

**Title** Effect of 1-MCP on physiological and quality changes of fresh-cut mango cv. 'Nam Dok Mai'

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### **Abstract**

Ripe mangoes processed as fresh-cut products are highly sensitive to degrading of both external and internal qualities caused by mechanical injury. Application of pretreatment with 1-methylcyclopropane (1-MCP) before cutting on improving the qualities of fresh-cut mangoes was investigated. Mango fruits were treated with 0.25 and 0.50  $\mu\text{l l}^{-1}$  of 1MCP for 12 h at 20°C and control fruit were left untreated at 20°C for the same time. Treated and untreated mangoes were then halved and the fleshy sections were cut with a sharp knife one in the longitudinal direction and three in cross sectional direction. They were stored at 10°C and 90-95% RH for 3 days. Quality characteristics namely fresh weight loss, respiration rate, colour, ascorbic acid content and flesh firmness were recorded daily. The result showed that although weight loss of treated cut mangoes with 1-MCP was higher than that of untreated sample, however, treated with 0.50  $\mu\text{l l}^{-1}$  of 1-MCP was the most effective in delaying color change, ascorbic acid loss and softening. These positive changes were closely related to a significant decrease in respiratory activity determined during storage. Therefore, it would be said that treatment with 1-MCP could be a viable alternative to common technology for maintaining the qualities of 'Nam Dok Mai' mangoes as a fresh-cut product.