

## HETEROSIS AND CORRELATION ANALYSIS IN BREAD WHEAT (*TRITICUM AESTIVUM* L.)

Kamalpreet Pannu, Geetika Singh\* and Manoj Kumar

Department of Agriculture, CGC Jhanjheri, Mohali India

Email: [geetika\\_phd@yahoo.com](mailto:geetika_phd@yahoo.com)

Received-01.05.2021, Revised-13.05.2021, Accepted-22.05.2021

**Abstract:** The present investigation was carried out to study heterosis, correlations, variance, genetic advance, heritability using diallel mating design at Research farm, during *rabi*, 2016-17. The experimental materials for the present investigation consisted of five lines *viz.*, Kalyan sona, WH-1080, PDW-215, DBW-90 and CPAN-1796 and one check *viz.*, PBW-725. The experiment was carried out in randomized block design and observations were recorded on ten characters namely days to booting, days to heading, days to anthesis, days to maturity, plant height, spike length, peduncle length, spikelets per spike, grain yield per plant, CPAN-1796 was identified as best general combiner for grain yield per plant followed by WH-1080 and PDW-215. WH-1080 × CPAN-1796 showed good specific combining ability for grain yield per plant, days to booting, days to heading, days to anthesis, days to maturity, peduncle length, number of productive tillers per plant, biological yield per plant, number of grains per plant and harvest index. The best heterotic cross for grain yield per plant was Kalyan Sona × WH-1080. Results revealed the variance analysis of grains per plant showed highly significant and positive genotypic correlations with days to booting, days to heading, spike length, plant height, harvest index and peduncle length.

**Keywords:** Diallel, Variance, Anthesis, Peduncle, Heterosis

**Abbreviations:** ANOVA, Analysis of variance; GCA, general combining ability; SCA, specific combining ability

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\*Corresponding Author