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**Determination of the Effects of Different Irrigation Programs on Water
Consumption in Different Soil Layers and Root Growth of Cotton**

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Abstract: This study was conducted to determine of the effects of different irrigation programs on water consumption in different soil depths and root growth of cotton. The amount of irrigation water applied was based on free water surface evaporation from a screened Class-A Pan. Irrigation treatments consisted two different irrigation intervals (I1: 5; I2: 10 days), and three plant-pan coefficients (Kcp1: 0.75, Kcp2: 0.90, Kcp3: 1.05) and two different wetted percentages (P1: 0.70 and P2: based on cover percentage of crop). According to results it was determined that plant water consumption of 42% and root growth of 65% were in 30 cm soil layer. The plant water consumptions and root growth were affected by irrigation intervals, plant-pan coefficients and wetted percentages. On the other hand, under the same conditions, when drip irrigation was used, wetted depth for cotton may be 108 cm.

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