

EFFECT OF DIFFERENT DOSES OF NPK ON TARGETED YIELD AND QUALITY OF SOYBEAN

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Abstract: A field experiment was conducted during kharif season on fine montmorillonitic, Hyperthermic, family of Typic Haplustert soil at research farm of the Soil Science Department, JNKVV, Jabalpur. In order to study the effects of different doses of NPK on targeted yield and quality of soybean, based on targeted yield was laid out in randomized block design with five treatments consisted of T₁= control, T₂= GRD (20.60.20), T₃= Targeted Yield (25 qha⁻¹), T₄= Targeted Yield (30 qha⁻¹) and T₅= Targeted Yield (35 qha⁻¹). The soil of experimental field was normal in soil reaction (pH 7.72), EC (0.305 dSm⁻¹) and 0.49 % OC with low in available N, medium in P, K, and S having 124, 12, 370 and 11.45 kg ha⁻¹ respectively. The results indicated that different doses of fertilizers based on targeted yield affected the yield of soybean significantly over control and general recommended doses (GRD) of fertilizer for various set targeted yield. The highest yield of seed and Stover were recorded in treatment T₅ having 31.35 and 61.48 q ha⁻¹ respectively. Also, the highest nutrient content of NPK were 2.78, 0.17 and 0.78 percent at 30 DAS respectively. The analyzed quality of soybean such as oil and protein content was highest in T₄ i.e. 19.45 and 42.93 per cent, respectively. It was reckoned that for set of target yield based on soil test value, use of NPK fertilizers can be best practice for nutrient buildup and assimilation of higher seed protein and oil content. The targeted yield was increased by 32.25 percent over control. The available nitrogen, phosphorous and potash were found to increase with respect to initial status.

Keywords: Fertilizer, Soybean, Seed yield, Oil, Protein content

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