

Title Effect of 1-methylcyclopropene on quality changes of pineapple (*Ananas comosus* L.) fruit in low temperature storage

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Abstract

Pineapple (*Ananas comosus* L. cv. Smooth cayenne) fruits were harvested and selected with the same size, uniform color and maturity. Treatment with 1-methylcyclopropene (1-MCP), the inhibitor of the ethylene receptor, at 0.1 ppm (4.5 nmol /l). Control fruit were subjected to the same conditions without exposure to 1-MCP. Following treatment, all the pineapples (treated and control) were stored at 10 C (80-90% RH). Fruits were analyzed for IB intensity, ripeness stage and other quality parameters immediately and then after 1-3 weeks of storage at 10 C followed by 3 days shelf-life at 25 C (80-90% RH). For each assessment, 15 fruit treated with 1-MCP were compared with 15 control fruits. Treated pineapples effectively controlled internal browning, a chilling injury symptom, in pineapples stored at 13 C for three weeks. The treatment with 1 - MCP also delayed ascorbic acid decline, and arrested the decline in both total soluble solids and ethylene evolution. The present findings found that 1-MCP could reduce the internal browning of pineapples in low temperature storage. Therefore, it can be concluded that 1-MCP could be considered for use commercially to control this important post harvest physiological disorder in pineapples.