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Effect of heterosis and gene action in garden pea (*Pisum sativum* L)

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Seven diverse genotype of garden pea were crossed in a diallel mating design (excluding reciprocals) to identify the best specific combinations, gene action and heterosis for yield and yield contributing traits. Based on overall performance, Azad Pea 1 × Pb-89, Palam Priya × Pb-89, DPP-3 × Pb-89, Palam Priya × Azad Pea 1, DPP 9418-06 × Pb-89 and Azad Pea × DPP 9418-06 were found to be promising cross combinations for further exploitation. The parents Pb-89 and Azad Pea-1 were good general combiners for majority of the traits studied. Combining ability analysis construed the predominant role of non-additive genetic effects in the inheritance of all the traits studied, except for days to 50% flowering where both additive and non-additive gene effects were equally important. The high narrow sense heritability estimates were found for pod length and plant height suggested that simple progeny selection can be effective in the improvement in these traits.

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