

Nutrient Uptake, Yield and Economics of *Rabi* Sunflower as Influenced by Plant Density and Weed Management Practices

C Nagamani, S M Muneendra Naidu and D Subramanyam

Department of Agronomy, S.V. Agricultural College, Tirupati 517 502

ABSTRACT

A field experiment was conducted in *rabi*, 2009-10 at S.V. Agricultural College, Tirupati to study the nutrient uptake, yield and economics of *rabi* sunflower as influenced by plant density and weed management practices. The experiment was laid out in split plot design, replicated thrice with three plant densities *viz.*, (1,11,111 plants ha⁻¹) 45 × 20 cm, (74,074 plants ha⁻¹) 45 × 30 cm and (55,555 plants ha⁻¹) 60 × 30 cm and seven weed management practices *viz.*, unweeded check, weed free check, intercultivation at 30 DAS, intercultivation at 30 DAS + HW at 45 DAS, pendimethalin @ 1.0 kg a.i ha⁻¹ + HW at 30 DAS, oxadiargyl @ 0.3 kg a.i ha⁻¹ + HW at 30 DAS and oxyflourfen @ 0.1 kg a.i ha⁻¹ + HW at 30 DAS. The lowest dry weight, nutrient uptake by weeds, the highest growth parameters, yield and economics were noticed with the plant density of 45 × 30 cm. Among the weed management practices tried, the lowest biomass of weeds and the highest growth parameters, yield and nutrient uptake by crop were resulted from pre-emergence application of pendimethalin @ 1.0 kg a.i ha⁻¹ + HW at 30 DAS, besides weed free check. The nutrient uptake by weeds associated with the sunflower crop was 44.97, 16.33 and 44.27 kg ha⁻¹ of nitrogen, phosphorus and potassium respectively in unweeded check.

Key words : Nutrient uptake, Plant density, Sunflower, Weed Management, Yield.