Genetic Analysis for Yield and Yield Attributes in Safflower

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ABSTRACT

Estimates of gene effects based on generation mean analysis were obtained for seven quantitative characters in four crosses of safflower. Results indicated the presence of additive, dominance and epistatic gene effects. Among non allelic interactions, dominance x dominance (l) interaction was of greater magnitude than main gene effects for all most all the characters indicating the importance of heterosis breeding to utilize non additive gene effects. The additive gene effects (d) also contributed significantly for different traits like number of seeds per capitulum and test weight in cross Manjira x SSF 658; for plant height, number of seeds per capitulum, test weight and seed yield in cross TSF-1 x SFS 9920 and for number of capitula per plant in cross TSF-2 x ASD-07-09. Selection in segregating generations of these crosses will be effective for development of varieties possessing more number of capitula per plant, seeds per capitulim and test weight. However, to exploit additive as well as non additive gene effects reciprocal recurrent selection procedure may be adopted.

Key words : Gene effects, Generation mean, Gene action, Safflower.