

# **Combining ability Studies for Quality and Yield traits in some Restorer lines of Rice (*Oryza sativa* L)**

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## **ABSTRACT**

Twenty crosses derived from four lines and five testers were evaluated for yield and grain quality traits to assess gene action, combining ability of the parents and to identify best combinations. Productive tillers per plant, grain yield per plant, hulling recovery, milling recovery and head rice recovery were found to be under the control of non-additive gene action, while days to 50% flowering, plant height, panicle length, number of grains per panicle, test weight, kernel length, kernel width, kernel L/B ratio, kernel length after cooking (KLAC) and kernel breadth after cooking were under the control of additive gene action. Among the lines BR-827-35R was the best combiner for grain yield per plant, number of productive tillers per plant, test weight and head rice recovery and EPLT-109 for panicle length, number of grains per panicle, L/B ratio, kernel width and kernel breadth after cooking, while in testers 1005 was the best combiner for yield and many of the quality parameters. Cross EPLT-109 x IR 55838-B2-2 recorded significant SCA effects for plant height, earliness, kernel width in desirable direction, number of productive tillers, number of grains per panicle grain yield per plant, kernel length after cooking, L/B ratio and kernel elongation ratio. BR-827-35R x IR 63870-123 for earliness, plant height, productive tillers per plant, test weight, head rice recovery, kernel length after cooking and kernel breadth after cooking.

**Key words :** Combining ability, Gene action, Grain quality.