



## RESEARCH PAPER

# Selection of superior genotypes in rice (*Oryza sativa* L.) through combining ability analysis

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**Abstract :** Combining ability analysis was studied in a line x tester analysis of rice (*Oryza sativa* L.). The analysis of variance for combining ability revealed that the variance due to GCA and SCA were highly significant for all the characters indicated that non-additive gene actions were involved in the expression of the traits. Among the line AURC 14 and testers IR 64 and ADT 43 were considered as the best general combiners, while hybrids AURC 1 x ADT 36, AURC 8 x ADT 36, AURC 8 x ADT 43, AURC 10 x ADT 43, AURC 14 x ADT 36, AURC 14 x TRY 1, AURC 22 x IR 64, AURC 22 x TRY 1 and AURC 25 x ADT 36 as good specific combiners for grain yield and other yield contributing and quality traits. The promising line AURC 14 and testers IR 64 and ADT 43 which are having high GCA effects in desirable direction for yield components and for quality traits may be incorporated in crossing programme. The crosses AURC 14 x TRY 1 and AURC 22 x IR 64 exhibited good SCA effects for major yield and more than seven yield contributing characters. This may be exploited for better yield and quality either by exploiting them through heterosis breeding or involving them in multiple cross breeding programme.

**Key Words :** Rice, Combining ability analysis, Gene action, Line x tester analysis

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