Yazgan S, Buyukcangaz H, Demirtas C, Candogan BN (2006) Evapotranspiration for Young Cherry Trees (*Prunus avium*) and Growth Responses to Irrigation. Pak J Bot 9(1): 39-44.

Abstract

The goal of this research was to determine the water requirements and effects of different irrigation water application levels on vegetative growth of sweet cherry trees irrigated by a micro-sprinkler system. Evapotranspiration and vegetative growth parameters (tree height, trunk cross-sectional area, volume of trees and branch cross sectional area) of 3-4 years old sweet cherry trees (Prunus avium) were determined during the growing season of 2001 and 2002. The trees were subjected to four irrigation treatments based on adjusted coefficients of Class A pan evaporation (0.50 E_{pan}, 0.75 E_{pan}, 1.00 E_{pan} and 1.25 E_{pan}). Calculated evapotranspiration (ET_c) values for irrigation treatments were found as 365-839 mm and 418-840 mm for 2001 and 2002, respectively. The effect of irrigation treatments on total height of tree, trunk cross-sectional area 30 cm above the grafting point, volume of trees and branch cross sectional area were statistically significant at 1% level of probability. When considering the average values of 2001 and 2002, maximum tree height, trunk cross-sectional area, volume of trees and branch cross sectional area were observed at T_3 (1.00 E_{pan}) and T_4 (1.25 E_{pan}) treatments.

Key words: Evapotranspiration, vegetative growth parameters, sweet cherry trees, micro-sprinkler irrigation.