







作物学报

ACTA AGRONOMICA SINICA

第43卷 第12期 Vol.43 No.12









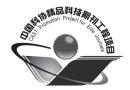






中国作物学会 中国农业科学院作物科学研究所 主办 Sponsored by Crop Science Society of China and Institute of Crop Science, CAAS

斜 學 出 版 社 出版 Published by Science Press 12 2017



作物学报

(ZUOWU XUEBAO)

第 43 卷 第 12 期 2017 年 12 月

目 次

作物遗												
1733	利用黄褐棉染色体片段导入系定位产量和纤维 品质性状 QTL	沈	超	李河	定国	聂以看	看	林元	忠旭			
1746	不同磷水平下大麦分蘖期磷效率相关性状 QTL 定位分析	胡往	憲益	蔡	路路	陈光鹭	美	张钅	易洲	刘和	吉	
1760	糯玉米 opaque2 基因近等基因系的创制	-	烧星 转芳	朱 李 ⁶	慧明顺	张东国	€	宋丽		张德	 患贵	翁建峰
1767	LAZYI 通过油菜素内酯途径调控水稻叶夹角的 发育	张 谢	烧琼 佳	王 何 <i>?</i>	晓 光华	田维泛桑贤都		张考	≱波	孙	莹	李杨羊
1774	黄淮海地区大豆主栽品种对 8 个大豆疫霉菌株的抗性评价	李阳	烧那	孙	石	钟 走	2	韩ラ	天富			
1784	基于陆地棉背景的海岛棉染色体片段导入系产量性状 QTL 定位	朱	办飞	王	鹏	司占岬	夆	张ラ	人真			
1791	海岛棉枯萎病抗性与类黄酮代谢途径基因表达 量的相关性	黄	启秀	曲到	延英	姚正均	苔	李梦	梦雨	陈釗	全家	
耕作栽培•生理生化												
1802	秸秆全量还田与氮肥运筹对机插优质食味水稻 产量及品质的影响		梦云 中洋	李明	尧峰	程金和	火	任约	I茹	梁	健	张洪程
1817	不同形态硼对油菜幼苗铝毒的缓解效应及其 FTIR 特征分析	闫		姜存仓 王宇函		Muhammad Riaz		Riaz	吴秀文		卢晓佩	
1827	小角 X 射线散射波谱的定量作图分析法在作物 淀粉研究中的应用	何	巍	范	孝旭	王志山	夆	韦存	字虚			
1835	单作套作大豆叶片氮素积累与光谱特征	谌(杨	俊旭 峰	黄	Щ	范元养	专	王	锐	刘氵	心林	杨文钰
1845	秸秆还田配施氮肥对东北春玉米光合性能和产 量的影响	白 安 !	伟 景文	张3	立祯	逢焕反	ţ	孙占	占祥	牛t	世伟	蔡 倩
研究管	前报											
1856	芝麻黄化突变体 YL1 的叶片解剖学及光合特性		红艳 立忠	周	芳	李(夋	杨铜	敦敏	周	婷	郝国存
1864	评价黑龙江省主栽马铃薯品种及重要育种材料	毛	彦芝	李都	李杰	胡岩崎	夆	华	萃	尤	佳	王鑫鹏
	对北方根结线虫的抗性		喜才	杨耳	伙斌	王从丽	Ŋ					
	(木	光 级\										

(本卷终)

ACTA AGRONOMICA SINICA

Vol. 43 No. 12 December 2017

CONTENTS

CROP GENETICS & BREEDING • GERMPLASM RESOURCES • MOLECULAR GENETICS					
1733	QTL Mapping for Yield and Fiber Quality Traits	SHEN Chao, LI Ding-Guo, NIE Yi-Chun, and LIN Zhong-			
	Using Gossypium mustelinum Chromosome Segment	Xu			
	Introgression Lines				
1746	Mapping QTLs for Phosphorus Efficiency at	HU De-Yi, CAI Lu, CHEN Guang-Deng, ZHANG Xi-			
	Tillering Stage under Different Phosphorus Levels	Zhou, and Chunji LIU			
	in Barley (Hordeum vulgare L.)				
1760	Construction of Waxy Maize opaque2 Near-isogenic	ZHANG Xiao-Xing, ZHU Hui, ZHANG Dong-Min,			
	Lines	SONG Li-Ya, ZHANG De-Gui, WENG Jian-Feng, HAO			
		Zhuan-Fang, and LI Ming-Shun			
1767	LAZY1 Regulates Development of Rice Leaf Angle	ZHANG Xiao-Qiong, WANG Xiao-Wen, TIAN Wei-Jiang,			
	through Brassinolide Pathway	ZHANG Xiao-Bo, SUN Ying, LI Yang-Yang, XIE Jia, HE			
		Guang-Hua, and SANG Xian-Chun			
1774	Resistance Evaluation to Eight Phytophthora sojae	LI Xiao-Na, SUN Shi, ZHONG Chao, and HAN Tian-Fu			
	Isolates for Major Soybean Cultivars in Huang-				
	Huai-Hai Rivers Valley				
1784	QTL Mapping for Yield Components in Gossypium	ZHU Xie-Fei, WANG Peng, SI Zhan-Feng, and ZHANG			
	barbadense Chromosome Segment Introgression	Tian-Zhen			
	Lines Based on Gossypium hirsutum Background				
1791	Correlation between Fusarium Wilt Resistance and	HUANG Qi-Xiu, QU Yan-Ying, YAO Zheng-Pei, LI Meng-			
	Expression Levels of Genes Involved in Flavonoid	Yu, and CHEN Quan-Jia			
	Metabolism Pathway in Gossypium barbadense L.				
TILL	AGE & CULTIVATION • PHYSIOLOGY & BIOC	HEMISTRY			
1802	Effects of Total Straw Returning and Nitrogen App-	CHEN Meng-Yun, LI Xiao-Feng, CHENG Jin-Qiu, REN			
	lication Regime on Grain Yield and Quality in Me-	Hong-Ru, LIANG Jian, ZHANG Hong-Cheng, and HUO			
	chanical Transplanting Japonica Rice with Good	Zhong-Yang			
	Taste Quality				
1817	Mitigative Effect of Different Forms of Boron on	YAN Lei, JIANG Cun-Cang, Muhammad Riaz, WU Xiu-			
	Aluminum Toxicity of Rape Seedlings and Its FTIR	Wen, LU Xiao-Pei, DU Chen-Qing, and WANG Yu-Han			
	Characteristics				
1827	Application of Quantitative Graphical Method	HE Wei, FAN Xiao-Xu, WANG Zhi-Feng, and WEI Cun-			
	Based on Small Angle X-Ray Scattering Spectrum	Xu			
	in Crop Starch Study				

1835	Remote Detection of Canopy Leaf Nitrogen Status	CHEN Jun-Xu, HUANG Shan, FAN Yuan-Fang, WANG
	in Soybean by Hyperspectral Data under Monocul-	Rui, LIU Qin-Lin, YANG Wen-Yu, and YANG Feng
	ture and Intercropping Systems	
1845	Effects of Straw Returning Combined with Nitrogen	BAI Wei, ZHANG Li-Zhen, PANG Huan-Cheng, SUN
	Fertilizer on Photosynthetic Performance and Yield	Zhan-Xiang, NIU Shi-Wei, CAI Qian, and AN Jing-Wen
	of Spring Maize in Northeast China	

RESEARCH NOTES					
1856	Anatomical Structure and Photosynthetic Charac-	LIU Hong-Yan, ZHOU Fang, LI Jun, YANG Min-Min,			
	teristics of a Yellow Leaf Mutant YL1 in Sesame	ZHOU Ting, HAO Guo-Cun, and ZHAO Ying-Zhong			
	(Sesamum indicum L.)				
1864	Resistance Evaluation of Potato Cultivars and	MAO Yan-Zhi, LI Chun-Jie, HU Yan-Feng, HUA Cui,			
	Germplasms to Meloidogyne hapla in Heilongjiang	YOU Jia, WANG Xin-Peng, LIU Xi-Cai, YANG Geng-Bin,			
	Province	and WANG Cong-Li			

(The end of this volume)

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 151 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://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 Copurnicus, 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.