

Response of Greengram to Irrigation and Nutrient Management

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Abstract—A field experiment was carried out in District Seed Farm, Kalyani, BCKV during summer season of 2015 to study the response of greengram to irrigation and nutrient management in new alluvial zone of West Bengal. The experiment was conducted in split plot design with 3 irrigation treatments like irrigation at IW/CPE 0.4, 0.6 and critical growth stages (branching, flowering and pod development) in main plots and 4 nutrient management like 100% RDF, 100% RDF+Rhizobium, 75% RDF+1 t/ha vermicompost+ Rhizobium and 50% RDF+2 t/ha vermicompost + Rhizobium in subplots with three replications. The results of the experiments showed that irrigation and nutrient treatments has significant influence in increasing the growth and yield attributes of greengram. Irrigation scheduled at critical growth stages of the crop produced taller plant height, LAI at all stages of observations. Among nutrient treatments, 75% RDF+1t/ha vermicompost+ Rhizobium gave significantly maximum yield attributes over others. Significantly the highest seed yield (1109.99 kg/ha) was obtained under irrigations at critical growth stages and also in 75%RDF+1 t/ha vermicompost+ Rhizobium (1121.82 kg/ha). The maximum water use efficiency was recorded in irrigations at critical growth stages along with 75%RDF+1 t/ha vermicompost+ Rhizobium (11.17 kg/ha-mm). Considering the above results, irrigation at critical growth stages along with 75%RDF+1 t/ha vermicompost+ Rhizobium can be recommended for better growth and yield of greengram in new alluvial zone of West Bengal.