

## 目 次

### 植物诱变育种·农业生物技术

- 425 航恢七号空间诱变变异株系的稻瘟病抗性研究 ..... 张景欣 杨祁云 王慧 曾列先 刘永柱 郭涛 朱小源 陈志强
- 430 水稻株高突变系的农艺性状与抗倒伏研究 ..... 章忠贵 刘斌美 许学 张丽丽 王敏 吴跃进
- 436 水稻无叶枕基因克隆及应用研究 ..... 许永汉 彭建斐 邓敏娟 吴学龙 鲍烈明 陈锦清 金卫
- 442 水稻 *SUSIBA2-like* 基因的克隆与分析 ..... 方结红 张明洲 刘军 王雪艳 孙传信
- 447 太空诱变玉米核雄性不育与植物激素的关系 ..... 曹墨菊 程江 汪静 张采波 潘光堂 荣廷昭
- 453 空间环境对大豆主要农艺性状及蛋白品质的诱变效应 ..... 于绍轩 韩粉霞 孙君明 韩广振 葛一楠 闫淑荣 杨华
- 460 茄子航天诱变后代变异及其 SSR 标记多态性研究 ..... 何娟娟 刘富中 陈钰辉 杨文才 连勇
- 466  $^{60}\text{Co}$   $\gamma$  射线辐照对沟叶结缕草的离体诱变效应 ..... 贾玉芳 陈曙 柴明良
- 470 磁化等离子体处理大豆种子的生物学效应 ..... 尹美强 郭平毅 温银元 王计平 赵娟
- 476 几种植物 *waxy* 基因的密码子用法特征分析 ..... 刘汉梅 赵耀 顾勇 张怀渝 黄立碧
- 482 构建番茄红素  $\beta/\epsilon$  环化酶基因 RNAi 植物表达载体及其表达分析 ..... 马超 何娟 郝青南 王蕾 鲁晓燕 马兵钢
- 490 番茄 *EBF2* 基因的克隆、亚细胞定位与遗传转化 ..... 吴玉 杨迎伍 邓伟 李正国
- 495 缢丝昆虫樟蚕线粒体全基因组克隆及序列分析 ..... 洪桂云 姜绍通 于森 杨英 刘彦群 魏兆军
- 502 土三七不定芽直接发生与遗传稳定性的 RAPD 分析 ..... 岑举人 步怀宇 张来军 王英娟 毕彦博 贾敬芬
- 507 紫花苜蓿组织培养体系的建立 ..... 赵金梅 李芳 周禾 孙启忠 毕静
- 513 魏紫牡丹腋芽组织培养的快速繁殖技术 ..... 刘会超 贾文庆
- 518 秋水仙素诱导杂交兰四倍体及倍性鉴定 ..... 尹翠翠 张燕 张景华 陈瑶瑶 王广东
- 522 乌拉尔甘草胚状体的诱导及再生体系的建立 ..... 曹君迈 李强 王崇
- 527 秋水仙素诱导甘菊多倍体研究(简报) ..... 莫官站 张启翔 潘会堂 孙明
- 532 香果树带芽茎段不定芽高频增殖的优化(简报) ..... 洪森荣 尹明华
- 537 油菜籽芥酸含量遗传调控研究进展(综述) ..... 周万平 郎春秀 熊鲜艳 陈锦清

### 食品辐照·农产品加工

- 542 杏鲍菇产木聚糖酶固态发酵条件优化及其酶学性质 ..... 吴萍 史钧 李正鹏 祝娣巍

548	不同处理方法对虾过敏蛋白分子量及抗原性的影响	董晓颖 高美须 潘家荣 张春红 王志东 李淑荣
555	京甜紫花糯2号玉米软罐头加工过程中风味成分变化	刘春泉 宋江峰 刘玉花 李大婧
562	锦橙汁辐照和巴氏灭菌处理后相关品质的分析	乔宇 范刚 潘思轶 程薇 王少华 熊光权 廖李 陈学玲
569	微波处理对赤拟谷盗各虫态的致死效果研究	王殿轩 刘炎 曹阳 李淑荣
575	磁场处理对绿豆芽鲜重和芽长的影响	王红梅

## 同位素示踪·资源环境·动植物生理

580	恩施土壤全硒含量分布的研究	马友平
585	苯磺隆对土壤酶活性的影响	杜慧玲 吴济南 王丽玲 郭平毅
589	大气CO <sub>2</sub> 浓度升高对谷子生长发育与光合生理的影响	郝兴宇 李萍 林而达 全乘风 魏强 巫国栋 董小刚
594	早中晚季栽培对不同早籼稻灌浆期稻米色素的影响	李迪秦 刘卉林 秦建权 张运波 杨胜海 陈立军 周美兰 唐启源 彭少兵
599	圆褐固氮菌对春小麦产量和氮肥利用效率的影响	卢秉林 王文丽 李娟 车宗贤
605	不同水分条件下冬小麦的水分利用效率、产量和可溶性糖含量	马明生 樊廷录 王淑英 李尚中 赵刚
612	施氮水平对大豆氮素积累与产量影响的研究	邸伟 金喜军 马春梅 龚振平 董守坤 张磊
618	黄壤烤烟追肥氮的积累、分配及利用	王鹏 曾玲玲 王发鹏 张维理 李志宏
623	旺长期烤烟叶片的叶绿素荧光特性与激发能分配	刘德育 于方玲 孙冰玉 贺国强 元野 赵光伟 李恒全 孙广玉
628	鸡冠花( <i>Celosia cristata</i> Linn)对Cs和Sr的胁迫反应及其积累特征	张晓雪 王丹 钟鉉芝 徐长合 于海蛟 周国辉
634	白菜对镉、铅胁迫响应的比较研究	王学 徐恒截 刘涛
639	不同浓度Cr <sup>6+</sup> 处理下芹菜的铬累积量及生理特性	柳玲 吕金印 张微
645	PEG与SNP对低温下马铃薯试管苗相关生理指标的影响	吴雁斌 王一航 张武 马荷花
650	水肥耦合对保护地辣椒叶片光合速率的影响	梁运江 谢修鸿 许广波 依艳丽 李艳茹

## 单位风采·消息

(封二插页)清华威视电子束辐照系统 (封二)专家档案 黄剑华 (531)作物单倍体细胞培养及胁迫筛选方法 (561,579)书讯 (封三)上海市农业科学院生物技术研究所 (封底)放射性同位素示踪技术在农业中的应用 ..... 珀金埃尔默仪器(上海)有限公司

## CONTENTS

## INDUCED MUTATIONS FOR PLANT BREEDING · AGRICULTURAL BIOTECHNOLOGY

- 425 Blast Resistance of Space-induced Variants Derived from Rice Cultivar "Hanghui 7" ..... ZHANG Jing-xin, YANG Qi-yun, et al.
- 430 Agronomic Characters and Lodging Resistance of Plant Height Mutants of Rice ..... ZHANG Zhong-gui, LIU Bin-mei, et al.
- 436 Cloning and Application of A Rice Liguleless Gene ..... XU Yong-han, PENG Jian-fei, et al.
- 442 Cloning and Analysis of *SUSIBA2-like* Gene from *Oryza sativa* ..... FANG Jie-hong, ZHANG Ming-zhou, et al.
- 447 Relationship between Phytohormones and Genic Male Sterility Induced by Space Flight in Maize ..... CAO Mo-ju, CHENG Jiang, et al.
- 453 Effect of Induced Mutation by Space-flight on Main Agronomic Traits and Protein Components in Soybean ..... YU Shao-xuan, HAN Fen-xia, et al.
- 460 Effect of Space Flight Mutation on Eggplant and Analysis of Genetic Diversity by SSR Molecular Marker ..... HE Juan-juan, LIU Fu-zhong, et al.
- 466 Effects of  $^{60}\text{Co}$   $\gamma$ -irradiation on Manilagrass *in vitro* Mutagenesis ..... JIA Yu-fang, CHEN Shu, et al.
- 470 Biological Effects of Magnetized Plasma on Soybean Seeds ..... YIN Mei-qiang, GUO Ping-yi, et al.
- 476 Characterization of Codon Usage of *waxy* Genes in Several Plants ..... LIU Han-mei, ZHAO Yao, et al.
- 482 Construction of RNAi Plant Expression Vectors for Interfering Lycopene Cyclase- $\beta/\epsilon$  Genes and Its Expression Analysis ..... MA Chao, HE Juan, et al.
- 490 Cloning, Subcellular Localization and Transformation of *EBF2* Gene in Tomato ..... WU Yu, YANG Ying-wu, et al.
- 495 Cloning and Sequencing Analysis of the Complete Mitochondrial Genome of *Eriogyna pyretorum* ..... HONG Gui-yun, JIANG Shao-tong, et al.
- 502 Direct Organogenesis of Adventitious Buds of *Sedum aizoon* L. and Analysis of Genetic Stability in Regenerated Plantlets by RAPD ..... CEN Ju-ren, BU Huai-yu, et al.
- 507 Establishment of Alfalfa Tissue Culture System ..... ZHAO Jin-mei, LI Fang, et al.
- 513 Tissue Culture of Axillary Buds of Peony Variaty Weizi ..... LIU Hui-chao, JIA Wen-qing
- 518 Tetraploid Induction by Colchicine and Identification in *Cymbidium* Interspecific Hybrids ..... YIN Cui-cui, ZHANG Yan, et al.
- 522 Somatic Embryoid Genesis Induction and Plant Regeneration *in vitro* in *Glycyrrhiza uralensis* Fisch ..... CAO Jun-mai, LI Qiang, et al.
- 527 Polyploid of *Dendranthema lavandulifolium* Induced by Colchicines ..... MO Guan-zhan, SUN Ming, et al.
- 532 The Optimization for High-frequency Proliferation of Adventitious Buds of *Emmenopterys henryi* Oliv. ..... HONG Sen-rong, YIN Ming-hua
- 537 Advances in Genetic Regulation of Erucic Acid Content in Rapeseed ..... ZHOU Wan-ping, LANG Chun-xiu

## FOOD IRRADIATION · FOOD SCIENCE

- 542 Solid-phase Fermentation Condition and Enzymatic Characteristics of Xylanase from *Pleurotus eyngii* ..... WU Ping, SHI Jun, et al.

- 548 Effects of Different Treatments on Molecular Weight and Antigenicity of Shrimp Allergenic Protein ...  
..... DONG Xiao-ying, ZHANG Chun-hong, et al.
- 555 Flavor Composition Changes During "Jingtian No. 2" Waxy Corn Soft Can Processing .....  
..... LIU Chun-quan, SONG Jiang-feng, et al.
- 562 Quality of Jinchen Orange Juice Treated with Irradiation and Pasteurization .....  
..... QIAO Yu, FAN Gang, et al.
- 569 Lethal Effect of Microwave Treatment on *Tribolium castaneum* (Herbst) .....  
..... WANG Dian-xuan, LIU Yan, et al.
- 575 Effect of Magnetic Field Treatment on Fresh Weight and Bud Length of Mung Bean Buds .....  
..... WANG Hong-mei

#### ISOTOPE TRACER TECHNIQUE · ECOLOGY & ENVIRONMENT · PHYSIOLOGY

- 580 A Study of the Distribution of Soil Total Selenium Content in Enshi Prefecture ..... MA You-ping
- 585 Effect of Tribenuron-methyl Application on Activity of Soil Enzyme ... DU Hui-ling, WU Ji-nan, et al.
- 589 Effects of Air CO<sub>2</sub> Enrichment on Growth and Photosynthetic Physiology of Millet .....  
..... HAO Xing-yu, LI Ping, et al.
- 594 Effect of Early and Late Cultivation on Rice Color of Diffrent Early-cropping Indica .....  
..... LI Di-qin, LIU Hui-lin, et al.
- 599 Effects of Azotobacter Chroococcum Beijerinck on Yield and Fertilizer N Use Efficiency of Spring Wheat  
..... LU Bing-lin, WANG Wen-li, et al.
- 605 Water Use Efficiency, Grain Yield and Soluble Sugar Content of Winter Wheat under Different Water  
Conditions ..... MA Ming-sheng, FAN Ting-lu, et al.
- 612 Effects of Nitrogen Application on Yield and Nitrogen Accumulation in Soybean .....  
..... DI Wei, JIN Xi-jun, et al.
- 618 Accumulation, Distribution and Utilization of Top Dressing N-fertilizer by <sup>15</sup>N Tracer Method in Flue-  
cured Tobacco Growing on Yellow Soils ..... WANG Peng, ZENG Ling-ling, et al.
- 623 Characteristics of Chlorophyll Fluorescence and Excited Energy Distribution in Leaves of Tobacco at Fast  
Growing Stage ..... LIU De-yu, YU Fang-ling, et al.
- 628 Response of *Celosia cristata* Linn to Cs and Sr Stress and Their Accumulation Characteristic .....  
..... ZHANG Xiao-xue, WANG Dan, et al.
- 634 Comparison on the Physiological Response of Chinese Cabbage between Cerium and Lead Stress .....  
..... WANG Xue, XU Heng-Jian, et al.
- 639 Effects of Cr<sup>6+</sup> Treatment on Cr Accumulation and Physiological Characteristics of Celery (*Apium  
graveolens*) ..... LIU Ling, LÜ Jin-yin, et al.
- 645 Effects of PEG-6000 and Exogenous Nitric Oxide Donor SNP on the Related Physiological Indices of  
Potato Seedlings *in vitro* under Low Temperature ..... WU Yan-bin, WANG Yi-hang, et al.
- 650 Coupling Effects of Irrigation and Fertilizers on Photosynthetic Rate of Capsicum Leaves Under Condition  
of Capsicum Cultivation in Protective Farmland ..... LIANG Yun-jiang, XIE Xiu-hong, et al.