

# 植物生理学报

ZHIWU SHENGLI XUEBAO

(原刊名《植物生理学通讯》, 1951年创刊)

第53卷 第2期(总第348期)

2017年2月

## 目 次

### 综述

- 拟南芥ABC转运蛋白研究进展 ..... 王晓珠, 孙万梅, 马义峰, 韩二琴, 韩丽, 孙丽萍, 彭再慧, 王邦俊 (133)  
植物光合作用循环电子传递的研究进展 ..... 薛娴, 许会敏, 吴鸿洋, 沈应柏, 肖建伟, 万迎朗 (145)  
TRV介导的VIGS技术在果蔬基因功能研究中的应用 .. 闵德栋, 张新华, 季娜娜, 李富军, 邵淑君 (159)  
茶树抗盐碱研究进展 ..... 田丽丽, 黄建安, 刘仲华 (167)  
膨脹素对根系建成影响的研究进展 ..... 李飞, 李凤兰, 姚树宽, 董佳敏, 蔡振学, 周晶, 赵巧苓, 徐永清, 胡宝忠 (174)

### 研究报告

- 叶片中GUS染色观测油体含量技术体系的建立 ..... 胡佳, 曾文婕, 刘春林 (185)  
地被菊‘紫重楼’花发育过程中花色苷含量和*CmUFGT*基因表达研究 ..... 尚嘉琪, 赵夏陆, 原阳, 杨中义, 吕晋慧, 张春来 (191)  
基于家族分析的苜蓿逆境应答Ca<sup>2+</sup> ATPase家族基因筛选与鉴定 ..... 张美萍, 杨珺凯, 孙明哲, 贾博为, 孙晓丽 (198)  
水稻脆秆突变体*bc-wy7*的鉴定与基因定位 ..... 许作鹏, 李善策, 张冬梅, 仲崇元, 张丽佳, 朱奕雯, 刘巧泉 (209)  
柿树带化病相关植原体的形态及分子鉴定 ..... 王洁, 高瑞, 余贤美, 安森, 艾呈祥 (219)  
美国流苏离体胚的组织培养与快速繁殖 ..... 吴秀燕, 张鸽香 (227)  
家独行菜的组织培养与高频再生 ..... 赵杨阳, 刘佳钰, 马征, 姜雪, 黄萱 (234)  
过表达*GmATG8c*基因提高大豆的低氮耐受性和产量 .... 徐伟, 刘生, 游翔, 梅圆圆, 王丹, 王宁宁 (241)  
外源褪黑素对NaHCO<sub>3</sub>胁迫下‘福客’葡萄根系和叶片生理特性的影响 ..... 付晴晴, 耿庆伟, 翟衡, 杜远鹏 (248)  
高温胁迫下根施褪黑素对葡萄叶片叶绿素荧光特性的影响 ..... 卞凤娥, 孙永江, 牛彦杰, 杜远鹏, 翟衡 (257)  
修剪强度对锥栗叶片生理及产量的影响 ..... 王刚, 袁德义, 邹锋, 熊欢, 朱周俊, 刘智强, 欧阳芬 (264)  
*N*-苯基-2-萘胺和邻苯二甲酸对生菜内源激素及碳氮代谢的影响 ..... 郭伟, 孙海燕, 王炎 (273)  
弱光胁迫影响甘蔗叶片内源激素的平衡和分蘖进程 ..... 丘立杭, 李强, 黄杏, 罗含敏, 陈荣发, 吴建明, 李杨瑞, 陈栋 (280)

封面图片: 参见第191~197页尚嘉琪等的论文《地被菊‘紫重楼’花发育过程中花色苷含量和*CmUFGT*基因表达研究》

# PLANT PHYSIOLOGY JOURNAL

Vol. 53 No. 2 Feb. 2017

(Formerly PLANT PHYSIOLOGY COMMUNICATIONS, Publication Started in 1951)

## CONTENTS

### Reviews

- Research progress of ABC transporters in *Arabidopsis thaliana* .....  
WANG Xiao-Zhu, SUN Wan-Mei, MA Yi-Feng, HAN Er-Qin, HAN Li, SUN Li-Ping, PENG Zai-Hui, WANG Bang-Jun (133)  
Research progress of cyclic electron transport in plant photosynthesis .....  
..... XUE Xian, XU Hui-Min, WU Hong-Yang, SHEN Ying-Bai, XIAO Jan-Wei, WAN Ying-Lang (145)  
The application of TRV-mediated VIGS technique in the study of gene function in fruits and vegetables .....  
..... MIN De-Dong, ZHANG Xin-Hua, JI Na-Na, LI Fu-Jun, SHAO Shu-Jun (159)  
Research progress on resistance saline and alkaline of tea plant ..... TIAN Li-Li, HUANG Jian-An, LIU Zhong-Hua (167)  
Research progress on the effect of expansions on the root formation ..... LI Fei, LI Feng-Lan,  
YAO Shu-Kuan, DONG Jia-Min, CAI Zhen-Xue, ZHOU Jing, ZHAO Qiao-Qin, XU Yong-Qing, HU Bao-Zhong (174)

### Original Papers

- The establishment of oil body content determination system with GUS staining observation in leaves .....  
..... HU Jia, ZENG Wen-Jie, LIU Chun-Lin (185)  
Study on anthocyanin content and *CmUFGT* gene expression of *Chrysanthemum morifolium* ‘Zichonglou’ during the flower development ..... SHANG Jia-Qi, ZHAO Xia-Lu, YUAN Yang, YANG Zhong-Yi, LÜ Jing-Hui, ZHANG Chun-Lai (191)  
Screening and identification of environmental stress responsive *Medicago sativa* Ca<sup>2+</sup>ATPases based on gene family analyses ..... ZHANG Mei-Ping, YANG Jun-Kai, SUN Ming-Zhe, JIA Bo-Wei, SUN Xiao-Li (198)  
Identification and gene cloning of the brittle culm mutant *bc-wy7* in rice .....  
..... XU Zuo-Peng, LI Shan-Ce, ZHANG Dong-Mei, ZHONG Chong-Yuan, ZHANG Li-Jia, ZHU Yi-Wen, LIU Qiao-Quan (209)  
Morphological and molecular detection of phytoplasma associated with persimmon fasciation disease .....  
..... WANG Jie, GAO Rui, YU Xian-Mei, AN Miao, AI Cheng-Xiang (219)  
Study on embryo culture and rapid propagation *in vitro* of *Chionanthus virginicus* ..... WU Xiu-Yan, ZHANG Ge-Xiang (227)  
Tissue culture and high-frequency regeneration of *Lepidium sativum* .....  
..... ZHAO Yang-Yang, LIU Jia-Yu, MA Zheng, JIANG Xue, HUANG Xuan (234)  
Overexpression of *GmATG8c* gene enhances tolerance to low nitrogen and increases yield in soybean .....  
..... XU Wei, LIU Sheng, YOU Xiang, MEI Yuan-Yuan, WANG Dan, WANG Ning-Ning (241)  
Effects of exogenous melatonin on physiological characteristics of ‘Frontenac’ grape roots and leaves under NaHCO<sub>3</sub> stress ..... FU Qing-Qing, GENG Qing-Wei, ZHAI Heng, DU Yuan-Peng (248)  
Effect of root-applied melatonin on photosystem II in grape leaves under heat stress .....  
..... BIAN Feng-E, SUN Yong-Jiang, NIU Yan-Jie, DU Yuan-Peng, ZHAI Heng (257)  
Effects of different pruning intensity on leaf physiology and yield in *Castanea henryi* .....  
..... WANG Gang, YUAN De-Yi, ZOU Feng, XIONG Huan, ZHU Zhou-Jun, LIU Zhi-Qiang, OUYANG Fen (264)  
Effects of *N*-phenyl-2-naphthylamine and phthalic acid on endogenous hormones and carbon-nitrogen metabolism of lettuce ..... GUO Wei, SUN Hai-Yan, WANG Yan (273)  
Weak-light stress caused by shading affects the balance of endogenous hormones in leaves and tillering process in sugarcane (*Saccharum officinarum*) .....  
..... QIU Li-Hang, LI Qiang, HUANG Xing, LUO Han-Min, CHEN Rong-Fa, WU Jian-Ming, LI Yang-Rui, CHEN Dong (280)