

Abstract

Snap bean (*Phaseolus vulgaris* L.) ranks first among vegetables produced for the export market in Kenya. All Snap beans were planted in different treatments containing various levels of Nitrogen of Calcium Ammonium Nitrate (CAN) Treatments T1- T2 had 1.5gN, 2.0gN, 2.5gN, 5gN, 10gN and 15gN respectively while T8 was inoculated with Rhizobium. The control T9 lacked nitrogen. All were supplied with equal amounts of phosphorus fertilizer (5.5g) single super phosphate per plant. The effects of different levels of nitrogen were determined on the vegetative growth, seed and pod production and nodulation. It was found that an increase in nitrogen application increased vegetative growth, dry matter production, seed and pod production. Increased Nitrogen application had a negative effect on nodulation. T1 which had the least level of nitrogen application managed to modulate moderately and also had high yields and dry matter production as compared to the control. However, inoculation alone had best nodulation but seed production, vegetative growth and dry matter production was low compared to the treatment with least nitrogen indicating that the nitrogen fixed through nodules was not enough for maximum production. From this study, it can be recommended that 22kg N/ha would be economical for snap beans production.