

Genetic Divergence Studies for Morphoeconomic Characters in Brinjal (*Solanum melongena* L.).

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Abstract—Thirty genotypes of brinjal were evaluated systematically for polymorphism on the basis of nine morphological traits during the autumn -winter season of 2013-14 in Randomized Block Design with three replications in AB Block farm of BCKV. Based on D^2 values, the genotypes were grouped into eleven highly divergent clusters. Cluster-6 housed the highest number of genotypes (8), while cluster-11 had only one genotype. A low intra-cluster distance indicates homogeneity in the genotypes in a particular cluster. The superior cluster means for fruit yield per plant, fruits per plant, plant height, primary branches per plant, harvesting index and days to 50% flowering were recorded in cluster-5. The mean intra and inter cluster D^2 values, revealed that the least intra cluster distance was in cluster-11 followed by cluster-2, while the maximum intra cluster distance was recorded in cluster-10. The highest inter cluster distance was recorded between cluster-9 and cluster-5 followed by cluster-7 and cluster-5 suggesting the use of genotypes from these clusters would give high heterotic hybrids or superior segregants, while least inter cluster distance was recorded between cluster-2 and cluster-4. The traits harvesting index (40.23%) and fruit yield per plant (19.77%) contributed maximum towards divergence, which accounted for 60% of total divergence.