

Title Effect of 1-methylcyclopropene application prior to storage on fresh-cut kiwifruit quality
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Abstract

Kiwifruit is commercially important as fresh-cut. The purpose of this work was to study the effect of 1-methylcyclopropene (1-MCP) applied after harvest, before storage, on the posterior behaviour of ripe fruit prepared as fresh-cut. Harvested fruit were treated with 1 µl L⁻¹ 1-MCP for 20 hours at room temperature, then stored at 0°C. After 3 months, fruit were removed from storage, peeled and cut longitudinally in quarters, then stored at 2°C for 8 days. Measurements of flesh colour, firmness, soluble solids content (SSC), electrolyte leakage and ascorbic acid were performed after 0, 4 and 8 days. Kiwifruit treated with 1-MCP showed higher firmness and lower a* value, electrolyte leakage and SSC than the control, after 3 months storage. Values of a* and electrolyte leakage increased through fresh-cut storage and after 8 days differences between treatments become almost nil. SSC did not change in fruit treated with 1-MCP, while it increased after 4 days and decreased on 8th day in the control. Firmness decreased through fresh-cut storage, being higher in 1-MCP treated fruit than control except on 8th day. Ascorbic acid which was higher in control, showed a higher decrease on those fruit and after 8 days was similar in both treatments. Panellists did not find significant differences between treatments, except that 1-MCP treated fruit had better appearance. The application of 1-MCP immediately after harvest showed beneficial effects in keeping kiwifruit quality during 3 months storage, and its effect lasted through shelf-life of those fruit when used as fresh-cut.