

SITE SPECIFIC NUTRIENT MANAGEMENT IN SOYBEAN (*GLYCINE MAX* L. MERRILL)

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Abstract : A field experiment was conducted during *kharif* season, 2008 on medium black clay soils (Vertisols) having pH 7.80 at Research Farm, College of Agriculture Indore (M.P.). To study the "Site specific nutrient management in soybean (*Glycine max* L. Merrill)". The experiment was conducted in randomized block design having nine treatments - T₁ - Fertilizer dose as per farmers' practice (50 kg DAP/ha), T₂ - T₁ + 40 kg S/ha through gypsum + 6.25 kg Zn/ha through ZnCl₂, T₃ - Recommended dose of fertilizer (RDF) i.e. 23.5 kg N, 60 kg P₂O₅, 23.5 kg K₂O through DAP and MOP, T₄ - T₃ + 40 kg S/ha through gypsum + 6.25 kg Zn/ha through ZnCl₂, T₅ - 150% of RDF i.e. 35.2 kg N, 90 kg P₂O₅, 35.2 kg K₂O through DAP and MOP, T₆ - T₅ + 40 kg S/ha through gypsum + 6.25 kg Zn/ha through ZnCl₂, T₇ - Soil test based RDF for 25 q/ha yield target (28.95:74.92:9.5 N:P₂O₅:K₂O kg/ha given through DAP and MOP), T₈ - T₇ + 40 kg S/ha through gypsum + 6.25 kg Zn/ha through ZnCl₂, T₉ - Control. The treatments were replicated 4 times. The treatment T₆ (150% RDF + 40 kg S + 6.25 kg Zn/ha) significantly produced maximum plant growth (i.e. plant height, branches/plant, dry matter accumulation, number of nodules/plant, leaf area/plant, LAI, chlorophyll content), seed yield/plant (10.03 g), biological yield (3400kg/ha), grain yield (1673 kg/ha) and straw yield (1727 kg/ha) followed by T₅ (150% RDF). The maximum net return of Rs. 20525/ha along with highest benefit: cost ratio of 3.00 was obtained with treatment T₅ (150% RDF), while gross income was highest (Rs. 31841/ha) with treatment T₆ (150% RDF+ 40 kg S + 6.25 kg Zn/ha).

Keyword: Nutrient management, Soybean

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