

HETEROSIS AND COMBINING ABILITY IN LATE MATURING QPM HYBRIDS IN MAIZE (*ZEA MAYS* L.)

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Received-05.02.2017, Revised-19.02.2017

Abstract: Fifteen maize inbred were crossed as lines to three testers (HKI-193-1, CLQRCYQ-40-3-1 and HO6R-6136-68-1-6) in Line X Tester mating design to generate 45 F₁ crosses. The sixty seven genotypes including 45 F₁ hybrids along with their 18 parents and 4 checks were evaluated for five qualitative traits namely starch content, oil content, protein content, tryptophan content and lysine content in Randomized Block Design to estimate the General Combining Ability (GCA), Specific Combining Ability (SCA) and Heterosis of F₁ crosses. In the Line x Tester analysis, significant variability was observed among the genotypes for five traits. The hybrids L₃ x T₃ and L₅ x T₃ exhibited maximum mean values for oil content and hybrid L₁₀ x T₁ exhibited maximum mean values for starch content. The maximum mean value for protein content was depicted by hybrid L₆ x T₂, whereas hybrid L₁₀ x T₃ exhibited maximum mean value for tryptophan content. The hybrid L₇ x T₃ exhibited maximum mean values for lysine content.

Keywords: Combining ability, Grain yield, Heterosis, Quality protein maize

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