Effect of Different Plant Densities on Growth and Yield of Different Green Gram Varieties in Red Yellow Latersol under Irrigation

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Abstract: A field experiment was conducted during *Maha* season 2007 to study effect of spacing on green gram yield in red yellow latersol soil under irrigation.15 treatment combinations comprising three green gram varieties MI_6, ARI and Harsha and five spacing, three intra row spacing (30 x 8 cm, 30 x 12 cm, 30 x 16 cm) and two inter row spacing (37.5x8cm, 45x8cm,) were tested in two factor factorial randomized block design with three replicates. Growth and yield parameters were recorded and analyzed at α=0.05. Plant height of green gram variety was significantly differed among the varieties and leaf area did not differ significantly. Number of flowers of different varieties was not significantly different but wider spacing formed higher number of flowers than lower spacing. Hundred pods weight among varieties was significantly differed. Increasing intra row spacing lead to produce high grain weight and MI_6 produce high pods weight than other varieties. The yield at different spacing was not significantly differed. Anyhow, spacing 30 x 12 cm for ARI variety and spacing of 30x16cm for Harsha variety produced higher yield than recommended spacing. Yield was significantly differed among the varieties and Harsha gave the highest yield (around 2t/ha) than other varieties. ARI produced average yield 1.48 t/ha and MI_6 produced the lowest yield 1.26 t/ha. Harsha was resistant to pest and disease than MI_6 and ARI varieties. Harsha (30x 16cm) and ARI (30x12cm) produced higher in wider intra spacing than the recommended spacing. Harsha can be recommended as the more suitable variety than ARI and MI_6 to cultivate in red yellow latersol soil under irrigation.