

ABSTRACT

Critical Period of Weed Competition in Sweet Corn
(*Zea mays* var. *Saccharata* Sturt.)

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The experiment was carried out during 16th May to 25th July, 1990 at the University Field Station on a River Estate loam (Fluventic Eutropept) soil that has an average cation exchange capacity of 4.8 Cmol/kg and pH of 6.5. Its sand, silt and clay contents are 61.0, 14.5 and 24.5 per cent, respectively.

The experiment was carried out to determine the critical period for removal of natural weed populations in sweet corn (Cultivar 'UW7').

A randomized complete block design, with 12 treatments replicated three times, was used to compare treatment effects. Hand weeding treatments included weed infestation of the corn plots for 2, 3, 4, 5, 6 and 10 weeks after planting (WAP) with continuous weed removal thereafter or weed free maintenance for 2, 3, 4, 5, 6 and 10 WAP with no further weed control until harvest. Individual plots were 3 x 5 m and consisted of 4 rows. The effect of timing of weed removal on various growth and yield parameters was evaluated.

Sweet corn plant density, stalk diameter, corn dry matter, ear weight/plant, number of ears/plant, ears/m², 100-seed weight, kernels/cob, green cob yield and kernel sugar content, and plant height were all significantly influenced by timing of weed control.

Green cob yield was positively correlated with all the above parameters.

Crop stalk diameter, ear weight/plant and number of kernels/cob were negatively correlated with weed dry matter yield rather than with weed density. The critical period for removing weeds to prevent yield reductions in sweet corn was found to range between 21 and 35 days after planting (DAP).