

## Estimation of heterosis, residual heterosis and inbreeding depression for yield characteristics in F<sub>2</sub> generation involving aromatic rice genotypes (*Oryza Sativa*.L)

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A field experiment was conducted during kharif, 2010 and rabi, 2010-11 at Rice section, ARI, Rajendra nagar, involving 7 parents, 7 F<sub>1</sub> hybrids and their corresponding F<sub>2</sub> populations to study the heterosis, residual heterosis and inbreeding depression in aromatic rice. High amount of heterosis was recorded over better parent for days to 50% flowering, number of productive tillers per plant and grain yield per plant. Whereas, heterosis only on mid-parent was noticed in case of number of grains per panicle and 1000-grain weight. Heterotic effects were seen in the hybrids which were developed from the parents having poor per se performance in most of the cases. High heterosis for grain yield was accompanied by high inbreeding depression which indicated the predominant role of non-additive gene effects. Based on results, the crosses, YANINI × MTU 1010 for days to 50 % flowering, PUSA 1121 × MTU 1010 and RNR 2354 × MTU 1081 for number of productive tillers per plant, RNR 2354 × Sye 632002 and YAMINI × BM 71 for number of grains per panicle, PUSA 1121 X MTU 1010 for grain yield per plant and PUSA 1121 × BM 71 length were identified as better crosses for further advancement to develop pure lines with high yield.

### Biography

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