

**EFFECT OF 1-METHYLCYCLOPROPENE (1-MCP) IN PREVENTING
POSTHARVEST PROBLEMS OF ‘KOLIKUTTU’ BANANA (*MUSA SP.*)
GROWN IN SRI LANKA**

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Among a number of banana varieties, ‘Kolikuttu’ has a higher consumer demand and comparatively higher price in Sri Lanka. The rapid ripening of banana is a problematic issue of the banana industry, since transporting ripened banana may increase the postharvest losses due to high susceptibility to physical damages. Delaying the de-greening (ripening) may provide an ideal solution for this issue. An ethylene inhibitor, 1-Methylcyclopropene (1-MCP), is used in the horticulture sector worldwide to delay the de-greening. It has the ability to bind to the ethylene receptors of plant tissues and restrict the action of ethylene. In the present study, the effect of 1-MCP in delaying the de-greening and in preventing spot-anthracoise and finger-shedding in Kolikuttu banana was investigated using three 1-MCP concentrations (0, 200 and 300 ppb) at two exposure time periods (12 and 24 h).

The results showed that the interaction effect of 1-MCP concentration and exposure time period was significant on the change of the pulp firmness, firmness with peel, titratable acidity and total soluble solid content. The shelf life of unripe ‘Kolikuttu’ banana was extended by 1-MCP, exceeding six days compared to controls. Banana which were treated with 300 ppb 1-MCP for 24 h, achieved the highest shelf life of 14 days. Bananas treated with 200 ppb 1-MCP for 12 h lasted for nine days, whereas 300 ppb, 12 h and 200 ppb 24 h treated bananas achieved a 10 day shelf life. Comparatively the untreated banana had a very low, 5-6 day shelf life. According to the results of the sensory evaluation, peel colour and aroma were not significantly different in 1-MCP treated banana. Taste, pulp firmness and overall acceptability were significantly different among different treatment combinations. Banana treated with 200 ppb 1-MCP for 12 h had the highest consumer preference and 300 ppb, 24 hours exposure time had the lowest consumer preference. Occurrence of spot-anthracoise, finger shedding and splitting was not observed in 1-MCP treated ‘Kolikuttu’ banana.

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