Growth 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 2002, 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 growth and yield of greengram. Three inter row spacings of 20 cm (S1), 25 cm (S2) and 30 cm (S3) 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 (N1), N, with foliar spraying of one per cent sulphate of potash (SOP) (N2), N, with soil application of 25 kg K2O ha-1 as muriate of potash (MOP) (N3), 125 per cent N and P with foliar spraying of one per cent SOP (N4), 150 per cent N and P with foliar spraying of one per cent SOP (N5) and 50 per cent N and P with foliar spraying of two per cent Diammonium phosphate (DAP) and one per cent SOP (N6). The treatments were fitted in a split plot design replicated thrice. The results of the experiment revealed that higher plant density favoured the plant height, TDMP and grain yield. At lower plant density, leaf area and DMP were more. In general, all the growth characters and yield were better when applied with 125 per cent N and P along with foliar sprays during kharif 2002 and summer 2003 and 150 per cent NP with foliar sprays during rabi 2002.

Key words: Greengram, Increased plant density, Fertilizer levels, Growth, Yield.