

**THE QUANTITATIVE INHERITANCE IN SUNFLOWER**  
**(*Helianthus annuus L.*)**

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**ABSTRACT**

This study was conducted in order to estimate the gene effects governing the inheritance of certain traits and to search the genetic structure of each group in a 9x9 diallel cross group established by crossing inbred lines in sunflower. In the research: (1) Significant positive heterotic effects were observed for all the characteristics studied in different crosses. Based on the results, which are 2 or 3 parents were observed to be good general combiners for seed yield Per plants and eight crosses were the promising hybrids for seed yield/plant and plant height. (2) Both additive and dominance genetic variances were significant for all characters. Also, overall mean dominance effect of heterozygous loci,  $h^2$ , was significant for all characters. It was found that the frequencies of positive and negative alleles at these loci were not equal in the parents (i.e.  $H_1 > H_2$ ). The average degree of dominance showed overdominance for all characters studied.

**Key words:** General and Specific Combining Ability, additive and dominant variation, genetic variance