

## **GENETIC DIVERGENCE IN LOCAL COLLECTIONS OF SPONGE GOURD (*LUFFA CYLINDRICA* (LINN.) M. ROEM.)**

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**ABSTRACT :** Thirty genotypes of sponge gourd comprising of 26 from local collections and four from research and private sector were grown in a completely randomized block design with three replications at Vegetable Research Station, Jagudan during *kharif* 2007-08. Observations with characters *viz.*, days to appear first male flower, days to appear first female flower, node number at which first female flower appear, number of fruit per plant, fruit weight, fruit length, fruit diameter, number of seeds per fruit, 100-seed weight and marketable fruit yield per plant were recorded. Genetic divergence was computed by following Mahalanobis's  $D^2$  statistics. The grouping of genotypes into clusters was made by Tocher's method. The genotypes were grouped in 4 clusters. The clustering pattern, in general, indicated that geographical origin can not be taken as sole criterion of genetic diversity, as the genotypes belong from different origin were grouped together in the single cluster. The maximum number of genotypes were grouped in cluster IV (12) followed by cluster II and III (7) and cluster I contain four genotypes. The maximum intra-cluster distance was observed in cluster II (2.637). The inter-cluster distances were observed in cluster I and cluster IV (5.080) followed by cluster I and cluster II (4.726). It was suggested from the results that while selecting the genotypes from different clusters for hybridization, inter and intra-cluster distances, cluster means for fruit yield and its components and per se. The analysis also revealed that marketable fruit yield per plant (35.40), days to appear first male flower (20.22), fruit length (18.62) and 100-seed weight (11.26) contributed maximum towards total genetic divergence.

**Key words:** *Clusters, Genetic divergence, Sponge gourd*