THE ASIAN JOURNAL OF HORTICULTURE
Volume **8** | Issue 1 | June, 2013 | 146-149

**Research Paper**

***Article history*** **:**
Received : 20.11.2012
Revised : 24.03.2013
Accepted : 05.04.2013

# Analysis of genetic variability for seed yield and its component characters in cluster bean [*Cyamopsis tetragonoloba* (L.) Taub.]

S.N. MALAGHAN, M.B. MADALAGERI[1], V.M. GANIGER[2], G. BHUVANESHWARI[3], H.B. PATIL[2] **AND** Y.K. KOTIKAL[4]

**Members of the Research Forum**

**Associated Authors:**
[1] University of Horticultural Sciences, BAGALKOT (KARNATAKA) INDIA

[2]Department of Vegetable Science, College of Horticulture, BAGALKOT (KARNATAKA) INDIA

[3]Department of Foods and Nutrition, College of Horticulture, BAGALKOT (KARNATAKA) INDIA

[4] Directorate of Extension, University of Horticultural Sciences, BAGALKOT (KARNATAKA) INDIA

**Author for correspondence** :
**S.N. MALAGHAN**
Department of Vegetable Science, College of Horticulture, BAGALKOT (KARNATAKA) INDIA

**ABSTRACT :** An investigation on variability for seed yield and its component characters was carried out in 67 cluster bean genotypes at College of Horticulture, Bagalkot, University of Horticultural Sciences, Bagalkot during summer 2011. All the thirteen characters studied had shown highly significant (at P=0.01) difference. The characters, *viz.*, seed yield, dry pod yield, number of dry pods per plant and number of cluster per plant recorded high estimates of genotypic and phenotypic coefficients of variation indicating ample scope for selection of genotypes from available germplasm for these traits. High heritability along with high genetic advance over mean were observed for seed phosphorus content, number of cluster per plant, seed yield, dry pod number and dry pod yield per plant indicating selection would be very effective for improvement of these characters.

**KEY WORDS :** Guar, Genotypic co-efficient, Genetic advance, Heritability, Phenotypic co-efficient of variance

**HOW TO CITE THIS ARTICLE :** Malaghan, S.N., Madalageri, M.B., Ganiger, V.M., Bhuvaneshwari, G., Patil, H.B. and Kotikal, Y.K. (2013). Analysis of genetic variability for seed yield and its component characters in cluster bean [*Cyamopsis tetragonoloba* (L.) Taub.], *Asian J. Hort.*, **8**(1) : 146-149.

Cluster bean popularly known as guar is one of the most important legumes widely cultivated in India, Pakistan, Indonesia and other parts of southern and southeastern Asia as a vegetable and fodder crop for a long time. In spite of its vegetable use cluster bean also grown for seed purpose, seeds are mainly used for extraction of endospermic gum having good binding properties and high demand in food industry as an ingredient in products like sauces and ice creams. In agriculture, guar gum is used as water retainer (Singh *et al.,* 1985), soil aggregate and anti-crusting agent. In varnish industry, it is used as a protective colloid. In paper industry, it is used for improving quality of paper board by enhancing dry and wet strength and for enhacing sizing degree (Yoshyuki, 1985). Guar gum also has greater utility in pollution control. It is used as an adsorbent in waste water treatment and in textile industry as an flocculating and exchanging agent. In waste water purification, guar gum is used as a gelatinizing agent (Mathur *et al.,* 1986). Cluster bean has been under cultivation in small area as a vegetable, its potentiality is yet to be exploited for production of seeds for gum purpose. Therefore, there is need for identification or development of cluster bean genotypes suited for seed purpose.

The knowledge on genetic variability in the available germplasm is a prerequisite for effective selection of superior genotypes. Therefore, in the present investigation, an attempt was made to estimate the extent of variability, heritability and genetic advance in 67 accessions of cluster bean germplasm.