Effect of carnauba wax-based coating containing glycerol monolaurate on the quality maintenance and shelf-life of Indian jujube (*Zizyphus mauritiana* Lamk.) fruit during storage

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Abstract

Indian jujube is perishable and has a relatively short shelf-life at room temperature. The effects of carnauba wax (CW) and CW containing glycerol monolaurate (CW-GML) coating on physico-chemical and qualitative attributes of jujube fruit are investigated during storage at 20 °C for 12 days. Compared to the control, both CW and CW-GML coatings reduce jujube weight loss, respiration rate, and ethylene production, maintain lower activities of polygalacturonase, pectin methylesterase and cellulase and delay the flesh softening. The two coatings also delay the change of skin color and ensure higher content of chlorophyll and ascorbic acid. However, the CW-GML coating most significantly inhibite the decay of jujube fruit and retains better sensory quality. After 12 d of storage at 20 °C, the decay index is only 44.3% of the control fruit, and 65.6% of the CW-coated jujube. These results confirm that CW-GML coating could be an effective means to contribute to the shelf-life extension and quality maintenance of jujube fruit stored at 20 °C.