Geophysical Research Abstracts
Vol. 13, EGU2011-1270, 2011
EGU General Assembly 2011

A Study of the Effect of Sprinkler Irrigation on the Soil Temperature Regime"Case study: Botany Park of Tehran University

Masoud Abdolahi
Islamic Republic Of Iran (masoud.abdolahi@gmail.com)

One of the important parameters in microclimatic studies is that of the effect of sprinkler irrigation on the soil temperature regime which is the main subject of the present research. This study was carried out at the Botany Park of Tehran University. In order to achieve the objectives, a meteorological research station was established at the said park for observing the soil temperature at the depths of 5, 10 and 20 centimeters at 06:30, 12:30 and 18:30 hours of local time. The results of the study indicate that sprinkler irrigation has no effect on the temperature profile; however, it can decrease the amplitude of soil temperature variations at the depths of 5, 10 and 20 centimeters.

The greatest effect of sprinkler irrigation on the amplitude of soil temperature variations at the depth of 10 centimeters was 1.6 degrees centigrade. On the other hand, sprinkler irrigation decreases mean soil temperature at the depths of 5 and 10 centimeters. The greatest degree of this effect at the depth of 10 centimeters was 0.2 degree centigrade; in relation to the nature of this effect at the depth of 20 centimeters, no clear result was obtained.

Key words
Soil Temperature Regime; Sprinkler Irrigation; Soil Temperature