

Turkish Journal of Agriculture and Forestry



Turkish Journal

of

Agriculture and Forestry

Determination of Optimum Weed Control Timing in Maize (*Zea mays* L.)

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Abstract: In field experiments conducted in 2001 and 2002, the optimum timing for weed control in maize was investigated. Both experiments were designed according to randomized complete blocks, and *Cyperus rotundus* L., *Amaranthus retroflexus* L., *Portulaca oleracea* L. and *Chenopodium album* L. were naturally infested on experimental plots in both years. The study in 2001 was conducted to determine the critical period for weed control for maize. With this aim plots were maintained weed-free or weedy for different periods based on crop growth stage. The relationships between grain yield and different weedy or weed-free periods were determined via regression analyses in 2001. The results of this study suggested that a weed-free period between 3- and 10-leaf stages of maize was enough to provide acceptable grain yield. In the following year weed control was carried out during the critical period that was determined in 2001. Weed removal from plots was started at the 3-leaf stage of maize and plots were kept weed-free for different periods until the 5-, 7- and 10-leaf stages. Whole season weedy and weed-free plots were included in the experiment for yield comparison. The highest grain yield was obtained from plots kept weed-free between the 3- and 7-10-leaf stages. Results from both years suggest that weed control should be carried out between the 3- and 7-10-leaf stages of maize to provide maximum grain yield. Thus, it is possible to optimize the timing of weed control, which can serve to reduce the costs and side effects of intensive weed control.

Key Words: Maize (*Zea mays* L.), Weed control, Critical period

Turk. J. Agric. For., **28**, (2004), 349-354.

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