

**MULTIVARIATE ANALYSIS OF GENETIC VARIABILITY IN
POD AND SEED YIELD CHARACTERS OF OKRA
(*ABELMOSCHUS ESCULENTUS* (L.) MOENCH) GROWN IN
DIFFERENT CROPPING SEASONS**

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Abstract

Multivariate techniques were used to study the genetic variability in pod and seed yield characters of 20 genotypes of okra (*Abelmoschus esculentus*) in three cropping seasons of 2005 and 2006. The genotypes western Nigeria. Data were collected on pod and seed yield characters and then subjected to multivariate analyses (principal component and cluster analyses). The principal component analysis showed that different characters contributed differently to the total variation. The results indicated that the first two principal components were loaded by 10 out of the 16 parameters evaluated including plant height at flowering, number of pods per plant, number of branches per plant, length of fresh pod, number of seeds per pod, weight of matured pods per plant and length of matured pod among others in the three seasons. This indicated that these characters were largely responsible for variation among the 20 genotypes. Single Linkage Cluster Analysis (SLCA) summarized the accessions into seven distinct clusters, suggesting some degrees of resemblance. At a distance of 0.7, short mouth Ibarapa was distinguished from the rest of the population in 2005 early rain cropping season, NHAe99/28 in 2006 dry season, and Ola 3 Local in 2006 early rain cropping season. Configuration of the 20 okra genotypes in all the seasons revealed that Clemson spineless and NHAe99/DA were the most distant from all other genotypes. Crossing of genotypes across clusters could lead to increase in heterosis in cross progenies. Those characters identified by PCA could be included in the crop improvement scheme for improved pod and seed yield within Okra germplasm

Keywords: Okra genotypes, Pod and seed yield characters, Cluster analysis
Principal component analysis
