

Effect of salicylic acid and humic acid on quantitative and qualitative properties of tomato (*Lycopersicon esculentum* cv. Goldi)

M. Habibi Sharafabad¹, M. Hosseini Farahi^{2*} and S. K. Didgah³

(Received: 1 Feb. 2016 ; Accepted : 6 June 2016)

Abstract

In order to study the effect of salicylic acid (SA) and humic acid (HA) on vegetative properties and quantitative and qualitative characteristics of tomato cv. Goldi, a factorial experiment based on randomized complete blocks design with three replications was conducted in a commercial greenhouse in Yasouj, Iran. The first factor was SA at four concentrations (0, 300, 600 and 900 mg/L) and the second factor was HA at four concentrations (0, 5, 10 and 15 g/L). Results showed that application of SA and HA has significant effect on qualitative and quantitative characteristics of tomato cv. Goldi. The highest number of flowers (44.17) and fruits (21.2) was obtained in plants treated with 600 mg/L SA + 15 g/L HA and the lowest number of flowers (27.9) and fruits (13) was obtained in untreated plants. The highest yield (2583 g) was obtained in plants treated with 600 mg/L SA + 15 g/L HA, as compared to untreated plants (1799 g). Application of SA and HA increased total soluble solid and total acidity. The highest amount of vitamin C (11.60 mg/100 cc juice) was obtained in plants treated with 600 mg/L SA + 10 g/L HA, as compared to untreated plants (7.26 mg/100 cc juice). In general, application of 600 mg/L SA + 10-15 g/L HA, to improve quantitative and qualitative characteristics of tomato cv. Goldi in greenhouse culture, is recommended.

Keywords: Plant yield, Chlorophyll, Vitamin C.

1. Dep of Agron, Yasooj Branch, Islamic Azad Uni, Yasooj, Iran.

2. Young Researchers and Elite Club, Yasooj Branch, Islamic Azad Uni, Yasooj, Iran.

3. Dept. of Agron., Ferdowsi Univ. of Mashhad, Mashhad, Iran.

* Corresponding Author, Email: m.h.farahi@iauyasooj.ac.ir