

Determination of water consumption of alfalfa with irrigated subsurface drip irrigation
(Main Project: Under Limited Water Conditions Created Water Saving Irrigation Program for Plant Irrigation)

Research Area	Soil Water Resources and Environmental
Research Program	Increase of Water Use Efficiency
Executive Institute	International Agricultural Research and Training Centre
Supporting Institute/s	TAGEM
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Research Period	01/01/2016-31/12/2020
Project Summary: <p>Nowadays, the majority of soil and water resources are used for agricultural production. Despite the world population are increasing day by day water and soil resources are declining due to reasons of various uses. People can meet the needs by conservation of soil and water resources, improvement, development and obtaining more products in unit area by using less water. In order to obtain expected benefits of irrigation, it is essential to select appropriate irrigation techniques, project planning, and installation. Irrigation system should be operated in accordance with the objectives and water requirements should be covered at appropriate irrigation time. Water is one of the most important inputs for alfalfa plant. Insufficient knowledge on soil-plant-water relations, using of inappropriate agriculture techniques and inadequate production environment affect alfalfa production quality and amount negatively. Water requirements of plants vary according to growing season and region therefore irrigation planning is crucial. Depending on the amount of water applied during the growing season may cause decline in yield and quality. In this research project, evapotranspiration, irrigation water requirement and water use efficiency of alfalfa plant irrigated by subsurface drip irrigation will be determined in Menemen Plain. Irrigation applications will be the completion of the missing moisture, 15%, 30%, and 45% deficit fo missing moisture to field capacity depth of 0- 90cm. In this frame, Irrigation treatments will be application 100%, 85%, 70% and 55% of missing moisture respectively within three replicates by subsurface drip irrigation. With this project, subsurface drip irrigation program will be created for alfalfa plant which has importance for animal nutrition, and effects of the method will be determined on the yield and quality. Furthermore, the main objectives of the project are increased profitability and saving water by subsurface drip irrigation and sustainable alfalfa production.</p> <p>Key words: Subsurface Drip Irrigation, Alfalfa, Evapotranspiration, Water Use Efficiency</p>	