

Effect of Plastic Film Packaging with Non-Porous and Perforated on Qualitative Parameters and Shelf Life of Apricot Fruit

N. Madah Hosseini, S.H. Mirdehghan*, M. Esmailizadeh and F. Nazoori¹

To evaluate the effects of packaging with different polyethylene films on shelf life of apricot fruits a factorial experiment was designed with three replications. In this study the effect of various polymer films such as polyvinyl chloride (PVC), polyethylene (LDPE) and axially oriented polypropylene (OPP) with the same size (20 × 20 cm) porous and non-porous after packaging, the fruits were weighed and then stored at 2±1 °C and 90±5% R.H. for 35 days. Qualitative parameters such as weight loss, firmness, pH, total acidity, total soluble solids, vitamin C, carotenoids, phenolic compounds and antioxidant activity were measured before and during storage. The results showed that weight loss increased over storage in all treatments and perforated polyethylene film showed higher weight loss than continues ones but the lowest rate was observed in the OPP film. The results indicated that OPP film was more effective in maintaining carotenoid, vitamin C, antioxidant activity, and total acidity compared to cellophane and polyethylene films. Regarding the results obtained from this study, packaging with OPP in low temperature could be consider as a method to increase the shelf life of apricot fruit cv. Shahnoori and providing them longer to be introduced to the market.

Keywords: Antioxidant activity, Firmness, Low density polyethylene, Weight loss.

1. Former M.Sc. Student of Horticulture, Professor, Associate Professor and Assistant Professor of Horticulture, Department of Horticulture, College of Agriculture, Vali-e-Asr University of Rafsanjan, Iran, respectively.

* Corresponding author, Email: (mirdehghan@vru.ac.ir).