Yield attributes and yield of greengram (*Vigna radiata* (L.) wilczek) as influenced by increased plant density and nutrient management

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ABSTRACT

Field experiments were conducted during *kharif and rabi* 2002 and summer 2003 at the College of Agricultural Engineering, Kumulur, Tiruchirappalli district of Tamil Nadu to study the effect of increased plant density and nutrient management on the yield attributes and yield of greengram. Three inter row spacings of 20 cm (S_1), 25 cm (S_2) and 30 cm (S_3) with a constant intra row spacing of 10 cm accommodating 5.0, 4.0 and 3.33 lakh plants ha^{-1} were tried in the main plot. The treatments tried in sub plot were recommended N and P (N_1), N_1 with foliar spraying of one per cent sulphate of potash (SOP) (N_2), N_1 with soil application of 25 kg K_2O ha^{-1} as muriate of potash (MOP) (N_3), 125 per cent N and P with foliar spraying of one per cent SOP (N_4), 150 per cent N and P with foliar spraying of one per cent SOP (N_5) and 50 per cent N and P with foliar spraying of two per cent Diammonium phosphate (DAP) and one per cent SOP (N_6). The treatments were fitted in a split plot design replicated thrice. The results of the experiments revealed that the yield attributes *viz.,* pods plant^{-1}, pod length, seeds pod^{-1} and seed yield plant^{-1} were higher with recommended plant population (3.33 lakh plants ha^{-1}) and tended to decease with increasing population. Pods plant^{-1}, pod length, seeds pod^{-1} and seeds plant^{-1} were higher with 125 per cent NP along with foliar sprays in all the seasons except in *rabi* 2002 wherein, 150 per cent NP had higher seeds plant^{-1}. Grain yield was higher at higher plant density. Application of 125 per cent NP along with foliar sprays during *kharif* 2002 and summer 2003 and 150 per cent NP during *rabi* 2002 recorded higher grain yield.

Key words : Greengram, Increased plant density, Nutrient management, Yield attributes, Yield.