

Genetic diversity, heritability and genetic advance of *Solanum melongena* L. from three secondary centers of diversity

ABSTRACT

Indo-Birmanian is considered as the domesticated region and primary center of eggplant diversity from where it spread to other secondary centers of diversity. In this study, the genetic diversity among 56 eggplant genotypes from three secondary centers of diversity (Bangladesh, Malaysia and Thailand) was assessed using 11 morphological traits. The experiment was laid in a complete randomized block design with three replications. A wide significant variation was observed for all the morphological traits, and highly significant differences among the three centers of diversity. High heritability and genetic advance was found for different traits i.e. fruit length, fruit diameter, fruit girth, fruit length to width ratio, average fruit weight, number of fruits per plant, fruit yield per plant, plant height and number of primary branches per plant. The selected best traits i.e. number of fruits per plant, average fruit weight and fruit yield per plant showed high heritability along with high genetic advance and less environmental influence but the high value of PCV and GCV. So these traits could be useful for selection criteria in the future breeding program. These results are relevant for evolutionary studies, breeding programs, and management of eggplant genetic resources.

Keyword: Genetic diversity; Heritability and genetic advance; PCV and GCV