Effects of salicylic acid on growth and ornamental characteristics of Persian petunia (*Petunia hybrida*) under salt stress

H. Bayat[1]*, S. H. Namati[1], A. Tehranifar[1], N. Vahdati[1] and Y. Selahvarzi[1]

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Abstract

Application of salicylic acid (SA) as a phytohormone has been increased due to resistance to stresses such as salt stress. To evaluate the effects of SA on growth and ornamental characteristics of Persian petunia under salt stress, a factorial experiment, based on completely randomized design, was conducted with 3 levels of SA (0, 1 and 2 mM) and 3 levels of NaCl (0, 150 and 300 mM) with 4 replications under controlled greenhouse conditions. Salicylic acid was applied via foliar spray once every two weeks. NaCl was also applied as drench (200 ml per pot) at flowering stage in 3-day intervals. The results showed that salinity of 300 mM NaCl decreased plant height, biomass, number of flowers and chlorophyll index by 52, 59, 100 and 61 percent as compared to control, respectively. Under non-saline conditions, foliar application of SA (2 mM) increased number of flowers, flower diameter, plant height and chlorophyll index by 100, 35, 40 and 39 percent as compared to control, respectively. Plants treated with 1.0 mM SA had the highest leaf area, shoot and root dry weight and biomass at 150 mM salinity. Based on the results of this experiment, foliar application of SA improved growth and ornamental characteristics of Persian petunia under saline and non-saline conditions.

Keywords: Foliar spray, Electrolyte leakage, Chlorophyll index.

1. Dept. of Hort. Sci., College of Agric., Ferdowsi Univ., Mashhad, Iran.
*: Corresponding Author, Email: hassanbayat55@gmail.com