

Study of heterosis in Bangladeshi chilli (*Capsicum annuum* L.) landraces

ABSTRACT

Chilli is an important cash crop in Bangladesh but average yield is very low (0.89 t ha⁻¹) and genetic potentiality of Bangladeshi chilli landraces for hybrid variety development has not been evaluated. The objective of this study was to find out heterotic behavior following Gardner and Eberhart model (1966) II. Six different homozygous divergent parents CCA 2, CCA 5, BARI Morich 1, CCA 11, CCA 15 and CCA 19 were used to estimate heterosis. A significant amount of heterosis was present in yield and yield contributing traits. Estimate of variety heterosis for yield per plant was significantly positive in CCA 5 and BARI Morich 1. In BARI Morich 1, the significant and positive variety heterosis for yield per plant was associated with significant and positive estimates of heterosis for number of fruits per plant and number of seeds per fruit, suggesting that these yield traits contributed to the final heterosis manifested through yield. Indigenous×exotic crosses showed significant amount of heterosis. It is possible to emphasize indigenous×exotic crosses for good fruit yield, particularly to be used as commercial hybrids. Hybrids of BARI Morich 1×CCA 19 and CCA 5×BARI Morich 1 showed better performance.

Keyword: *Capsicum annuum* L.; Indigenous×exotic cross; Yield