

Study on Physical and Chemical Methods of Weed Control in Onion Crop

J.M. VASHI, H.V. PANDYA AND R.M. NAIK

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SUMMARY

A Field experiment was carried out during *rabi* season of 2001-2002 at the Instructional Farm, ASPEE college of Horticulture and Forestry, Gujarat Agricultural University, Navsari Campus, Navsari, to study the response of onion (*Allium cepa* L.) to spacing and weed control treatments. The treatments comprising of two spacing viz., 10 x10 cm and 15 x 10 cm and ten weed control treatments viz., T₁-Pendimethalin @ 1.00 kg a.i. ha⁻¹ (pre-emergence), T₂-Pendimethalin @ 1.00 kg a.i. ha⁻¹ (post-emergence at 20 DATP), T₃-Alachlor @ 1.00 kg a.i. ha⁻¹ (pre-emergence), T₄-Alachlor @ 1.00 kg a.i. ha⁻¹ (post-emergence at 20 DATP), T₅-Oxyfluorfen @ 0.20 kg a.i. ha⁻¹ (pre-emergence), T₆-Oxyfluorfen @ 0.10 kg a.i. ha⁻¹ (post-emergence at 20 DATP), T₇-One hand weeding at 20 days after transplanting, T₈-Two hand weeding at 20 and 40 days after transplanting, T₉-Two hand weeding at 20 and 40 days after transplanting + Soil stirring and T₁₀-Unweeded control. All 20 treatment combinations were arranged in Factorial Randomized Block Design (FRBD) with three replication. The population of weed flora was significantly influenced by these treatments. The monocot weeds viz., *Cynodon dactylon* (L.) Pers., *Echinochloa crus-galli*, *Sorghum halpense* L., *Echinochloa colonum* Link, *Digitaria obsdens* Scop and dicot weeds viz., *Phyllanthus maderaspatien* Sis, *Ephorbia hirta* L. *Amaranthus viridis* L., *Digera arvensis* Fork., *Trianthema portulacastrum* L., *Convolvulus arvensis* L., *Physalis minima* L. and sedges viz., *Cyperus rotundus* L. were the major weed flora of the experimental field and different herbicides applied as pre-emergence or post-emergence influenced significantly the population of these weeds.

See end of the article for authors' affiliations

Correspondence to :

H.V. PANDYA

Department of
Entomology, N.M.
College of Agriculture,
Navsari Agricultural
University, NAVSARI
(GUJARAT) INDIA

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