Iranian Journal of Horticultural Science and Technology 19 (3): 391- 402 (2018)

Effect of Some Plant Growth Regulators on Seed Firmness, Quantitative and Qualitative Characteristics of Pomegranate (*Punica granatum*) cv. Yousefkhani

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The present study was carried out to investigate the effects of some plant growth regulators on quantitative and qualitative characteristics of pomegranate *(Punica granatum* cv. Yousefkhani) with emphasis on their effect on reducing seed firmness. In this study, 10 and 20 mg L^{-1} kinetin, 10 and 40 mg L^{-1} gibberellic acid, and paclobutrazol, as an anti-gibberellin, at four concentrations (10, 50, 100, and 200 mg L^{-1}) were sprayed four weeks after fruit set. Distilled water was applied as control. Results showed that foliar application of 10 and 20 mg L^{-1} kinetin increased fruit length and fruit weight, respectively. In contrary, small fruits with lower edible portion were produced after foliar application of 200 mg L^{-1}. The highest percentage of edible portion was observed in fruits treated with 10 mg L^{-1} kinetin plus 10 mg L^{-1} gibberellic acid. Foliar application of plant growth regulators showed significant effects on seed firmness compared to control. The lowest seed firmness was observed using 100 mg L^{-1} paclobutrazol. Foliar application with various plant growth regulators also affected the chemical properties of the fruits. While the other treatments reduced total anthocyanin levels, treatment by paclobutrazol at a concentration of 100 mg L^{-1} preserved it.

Keywords: Gibberellic Acid, Kinetin, Paclobutrazol, Seed Firmness.

[DOR: 20.1001.1.16807154.1397.19.3.10.4]

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