



Research Paper

Article history :

Received : 20.10.2011

Revised : 02.02.2012

Accepted : 18.03.2012

Correlation studies in french bean (*Phaseolus vulgaris* L.)

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Abstract : Twelve genotypes of french bean were assessed for correlation at Main Agriculture Research Station, Raichur. Highly significant differences were observed in the genotypes for all the characters under study. Pod yield per hectare had positive and highly significant association with pod yield per plant, pod length, weight of pod, plant height, leaf area, leaf area index, ovule number per pod, number of seeds per pod at both phenotypic and genotypic level.

Key words : French bean, Correlation, *Phaseolus vulgaris* L.

How to cite this article : Angadi, Praveenkumar, Patil, M.G. and Angadi, Akshay (2012). Correlation studies in french bean (*Phaseolus vulgaris* L.), *Asian J. Hort.*, 7(1) : 55-59.

For any crop improvement, basic information on the variability present in the crop is essential. Yield being a complex trait, is collectively influenced by various yield attributes, which are polygenically inherited and influenced by environmental variations. The effective selection for improvement of these traits is determined by magnitude and nature of interaction between genotypic and phenotypic variability. It is, therefore, required to know the heritable and non-heritable components with genetic parameters such as genotypic and phenotypic coefficient of variation, heritability and genetic advance. French bean, *Phaseolus vulgaris* L. ($2n = 2x = 22$) also known as snap bean, kidney bean, garden bean or string bean, is one of the most important leguminous vegetables grown for its tender fleshy green pods, shelled green seeds and also dry beans. It has anti-diabetic property and is good for natural cure of bladder burns and cardiac problems, diarrhoea, sciatica and tenesmus. It is a nutritive vegetable, rich in protein (1.7 g), calcium (132

mg), thiamin (0.08 mg) and vitamin C (24 mg per 100 g of edible pods). French bean originated from Central America and Peruvian Andes in South America. It could spread to Europe during 16th and 17th centuries and reached England by 1594. It was introduced to India during 17th century from Europe. The statistics with respect to this crop is very deficient owing to the small area of production and short duration. However, as per as the FAO estimates, it is grown in the world in an area of 0.83 m ha with annual production of 5.64 m t with productivity of 6.76 t per ha. In India, it is mainly grown in Himachal Pradesh Punjab, Haryana, Uttar Pradesh, Bihar, Gujarat, Madhya Pradesh, Maharashtra, Karnataka, Andhra Pradesh and Tamil Nadu. Annually, french bean is grown in an area of 0.15 m ha with annual production of 0.42 m t and productivity of 2.8 t per ha (FAO STAT, 2002). Improvement made in crop varieties is mainly concentrated on increasing yield and yield attributing characters. Studies of correlation between different quantitative characters provide an idea of association. It could