



Response of *Bt* Cotton to Nutrient Omission and Site Specific Nutrient Management in Vertisols under Irrigation

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Abstract: Study on identification of critical nutrient and realization of target yield through site specific nutrient management (SSNM) comprising of five treatments viz., SSNM for target yield of 4 t ha⁻¹, N omission, P omission, K omission and Farmers' practice was carried out on farmers' fields on participatory mode. Among all, significantly higher number of bolls plant⁻¹ (43.8), average boll weight (5.38 g) and seed cotton yield plant⁻¹ (217.3 g plant⁻¹ and 4384 kg ha⁻¹) were recorded with SSNM treatment followed by farmers' practice. The lower values for these attributes were recorded with nitrogen omission (36.4, 4.52g, 174.5g and 3707 kg ha⁻¹, respectively) followed by K and P omission treatments. SSNM treatment also recorded higher gross return (Rs. 188526 ha⁻¹), net return (Rs. 136183 ha⁻¹) and B:C ratio (3.60) while N omission recorded lower gross return (Rs. 159408 ha⁻¹), net return (Rs. 108567 ha⁻¹) and B:C (3.13). Thus, the study revealed possibility of realizing pre-set yield target (≥ 4.0 t ha⁻¹) with site specific nutrient management. Further, N appeared to be the most critical element in cotton production followed by K in the North eastern dry zone in TBP command.

Keywords: Bt Cotton, SSNM, Nutrient Omission, Target yield
