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RESEARCH PAPER

Genetics of agronomic characters in Indian mustard [*Brassica juncea* (L.) Czern & Coss.] under normal and late shown conditions

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Abstract : Analysis of generation means *viz.*, P_1, P_2, F_1, F_2, BC_1 and BC_2 of eight crosses of *B. juncea* (L) Czern & Coss. was performed under normal and late sown conditions to determine the nature of gene action governing seven agronomic traits *viz.*, days to 50% flowering, days to maturity, plant height (cm), primary branches per plant, secondary branches per plant, number of siliquae on main raceme and length of main raceme. Types of gene action varied with the plant traits, crosses and treatments. Additive as well as dominance effects were significant in inheritance of agronomic characters but prevalence of additive x additive interaction coupled with additive effects in the present study implied that selection for desirable agronomic characters would be effective in early segregating generations. Dominance effect and additive x additive type of epistatic gene action were found important in controlling inheritance of all these traits. Despite high magnitude of dominance gene effect, the dominance would not be exploitable because of duplicate type of epistsis found for these traits. However, additive x additive gene effect can offer only limited possibility of genetic improvement through simple selection procedures. The direction of fixable and non fixable gene action and of duplicate epistasis implies the use of biparental mating approach/intermating in early segregating generations.

Key Words : Indian mustard, *B. juncea*, Generation mean analysis, Epistasis

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