

Effect of Methyl Jasmonate and Silicon on Yield of Tomato (*Solanum lycopersicum* L.) cv. ‘Dafnis’ under Salinity Stress in Greenhouse Conditions

H. Zamani, M.J. Arvin*, A. Aboutalebi Jahromi, V. Abdoosi and A. Mohammadi Torkashvand¹

In order to investigate the interaction of Methyl Jasmonate (MeJA) and silicon on the yield and its components in tomato plant ‘Dafnis’ cultivar under salinity stress, an experiment as split-plot design was carried out using the Randomized Complete Block design (RCB) and with 3 replications contained 4 observations. Experiment was done in pots containing 8 kg of sandy soil in a commercial greenhouse for 11 months. The main factor, irrigation water Salinity, was assessed in 3 levels with electrical conductivity (EC) of 0.4 and 6 ds.m⁻¹, MeJA as a sub-factor at 0.5 and 7.5 µM and silicon in the form of sodium silicate in 3 levels of 0.4 and 8 mM. The results showed that with increasing in salinity of irrigation water from 0 to 6 ds.m⁻¹, MeJA level from 0 to 7.5 µM and sodium silicate from 0 to 8 mM, the total yield decreased from 145.1 to 133.5, 144.2 to 136.2 and 141.3 to 136 t. ha⁻¹, respectively. The highest yield was obtained as 147.7 t. ha⁻¹, using 4 Mm sodium silicate and 7.5 µM MeJA in non-saline conditions.

Keywords: Dafnis, Methyl Jasmonate, Salinity, Sodium silicate.

1. Ph.D. Candidate of Horticultural Science, Science and Research Branch, Islamic Azad University, Tehran, Professor of Horticultural Science, Shahid Bahonar University, Kerman, Associate Professor of Horticultural Science, Jahrom Branch, Islamic Azad University, Jahrom, Assistant Professor of Horticultural Science, Science and Research Branch, Islamic Azad University, Tehran, Associate Professor of Soil Science, Science and Research Branch, Islamic Azad University, Tehran, Iran, respectively.

* Corresponding author, Email: (mjarvin@uk.ac.ir).