

Characterization of Okra Germplasm for Future Breeding Programs

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Okra (*Abelmoschus esculentus* (L.) Moench) is a crop belongs to family Malvaceae. Plant Genetic Resources Centre (PGRC), Peradeniya maintain and conserves 531 okra accessions collected from different locations of the country. In the present study characterization 25 of the 531 accessions including a recommended variety “haritha” was done using 26 morphological characters listed in the descriptors for vegetables and condiments. The results showed that, minimum average fruit length was 16.2 cm in accession 793 at table use maturity while maximum average was 30.8cm in accession 3108. Average number of fruits per plant, was maximum 31.6 in accession 1888 and minimum was 11.4 in accession 3091. Maximum average weight of fresh fruit at table use maturity was 72.62 g in accession 3094 minimum was 23.62 g in accession 1503. The dendrogram obtained using morphological characters separated 5 major clusters at a euclidean distance of 9.04. Cluster 2 was the largest and contained 14 genotypes under sub clusters. Cluster 5 contained only recommended variety “haritha”. The first two principal components (PCs) calculated for all characters explained 88.3% of the morphological variation among the 25 okra accession and recommended variety. Maximum plant height recorded the highest loading with a positive correlation for PC1. Number of seeds per fruit and weight of fresh fruit at table use maturity with a positive loading accounted for a major portion of PC2. According to dunnett multiple comparison with control 95% confidence level, accessions 3108 and 3094 had $P>0.05$ than the recommended variety with regard to fruit length at table use maturity, Fruit width at table use maturity, Number of fruits per plant, Weight of fresh fruit at table use maturity.

Keywords: Accession, Cluster, Morphological characters, Okra

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