

**Title** Effect of 1-Methylcyclopropane (1-MCP) on banana ripening  
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**Keyword** 1-MCP; banana; ripening

#### **Abstract**

To investigate the effect of 1-Methylcyclopropene (1-MCP) that has recently been developed by Rohm and Hass (Agrofresh Inc.), on banana ripening, a set of experiments was conducted. For this purpose, banana fruits at maturity stage 3-4 (from half green, half yellow to more yellow than green) were exposed to 1-MCP, generated from Agrofresh systems, with different concentration varied from 150 pp to 600 ppb with the interval of 150 ppb (i.g. 150, 300, 450, and 600 ppb) in gas-tight container at 120°C for 12 hours. Non-treated fruits were served as control. All fruits after 1-MCP treatment were immediately stored in cool room at temperature 20-22°C, samplings and analyses for physicochemical and physiological characteristics were done daily for ten days.

Experiment results indicated that 1-MCP has significantly delayed banana ripening at temperature 20-22°C. 1-MCP treatment also slowdowns development of sugar spots on fruit skin, retains its typical light-yellow color and keeps the fruits firmer to be suitable for transportation and distribution. Among the treatment, 1-MCP with concentration of 300-450 ppb is considered to be the most promising.

In this work, aromatic volatile production ability of ripening banana has also been investigated.