**Abstract**

Fresh-cut banana slices have a short shelf-life due to fast browning and softening after processing. The effects of atmospheric modification, exposure to 1-MCP, and chemical dips on the quality of fresh-cut bananas were determined. Low levels of $O_2$ (2 and 4 kPa) and high levels of $CO_2$ (5 and 10 kPa), alone or in combination, did not prevent browning and softening of fresh-cut banana slices. Softening and respiration rates were decreased in response to 1-MCP treatment (1 $\mu L\ L^{-1}$ for 6 h at 14 °C) of fresh-cut banana slices (after processing), but their ethylene production and browning rates were not influenced. A 2-min dip in a mixture of 1% (w/v) $CaCl_2$ + 1% (w/v) ascorbic acid + 0.5% (w/v) cysteine effectively prevented browning and softening of the slices for 6 days at 5 ° C. Dips in less than 0.5% cysteine promoted pinking of fresh-cut banana slices, while concentrations between 0.5 and 1.0% cysteine delayed browning and softening and extended the post-cutting life to 7 days at 5 °C.