

## Genetic variability studies in okra [*Abelmoschus esculentus* (L.) Moench]

■ K.V. VIJAYA KUMAR, K.T. VENKATESHA, M. ASIF, E. GANGAPPA AND M. PITCHAIMUTHU

### SUMMARY

The analysis of variance revealed significant differences among the okra collections for all the traits. The estimates on variability parameters indicated considerable range of variation in the germplasm for all the characters studied. Environmental influence was meagre on expression of characters as evident by narrow gap between genotypic and phenotypic co-efficient of variation. The genotypic and phenotypic co-efficients of variations were high for all the characters except days to 50 per cent of flowering and ridges per fruit. A high range of variation, genotypic co-efficient of variation, heritability and genetic advance on per cent mean for plant height, branches per plant, nodes per plants and fruit yield per plant was recorded. This indicated broad genetic base, less environmental influence and these traits are under control of additive genes, simple and early selection schemes would be effective for improvement of these traits. Despite high heritability, the mean of genetic advance was low for days to 50 per cent flowering indicating low variability for this trait.

**Key Words :** Genetic variability, Okra, Germplasm

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Okra [*Abelmoschus esculentus* (L.) Moench] an annual, often cross pollinated crop belongs to the family Malvaceae; it is an important vegetable crop of the tropics and subtropics of the world. It has found its place in India since time immemorial. Okra is also referred as gumbo, lady's finger and bhendi.

Before starting any crop improvement programme, it is necessary to assess the existing variability present in the parental materials. The efficiency of selection depends upon the knowledge on the nature and magnitude of genetic

variability. The extent of the genetic and non-genetic components of variation formulates proper breeding programme to reach the goal. Higher mean accompanied by higher genetic variability affords a scope for selection.

Robinson *et al.*, (1949) emphasized that heritability of the characters is the main concern to the breeder, since it indicates the possibility and extent to which improvement is possible through selection. It has been suggested that habitability together with genetic advance will bring out the genetic gain expected from selection (Johnson *et al.*, 1955).

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### MATERIALS AND METHODS

The material for the study comprised of 166 collections of okra genotypes. The details of the genotypes used in the present study are given in Table A. Field evaluation of the genotypes was carried out at vegetables section in Department of Horticulture, UAS, GKVK, Bengaluru, during *Kharif* 2008. The observations for the present study were recorded on 11 characters, *viz.*, Yield and its attributing characters such as days to 50 per cent flowering, Plant height (cm), Primary branches per plant, nodes per plant, inter-node length (cm),