

Lysimetric Determination of Ajwain (*Trachyspermum ammi*) Crop Coefficients during Different Growth Stages in Birjand Area

E. Saberi, F. Rezaei and A. Khashei Siuki^{* 1}

M.Sc. student, Irrigation and Drainage, College of Agriculture, University of Birjand.
elhamsaberi2013@gmail.com

M.Sc. student, Irrigation and Drainage, College of Agriculture, University of Birjand.
fatemeh.r90@gmail.com

Associate Professor, Water Engineering Department, College of Agriculture, University of Birjand.
abbaskhashei@birjand.ac.ir

Abstract

Detailed estimation of evapotranspiration is required for water balance studies, water utilities, design and management of irrigation conveyance systems and water resources management, and other purposes. In this study, crop coefficients and water requirements of Ajwain, which is one of the most important medicinal herbs, were determined during a growing season in College of Agriculture, University of Birjand, by using lysimeters. For this purpose, three weighing lysimeters were used and water requirement of Ajwain was calculated by water balance method. To calculate the reference evapotranspiration, common grass sown in green spaces was used with a height of 12 cm as the reference plant. Finally, at the end of the growing season, values of Ajwain crop coefficients during different growth stages including early stage, crop development, midseason, and late season were obtained as, respectively, 0.78, 1.06, 1.13 and 0.96. Also, the total evapotranspiration of the plant in lysimeter was 492 mm.

Keywords: Evapotranspiration, Water balance equation, Water requirement.

1- Corresponding author: College of Agriculture, University of Birjand.

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