Title Effect of modified atmosphere packaging on quality properties and storability extending in two sour cherry cultivars

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Abstract

Sour cherry (*Prunus cerasus* L.) is an important Iranian-native fruit, considered highly perishable commodity which cannot be stored for any length of time. In this study, effect of three gas compositions (ambient, 5% O_2+5% CO_2+90% N_2 and 10% O_2+15% CO_2+75% N_2) and two storage temperatures (0 and 5°C) on two sour cherry cultivars namely Erdy jubileum and Erdy Botermo was studied in a CRD (completely randomized design) based on factorial design with three replications. Fruits were examined, 42 days after packaging, in case of such different qualitative factors as weight loss, tissue firmness, total soluble solids (TSS), titrable acidity (TA), pH, and colour. The results indicate a better preservation of qualitative properties such as weight loss, tissue firmness and colour in the modified atmosphere with the 5% O_2+5% CO_2+90% N_2 treatment resulting in the lowest weight loss and the highest firmness. In Erdy jubileum, titrable acidity was lowest at 5°C. The overall favourable impact of the 5 °C temperature treatment on qualitative properties was evident compared to that of 0 °C.