

研究论文

水稻抗白叶枯病基因Xa21转基因水稻及其杂交稻研究

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摘要 用基因枪转基因技术将高抗白叶枯病的Xa21基因导入中国三系杂交稻恢复系(明恢63)和保持系(皖B)中, 获得转基因水稻系, 其中4个株系只含有Xa21基因, 不含选择标记潮霉素抗性基因hph。筛选抗白叶枯病转基因纯合系, 在田间种植6代, 用PCR检测证明, Xa21基因能稳定遗传表达。用转基因水稻配制两系杂交稻, 杂交组合F1含有Xa21基因, 既抗白叶枯病, 又有较大的增产潜力。

关键词 [Xa21基因](#) [转基因水稻](#) [杂交稻](#)

分类号 [S511](#)

Study on Resistance Gene to Bacterial Blight Xa21 Transgenic Rice and Their Hybrid Combinations

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Abstract Xa21 gene and hph gene were co-transferred into Chinese 3-line hybrid rice lines Minghui 63(restorer line) and Wan B (maintainence line)by biolistics gene transfer method. A total of 5 transgenic rice lines with enhanced resistance against rice bacterial blight (BB) were obtained. Four of the transgenic lines were found to have only Xa21 gene integrated into the genome, and the other one have both Xa21 and hph integrated. Molecular analysis to the transgenic plants (up to six generations) showed that Xa21 gene had been integrated into the plant genome. The offsprings inherited the resistance from Xa21 stable. The Xa21 transgenic rice plants have been used as the restorer line for 2-line hybrid combinations. F1 of some combinations were found to show strong BB resistance and high yield-increasing potentiality.

Key words [Xa21 gene](#) [Transgenic rice](#) [Hybrid rice](#)

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