

Research  
Paper

## Effect of sowing time, row spacing and seed rate on production potential of clusterbean

D.N. JAGTAP, L.D. WAGHULE AND V.M. BHALE

See end of the article for authors' affiliations

Correspondence to :

**D.N. JAGTAP**

Department of Agronomy,  
Dr. B.S. Konkan Krishi  
Vidyapeeth, Dapoli,  
RATNAGIRI (M.S.) INDIA  
Email : jagtapmauli\_296@  
rediffmail.com

### ABSTRACT

The field experiment was conducted under rainfed condition during *Kharif* season of 2007 at Department of Agronomy, Marathwada Agricultural University, Parbhani to study the effect of sowing time, row spacing and seed rate on production potential of clusterbean. The experimental field was laid out in split plot design with three replications after thorough preparatory cultivation prior to sowing. Six treatment combinations of three sowing dates and two row spacing were allotted to main plot and three treatments of seed rate were allotted to sub plot randomly. On the basis of results obtained from present investigation clusterbean sown during 28<sup>th</sup> MW at 45 cm row spacing with 15 kg/ha seed rate improved growth, yield attributes *viz.*, grain, straw and biological yield and increased productivity under agroclimatic conditions of Marathwada region.

Jagtap, D.N., Waghule, L.D. and Bhale, V.M. (2011). Effect of sowing time, row spacing and seed rate on production potential of clusterbean. *Adv. Res. J. Crop Improv.*, 2 (1) : 27-30.

**Key words :** Sowing time, Row spacing, Seed rate , Yield, Clusterbean

## INTRODUCTION

Clusterbean [*Cyamopsis tetragonoloba* (L.) Taub] or Guar is a drought tolerant legume of family leguminosae. Other than India, Pakistan and USA are major guar cultivating countries and Australia and Africa are with smaller averages. The maximum contribution of states in respect of area is shared by Rajasthan (18.18 lakh hectare) followed by Gujarat (2.27 lakh/ha) and Haryana (1.27 lakh/ha) (Kothari *et al.*, 2005). Cluster bean [*Cyamopsis tetragonoloba* (L.) Taub.], moth bean (*Vigna aconitifolia* (Jacq.) Morechal), horse gram (*Macrotyloma uniflorum*), cow pea [*Vigna unguiculata* (L.) Wal.] are typical legumes grown in tropical and subtropical area extensively. But production levels of these legumes are very low because of low and erratic distribution of rainfall coupled with extreme temperatures and low fertility status of soils. Main strategies for achieving sustainable production of these legumes are use of improved short duration varieties, integrated nutrient management, pest and disease control and suitable agronomic practices. Among these arid legumes

clusterbean have immense importance due to its high industrial value.

Appropriate sowing time helps to more efficient use of water, sunshine hours and higher photosynthetic rates. Optimum row spacing is one of the major management variable under dryland conditions. In water deficits regions large canopy growth may be disadvantageous as it may exhaust the available soil moisture more rapidly from root zone (Garg *et al.*, 2005). In Maharashtra, the area under clusterbean is quite low but increasing year after year due to drought hardy nature and better performance under moisture stress situation compared traditional legume crops. Therefore, it is of paramount importance to identify and develop agronomical practices that influences the performance of guar. Appropriate crop management increases production potential, ensures stable yields and increases water use efficiency.

In the changing agricultural scenario, cultivation of clusterbean crop has assumed greater important due to tremendous potential it offers in multiple use particularly in gum production and industrial use. The increasing demand for clusterbean products is much felt in