

Title 1-Methylcyclopropene delays arazá ripening and improves postharvest fruit quality
Author M.P. Carrillo, M.S. Hernández, J. Barrera, O. Martínez and J.P. Fernández-Trujillo
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Abstract

Six different experiments were conducted to give some practical recommendation to apply 1-MCP during the postharvest handling chain of arazá fruit (*Eugenia stipitata* McVaugh). Fruit were harvested in three stages of maturity (mature-green primarily, turning and mature) and treated for 1 to 12 h with 0 (control in air) or 1 $\mu\text{L L}^{-1}$ 1-Methylcyclopropene (1-MCP) at 20 °C. The mature-green fruit were subjected to different storage conditions (7, 10, 12, 13, 20 or 27 °C). The treatment of mature-green fruit with 1-MCP for 1 h, and storage at 12 °C for up to 2 weeks prolonged the shelf-life about one week by delaying or reducing the respiration and ethylene production rates, skin colour changes, the loss of organic acids, and softening, with or without a further shelf-life period of 3 days at 20 °C. At 7 °C, 1-MCP also reduced mature-green fruit weight loss and shrivelling. Extending 1-MCP treatment periods at 20 °C to 6 or 12 h caused partial and uneven ripeness. Treating fruit in their post-climacteric stage of maturity had little effect on ripening compared with the mature-green stage. 1-MCP increased the respiration rate and/or the ethylene production in certain combinations of advanced harvest maturities and/or unfavourable storage temperatures. Recommendations for maintaining postharvest quality are harvesting at the mature-green stage, treatment with 1 $\mu\text{L L}^{-1}$ of 1-MCP for 1 h, and storage at 12 °C for up to 2 weeks.