



ISHS Acta Horticulturae 957: IV International Symposium on Models for Plant Growth, Environmental Control and Farm Management in Protected Cultivation - HortiModel2012

TRANSPIRATION OF A SWEET PEPPER CROP UNDER SCREENHOUSE CONDITIONS

Authors: N. Katsoulas, N. Rigakis, E. Kitta, A. Baille

Keywords: microclimate, air temperature, vapour pressure deficit, shading, insect proof screen

Abstract:

In the present study, the influence of three different shading nets with different shading intensity and porosity on the screenhouse microclimate and pepper crop transpiration rate was experimentally investigated. The experiments were carried out from May to October of 2011 in the experimental farm of the University of Thessaly in Velestino, Central Greece. Seedlings of sweet pepper plants were transplanted during May in three screenhouses and outside. The three screenhouses were covered by the following nets: (a) an anti-thrip insect proof white net with shading intensity of about 13%, (b) an anti-thrip insect proof white net with shading intensity of about 34% and (c) a green shading net with shading intensity of about 36%. Shading nets (a) and (b) had same porosity but different shading intensity while shading nets (b) and (c) had similar shading intensity but different porosity. The following parameters were recorded regularly inside the three screenhouses: solar radiation, air temperature and relative humidity, crop temperature and crop transpiration rate. In addition, solar radiation, air temperature and relative humidity and wind speed and direction were also measured outside the screenhouses. It was found that the presence of the screen material decreases the advective part of crop transpiration, something that is attributed to the reduction of air velocity inside the screenhouse. Furthermore, the results showed that screenhouse crops had from about 20 to 40% lower transpiration rate than the open field crop, and accordingly, it could be concluded that screenhouse crops consumed from about 20-40% less water than the open field crop.

► [Full Text](#) (PDF format, 291989 bytes)

► [Citation](#)

► [Translate](#)

Επιλογή γλώσσας

Με την υποστήριξη της [Google](#) **Μετάφραση**

[Download Adobe Acrobat Reader](#) (free software to read PDF files)



URL www.actahort.org Hosted by [KU Leuven](#) © ISHS

[Acta Horticulturae Home](#)

[Login](#)
[Logout](#)
[Status](#)

[Help](#)

[ISHS Home](#)

[ISHS Contact](#)

[Consultation statistics index](#)

[Search](#)