

## **Studies on combining ability for yield and yield attributing traits in rice (*Oryza sativa* L.)**

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### **ABSTRACT**

The present investigation was carried out at Agricultural Research Station, Ragolu, with a set of 20 experimental hybrids developed during *rabi* 2024-25 by crossing five lines with four testers in line x tester mating design. The twenty hybrids were evaluated in randomized complete block design with three replications along with the parents and three checks viz; MTU 1121, MTU 1061 and Aganni. Preponderance of non-additive gene action was found for majority of the yield components studied, namely, plant height, ear bearing tillers per plant, panicle length, filled grains per panicle, total grains per panicle, and kernel L/B ratio, desirable for exploitation of heterosis. The results also revealed that BPT 5204 and MTU 7029 were good combiners suggesting their potential utility in hybrid breeding programs. In the present study, the promising heterotic hybrids, viz; BPT 5204 x BPT 3082, MTU 1224 x BPT 3082, RGL 2537 x BPT 3082, BPT 5204 x MTU 1341 and RGL 2537 x KNM 1638 recorded large and favourable *sca* effects on grain yield per plant besides higher grain yield per plant compared to the checks, MTU 1121 and MTU 1061. Standard heterosis was also recorded more than 30 per cent with desirable *sca* effects for grain yield per plant. Therefore, these hybrids can be identified as promising heterotic combinations for further evaluation and commercial exploitation.

**Keywords:** *General combining ability, heterosis, rice and specific combining ability*