

Title Use of polyethylene box-liners and ethylene absorbents for retention of quality of Starking Delicious apples during marketing

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Citation ISHS Acta Horticulturae 696: 463-466. 2005

Keywords polyethylene box-liners; apples; quality; firmness; transportation

Abstract

Due to the remote locations of commercial apple orchards it usually takes a long time to send the fruits from orchards to the market. During this prolonged period, a number of irreversible changes as a result of which the fruit reaching the consumers is usually over-ripe. In an effort to reduce these changes Starking Delicious apple fruits were packed in telescopic corrugated fibre board (CFB) cartons and standard wooden boxes, after lining them internally with low density polyethylene (PE) and placing ethylene absorbents viz. ethisorb, purafil or green-keeper inside the cartons/boxes. The fruits were then transported in an ordinary truck to the terminal market at Delhi, where changes in the physico-chemical characteristics of fruits were recorded. Losses in gross weight of the box, physiological loss in weight of fruit, bruise damage to fruits and spoilage were generally lower in fruits that were packed in PE-lined CFB cartons with ethylene absorbents. Such fruits also exhibited slower decrease in fruit firmness and slower increase in TSS content, especially with the use of purafil, although fruits packed in PE-lined wooden boxes with green keeper showed lower decreases in titratable acidity. Minimum increase in starch-iodine rating was recorded in fruits from PE-lined CFB cartons in which green-keeper and ethisorb were used. It was observed that upon arrival in the market, fruits from such treatments were of better quality as compared to the packaging treatment without the use of PE liners and ethylene absorbents.