

The Effect of Antioxidant Compounds and Packaging Materials on Quality and Storage Life of Loquat (*Eriobotrya japonica*) Fruits

D. Hashemabadi*, N. Najmabadi, B. Kaviani, M. Ghasemnejad, F. Zaredost and M. Jadid Soleimandarabi¹

Loquat is a non-climacteric fruit and is very perishable during storage. In the present study, effects of times (0, 7, 14, 21, 28 and 35 + 2 days), packaging (polystyrene and polystyrene/polyethylene dishes) and antioxidants (ascorbic acid 1 and 2%, citric acid 0.5 and 1% and sodium hexametaphosphate 0.5 and 1%) were investigated. These treatments were selected for control of enzymatic browning and storage life of loquat fruits. Treated fruits were stored at 5°C for up to 35 days and 2 days shelf life at 25°C. Results showed that the lowest fruit weight loss (4.34%) was observed in hexametaphosphate 0.5% treated with 2 layers packaging. The treatment of ascorbic acid 2% + citric acid 1% + sodium hexametaphosphate 1% caused lowest browning index. The highest contents of vitamin C, total phenol, total flavonoid and antioxidant activity were observed in fruits treated with ascorbic acid 2%. Overall, it was revealed that ascorbic acid 2% was the most effective treatment to maintain the quality of loquat fruit during storage.

Keywords: Antioxidant, Ascorbic acid, Citric acid, Phenolic compounds, Sodium hexametaphosphate.

1. Associate Professor, Department of Horticulture, Rasht Branch, Islamic Azad University, Rasht, Iran; Graduate Student, Department of Horticulture, Rasht Branch, Islamic Azad University, Rasht, Iran; Associate Professor, Department of Horticulture, Rasht Branch, Islamic Azad University, Rasht, Iran; Associate Professor, Department of Horticultural Science, University of Guilan, Rasht, Iran, Young Researchers and Elite Club, Rasht Branch, Islamic Azad University, Rasht, Iran; Young Researchers and Elite Club, Rasht Branch, Islamic Azad University, Rasht, Iran.

*Corresponding author, Email: (davoodhashemabadi@yahoo.com).