

节水灌溉



中国国家灌溉排水委员会 中国灌溉排水发展中心
武汉大学 国家节水灌溉北京工程技术研究中心

主 办

WATER SAVING IRRIGATION



大禹节水

DAYU WATER-SAVING

股票简称：大禹节水 股票代码：300021

国际灌排委员会（ICID）第一家中国企业成员

「物联网+云技术」 智慧化控制平台

智慧水务



大禹节水集团股份有限公司
Dayu Water-saving Group Co.,Ltd

ISSN 1007-4929



万方数据

目 次

不同节水栽培方式对水稻产量和生育性状的影响及效益风险分析	陈书强(1)
不同灌溉方式下苹果园土壤氧气分布特征研究	路明杰 郭向红 雷 涛 等(6)
新型插入式灌水器水力特性研究	马 丽 孙西欢 马娟娟 等(11)
缓释肥条件节水灌溉对水稻生态特性及产量的影响	何 军 钟盛建 张宇航 等(17)
覆膜和补水灌溉对旱作马铃薯田水分利用的影响	任冬雪 张立峰 刘玉华 等(21)
施氮和加气灌溉对黄瓜根区土壤环境及产量的影响	崔冰晶 牛文全 杜娅丹 等(27)
控制排水下减量施氮对土壤无机氮含量变化和棉花产量的影响	徐 茵 漆栋良 朱建强 等(33)
基于熵权系数评价模型的白茶节水灌溉模式研究	陈 康 王会全 陈竞楠(38)
补灌时期对砂田西瓜产量、品质及水氮利用的影响	杜少平 马忠明 薛 亮(42)
泾惠渠灌区冬小麦夏玉米灌溉制度优化研究	姚毛毛 王阿静 陈新明(46)
梨树生长和果实品质指标对水氮耦合响应及关联度分析	刘亚南 白美健 张宝忠 等(52)
地下滴灌条件下水分胁迫对棉花生理性状及水分利用率的影响	雷成霞 申孝军 郭 银(57)
三段管式非圆形域喷头驱动系统的结构设计及优化	齐 浩 朱华娟 弋景刚 等(62)
基于 MIV-MEA-Elman 神经网络的核桃果实膨大期需水量预测	邓 皓 李文竹 刘婧然 等(68)
灌区末级渠系管理模式可持续性生计评价研究	李呈辉 李思文(73)
机电井灌溉管理中 IC 卡测控终端的研究	周亚平 高 军 郝 斌 等(77)
多链型农田监测无线传感器网络无分层通信协议	严锡君 刘旭东(86)
基于德尔菲法和云模型的水利信息化测度研究	刘英杰 薛智文 丁静媛(90)
基于选择模型的灌区信息化水平评价指标研究	姜明梁(95)
沈乌灌域近 30 a 天然湖泊面积动态变化及驱动分析	史庆晓 李为萍 史海滨 等(100)

Water Saving Irrigation (Monthly)

April 2020

No.4(2020) , Total No.296

Contents

Effects and Benefit Risk Analysis of Different Water-saving Cultivation Methods on Rice Yield and Growth Traits	CHEN Shu-qiang(1)
Distribution Characteristics of Soil Oxygen in Apple Orchard under Different Irrigation Methods	LU Ming-jie, GUO Xiang-hong, LEI Tao, et al.(6)
A Study on Hydraulic Characteristics of a New Type Insertion Subsurface Emitter	MA Li, SUN Xi-huan, MA Juan-juan, et al.(11)
Effects of Water-Saving Irrigation with Slow-release Fertilizer on Ecological Characteristics and Yield of Rice	HE Jun, ZHONG Sheng-jian, ZHANG Yu-hang, et al.(17)
Effects of Plastic Film Mulching and Supplementary Irrigation on Water Use in Arid Potato Field	REN Dong-xue, ZHANG Li-feng, LIU Yu-hua, et al.(21)
Effects of Nitrogen Application and Aerated Irrigation on Soil Environment and Yield in Cucumber Root Area	CUI Bing-jing, NIU Wen-quan, DU Ya-dan, et al.(27)
Effect of a Reduced Nitrogen Fertilizer Rate on Changes of Mineral Nitrogen in Soil and Cotton Yield under Controlled Drainage	XU Yin, QI Dong-liang, ZHU Jian-qiang, et al.(33)
A Study on Water Saving Irrigation Mode of White Tea Based on Entropy Weight Coefficient Evaluation Model	CHEN Kang, WANG Hui-quan, CHEN Jing-nan(38)
Effects of Supplemental Irrigation on Yield, Quality and Water and Nitrogen Utilization of Watermelon in Gravel-mulched Field	DU Shao-ping, MA Zhong-ming, XUE Liang(42)
Optimization of Irrigation Schedule for Winter Wheat and Summer Maize in Jinghuiqu Irrigation Area	YAO Mao-mao, WANG A-jing, CHEN Xin-ming(46)
Responses of Pear Tree Growth and Fruit Quality Indexes to Water and Nitrogen Coupling and Correlation Degree Analysis	LIU Ya-nan, BAI Mei-jian, ZHANG Bao-zhong, et al.(52)
Effects of Water Stress on Physiological Characteristics and Water Use Efficiency of Cotton under Subsurface Drip Irrigation	LEI Cheng-xia, SHEN Xiao-jun, GUO Yin(57)
Structural Design and Optimization of A Three-section Tubular Non-circular Sprinkler Drive System	QI Hao, ZHU Hua-juan, YI Jing-gang, et al.(62)
Water Demand Prediction for Walnut Fruit during Swelling Period Based on MIV-MEA-Elman Neural Network	DENG Hao, LI Wen-zhu, LIU Jing-ran, et al.(68)
Study on Sustainable Livelihoods Evaluation for Management Mode of End Canal System of Irrigation Districts	LI Cheng-hui, LI Si-wen(73)
A Study on IC Card Measurement and Control Terminal in Electromechanical Well Irrigation Management	ZHOU Ya-ping, GAO Jun, HAO Bin, et al.(77)
Non-hierarchical Communication Protocol for Multi-chain Wireless Sensor Network in Farmland Monitoring	YAN Xi-jun, LIU Xu-dong(86)
Research on Water Conservancy Informatization Measurement Based on Delphi Method and Cloud Model	LIU Ying-jie, XUE Zhi-wen, DING Jing-yuan(90)
A Study on Evaluation Indicators of Informatization Level of Irrigation District Based on Selection Model	JIANG Ming-liang(95)
Dynamic Change and Driving Factors Analysis of Natural Lake Area in Shenwu Irrigation Area in Recent 30 Years	SHI Qing-xiao, LI Wei-ping, SHI Hai-bin, et al.(100)

Competent Authorities: Ministry of Water Resources

Sponsor: Chinese National Committee on Irrigation and Drainage
China Irrigation and Drainage Development Centre
Wuhan University

National Center of Efficient Irrigation Engineering and Technology Research-Beijing

Publisher and editor: Editorial Department of Water Saving Irrigation
(Wuhan University, Wuhan, 430072, China)

Editor in Chief: Cui Yuanlai **Distribute Scope:** Worldwide

Domestic Subscription: Every Post Office in China

E-mail: jieshuiguangai@188.com

Homepage: [http:// www.irrigate.com.cn](http://www.irrigate.com.cn)