

# Turkish Journal of Agriculture and Forestry



Turkish Journal

of

Agriculture and Forestry

**Use of a Crop Water Stress Index for Scheduling the Irrigation of Sunflower  
(*Helianthus annuus* L.)**

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 [Keywords](#)  
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**Abstract:** This study was designed to evaluate different threshold crop water stress index (CWSI) values to schedule irrigation for sunflower (*Helianthus annuus* L.) grown under furrow irrigation. Irrigations were started when CWSI values reached 0.2, 0.4, 0.6, 0.8 and 1.0 (non-irrigation). The CWSI values were computed from measurements of canopy temperature, air temperature and atmospheric vapor pressure deficit. Total irrigation water amounts of 679, 584, 470 and 227 mm were applied to the  $T_{0.2}$ ,  $T_{0.4}$ ,  $T_{0.6}$  and  $T_{0.8}$  treatments, respectively. The maximum seasonal evapotranspiration (ET), 809 mm was measured from the  $T_{0.2}$  treatment. Irrigation levels significantly affected seed yield. Although the highest seed yield ( $4.38 \text{ t ha}^{-1}$ ) was obtained from the  $T_{0.2}$  treatment, the  $T_{0.4}$  and  $T_{0.6}$  treatments were not significantly different from the  $T_{0.2}$  treatment. Therefore, based on these results, a CWSI value of 0.6 can be used for the irrigation time of sunflower under Tekirdağ conditions.

**Key Words:** Crop water stress index (CWSI), infrared thermometer, furrow irrigation, evapotranspiration

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Turk. J. Agric. For., **30**, (2006), 11-20.

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