

GENETIC VARIABILITY AND COMBINING ABILITY ANALYSIS FOR 6-PARENT HALF DIALLEL CROSS IN LATHYRUS

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Abstract: Fifteen F₁ hybrids of grasspea and their parents were evaluated in randomized complete block design to estimate variability and combining ability of seed yield and neurotoxin content. Analysis of variance indicated significant differences due to genotypes for all the characters except plant height (cm), pod length (cm), no. of seeds pod⁻¹, biological yield plant⁻¹ and harvest index (%). High heritability coupled with high genetic advance was observed for only protein content. Analysis of combining ability revealed the existence of highly significant variation among crosses for all characters in F₁ generation. Combining ability analysis indicating predominance of additive gene action in the expression of pod length (cm) and harvest index (%). The parent Mahateora, Pusa-24, RLS-3004 and Siraha Local appeared to be good general combiners. The cross Pusa-24 x RLS-3004 proves the best combination for early maturity; Prateek x Siraha Local and Pusa-24 x Ratan proves the best combination for seed yield plant⁻¹; Pusa-24 x Ratan and Mahateora x RLS-3004 proves the best specific combination for ODAP content.

Keywords: Grasspea, hybrid, seed, *Lathyrus*

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