

Favorable transportation conditions preventing quality loss of 'Jiro' persimmon for exports

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Acta Horticulturae 1011: 73-80. 2013.

Abstract

The aim of the present study was to determine the favorable conditions for maintaining the quality of 'Jiro' persimmon during overseas transport. Harvested fruits were packed using plain cardboard boxes and cardboard boxes with modified atmosphere packaging (MAP) using 40- μ m thick low-density polyethylene (LDPE) film bag as an inner packaging material. These fruits were exported to Hong Kong via sea in 7 days using reefer containers with temperature set at 2 and 15°C. After delivery, the fruits were stored at room temperature for 6 days. The number of softened fruits in each test condition was counted on the day of delivery and on every second day during storage for six day. The softening of fruits was judged directly by touch and the fruits that had even slightly softened were regarded as softened fruits. Simultaneously a laboratory test was conducted under conditions mimicking the transport conditions to determine the effect of MAP on persimmon quality based on the evaluation of headspace gas composition (O_2 and CO_2) inside the package, electrolyte leakage and fruit skin color. The results indicate that the number of softened fruits was less at 2°C than at 15°C transportation temperatures at delivery. Storage at room temperature, the number of softened fruits increased, particularly, fruits transported at 2°C softened more rapidly than those at 15°C. Using MAP is more effective to prevent the loss of fruit quality. Moreover, it was also found that high-grade persimmon is more suitable for export.