Title The effect of heat treatment on quality retention of fresh-cut peach

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Abstract

This work investigates the effect of short-term heat treatment on quality of fresh-cut peach. Different parameters of heat treatment (intensity, duration, time of application) were evaluated. A clear beneficial effect of 4 h pre-cutting heat treatment at 50 °C for 10 min on postharvest quality of fresh-cut peach was found. In order to study the effect of that treatment on visual quality as well as on the nutritional value, peach slices were stored in modified atmosphere packaging for 6 days at 5 °C. Fruit treatment at 50 °C for 10 min 4 h before cutting effectively controlled browning and retained firmness during storage. Significantly lower concentrations of CO_2 and ethylene in the package atmosphere were recorded for heat-treated slices. In contrast, an insignificant effect of heat treatment on chemical composition (ascorbic acid, total soluble phenols and total antioxidants) was observed. However, this treatment increased the total carotenoids loss and reduced the chroma values of the slices. Pectinmethylesterase activity was significantly higher in the first 2 days of storage for heat-treated slices, while no difference was observed in polyphenoloxidase activity for the control and the heated slices.