

Title Effects of plant growth regulator ‘stimulate’ on some postharvest quality attributes of tomato grown in greenhouse

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Abstract

This study aims to investigate the effects of different concentrations of an exogenous plant growth regulator (Stimulate®, a commercial product consisting of a mixture of auxin, gibberellin and cytokinin), on some postharvest quality attributes of tomato fruits var. Albaron, grown in greenhouse. Three different concentrations of 0.5, 1.0 and 2.0 µg/mL were applied. First application of Stimulate® was done two weeks after transplanting, then at fourteen day intervals for four months, giving a total of eight applications. After harvesting dry mass, diameter, colour and weight per tomato fruit were assessed. The average diameter of the fruits was 6.14, 6.18 and 6.36 cm for the control, 0.5, 1.0 and 2.0 µg/mL, respectively, with no significant differences observed for the different treatments. On the other hand, dry mass ranged 5.37, 5.78, 5.46 and 5.54 g/100 g fresh weight for control, 0.5, 0.1 and 2.0 µg/mL respectively, with no significant differences. The colour of the fruits was uniform for all treatments and no real visual differences were observed. These results suggested that the exogenous application of the plant growth regulator Stimulate® has no effect on fruit size, but a positive correlation was observed between the diameter and the fruit mass.