Title Quality of fresh-cut 'Kent' mango slices prepared from hot water or non-hot water-treated fruit

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Abstract

This study addressed the effects of hot water (HW) quarantine treatment as mandated by the USDA-APHIS, for all mangoes imported to the United States, on the visual and compositional quality factors, aroma volatile production, respiration rate, and electrolyte leakage of fresh-cut 'Kent' mango slices during subsequent storage at 5 °C for 10 d. The experiment was conducted twice during two Florida mango seasons, with fruit from two different sources. Results from the two harvests were significantly different and therefore were analyzed separately. In general, the visual quality, electrolyte leakage, firmness, and aroma volatile production (based on the quantification of 16 aroma volatiles) did not differ between the fresh-cut slices prepared from HW- and non-HW-treated fruit. The fresh-cut slices from non-HW-treated fruit had higher soluble solids content than the HW-treated samples. There were also differences between the treatments for respiration rate, titratable acidity, and pH; but, the results were contradictory between the two harvests. Overall, the results suggest that the HW quarantine treatment applied to whole mangoes does not significantly affect the quality of fresh-cut 'Kent' mango slices stored at 5 °C.