

# HETEROISIS AND GENETIC VARIABILITY FOR 6-PARENT HALF DIALLEL CROSS IN LATHYRUS

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**Abstract:** Fifteen F<sub>1</sub> hybrids of grasspea and their parents were evaluated in randomized complete block design to estimate heterosis and variability of seed yield and neurotoxin content. The magnitude of heterosis varied significantly between hybrids. Heterosis over mid parent in seed yield per plant and neurotoxin content ranged from 6.95% to 161.33% and 1.47% to 41.10% respectively. Heterotic effect for 100 seed weight, protein content, and biological yield per plant respectively varied from 0.86% to 24.05%, 10.36% to 93.14% and 3.33% to 87.85%. Pusa-24 x Ratan exhibited maximum heterosis and heterobeltiosis for seed yield per plant, whereas, Mahateora x RLS-3004 expressed maximum heterobeltiosis and heterosis for ODAP 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<sup>-1</sup>, biological yield plant<sup>-1</sup> and harvest index (%). High heritability coupled with high genetic advance was observed for only protein content.

**Keywords:** Heterosis, *Lathyrus*, genetic variability, grasspea

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