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Comparison of Performance Potential of Sunflower Cultivars for Seed and Oil Yield in Water Deficit Stress Conditions

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Abstract

In order to investigate the effects of water deficit stress on grain yield and some traits three sunflower cultivars, have been used based on randomized complete block design using a split plot experiment at Agricultural Research Station of Azad University of Tabriz in 2007. Five levels of water deficit (50, 100, 150, 200 and 250 mm evaporation from evaporation pan, class A) were assigned as main-plot and three levels of cultivars (Armavirsky, Allstar and Euroflour) were used as sub-plot in present work. Results indicated that grain yield were reduced to 4865 to 2122, kg.ha⁻¹ when plots were irrigated after 50 to 250 mm evaporation from the pan class A. Among cultivars studied 'Armavirsky' produced higher yield than 'Allstar' but it did not show significant difference from 'Euroflour'. Increasing water deficit stress decreased seed yield, oil yield, oil percentage, 100 grain weight, achene hull weight, kernel weight and increased number of unfilled seed.

Keywords: Sunflower, Cultivar, Grain yield, Grain oil, Water deficit stress

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