



Research Paper

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Genetic variability in okra

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Abstract : The genetic variability for growth and yield contributing characters in twenty two genotypes of okra collected from NBPGR, New Delhi and Chilli and Vegetable Research Unit, Dr. PDKV, Akola was studied during *Kharif* 2010. The analysis of variance indicated significant differences among the genotypes for different morphological characters. The phenotypic coefficient of variation (PCV) was higher than genotypic coefficient of variation (GCV). The high values of GCV and PCV observed for moisture content, yellow vein mosaic incidence, fruit borer incidence, protein content, chlorophyll content, diameter of fruit, number of fruits per plant, and yield per plant. High heritability (h^2) coupled with high genetic advance (GA) was observed for yield per plant, and plant height.

Key words : GCV, PCV, h^2 , GA, Variability, Okra

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Okra [*Abelmoschus esculentus* (L.) Moench] is very popular vegetable crop and grown for tender green fruits. Okra is rich in vitamins, calcium, potassium, iodine and other minerals. The mucilage of roots and stems of okra are used as clarifier in Juggery and brown sugar industry. The mature fruits and stem contains more crude fibre and are used in paper industry, therefore, it is necessary to evaluate these characters. For that the selection of desirable genotypes must be performed with reliable estimates. The genetic parameters like genotypic and phenotypic coefficient of variation, heritability, expected genetic advance and expected genetic advance over mean (%) provide a clear insight into the extent of variability and a relative measure of efficiency of selection of genotypes based on phenotype, in a highly variable population. Hence, the present study was carried out to find the genetic parameters for yield and its component trait in okra genotypes.

RESEARCH METHODS

The experimental material for the present study consisted of twenty-two genotypes of okra obtained from National Bureau of Plant Genetic Resources (NBPGR), New Delhi and Chilli and Vegetable Research Unit (CVRU), Dr. P.D.K.V., Akola. The experiment was conducted using Randomized Block Design (RBD) and three replications at the

Main Garden, University Department of Horticulture, Dr. Panjabrao Deshmukh Krishi Vidyapeeth, Akola, Maharashtra state during the *Kharif*, 2010. Observations were recorded from five randomly selected plants of each genotype in each replication for nineteen characters *viz.*, plant height, number of primary branches per plant, number of nodes on main stem, internodal length, days to first flowering, days to 50 per cent flowering, days to first harvest, number of fruits per plant, weight of fruit, length of fruit, diameter of fruit, number of ridges on fruit, chlorophyll content, moisture content, fibre content, protein content, fruit borer incidence, yellow vein mosaic incidence and yield per plant. Mean values of five plants were used for statistical analysis. The data generated was subjected to analysis the variability through GCV, PCV and h^2 as suggested by Burton (1952) and Johnson *et al.* (1955) for EGA.

RESEARCH FINDINGS AND DISCUSSION

The analysis of variance showed highly significant differences among the genotypes for all the characters studied (Table 1). This indicated presence of substantial amount of variability among the genotypes studied for almost all the characters. These results are an agreement with findings of Kale *et al.* (1989) and Magar and Mardap (2009).

A wide range of variation (Table 2) was observed for