

**Title** Ethylene depending and non-depending metabolisms during postharvest banana ripening  
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### **Abstract**

Bananas were taken at the arrival port at colour 2 ripening stage and then treated with ethylene (200 ppm for 24 h) and then with 1-MCP (200 ppb for 12 h) (ethylene/1-MCP) or with 1-MCP and then with ethylene with the same previous concentration (1-MCP/ethylene). The treatment and the following maintenance were done at 15°C and 90% R.H. Control was represented by bananas treated only with ethylene. Respiration was reduced by the 1-MCP treatment especially when applied before than ethylene treatment. Even ethylene was reduced but not significantly. 1-MCP maintained the bananas at the green stage while the control bananas yellowed. Pulp firmness declined rapidly in untreated fruits and in the one ethylene/1-MCP treated. Whole fruit deformation behaved like the pulp firmness. Sugars increased in control bananas and initially even in the ethylene/1-MCP treated bananas but successively the increase stopped without reaching the level of the control. 1-MCP/ethylene treated bananas remained green, firm, and sugars did not increase at all. In conclusion 1-MCP provided before ethylene at this temperature and at this stage of ripening completely blocks the ripening while applied after ethylene inhibits yellowing, partially the sugar accumulation, and no effect on softening delay.