Title Effect of retail-size modified atmosphere packaging bags on postharvest storage and shelf-life quality of '0900 Ziraat' sweet cherry

Authors F. Küçükbasmacı, O. Özkaya, T. Ağar, Y. Saks

Citation ISHS Acta Horticulturae 795:775-780. 2008.

Keywords *Prunus avium*; MAP; postharvest quality

Abstract

The effects of retail-size modified atmosphere packaging bags on postharvest quality and physiology of '0900 Ziraat' sweet cherries (*Prunus avium* L.) were investigated. Fruit were harvested at an ideal harvest maturity (18.8% SSC, hue° 63.06) in Ulukisla. Within a few hours after harvest, the cherries were immediately transported to Narpak Packinghouse in Mersin. Upon arrival, they were hydrocooled to a 2°C pit temperature, then dumped onto a GP Grader packing line to be sorted and sized. Cherries were packed in Xtend CH-49 modified atmosphere packaging bags. In the experiments, three retail-size MAP bags were used (500 g, 700 g and 1000 g). MAP bags were compared to polyethylene bags of the same sizes. All cherries were stored at 0°C for 7, 10, 14 and 21 days to simulate market conditions. After these storage periods at 0°C, half of the cherries were analyzed immediately and the other half was transferred to 20°C (shelf-life) for 3 d. Cherries were analyzed for fruit elasticity (shore), SSC (%), titratable acidity, color (hue angle), respiration, weight loss (%), stem chlorophyll content and waste (%). Cherries from all three types of retail-size MAP bags benefited from modified atmospheres, especially in terms of firmness, color and taste. MAP drastically increased fruit shelf-life and appearance compared to the control. '0900 Ziraat' cherries can be packed in retail-type Xtend MAP bags, stored up to 21 days and still maintain their quality, even after additional 3 d shelf-life at 20°C.