

研究论文

# 三交水稻的育种研究 II. 三交中晚稻杂种优势的比较研究

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**摘要** 用4个纯合不育系菲A、中9A、金23A和珍汕97A, 4个杂合不育系菲A/协青早B、中9A/协青早B、金23A/协青早B和珍汕97A/协青早B, 3个恢复系752、测64-7和优米2号, 按 $8 \times 3$  NC II 交配设计配制24个组合。比较研究了三交种的杂种优势及株高和抽穗期的变异程度。结果表明, 58.33%的三交种比相应单交种具增产优势, 平均增产6.11%。单株产量最高的为三交组合珍汕97A/协青早B//测64-7, 其平均优势率为60.29%, 最优优势率为9.94%, 株高和抽穗期的变异系数也与相应单交种接近。说明三交中、晚稻具有较强的增产潜力, 可筛选出农艺性状整齐度符合生产要求的水稻三交组合。三交种的千粒重优势特别突出, 在中、晚稻育种上值得利用。

**关键词** [三交](#) [杂交水稻](#) [杂种优势](#) [株高](#) [播始历期](#) [变异程度](#)

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## Study on Breeding of Three-way Hybrid Rice(*Oryza sativa* L.)

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**Abstract** Four homozygous cms-lines FeiA, Zhong9A, Jin23A and Zhensan97A, four heterozygous cms-lines FeiA/XieqingzaoB, Zhong9A/XieqingzaoB, Jin23A/XieqingzaoB and Zhensan97A/XieqingzaoB, and three restorer lines 752, Ce64-7 and Youmi2 were used to make  $8 \times 3=24$  F1 hybrids including 12 single hybrids and 12 three-way hybrids. The results showed that the grain yield of three-way hybrid rice was increased by 6.11% as compared with the corresponding single cross hybrids on an average and 58.33% of the combinations had superiority. The grain weight per plant of Zhensan97A/XieqingzaoB//Ce64-7 was highest, its superiority rate I and II (SR I and SR II) were 60.29% and 9.94% respectively. The coefficient of variability of plant height and days to heading in three-way hybrids were close to those in corresponding single hybrids. It suggested that the three-way hybrid rice in mid-late season cropping will be preference in production. The 1 000-grain weight of three-way hybrid rice showed most outstanding superiority, and the attention should be paid in three-way hybrid rice breeding.

**Key words** [Three-way cross](#); [Hybrid rice](#); [Superiority](#); [Plant height](#); [Days to heading](#); [Coefficient of variability](#)

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