

EFFECT OF INTEGRATED NUTRIENT MANAGEMENT PRACTICES IN SOYBEAN (*GLYCINE MAX L. MERRILL*) ON GROWTH BEHAVIOR, NUTRIENT UPTAKE AND YIELD IN CENTRAL INDIA

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Abstract: A field experiment was carried out at Instructional cum Research Farm, Indira Gandhi Krishi Vishwavidyalaya, Raipur during *kharif* season of 2006 study the “Effect of integrated nutrient management practices in soybean (*Glycine max* L. Merrill) on Growth behavior, Nutrient Uptake and yield in central India”. The experiment was laid out in randomized block design with three replications. The treatment consist 10 integrated nutrient management *viz.* T₁- Control (no fertilizers), T₂-100% RDF (25:80:60 kg NPK ha⁻¹), T₃- FYM 10 t ha⁻¹, T₄ 50% RDF (12.5:40:30 kg NPK ha⁻¹) + FYM 10 t ha⁻¹, T₅- 50% RDF (12.5:40:30 kg NPK ha⁻¹) + FYM 5 t ha⁻¹ + *Rhizobium* + PSB, T₆- T₂ + Zinc 5 kg ha⁻¹ + Mg 10 kg ha⁻¹, T₇- T₃ + Zinc 5 kg ha⁻¹ + Mg 10 kg ha⁻¹, T₈- T₄ + Zinc 5 kg ha⁻¹ + Mg 10 kg ha⁻¹, T₉- T₅ + Zinc 5 kg ha⁻¹ + Mg 10 kg ha⁻¹, T₁₀- 100% RDF (25:80:60 kg NPK ha⁻¹) + FYM 10 t ha⁻¹ + Zinc 5 kg + Mg 10 kg ha⁻¹ + *Rhizobium* + PSB ha⁻¹. The result revealed that growth parameter *viz.*- plant height, number of leaves, number of branches, dry matter accumulation, chlorophyll content & leaf area were recorded highest result with the application of 25:80:60 kg NPK ha⁻¹ + 10 t FYM ha⁻¹ + Zn 5 kg ha⁻¹ + Mg 10 kg ha⁻¹ + *Rhizobium* + PSB. Among the all integrated nutrient management practices, application of 25: 80:60 kg NPK ha⁻¹ + 10 t FYM ha⁻¹ + Zn 5 kg ha⁻¹ + Mg 10 kg ha⁻¹ + *Rhizobium* + PSB (T₁₀) recorded the highest NPK content (272.66, 22.56, 323.23 NPK kg ha⁻¹, respectively) in the soil & NPK uptake (198.96:15.73:160.3 kg NPK ha⁻¹, respectively) by crop, whereas the lowest NPK content (225.6, 11.40, 282.60 NPK kg ha⁻¹, respectively) in the soil & NPK uptake (97.63, 8.71, 61.86 NPK kg ha⁻¹, respectively) by crop recorded under control (T₁). In respect of the highest seed & Stover yield recorded 21.41 q ha⁻¹ & 26.50 q ha⁻¹, respectively under application of 25: 80:60 kg NPK ha⁻¹ + 10 t FYM ha⁻¹ + Zn 5 kg ha⁻¹ + Mg 10 kg ha⁻¹ + *Rhizobium* + PSB (T₁₀) compared to other treatment but, it was statistically at par with treatment (T₆). However, the lowest seed & Stover 12.97 q ha⁻¹ & 16.39 q ha⁻¹, respectively recorded with no fertilizers application (control -T₁).

Keywords: Integrated Nutrient Management, Nutrient Uptake and yield of soybean

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