

INVESTIGATION OF WATER-YIELD RELATIONSHIPS OF SOME DROUGHT-RESISTANT COTTON VARIETIES CULTIVATED IN AYDIN PROVINCE

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Abstract: This study evaluated drought-resistant cotton varieties grown in field conditions regarding water-yield relationships. It also aimed to investigate the effects of different irrigation water levels on the yield of cotton plants in the Aydın region. The research was conducted in field conditions in Aydın Adnan Menderes University, Faculty of Agriculture, Research and Application Farm in 2022. Two seed varieties (Sahra, Özaltın) produced drought-resistant in the region were used as research material. The experiment was set up according to the randomized block design with three replications and two factors. The first factor in the study is the cotton variety, and the second is the irrigation level. The gravimetric method approach, a soil-based monitoring technique, was used in irrigation programming. In the study, two different types of cotton with two different irrigation levels were applied with three replications. Thus, the experiment consisted of a total of 12 plots. In addition, the May 455 cotton variety, which is intensively grown in the region, was used for control. In the study, irrigation water was applied to each plot by drip irrigation method. When the harvest time came, the plants in the middle two rows were harvested by hand and weighed, and yields with plots were obtained. Thus, the relationship between irrigation water and plant yields in drought-resistant cultivars was determined.

Keywords: cotton yield, limited irrigation, drought