International Journal of Forestry and Crop Improvement
Volume **4** | Issue 1 | June, 2013 | 13-18

Research Article

Genetic analysis of association studies in segregating population of okra [*Abelmoschus esculentus* (L.) Moench]

ABHISHEKKATAGI, SHANTAPPATIRAKANNANVAR, R.C. JAGADEESHA, J. JAYAPPA AND K.S. SHANKARAPPA

ABSTRACT : Two populations of the okra *viz.*, single cross F_2, and double cross F_2 were developed using BH-1, BH-2, BH-3, BH-4, BH-5 and BH-6. The objective was to determine the genetic variability, nature of association among different yield attributes and their direct and indirect contribution towards yield. From the analysis of variance, it was observed that mean squares due to genotypes were significant for all the traits, indicating the presence of genetic variability in the experimental material. The values of PCV were higher than that of GCV values for all the twelve characters indicating influence of environmental effects in the expression of these characters and it was found more in DC F_2 compared to SC F_2 population. The GCV, heritability and genetic advance were higher for plant height, fruit yield per plant, fruit weight and days to 50 per cent flowering which might be attributed to additive gene action of inheritance in DC F_2 population. From the correlation and path co-efficient analyses, it is revealed that the top priority should be given to selection based on numbers of fruit per plant, fruit length, fruit diameter and fruit weight for yield improvement and could be considered while formulating selection indices in the improvement of okra. Path co-efficient analysis revealed that fruit weight had maximum direct contribution (0.869) towards fruit yield followed by number of fruits per plant (0.323) and fruit length (0.079). This revealed that DC F_2 population showed more variability compared to SC F_2 because it involves diverse parents in its development compared to SC F_2 population.

KEY WORDS : Okra, Single cross F_2, Double cross F_2, Genetic variability, Correlation, Path analysis

How to cite this Article : Katagi, Abhishek, Shantappatirakannanvar, Jagadeesha,R.C., Jayappa, J. and Shankarappa, K.S. (2013).Genetic analysis of association studies in segregating population of okra [*Abelmoschus esculentus* (L.) Moench]. *Internat. J. Forestry & Crop Improv.*, **4** (1) : 13-18.

Article Chronical : Received : *04.05.2013;* Revised : *13.05.2013;* Accepted : *22.05.2013*

MEMBERS OF RESEARCH FORUM

Address of the Correspondence :
ABHISHEK KATAGI, Department of Crop Improvement and Biotechnology, K.R.C. College of Horticulture, ARABHAVI (KARNATAKA) INDIA
Email : abhishekkat121@gmail.com

Address of the Coopted Authors :
SHANTAPPATIRAKANNANVAR, R.C. JAGADEESHA, J. JAYAPPA AND K.S. SHANKARAPPA, Department of Crop Improvement and Biotechnology, K.R.C. College of Horticulture, ARABHAVI (KARNATAKA) INDIA
Email : rejagadeesha@yahoo.com; shantappat@yahoo.co.in