



Genetic variability in purple fruited brinjal

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ABSTRACT

Highly significant differences were observed along the 20 diverse brinjal genotypes for fifteen characters. The highest genotypic coefficient of variation was observed for character number of marketable fruits per plant. Almost all the characters exhibited high heritability recorded (42.96 to 99.91%). Highest genetic advance was also observed for the characters yield per hectare. However it ranged from 0.564 to 324.25% for all the characters.

Dahatonde, Kalpana, Dod, V.N., Nagre, P.K. and Wag, A.P. (2010). Genetic variability in purple fruited brinjal, *Asian J. Hort.*, 5 (2) : 367-370.

Key words : Variability, Heritability, Expected genetic advance, Brinjal

Brinjal (*Solanum melongena* L.) is one of the most popular and commonly grown vegetable in India. It is grown throughout the year in the country. Because of the year round growing, it provides continuous source of income to farmers. Brinjal is an important crop for vegetarian and non-vegetarian diets, medicinal and nutritive value. The crop can be grown in off season, viz., *Kharif*, *Rabi* and summer. It exhibits the great varieties wealth in India especially in the state of Maharashtra. There is consumers preference for various types of brinjal for instance in Maharashtra. Kolhe (1961) observed majority of the consumers prefer brinjal with spiny ness, small to medium size having purple colour with white strips and oval to round shape. However, genetic variability play important role in crop in selecting the best genotypes for making rapid improvement in yield and other desirable characters as well as to select the potential parent for hybridization programme. Heritability is an index for calculating the relative influence of the environment of the expression of genotypes. It becomes very difficult to judge how much of the variability is heritable and how much is non-heritable. Therefore, the present investigation was carried out to study the genetic variability for quantitative traits in brinjal.

MATERIALS AND METHODS

The experiment was conducted at farm of Main

Garden, Department of Horticulture, Dr. Panjabrao Deshmukh Krishi Vidyapeeth, and Akola during 2009-2010 with twenty genotypes of purple fruited brinjal. Experiment was laid out in Randomized Block Design (RBD) with three replications. Brinjal seed of 20 genotypes were sown in raised beds and all possible care was taken to obtain healthy and uniform seedlings. These were transplanted at a distance 60 x 60cm in Aug.2009. All the treatments received uniform application of fertilizers, irrigation, and plant protection measures. The observation recorded on five randomly selected plants per replication for each genotype on fifteen important characters. The analysis of variance was carried out as suggested by Panse and Sukhatme (1967). Phenotypic and genotypic coefficient of variation were obtained by Burton (1952). Heritability present in the brinjal broad sense and genetic advance as per formulae described by Johnson *et al.* (1955).

RESULTS AND DISCUSSION

The extent of variability present in the brinjal genotypes measured in terms of range, mean, phenotypic coefficient of variation. (PCV), genotypic coefficient of variation (GCV), heritability (broad sense) and expected genetic advance as per cent of mean (Table 2).

All genotypes differed significantly with respect to different characters studied. A wide range of variation