



RESEARCH ARTICLE :

Evaluation of soil test and yield target based fertilizer prescription model for brinjal on an alfisol

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SUMMARY : Field experiments were conducted in Western Zone (Thondamuthur block, Coimbatore Dt.) of Tamil Nadu to evaluate the Soil Test Crop Response based fertilizer prescription model under Integrated Plant Nutrition System (STCR-IPNS) for desired yield targets of brinjal on red non calcareous soils (Palaviduthi series-TypicRhodustalf). The treatments include control, blanket recommendation, soil test crop response (STCR) based fertilizer dose for a yield target of 30 t ha⁻¹, 35 t ha⁻¹ and 40 t ha⁻¹, STCR-IPNS based fertilizer dose for a yield target of 30 t ha⁻¹, 35 t ha⁻¹ and 40 t ha⁻¹ and farmer's practice. The results of the experiments indicated that, in the evaluation experiment, the per cent achievement of the targeted yield was within ± 10 per cent variation proving the validity of the equations for prescribing integrated fertilizer doses for brinjal. The highest mean per cent achievement was recorded with STCR - IPNS - 350 t ha⁻¹ (105.0) followed by STCR-INS30 t ha⁻¹ (102.9). Among the treatments, STCR-IPNS-35 t ha⁻¹ of brinjal has proved its superiority and recorded a yield increase of 23.7 and 45.3 per cent, respectively over blanket and farmer's practice. The increase in response ratio due to STCR-IPNS-35 t ha⁻¹ over blanket and farmer's practice was 4.71 and 19.57 kg kg⁻¹, respectively and that of BCR was 0.62 and 0.90, respectively. Among the treatments, STCR-IPNS-30 t ha⁻¹ recorded relatively higher Response Ratio (97.37 kg kg⁻¹) and STCR-IPNS-35 t ha⁻¹ BCR in (3.01) than other treatments. Post-harvest soil available NPK indicated the buildup and maintenance of soil fertility due to soil test based fertilizer recommendation under IPNS.

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