



全国中文核心期刊
中国科技核心期刊
中国农业核心期刊

ISSN 1000-4440
CN 32-1213/S

江苏农业学报

Jiangsu Journal of Agricultural Sciences

第 28 卷 第 6 期

Vol. 28 No.6

2012

江苏省农业科学院 主办

ISSN 1000-4440

12>

9 771000 444071

江苏农业学报

第28卷 第6期 2012年12月31日

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JIANGSU JOURNAL OF AGRICULTURAL SCIENCES

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Induction and characterization of tetraploid red-core radish DAI Zhong-liang, ZHANG Zhen-chao, QIN Wen-bin, YAO Yue-mei, PAN Yong-fei, XIAO Yan, PAN Yue-ping (1505)
Comparison of quality components of different genotypes of vegetable soybean CHEN Hua-tao, CHEN Xin, GU He-ping, ZHANG Hong-mei, YUAN Xing-xing, CUI Xiao-yan (1508)
Selection and utilization of cytoplasmic male sterile line of broccoli MAO Zhong-liang, PAN Yong-fei, JIN Yong-qing, DAI Zhong-liang, WANG Jian-hua, ZHANG Zhen-chao, PAN Yue-ping (1511)