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Determination of critical period of weed control in corn (Zea mays L.) in Ahvaz region

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Abstract

In order to determine the critical period of weed control in grain corn (*Zea mays* L.), a field study was conducted at the Ramin University of Ahvaz Research Field in 2009**.** The experiment was designed according to randomized complete block design. Treatments consisted of two different periods of weed interference, a weed-free period and a weed removal period, imposed at V2, V5, V8, V11, Tassel, and harvest (based on phonological stages of corn development). The relationships between grain yield and different weedy or weed-free periods were determined via regression analyses. *Cyperus sp*., *Echinochloa crus-galli*, *Convolvulus arvensis* and *malva sp*. were naturally infested on experimental plots. Results suggested that a weed-free period between 2-11 leaf stages of maize (GDD= 500-1125) was enough to provide acceptable grain yield. Based on weed infested treatments, a weed free period until the V_8 stage was enough to reduce weeds number and dry weight to 64 and 84/6% respectly. Weed interference until late in the season reduces grain yield, biologic yield and harvest index of corn to 36, 28/6 and 19/6% respectly. 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.

Keywords: Maize, Critical period, Weed, Yield loss