

## RESEARCH ARTICLE

# Studies on genetic diversity, correlation and path co-efficient analysis for yield and yield contributing characters in pigeonpea [*Cajanus cajan* (L). Millipis]

■ A. A. Madke, S. B. Sarode, S. V. Pawar, P. L. Sontakke and N. M. Manchalwad

### SUMMARY

The experiment was conducted during *Kharif* 2023 for study of genetic diversity of 42 genotypes of pigeonpea using  $D^2$  statistics method of Mahalanobis. Genetic diversity of the forty two genotypes of pigeonpea was accessed for nine characters in a Randomized Block Design with two replications at Agriculture Research Station, Badnapur. Forty two genotypes of pigeonpea were grouped into nine clusters which indicated diversity. Cluster I had the 25 maximum number of genotypes, Cluster II had 10, while, Cluster III, IV, V, VI, VII, VIII, IX had 01 genotype each, respectively. Correlation between yield and yield attribute component traits in forty two genotypes of pigeonpea revealed that seed yield per plant had positive and highly significant association with number of pods per plant, number of primary branches per plant, plant height, number of secondary branches per plant, days to maturity and 100 seed weight. Selection criterion can be done based on these characters for seed yield will give successful results for yield improvement in pigeonpea. Path co-efficient analysis of different traits on seed yield per plant recorded that traits *viz.*, 100 seed weight, number of primary branches per plant, days to maturity, plant height and number of seeds per pod showed highest positive direct effect.

Key Words : Pigeonpea, Genetic diversity, Correlation, Path analysis, Clusters,  $D^2$  Analysis

**How to cite this article :** Madke, A. A., Sarode, S. B., Pawar, S. V., Sontakke, P. L. and Manchalwad, N. M. (2024). Studies on genetic diversity, correlation and path co-efficient analysis for yield and yield contributing characters in pigeonpea. [*Cajanuscajan* (L). Millipis]. *Internat. J. Plant Sci.*, 19 (1): 10-15, DOI: 10.15740/HAS/IJPS/19.1/10-15, Copyright@ 2023:Hind Agri-Horticultural Society.

**Article chronicle :** Received : 08.10.2023; Revised : 03.11.2023; Accepted : 09.12.2023

### MEMBERS OF THE RESEARCH FORUM

**Author to be contacted :**

S. B. Sarode, College of Agriculture (V.N.M.K.V.), Badnapur (M.S.) India

Email : [shrisarode24@gmail.com](mailto:shrisarode24@gmail.com)

**Address of the Co-authors:**

A. Madke, S. V. Pawar, P. L. and N. M. Manchalwad, College of Agriculture (V.N.M.K.V.), Badnapur (M.S.) India

A. Sontakke, Agricultural Research Station, Badnapur (M.S.) India