Title Effect of heat treatments, GA_3 and fungicides on storage characteristics of orange fruits

Author Nameer Najeeb Fadhil, Esraa Thanoon Younis

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Abstract

The research was conducted in the cool room of Horticulture Dept./College of Agriculture & Forestry/ Mosul University. The fruits were picked carefully in the evening on 24th November 2010, in the morning of the next day, the fruits were transported to the Agriculture College, precooled, and stored in the cool room at 7°C. The next day, the fruits were treated by dipping for 2 minutes in the solutions of GA_3 at the concentrations 0, 100 and 200 $mg.l^{-1}$, fungicide at the concentrations 0, 2 and 4 $gm.l^{-1}$ and heat treatments (20°C, 40°C, 50°C and air conditioning at 35°C for 36 hours). The fruits of each treatment were dried and put in perforated polyethylene bags, sealed and stored in the cool room at 4+ 1^{o}C, and 85-90% r.h.

The results indicated that interactions between fungicide, GA_3 and heat treatments were more effective in fruit storage characteristics than single factor, i.e. reduction of weight loss, fruit firmness retention and chlorophyll and acidity loss and respiration reduction than untreated fruits. Whereas, interactions between 4 $gm.l^{-1}$ fungicide, 0 $mg.l^{-1}$ GA_3 and 40°C hot water dips, interactions between 4 $gm.l^{-1}$ fungicide, 100 $mg.l^{-1}$ GA_3 and 50°C hot water dips, and interactions between 4 gml^{-1} fungicide, 200 $mg.l^{-1}$ GA_3 and 50°C hot water dips resulted in free orange fruits from any chilling injury disorder or *Alternaria citri* incidence.