Title Extension of fresh-cut "Blanquilla" pear (*Pyrus communis* L.) shelf-life by 1-MCP treatment after harvest

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Abstract

'Blanquilla' pears processed as fresh-cut products are highly sensitive to browning and softening. Common postharvest methods, such as the use of antibrowning compounds and/or modified atmosphere packaging, fail to preserve 'Blanquilla' pear slices long enough to be marketable. However, treatment with 1-MCP before cutting and peeling considerably improved their textural properties (9.2 N *vs*. 1.1 N with and without 1-MCP treatment, respectively) and color (*a** values of 1 *vs*. 5 after 15 d at 4 °C, for slices pear treated with 1-MCP and without treatment, respectively). These positive changes were closely related to a decrease in respiratory activity determined on whole pears after 3 months of storage in air at 0 ± 1 °C and 95% R.H. (0.40 ± 0.05 mmol CO_2 kg^{-1} h^{-1} *vs*. 0.77 ± 0.04 mmol CO_2 kg^{-1} h^{-1} with and without 1-MCP treatment, respectively) and ethylene production (1.18 ± 0.36 nmol C_2H_4 kg^{-1} h^{-1} *vs*. 5.751 ± 1.12 nmol C_2H_4 kg^{-1} h^{-1} for samples treated with and without 1-MCP, respectively). The use of 1-MCP allows fresh-cut 'Blanquilla' pears to be sold up to about 5 d after processing. Treatment with 1-MCP could be a viable alternative to common technologies for extending the shelf-life of 'Blanquilla' pears as a fresh-cut product.