

ABSTRACT**THE EVALUATION OF SURFACE AND SUBSURFACE DRIP
IRRIGATION APPLICATIONS ON COTTON IN AYDIN REGION**

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The study with Carmen cotton cultivar has been conducted in the fields of the Research and Application Farm of Faculty of Agriculture at Adnan Menderes University, during the year of 2012. This research was conducted to determine the effect of surface-subsurface drip methods and irrigation levels on seed cotton yield and some quality and agronomic parameters of cotton in the field conditions. Experiment was set up out in randomized plot design with two factors and three replications. Trials comprised two drip systems (surface and subsurface) within each of which four different watering regimes (100, 75, 50 and 25 % of 8 – day cumulative Class-A pan evaporation) were applied. The results revealed that drip irrigation systems and irrigation levels affected the seed cotton yield and the highest yield was observed as 649.4 kg/da at full irrigation level of 100 % (S₁₀₀) of control plot of surface drip system. The lowest yield was observed as 333.2 kg/da from 25 % (T₂₅) treatment of subsurface drip system. Maximum water use was determined in the S₁₀₀ treatment as 705.0 mm in the surface drip method. Surface and subsurface drip irrigation methods with different amount of irrigation water applied were both affected the fiber thickness, fiber length, fiber strength, number of bolls per plant, boll weight, 100 seed weight, lint percentage, number of generative branches, cotton seed weight and plant height. S₁₀₀ treatment (irrigation water applied in the range of 100% under the surface drip system) was found to be more appropriate in the economic sense.

Key words: cotton, surface drip irrigation, subsurface drip irrigation, irrigation level,