



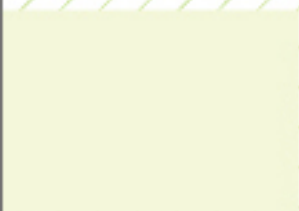
ISSN 0496-3490

CODEN TSHPA9

作物学报

ACTA AGRONOMICA SINICA

第42卷 第5期 Vol. 42 No.5



中国作物学会 中国农业科学院作物科学研究所 主办

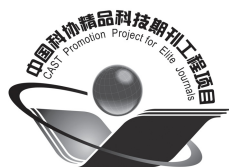
Sponsored by Crop Science Society of China and
Institute of Crop Science, CAAS

科学出版社 出版

Published by Science Press

5

2016



作物学报

(ZUOWU XUEBAO)

第 42 卷 第 5 期 2016 年 5 月

目 次

作物遗传育种·种质资源·分子遗传学

- 627 ω-黑麦碱基因沉默对小麦 1B/1R 易位系加工品质的影响 柴建芳 王海波 马秀英 张翠绵 董福双
- 633 高分子量谷蛋白单亚基缺失对软质小麦宁麦9号加工品质的影响 张平平 马鸿翔 姚金保 周森平 张 鹏
- 641 利用简化基因组技术分析甘薯种间单核苷酸多态性 石 璇 王茹媛 唐 君 李宗芸 罗永海
- 648 亲本粳稻成分与两系杂交粳稻杂种优势的关系及遗传基础 于亚辉 刘 郁 李振宇 陈广红 徐正进 唐 亮
- 658 甘蓝型油菜磷脂二酰甘油酰基转移酶(BnPDAT1) cDNA 的克隆和功能鉴定 毛 艇 徐 海
- 667 水稻叶片早衰突变体 *ospls3* 的生理特征和基因定位 谭太龙 冯 韬 罗海燕 彭 烨 刘睿洋 官春云
- 675 棉花不同 GbU6 启动子截短克隆及功能鉴定 龚 盼 黎坤瑜 黄福灯 韦荔全 杨 茜 程方民
- 684 一个水稻黄绿叶突变基因的定位和遗传研究 潘 刚
- 690 拟南芥低叶绿素荧光 *LCF3* 基因的克隆与功能分析 雷建峰 李 月 徐新霞 阿尔祖古丽·塔什
- 696 基于蛋白质组学的高丹草苗期杂种优势分析 蒲 艳 张巨松 刘晓东
- 初志战 郭海滨 刘小林 陈远玲 刘耀光
- 刘凌云 刘 浩 赵 晶 王艳霞 王棚涛
- 韩平安 逯晓萍 米福贵 张瑞霞 李美娜 薛春雷
- 董 婧 丛梦露

耕作栽培·生理生化

- 706 普通小麦类胡萝卜素组分的超高效液相色谱分离方法 李文爽 夏先春 何中虎
- 714 可溶性寡糖和小分子的热激蛋白与杂交水稻种子成熟过程中发芽能力及种子活力相关 朱丽伟 曹栋栋 付玉营 胡琦娟 利 站 关亚静
- 725 微喷灌模式下冬小麦产量和水分利用特性 胡伟民 胡 晋
- 董志强 张丽华 李 谦 吕丽华 申海平 崔永增
- 734 多胺氧化酶(PAO)调控光诱导玉米中胚轴伸长的生理机制 梁双波 贾秀领
- 张同祯 李永生 李 玥 姚海梅 赵 娟 王 婵
- 743 基于生物量的冬小麦越冬前植株地上部形态结构模型 赵 阳 王汉宁 方永丰 胡 晋
- 陈昱利 杨 平 张文宇 张伟欣 诸叶平 李世娟
- 751 小麦秸秆还田方式对轮作玉米干物质累积分配及产量的影响 巩法江 毕海滨 岳 霆 曹宏鑫
- 殷 文 冯福学 赵 财 于爱忠 柴 强 胡发龙
- 郭 瑶

研究简报

- 758 玉米抗灰斑病 QTL 元分析及其验证 闫 伟 李 元 宋茂兴 张旷野 孙铭泽 瞿 会
- 李凤海 钟雪梅 朱 敏 杜万里 吕香玲
- 768 不同麦区小麦籽粒蛋白质与氨基酸含量及评价 刘 慧 王朝辉 李富翠 李可懿 杨 宁 杨月娥
- 778 施硒对小麦籽粒硒富集、转化及蛋白质与矿质元素含量的影响 刘 庆 田 侠 史衍玺

ACTA AGRONOMICA SINICA

Vol. 42 No. 5 May 2016

CONTENTS

CROP GENETICS & BREEDING • GERMPLASM RESOURCES • MOLECULAR GENETICS

- 627 **Effect of ω -Secalin Gene Silencing on Processing Quality of Wheat 1B/1R Translocation Line** CHAI Jian-Fang, WANG Hai-Bo, MA Xiu-Ying, ZHANG Cui-Mian, and DONG Fu-Shuang
- 633 **Effect of HMW-GS Deletion on Processing Quality of Soft Wheat Ningmai 9** ZHANG Ping-Ping, MA Hong-Xiang, YAO Jin-Bao, ZHOU Miao-Ping, and ZHANG Peng
- 641 **Analysis of Interspecific SNPs in Sweetpotato Using a Reduced-Representation Genotyping Technology** SHI Xuan, WANG Ru-Yuan, TANG Jun, LI Zong-Yun, and LUO Yong-Hai
- 648 **Relationship between *Indica-Japonica* Index of Parents and Heterosis of Hybrid and Its Genetic Basis in *Japonica* Two Line Hybrid Rice** YU Ya-Hui, LIU Yu, LI Zhen-Yu, CHEN Guang-Hong, XU Zheng-Jin, TANG Liang, MAO Ting, and XU Hai
- 658 **Cloning and Characterization of Phospholipids: Diacylglycerol Acyltransferase (BnPDAT1) cDNA from *Brassica napus* L.** TAN Tai-Long, FENG Tao, LUO Hai-Yan, PENG Ye, LIU Rui-Yang, and GUAN Chun-Yun
- 667 **Physiological Characteristics and Gene Mapping of a Precocious Leaf Senescence Mutant *ospls3* in Rice** GONG Pan, LI Kun-Yu, HUANG Fu-Deng, WEI Li-Quan, YANG Xi, CHENG Fang-Min, and PAN Gang
- 675 **Cloning and Functional Analysis of Different Truncated GbU6 Promoters in Cotton** LEI Jian-Feng, LI Yue, XU Xin-Xia, AERZUGULI-Tashi, PU Yan, ZHANG Ju-Song, and LIU Xiao-dong
- 684 **Genetic Analysis and Gene Mapping of a Yellow-green Leaf Mutant in Rice** CHU Zhi-Zhan, GUO Hai-Bin, LIU Xiao-Lin, CHEN Yuan-Ling, and LIU Yao-Guang
- 690 **Map-based Cloning and Functional Analysis of Low Chlorophyll Fluorescence Gene *LCF3* in *Arabidopsis thaliana*** LIU Ling-Yun, LIU Hao, ZHAO Jing, WANG Yan-Xia, and WANG Peng-Tao
- 696 **Analysis of Heterosis in Sorghum-Sudangrass Hybrid Seedlings Based on Proteomics** HAN Ping-An, LU Xiao-Ping, MI Fu-Gui, ZHANG Rui-Xia, LI Mei-Na, XUE Chun-Lei, DONG Jing, and CONG Meng-Lu

TILLAGE & CULTIVATION • PHYSIOLOGY & BIOCHEMISTRY

- 706 **Establishment of Ultra Performance Liquid Chromatography (UPLC) Protocol for Analyzing Carotenoids in Common Wheat** LI Wen-Shuang, XIA Xian-Chun, and HE Zhong-Hu
- 714 **Soluble Oligosaccharide and Small Heat Shock Protein Correlated with Seed Germination and Vigor during Hybrid Rice Seed Maturation** ZHU Li-Wei, CAO Dong-Dong, FU Yu-Ying, HU Qi-Juan, LI Zhan, GUAN Ya-Jing, HU Wei-Min, and HU Jin
- 725 **Grain Yield and Water Use Characteristics of Winter Wheat under Micro-sprinkler Irrigation** DONG Zhi-Qiang, ZHANG Li-Hua, LI Qian, LÜ Li-Hua, SHEN Hai-Ping, CUI Yong-Zeng, LIANG Shuang-Bo, and JIA Xiu-Ling
- 734 **Physiological Mechanism Regulating Light-induced Mesocotyl Elongation by Polyamine Oxidase (PAO) in Maize** ZHANG Tong-Zhen, LI Yong-Sheng, LI Yue, YAO Hai-Mei, ZHAO Juan, WANG Chan, ZHAO Yang, WANG Han-Ning, FANG Yong-Feng, and HU Jin

- | | | |
|-----|--|---|
| 743 | Aboveground Architecture Model Based on Biomass of Winter Wheat before Overwintering | CHEN Yu-Li, YANG Ping, ZHANG Wen-Yu, ZHANG Wei-Xin, ZHU Ye-Ping, LI Shi-Juan, GONG Fa-Jiang, BI Hai-Bin, YUE Ting, and CAO Hong-Xin |
| 751 | Effects of Wheat Straw Returning Patterns on Characteristics of Dry Matter Accumulation, Distribution and Yield of Rotation Maize | YIN Wen, FENG Fu-Xue, ZHAO Cai, YU Ai-Zhong, CHAI Qiang, HU Fa-Long, and GUO Yao |

RESEARCH NOTES

- | | | |
|-----|---|---|
| 758 | Meta-analysis and Validation of QTL for Resistance to Gray Leaf Spot in Maize | YAN Wei, LI Yuan, SONG Mao-Xing, ZHANG Kuang-Ye, SUN Ming-Ze, QU Hui, LI Feng-Hai, ZHONG Xue-Mei, ZHU Min, DU Wan-Li, and LÜ Xiang-Ling |
| 768 | Contents of Protein and Amino Acids of Wheat Grain in Different Wheat Production Regions and Their Evaluation | LIU Hui, WANG Zhao-Hui, LI Fu-Cui, LI Ke-Yi, YANG Ning, and YANG Yue-E |
| 778 | Effects of Se Application on Se Accumulation and Transformation and Content of Gross Protein and Mineral Elements in Wheat Grain | LIU Qing, TIAN Xia, and SHI Yan-Xi |

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 the Institute of Crop Science, 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. *AAS* occupies the first position on the list of Chinese core journals in "Agronomy and Crops" field. The editorial board consists of 154 specialists in the field of crop sciences. Among them, 24 are academicians of Chinese Academy of Sciences or Chinese Academy of Engineering, 26 are from the outside of China, and 3 are from Hong Kong, China.

AAS is a fully Open Access Journal through the independent website (<http://zwx.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, 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.