

Title Physiology of fresh-cut ‘Galia’ (*Cucumis melo* var. *reticulatus*) from ripe fruit treated with 1-methylcyclopropene

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Abstract

‘Galia’ (*Cucumis melo* var. *reticulatus* L. Naud. cv. Galia) fruit were harvested at the three-quarter slip stage and treated with $1 \mu\text{L L}^{-1}$ 1-methylcyclopropene (1-MCP) at 20 °C for 24 h. The fruit were processed and stored as fresh-cut cubes and intact fruit for 10 d at 5 °C. Ethylene production of fresh-cut cubes was approximately 4–5-fold higher than intact fruit at day 1. Afterward, the ethylene production of fresh-cut cubes declined significantly whereas that of intact fruit remained relatively constant at about $0.69\text{--}1.04 \text{ ng kg}^{-1} \text{ s}^{-1}$. 1-MCP delayed mesocarp softening in both fresh-cut and intact fruit and the symptoms of watersoaking in fresh-cut fruit. Continuously stored fresh-cut cubes and cubes derived from intact fruit not treated with the ethylene antagonist softened 27% and 25.6%, respectively, during 10 d storage at 5 °C while cubes derived from 1-MCP-treated fruit softened 9% and 17%, respectively. Fresh-cut tissue from 1-MCP-treated fruit exhibited slightly reduced populations of both total aerobic organisms and Enterobacterium, although the differences did not appear to be sufficient to explain the differences in keeping quality between 1-MCP-treated and control fruit. Based primarily on firmness retention and reduced watersoaking, 1-MCP treatment deferred loss of physical deterioration of fresh-cut ‘Galia’ cubes at 5 °C by 2–3 d compared with controls.