

## THE EFFECT OF 1-MCP IN MAINTAINING THE QUALITY OF TOMATO SLICES

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### ABSTRACT

*Maintenance of quality traits is important during storage of fresh-cut produce. Changes in firmness, in tomato for instance, are ethylene-mediated. The objective of this study was to determine the suitability of the ethylene antagonist 1-MCP in maintaining the quality of tomato slices. Fruits of tomato cv. 'Revolution' were harvested at the 'pink' stage of maturity, treated with 1 mL.L<sup>-1</sup> 1-MCP for 12 hours at 20 °C, and sliced. Slices were stored as vertical stacks in closed plastic containers at 5 °C for up to 10 days. Exposure of intact tomatoes to 1-MCP reduced ethylene production and respiration rate in slices, and produced firmer slices than when intact tomatoes were treated without 1-MCP. When intact tomatoes, at the 'pink' maturity stage were treated with several concentrations of 1-MCP (0.1, 1.0 or 10.0 mL.L<sup>-1</sup>) at 20 °C for 12 h, 1-MCP reduced both ethylene production and the respiration rate, delayed softening of the pericarp and inhibited loss in acidity when compared with slices from fruit not treated with 1-MCP. The most effective concentration of 1-MCP for inhibiting the ethylene-induced softening of tomato slices was 1 mL.L<sup>-1</sup>.*

**Key words:** ethylene, 1-MCP, tomato slices, quality