

Morpho-Physiological Changes in Fig Scion (*Ficus carica* L. cv. Sabz) on Different Rootstocks under Drought Stress Conditions

M. Keshavarzi and A. Shekafandeh^{1*}

In this research, three types of fig graft combinations (Sabz/Sabz, Sabz/Siah, Sabz/Torsh) and three ungrafted (Sabz, Siah, Torsh as control) fig rootstocks were subjected to 4 levels of irrigations (100%, 75%, 50% and 25% water requirement, WR) for a period of 12 weeks as a factorial experiment in a completely randomized design with 5 replications. The results showed that with increasing drought stress, vegetative growth and RWC were decreased and leaf proline content was increased. However, the responses were different according to type of rootstocks and graft combinations. In all levels of irrigation, ungrafted Siah rootstock showed the highest stem length compared to ungrafted Sabz rootstock and enhanced stem growth in Sabz scion. In addition, this rootstock produced the highest stem fresh and dry weights in Sabz scion compared to ungrafted Sabz rootstock. Sabz/Torsh graft combination showed the highest leaf mass per area (LAM) in all levels of irrigation. In 25% and 50% of WR, the graft combination of Sabz/Siah conserved the highest RWC. Generally, the grafted combination of Sabz/Siah can tolerate higher levels of drought stress than other graft combinations.

Keywords: Fig, Proline, Rootstock, Scion, Water stress.

1. Former M.Sc. Student and Associated Professor of Horticulture, School of Agriculture, Shiraz University, Shiraz, Iran, respectively.

*Corresponding author, Email: (shekafan@shirazu.ac.ir).