Title Effect of cultivar, hot water treatment and storage conditions on quality of fresh-cut papaya (*Carica papaya* L.)

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Abstract

The effects of hot water treatments and storage conditions on quality of fresh-cut papaya were investigated. A hot water treatment of 48-50 deg C for 20 minutes was found to delay fungal storage rots in fruits of Tainung #2 and Red Lady cultivars without negatively affecting sensory quality. Fresh-cut slices from fruit of Tainung #2 and Red Lady cultivars were stored at 5 deg C and 10 deg C and evaluated for changes in physical, chemical and microbial quality over eight days. There was a decline in sensory quality and acceptability of Red Lady papaya slices after four days at both temperatures, while fresh-cut Tainung #2 fruit held at 5 deg C and 10 deg C was found to have high sensory quality and acceptability up to six days of storage. A storage temperature of 5 deg C was more effective than 10 deg C in reducing CO_2 and ethylene accumulation, as well as suppressing microbial growth, while maintaining high sensory quality in fresh-cut papaya slices. Unacceptable microbial counts were obtained in Red Lady and Tainung #2 fruit slices stored at 10 deg C after 4 and 6 days, respectively. Ripe papaya fruit of Tainung #2 cultivar with total soluble solids of >11 deg Brix, total sugars of >83 g kg-1, and vitamin C of 620-740 mg kg-1 were found suitable for fresh cut purposes in terms of maintenance of acceptable taste and vitamin C content during storage.