

**EFFECTS OF 1-METHYLCYCLOPROPENE (1- MCP) ON POSTHARVEST  
QUALITY OF SELECTED LOCAL  
BANANA CULTIVARS: A PRELIMINARY STUDY**

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1- Methylcyclopropene (1- MCP) is a gaseous ethylene action inhibitor that delays various senescence processes in a range of horticultural crops including fruits, vegetables and ornamentals. The present study was conducted to investigate the effects of 1-MCP on postharvest quality of local banana cultivars '*Embul*'(AAB), '*Ambon*'(AAA), '*Seeni*'(ABB), and '*Kolikuttu*'(AAB). Mature green banana fruits were treated with  $1 \mu\text{l l}^{-1}$  1-MCP for 24 h and incubated at room temperature ( $27 \pm 1^{\circ}\text{C}$ ) and relative humidity (76%) until they reached eating-ripe stage as shown by the peel colour and compared with control fruits devoid of 1-MCP treatment. Fruits at table-ripe stage were analyzed for starch content, titratable acidity (TA) and total soluble solid content (TSS) of the pulp, and fresh fruit weight and firmness.

Application of 1-MCP delayed ripening by 2-3 fold in all four banana cultivars. The treated fruits showed a reduced loss of titratable acid on ripening which resulted in a lower sugar (Brix%) / acid ratio compared to untreated fruits. The effect of 1-MCP on TSS was variable among varieties. Furthermore, the peel of 1-MCP treated fruits appeared less attractive being leathery, which could be attributed to transpiration during prolonged incubation at room temperature and relative humidity.

It can be concluded that increased weight loss is a major disadvantage associated with 1-MCP treatment under ambient conditions. However, it is expected that it may be overcome by combining 1-MCP treatment with appropriate relative humidity and temperature. 1-MCP treatment showed differential effects on eating-quality parameters of different banana cultivars. Further investigations are necessary including a subjective sensory evaluation in order to assess the applicability of postharvest 1-MCP treatment at industrial level.