

热带作物学报

2010年3月 第31卷第3期 (月刊 1980年创刊)

主管 中国科学技术协会

主办 中国热带作物学会

承办 中国热带农业科学院

编辑 《热带作物学报》编辑部

主编 王庆煌

副主编 邱小强 郭安平 彭明 方佳

策划 李永龙

网址 www.rdnjournals.cn

电子信箱 rdzx136@163.com

联系电话 0898-23300486

出版 中国热带农业科学院科技信息研究所
(571737 海南省儋州市宝岛新村)

CHINESE JOURNAL OF TROPICAL CROPS

(Monthly, Founded in 1980)

Mar.2010, Vol.31, No.3

Affiliate with China Association for Science
and Technology

Sponsored by China Society of Tropical Crops

Co-sponsored by Chinese Academy of Tropical
Agricultural Sciences

Edited by Editorial Board of Chinese Journal of
Tropical Crops

Editor-in-chief Wang Qinghuang

Vice editor-in-chief Qiu Xiaoqiang, Guo Anping,
Peng Ming, Fang Jia

Planning Editor Li Yonglong

Website www.rdnjournals.cn

E-mail rdzx136@163.com

Tel 0898-23300486

Published by Institute of Scientific and Technical
Information, CATAS (Baodao Xincun, Danzhou,
Hainan 571737)

Distributed at home by Hainan Newspapers &
periodicals Subscription and Distribution Bureau

Distributed Abroad by China International
Book Trading Corporation

Printed by Hainan Jinyongan Printing Co., Ltd.

Issue price oversea US\$ 50.00/issue

发行范围 国内外公开发刊

国内发行 海南省报刊发行局

海外总发行 中国国际图书贸易总公司

出版日期 每月25日

印刷 海南金永安印刷有限公司

广告经营许可证号 460000200104

ISSN 1000-2561

国内统一刊号 CN 46-1019/S

邮发代号 84-29

海外发行代号 BM 8915

国内定价 20.00元

目次

作物营养、栽培与遗传育种

油棕人工授粉与风媒授粉比较研究 曹建华, 李晓波, 林位夫, 等 (339)

龙眼‘立冬本’花、果及营养枝主要矿物质

营养需求量 许奇志, 许家辉, 许玲, 等 (345)

澳洲坚果开花授粉特性的研究 陶丽, 贺熙勇, 倪书邦, 等 (349)

澳洲坚果幼苗耐磷强度初探 岳海, 熊朝阳, 潘育文, 等 (355)

应用诊断施肥综合法(DRIS)对槟榔叶片

进行营养诊断 董志国, 刘立云, 陈东良, 等 (361)

不同轻型基质对金钱树生长影响初报 谢春艳, 张国武, 胡松竹, 等 (365)

植物生理生化

乙烯刺激橡胶树胶乳黄色体蛋白差异初析 李明, 罗世巧, 刘实忠 (371)

钾水平对巴西橡胶树幼苗MDA含量和

保护酶活性的影响 吴敏, 何鹏, 韦家少 (376)

龙眼采后果肉脂氧合酶活性和

膜脂脂肪酸组分的变化 林志强, 郭志雄, 潘东明 (381)

土壤水分胁迫对槟榔幼苗叶片生理的影响 陈敏, 杨福孙, 周兆德 (387)

铅对茛苕种子萌发及幼苗生长的影响 陈茂铨, 陈兵红, 刘术新, 等 (393)

盐胁迫下海马齿叶肉细胞超微结构观察 段瑞军, 胡新文, 符少萍, 等 (397)

生物技术应用及组织培养

巴西橡胶树HbHEX1基因的克隆及表达分析 兰芳银, 李辉亮, 郭冬, 等 (404)

芒果SSR-PCR反应体系的优化 黄丽芳, 雷新涛, 姚全胜, 等 (410)

DDRT-PCR技术分离枇杷果

低温诱导相关基因 吴海波, 郑国华, 牛先前, 等 (416)

碱裂解叶片两步快速制备PCR模板技术 陈平华, 王恒波, 许莉萍, 等 (422)

高AC水稻淀粉合成相关酶基因表达的

温度效应 封言柠, 黄玉超, 张永鑫, 等 (430)

酵母双杂交系统筛选与水稻

黑条矮缩病毒P6互作的水稻蛋白 肖冬来, 邓慧颖, 谢荔岩, 等 (435)

转phyB基因枳椇生物学特性分析 胡新喜, 袁飞荣, 邓子牛, 等 (440)

作物病虫害及其防治、环境保护

香蕉枯萎病菌及其粗毒素对香蕉的致病性比较 李梅婷, 严琰, 张绍升 (446)

杧果畸形病原菌的生物学特性的初步研究 吕延超, 蒲金基, 谢艺贤, 等 (453)

木薯新叶斑病原鉴定及其生物学特性 时涛, 李超萍, 蔡吉苗, 等 (457)

不同温度条件下新菠萝灰粉蚧实验种群生命表 陈泽坦, 张小冬, 张妮, 等 (464)

绿僵菌在3种不同培养基上培养时产孢量的

影响因素 刘磊, 杨腊英, 梁昌聪, 等 (469)

锡兰肉桂的杀螨活性及有效成分 冯岗, 张静, 曲晓, 等 (474)

银杏酸对6种蔬菜病原菌的抑制作用 林光荣, 林清洪, 李金雨, 等 (480)

5种蕨类植物水提液对黄瓜幼苗生长的影响 张莉娜, 杨好伟, 罗丽华, 等 (485)

红树共附生微生物分离与抗白色念珠菌活性评价 刘颖, 时威 (492)

综述

可拉种质资源研究进展 董云萍, 王晓阳, 孙燕 (496)

瓜类疫病研究进展 谢大森, 赵芹, 何晓明, 等 (503)

责任编辑 赵军明 郑定华

英文审校 周建南 排版 刘宁 郑定华

封面说明 冬春交替时期的橡胶园 (摄影: 陈开魁)

CONTENTS

Crop Nutrition, Culture and Genetic Breeding

- Comparative Analysis of Wind and Artificial Pollination in Oil Palm PlantsCao Jianhua, Li Xiaobo, Lin Weifu, *et al* (344)
Annual Requirements of Main Mineral Nutrients in Longan Cultivar 'Lidongben'Xu Qizhi, Xu Jiahui, Xu Lin, *et al* (348)
Flowering and Pollinating Characteristics of *Macadamia*Tao Li, He Xiyong, Ni Shubang, *et al* (354)
Intensity of Resistance of *Macadamia* Seedlings to PhosphorusYue Hai, Xiong Zhaoyang, Pang Yuwen, *et al* (360)
Application of Diagnosis and Recommendation Integrated System in
Nutrient Diagnosis of ArecanutDong Zhiguo, Liu Liyun, Chen Dongliang, *et al* (364)
The Effect of Light Substrates on the Growth of *Zamioculcas zamiifolia*Xie Chunyan, Zhang Guowu, Hu Songzhu, *et al* (370)

Plant Phytophysiology and Biochemistry

- Differential Expression of *Hevea* Lutoid Protein under Ethylene StimulationLi Ming, Luo Shiqiao, Liu Shizhong (375)
Influence of Potassium Levels on MDA Content and Activities of
Protective Enzymes on *Hevea brasiliensis* SeedlingsWu Min, He Peng, Wei Jiashao (380)
Changes of Lipoxxygenase Activity and Membrane Fatty Acid Composition in
Postharvest Longan (*Dimocarpus longan* Lour.) FruitLin Zhiqiang, Guo Zhixiong, Pan Dongming (386)
Effect of Different Moisture Treatments on Physiological Characteristics of
Betelnut (*Areca catechu*) Seedling LeaveChen Xin, Yang Fusun, Zhou Zhaode (392)
Effects of Pb²⁺ Stress on Seed Germination and
Seedling Growth of *Coriandrum Sativum*Chen Maoquan, Chen Binghong, Liu shuxin, *et al* (396)
Ultrastructural Observation of Mesophyll Cells of
Salt-stressed *Sesuvium portulacastrum* L.Duan Ruijun, Hu Xinwen, Fu Shaoping, *et al* (403)

Applied Biotechnology and Tissue Culture

- Cloning and Expression of a Gene *HbHEX1* from *Hevea brasiliensis*Lan Fangyin, Li Huiliang, Guo Dong, *et al* (409)
Optimization of SSR-PCR Reaction System of Mango (*Mangifera indica* Linn.)Huang Lifang, Lei Xintao, Yao Quangsheng, *et al* (415)
Isolation of the Cold Stress Genes in loquat fruit by DDRT-PCR TechniqueWu Haibo, Zheng Guohua, Niu Xianqian, *et al* (421)
Alkali Lysis of Leaves by Two-step Handling for Preparation of PCR TemplatesChen Pinghua, Wang Hengbo, Xu Liping, *et al* (429)
Effect of Temperatures on Gene Expression of Enzymes Associated with
Starch Synthesis in a High AC Rice CultivarFeng Yanning, Huang Yuchao, Zhang Yongxin, *et al* (434)
Screening of Rice Proteins Interacting with P6 of Rice Black Streaked
Dwarf Virus from Rice cDNA Library by Yeast Two Hybrid SystemXiao Donglai, Deng Huiying, Xie Liyan, *et al* (439)
Biological Characteristics of *phyB* Gene-based Transgenic Citrange PlantsHu Xinxi, Yuan Feirong, Deng Ziniu, *et al* (445)

Crop Pests and Diseases and Their Control, environmental protection

- Comparison of Pathogenicity of *Fusarium oxysporum* f.sp. *cubense* and
Its Crude Toxin against BananaLi Meiting, Yan Yan, Zhang Shaosheng (452)
Biological Characteristics of *Fusarium proliferatum* of Mango Malformation in ChinaLü Yanchao, Pu Jinji, Xie Yixian, *et al* (456)
Identification of a Pathogen from a New Leaf Spot Disease of *Cassava* and
Its Biological CharacteristicsShi Tao, Li Chaoping, Cai Jjimiao, *et al* (463)
Life Table of the Laboratory Population of *Dysmicoccus neobrevipes*
(Beardsley) at Different TemperaturesChen Zetan, Zhang Xiaodong, Zhang Ni, *et al* (468)
The Factors Affecting the Sporification of *Metarhizium* spp. Strains Cultured in
Three Different MediumsLiu Lei, Yang Laying, Liang changcong, *et al* (473)
Acaricidal Activities and Active Ingredients of *Cinnamomum zeylanicum* B1Feng Gang, Zhang Jing, Qu Xiao, *et al* (479)
Inhibitory Activities of Ginkgolic Acid against 6 Species of
Vegetable Pathogenic FungiLin Guangrong, Lin Qinghong, Li Jinyu, *et al* (484)
The Effects of Aqueous Extracts from Five Species of Mosses on
Seedling Growth of CucumberZhang Lina, Yang Haowei, Luo Lihua, *et al* (491)
Isolation Symbiotic or Epiphytic Microbes from Mangrove and Bioassay of
Their Anti-*Candida Albicans* ActivityLiu Ying, Shi Wei (495)

Review

- Research Advances on Cola Germplasm ResourcesDong Yunping, Wang Xiaoyang, Sun Yan (502)
Research Progress on *Phytophthora* Blight Wilt Attacking Cucurbits and Its Control StrategyXie Dasen, Zhao Qin, He Xiaoming, *et al* (507)