

# Genetic Studies on Morphophysiological Traits With Elite Inbreds of Maize

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## ABSTRACT

A 6 x 6 diallel analysis, generation mean analysis, path analysis and correlation analysis were carried out in maize with elite inbred lines in Delhi and Dharwad during 2010 and 2011. The results revealed that for most of the characters, magnitude of additive variance was more than that of dominance variance in both the locations. This was also reflected in degree of dominance being far below 1.0. However, for grain yield, dominance component was more important. Further, for most of the characters, additive variance was higher in *rabi* season compared to *kharif*. As such these finding are also reflected in higher heritabilities of these traits in *rabi*. The characters that had higher heritabilities (narrow sense) were 50% silking and ASI. The highest negative midparent (MPH) and better parent heterosis (BPH) were observed for ASI. This was more negative in *rabi* ( $> - 29.0\%$ ). Highest positive heterosis was observed for grain yield in all three seasons.

**Key words :** Genetics, Heritability, Heterosis, Maize, Morpho-physiological traits.