Title Metabolic response to combined mild heat pre-treatments and modified atmosphere packaging on fresh-cut peach

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Abstract

The combined influence of mild heat pre-treatments (MHPT) and two types of modified atmosphere packaging conditions on metabolic response of fresh-cut peach was monitored during a 8-day long storage under refrigeration (4 °C). The quality-affecting parameters were evaluated by physical and chemical methods (solute leakage, weight loss, firmness, colour, pH and soluble solid content) and by the evaluation of physiological aspects (respiration rate, PPO and PME activity) as well as vitamins, organic acids and sugars. Regarding main acid compounds, lower levels of malic acid are evident in heat-treated samples. Succinic and citric acids did not seem to be affected by the treatments. Provitamin A (β-carotene) was not affected by MHPT. The decrease in ascorbic acid content observed along the storage period was similar for both treated and untreated samples. Significant firmness improvements were obvious after MHPT due to the activation of PME (≈25%) and the ensuing production of calcium pectates. Efficiency of the passive modified atmosphere was enough to preserve the quality attributes of fresh-cut peaches subjected to MHPT.