LIN Ming, ABDUKADIER Kurban, CHEN Youqiang, LIU Huajun, PAN Jinghai, ZHOU Yuanhang, SUN Zhencai, WANG zhimin (36)
- Effects of different fertilizer amounts on photosynthetic parameters, nutrient characteristics, quality and yield of cucumber under microporous film irrigation
..... DU Qingjie, Yang Yayong, ZHANG Jiixin, LI Juanqi, XIAO Huaijuan, WANG Jiqing (45)
- Establishment and stability of mixed-sown wildflower strip community XIE Zhecheng, GAO Yike, WU Xuefeng, XU Jun, LIU Ye, LI Zhandong, ZHANG Qixiang (57)
- Effects of different administration routes of matrine on the gut microbiota of mice
..... CAO Zhigang, WANG Hong, ZHANG Hua, SUN Panpan, SUN Yaogui, FAN Kuohai, YIN Wei, LI Hongquan, SUN Na (69)
- Effect of alfalfa saponins on hematopoietic system of mice irradiated by X-ray
..... ZHANG Ming, LI Zhiwei, LIU Jianyu, ZHANG Jingxue, GUO Zhipeng, Qu Gen, YAN Xuebing, GUO Yuxia (78)
- Preliminary exploration of the effect of diminazene aceturate on nonalcoholic fatty liver disease in rats
..... ZHU Bin, HE Sheng, FU Yali, XIE Nana, ZHANG Yuanshu (85)
- Identification of hub genes and key pathways in chicken embryo skin development based on gene regulatory network Husile, Wudubala, CHEN Yujie, Li Chun, HUO Hongyan, BAI Haihua, WU Jianghong (96)
- Weight estimation model of breeding chickens based on neural network and machine learning
..... ZHUANG Chao, SHEN Mingxia, LIU Longshen, YAO Wen, ZHENG Hehua, WANG Mengyu (107)

- Route optimization of multi-vehicle cold chain logistics for fresh agricultural products
 *LI Juntao, LIU Mingyue, LIU Pengfei* (115)
- Optimization and formulation design of flavor salt replacement for processed meat
 *ZHANG Ying, ZHANG Yifan, WANG Shibo, ZHOU Xing, LI Pinglan* (124)
- Design and experiment of an all-in-one machine for corn seed fertilizer and drip irrigation
 under film *QU Hao, SHI Lingrong, XIN Shanglong, ZHAO Wuyun,*
WANG Feng, LIU Yangli, YANG Jinfa (135)
- Effects of multi-layer three-dimensional cultivation combined with artificial lighting on
 lettuce yield and quality in Greenhouse
 *FANG Hui, CHENG Rui Feng, WU Gang, TONG Yuxin, LIU Qin xing* (147)
- Construction and calculation of cultivated land protection compensation framework
 based on regional coordination in China *WEN Liangyou, ZHANG Bangbang,*
KONG Xiangbin, DANG Yuxuan, WANG Xuan (155)
- Farmers' adoption behaviour of conservation tillage technology based on
 perceived value in the black soil region of Northeast China
 *WANG Qitao, GUO Xiangyu, LIU Eryang* (172)
- Obstacle factor diagnosis of well-facilitated farmland construction based on
 ecological niche in Poyang Lake Plain
 *XIA Minfeng, YU Huimin, LI Shuang, DAN Chenglong* (182)
- Pattern evolution and eco-environmental effects of "production, life and ecology" space in
 mountainous counties; Taking Dengfeng City in western Henan Province as an example
 *JIA Qi* (191)
- Hotspots and trends of soil ecosystem services based on CiteSpace
 *CHEN Tianqian, GAO Yang, FENG Zhe, YANG Yang, WU Kening, ZHAO Hua fu* (204)
- Construction of circular agricultural clean watershed;
 A case study of Zhedaohe watershed *WANG Qian, ZHENG Lijie, ZHU Changxiong* (220)
- Game analysis of government intervention in agricultural pest risk prevention and control
 *ZHENG Sining, ZHAO Jiahao* (233)
- Impact of economic policy uncertainty on China's food security
 *SU Fang, LIU Yu, HUANG Delin, XUE Bing, ZHOU Chao, MA Jing* (245)
- Impact of COVID-19 epidemic on pork price in China
 *JIA Cheng, XIA Chunping, QIN Qiongxia* (259)
- Impact of COVID-19 epidemic on purchase channel selection of consumers in China
 *LIU Lingzhi, SHI Mengwei, XIAO Bangming* (272)