

Abstract

This study was conducted in order to prolong the storage life of pomegranates (*Punica granatum* L.cv. Hicaznar) grown in Antalya, Turkey, by using modified atmosphere packaging. In the experiment, the fruit was harvested at optimal harvest time and divided into three groups and placed in plastic boxes. The first group of the fruit was covered by ordinary PE plastics and sealed. The second group of the pomegranates was covered by Xtend[®], commercially available in Turkey. The control fruit was kept uncovered during the experiment. All fruit samples were stored at 6°C temperature with 90-92% relative humidity.

During the storage the fruit was evaluated every 45 days for weight loss, juice yield, titratable acidity, soluble solids, skin thickness and skin color. Furthermore, fungal and physiological decays and the changes of CO₂ and O₂ concentration in PE bags were also recorded. The experiment results showed that modified atmosphere packaging prolonged the storage life and prevented the quality loss of pomegranates fruit during the storage. Storage of pomegranates in modified atmosphere packaging reduced the weight loss and slowed down loss of thickness of the skin. In the experiment the amount of weight loss varied 0.28% to 1.3% in MAP. The weight loss of the control fruit reached to 20%. The O₂ level in ordinary PE bags decreased to 0% , and resulted fermentation after 3rd month of the storage. The CO₂ and O₂ concentration in Xtend[®] films were 5.8% and 16.5%, respectively. Control fruit had the highest soluble solids content comparing to MAP fruit.