

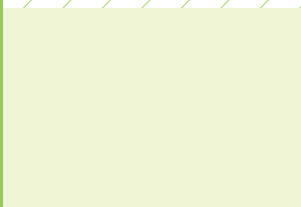
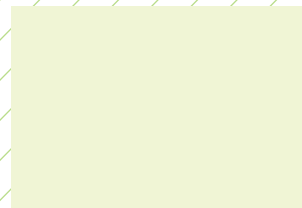


ISSN 0496-3490
CN 11-1809/S

作物学报

ACTA AGRONOMICA SINICA

第46卷 第4期 Vol.46 No.4



中国作物学会 中国农业科学院作物科学研究所 主办
Sponsored by Crop Science Society of China and
Institute of Crop Sciences, CAAS
科学出版社 出版
Published by Science Press

4
2020

作物学报

(ZUOWU XUEBAO)

第 46 卷 第 4 期 2020 年 4 月

目 次

作物遗传育种·种质资源·分子遗传学

- 473 转基因玉米 MIR604 基体标准物质研制 李俊 李亮 李夏莹 宋贵文 沈平 张丽
翟杉杉 柳方方 吴刚 张秀杰 武玉花
- 484 抗青枯病兼大果和高出仁率的花生新种质创制 李威涛 徐志军 蔡岩 郭建斌 喻博伦 黄莉
陈玉宁 周小静 罗怀勇 刘念 陈伟刚 任小平
姜慧芳
- 491 江苏省优质软麦品种品质特性与饼干加工品质的关系 张平平 姚金保 王化敦 宋桂成 姜朋 张鹏
马鸿翔
- 503 费尔干猪毛菜病程相关蛋白 *SfPR1a* 基因的异源表达增强了烟草对干旱、盐及叶斑病的抗性 衡友强 游西龙 王艳
- 513 小麦-黑麦 6RS/6AL 易位染色体的遗传稳定性及其在配子中的传递 李庆成 黄磊 李亚洲 范超兰 谢蝶 赵来宾
张舒洁 陈雪姣 甯顺腺 袁中伟 张连全 刘登才
郝明
- 520 基于表型性状构建中国花生地方品种骨干种质 闫彩霞 王娟 张浩 李春娟 宋秀霞 孙全喜
苑翠玲 赵小波 单世华
- 532 玉米 HD-ZIP I 亚家族基因鉴定及表达分析 梁思维 姜昊梁 翟立红 万小荣 李小琴 蒋锋
孙伟

耕作栽培·生理生化

- 544 稻茬小麦氮高效品种产量构成和群体质量特征 丁永刚 李福建 王亚华 汤小庆 杜同庆 朱敏
李春燕 朱新开 丁锦峰 郭文善
- 557 基于高光谱数据的滴灌甜菜叶片全氮含量估算 李宗飞 苏继霞 费聪 李阳阳 刘宁宁 戴宇祥
张开祥 王开勇 樊华 陈兵
- 571 安徽沿淮地区优质高产常规粳稻品种筛选及特征特性 卫平洋 裘实 唐健 肖丹丹 朱盈 刘国栋
邢志鹏 胡雅杰 郭保卫 高尚勤 魏海燕 张洪程
- 586 种植密度对 2 个青稞品种抗倒伏及秸秆饲用特性的影响 赵小红 白羿雄 王凯 姚有华 姚晓华 吴昆仑
- 596 不同土壤改良措施对机械压实酸化蔗地土壤理化性质及微生物群落结构的影响 罗俊 林兆里 李诗燕 阙友雄 张才芳 杨仔奇
姚坤存 冯景芳 陈建峰 张华
- 614 密度和株行距配置对川中丘区夏玉米群体光分布及雌雄穗分化的影响 金容 李钟 杨云 周芳 杜伦静 李小龙
孔凡磊 袁继超

研究简报

- 631 甘蔗栽培种单倍体基因组 SSR 位点的发掘与应用 王恒波 祁舒婷 陈姝琦 郭晋隆 阙友雄

ACTA AGRONOMICA SINICA

Vol. 46 No. 4 April 2020

CONTENTS

CROP GENETICS & BREEDING • GERMPLASM RESOURCES • MOLECULAR GENETICS

- 473 **Development of genetically modified maize MIR604 matrix reference materials**
LI Jun, LI Liang, LI Xia-Ying, SONG Gui-Wen, SHEN Ping, ZHANG Li, ZHAI Shan-Shan, LIU Fang-Fang, WU Gang, ZHANG Xiu-Jie, and WU Yu-Hua
- 484 **Development of novel peanut genotypes with resistance to bacterial wilt disease, large pod and high shelling percentage**
LI Wei-Tao, XU Zhi-Jun, CAI Yan, GUO Jian-Bin, YU Bo-Lun, HUANG Li, CHEN Yu-Ning, ZHOU Xiao-Jing, LUO Huai-Yong, LIU Nian, CHEN Wei-Gang, REN Xiao-Ping, and JIANG Hui-Fang
- 491 **Soft wheat quality traits in Jiangsu province and their relationship with cookie making quality**
ZHANG Ping-Ping, YAO Jin-Bao, WANG Hua-Dun, SONG Gui-Cheng, JIANG Peng, ZHANG Peng, and MA Hong-Xiang
- 503 **Pathogenesis-related protein gene *SfPR1a* from *Salsola ferganica* enhances the resistances to drought, salt and leaf spot disease in transgenic tobacco**
HENG You-Qiang, YOU Xi-Long, and WANG Yan
- 513 **Genetic stability of wheat-rye 6RS/6AL translocation chromosome and its transmission through gametes**
LI Qing-Cheng, HUANG Lei, LI Ya-Zhou, FAN Chao-Lan, XIE Die, ZHAO Lai-Bin, ZHANG Shu-Jie, CHEN Xue-Jiao, NING Shun-Zong, YUAN Zhong-Wei, ZHAN Lian-Quan, LIU Deng-Cai, and HAO Ming
- 520 **Developing the key germplasm of Chinese peanut landraces based on phenotypic traits**
YAN Cai-Xia, WANG Juan, ZHANG Hao, LI Chun-Juan, SONG Xiu-Xia, SUN Quan-Xi, YUAN Cui-Ling, ZHAO Xiao-Bo, and SHAN Shi-Hua
- 532 **Genome-wide identification and expression analysis of HD-ZIP I subfamily genes in maize**
LIANG Si-Wei, JIANG Hao-Liang, ZHAI Li-Hong, WAN Xiao-Rong, LI Xiao-Qin, JIANG Feng, and SUN Wei

TILLAGE & CULTIVATION • PHYSIOLOGY & BIOCHEMISTRY

- 544 **Characteristics of yield components and population quality in high-nitrogen-utilization wheat cultivars**
DING Yong-Gang, LI Fu-Jian, WANG Ya-Hua, TANG Xiao-Qing, DU Tong-Qing, ZHU Min, LI Chun-Yan, ZHU Xin-Kai, DING Jin-Feng, and GUO Wen-Shan
- 557 **Estimation of total nitrogen content in sugarbeet leaves under drip irrigation based on hyperspectral characteristic parameters and vegetation index**
LI Zong-Fei, SU Ji-Xia, FEI Cong, LI Yang-Yang, LIU Ning-Ning, DAI Yu-Xiang, ZHANG Kai-Xiang, WANG Kai-Yong, FAN Hua, and CHEN Bing
- 571 **Screening and characterization of high-quality and high-yield *japonica* rice varieties in Yanhuai region of Anhui province**
WEI Ping-Yang, QIU Shi, TANG Jian, XIAO Dan-Dan, ZHU Ying, LIU Guo-Dong, XING Zhi-Peng, HU Ya-Jie, GUO Bao-Wei, GAO Shang-Qin, WEI Hai-Yan, and ZHANG Hong-Cheng
- 586 **Effects of planting density on lodging resistance and straw forage characteristics in two hullless barley varieties**
ZHAO Xiao-Hong, BAI Yi-Xiong, WANG Kai, YAO You-Hua, YAO Xiao-Hua, and WU Kun-Lun
- 596 **Effects of different soil improvement measures on soil physicochemical properties and microbial community structures in mechanically compacted acidified sugarcane field**
LUO Jun, LIN Zhao-Li, LI Shi-Yan, QUE You-Xiong, ZHANG Cai-Fang, YANG Zai-Qi, YAO Kun-Cun, FENG Jing-Fang, CHEN Jian-Feng, and ZHANG Hua

- 614 **Effects of density and row spacing on population light distribution and male and female spike differentiation of summer maize in hilly area of central Sichuan** JIN Rong, LI Zhong, YANG Yun, ZHOU Fang, DU Lun-Jing, LI Xiao-Long, KONG Fan-Lei, and YUAN Ji-Chao

RESEARCH NOTES

- 631 **Development and application of SSR loci in monoploid reference genome of sugarcane cultivar** WANG Heng-Bo, QI Shu-Ting, CHEN Shu-Qi, GUO Jin-Long, and QUE You-Xiong

A BRIEF INTRODUCTION OF *ACTA AGRONOMICA SINICA*

Acta Agronomica Sinica (*AAS*, ISSN 0496-3490) is a monthly academic journal co-sponsored by Crop Science Society of China and Institute of Crop Sciences, Chinese Academy of Agricultural Sciences, under the leadership of China Association for Science and Technology and published by Science Press, Chinese Academy of Sciences. *AAS* was firstly published in 1962. The predecessors were *Chinese Journal of Agricultural Research* started in 1950 and *Acta Agriculturae Sinica* started in 1952. As one of the key scientific journals in China, *AAS* has been financially supported by China Association for Science and Technology since 1997 and the National Natural Science Foundation of China since 2000.

The major aims of *AAS* are to report the progresses in the disciplines of crop breeding, crop genetics, crop cultivation, crop physiology, ecology, biochemistry, germplasm resources, grain chemistry, grain storage and processing, biotechnology and biomathematics etc. mainly in China and abroad. *AAS* provides regular columns for Original papers, Reviews, and Research notes. The strict peer-review procedure guarantees the academic level and raises the reputation of the journal. The readership of *AAS* is for crop science researchers, students of agricultural colleges and universities, and persons with similar academic level.

AAS is the leading journal of crop sciences and reflects the latest achievement in all aspects of crop sciences in China. It occupies the first position on the list of Chinese core journals in "Agronomy and Crops" field. The editorial board consists of 150 specialists in the field of crop sciences. Among them, 26 are academicians of Chinese Academy of Sciences or Chinese Academy of Engineering, 22 are from the outside of China, and 2 are from Hong Kong, China.

AAS is a fully Open Access Journal through the independent website (<http://zwxb.chinacrops.org/>) since 2004. Free full texts are published online two months earlier than printing version, and all articles of the journal from 1962 are available freely. Manuscript submission, tracking, and peer review process are completed online. The functions of eTOCs (Table of Contents Alerting), advanced paper search, and paper recommendation are available.

AAS are indexed in some international index systems, such as AGRIS (FAO), CAB Abstracts and Global Health of Centre for Agriculture and Bioscience International, Cambridge Scientific Abstracts, Chemical Abstracts, Food Science and Technology Abstracts, Index of Copernicus, Japan Science and Technology Agency, Scopus, and VINITI Abstracts Journal (Russia). *AAS* is also referenced by many domestic databases and abstract periodicals.

The purposes of *AAS* are to enhance the development of crop science and technology in China, to promote nationwide and worldwide academic exchanges, and to accelerate the modernization of Chinese agriculture. *AAS* is distributed in China and abroad. The editorial office appreciates to establish publication exchange relationship with related institutions, agricultural colleges and universities, and international organizations in China and abroad.