

# Combining Ability Analysis to Identify Suitable Parents and Hybrids for Cultivation of Rice Under Alternate Wetting and Drying Conditions

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## ABSTRACT

Heterosis breeding is one of the tools in overcoming yield barrier and increasing productivity under both favourable and unfavourable conditions. In the present field study 45 crosses derived from three CMS lines and 15 restorer lines along with parents were evaluated in line x tester design for grain yield and yield components under alternate wetting and drying (AWD) conditions in rice during *kharif* 2008. Predominance of non additive gene action was observed for all the characters, suggesting the development of hybrids in rice. The line IR 58025A was a good general combiner for grain yield per plant, earliness and dwarf plant height, while IR 79156A was good general combiner for 1000 seed weight and short plant height. Among the testers 1096, TG-60 were good general combiners for grain yield per plant. The hybrid combinations APMS6A X TG 21, IR79156A x 1005, IR 79156A x EPLT 109, IR58025A x SG 27-77 and IR 58025A x VG 149 showed to be having good specific combining ability for grain yield and components.

**Key words :** Alternate wetting and drying, CMS lines, Combining ability, Hybrid rice, Line x Tester.