

Title Effects of 1-MCP and exogenous ethylene on fruit ripening and antioxidants in stored mango

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Abstract

Mango (*Mangifera indica* L. cv. Tainong) fruits were harvested at the green-mature stage in Hainan and air-freighted to the laboratory at Peking. The fruits were treated with either $1 \mu\text{l l}^{-1}$ 1-MCP or $5 \mu\text{l l}^{-1}$ ethylene for 24 h and stored at 20°C for up to 16 days. 1-MCP maintained fruit firmness, whereas exogenous ethylene decreased fruit firmness. Exogenous ethylene accelerated the increase in ethylene and 1-aminocyclopropane-1-carboxylate (ACC) oxidase, whereas 1-MCP reduced both. Exogenous ethylene stimulated and 1-MCP inhibited the production of H_2O_2 of mango fruit during storage. Ascorbic acid was maintained at a high concentration in 1-MCP-treated fruit but was low in ethylene-treated fruit. 1-MCP inhibited activities of antioxidant enzymes including catalase, superoxide dismutase and ascorbate peroxidase. These results suggest that 1-MCP could play a positive role in regulating the activated oxygen metabolism balance.

<http://www.springerlink.com/content/m147v82534253258/fulltext.pdf>