

Research
Paper

Effects of varieties and plant geometry on yield attributes and yield of summer greengram (*Vigna radiata* L.)

A.B. BHISE, S.U. PAWAR, S.S. SOLUNKE, U.N. ALSE AND G.T. KADAM

See end of the paper for authors' affiliations

Correspondence to :

S.U. PAWAR

Department of Agronomy,
Marathwada Agriculture
University, PARBHANI
(M.S.) INDIA

Email : pawarsu7@rediffmail.
com

ABSTRACT

Planting of green gram at spacing of 30 x 10 cm produced significantly higher yield (688 kg ha⁻¹) than 45 x 7.5 cm and 60 x 5 cm. The yield components viz., mean number of pods plant⁻¹, number of seeds pod⁻¹, number of seeds plant⁻¹, seed yield plant⁻¹, test weight and yield were significantly influenced when crop was planted at 30 x 10 cm. Green gram variety BM-4 produced significantly higher yield (737 kg ha⁻¹) than BM-2002-01 (699 kg ha⁻¹), BPMR-145 (631 kg ha⁻¹) and Kopargaon (584 kg ha⁻¹).

Bhise, A.B., Pawar, S.U., Solunke, S.S., Alse, U.N. and Kadam, G.T. (2011). Effects of varieties and plant geometry on yield attributes and yield of summer greengram (*Vigna radiata* L.), *Adv. Res. J. Crop Improv.*, 2 (2) : 221-223.

KEY WORDS : Spacing, Varieties, Greengram, Yield, Yield attributes, *Vigna radiata* L.

The capacity of food legumes to fix atmospheric nitrogen, leaf shedding ability and also solubilize phosphorus in association with phosphobacteria and VAM make leguminous crop most effective nutrient recycling agents in nature, food legumes thus play a vital role in nutrient balance and in maintaining soil fertility.

Green gram (*Vigna radiata* L.) has attained its commercial importance in Indian agriculture and also in Maharashtra. The seed quality of summer produce is very superior as compared to *Kharif*. Hence, cultivation of summer crop provides good quality seed. The farmers usually grow mungbean without maintaining proper spacing. Row planting with appropriate spacing can help to ensure optimum plant population per unit area of mungbean, thereby increasing the yield.

Green gram in summer season can very well be introduced in cropping systems, at the same time it will give remunerative income to farmer. In general, seed produced in *Kharif* season get damaged due to continuous rains at the time of harvesting and availability of quality seed become the constrains. To overcome such situation summer green gram cultivation is best answer (Kumar *et al.*, 2009).

RESEARCH PROCEDURE

A field experiment was conducted during summer season of 2009 at experimental farm of Department of

Agronomy, Marathwada Krishi Vidyapeeth, Parbhani on medium black soil with soil pH 7.57, 0.42 kg ha⁻¹ available N, 202.60 kg ha⁻¹ available P₂O₅ and 15.29 kg ha⁻¹ available K₂O. The experiment was laid out in split plot design with three replications. The treatments consisted of 12 combinations of three spacing (30 x 10 cm, 45 x 7.5 cm and 60 x 5 cm) as main plots and 4 varieties (BM-4, BM-2002-01, BPMR-145 and Kopargaon) as sub plots. The gross size was 6 x 3 m² and net plot sizes were 4.8 m x 2.0 m, 4.5 m x 2.25 m and 4.8 m x 2.0 m for 30 cm x 10 cm, 45 cm x 7.5 cm and 60 cm x 5 cm spacing, respectively. Sowing was done on 08th March, 2010. The crop was fertilized with 25 kg N + 50 kg P₂O₅. The recommended plant protection measures for the crop were followed.

RESEARCH ANALYSIS AND REASONING

The data on yield attributes and grain yield of greengram as influenced by different treatments are presented in Table 1.

Effect of spacing :

The yield attributes and grain yield of greengram was influenced significantly due to different treatments of spacing.

Significantly more number of pods plant⁻¹ were recorded at the spacing of 30cm x 10 cm than other spacing. The highest number of seeds pod⁻¹ was recorded