

ABSTRACT

APPLICATION OF 1-MCP AND CHITOSAN TO EXTEND SHELF-LIFE AND MANTAIN QUALITY OF BANANA ‘CAVENDISH’ AT A YELLOW STAGE

By

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‘Cavendish’ banana is a climacteric fruit. During post-harvest banana fruits generally have a short shelf-life and been damaged quickly by the processes of respiration, ethylene production, and high transpiration. Applications of 1-MCP and chitosan coating are among the ways to increase the storage life and maintain the quality of fruit by reducing fruit respiration, transpiration, and ethylene production.

The aims of this research were to study the effects of (1) 1-MCP application, and (2) a combination between 1-MCP in the chitosan coating application to increase storage life and maintain the quality on banana ‘Cavendish’ at a yellow stage.

The research was conducted in the Horticultural Post- harvest Laboratory, Department of Agrotechnology, Faculty of Agriculture, Lampung University from September- Oktober 2013. Treatments were arranged in a completely randomized design of two factors was used. Each treatment unit was repeated three times and each consists of one cluster (two finger) banana fruit. The first factor was 1-

MCP gassing (control and 1-MCP), and the second one was chitosan (control and 2.5% chitosan). 1-MCP gas was developed by diluting 0.5 g 1-MCP powder into 30 ml of water.

The results of this research showed that (1) 1-MCP application slowed ripening and reduced quality of banana 'Cavendish' at a yellow stage until 13 days of storage, and (2) the combination of 1-MCP 0.5 g in 2.5% chitosan coating slowed ripening and reduced quality of banana 'Cavendish' at a yellow stage compared to the control indicated by changes of fruit stage, weight loss, firmness, and acid content.

Key words: banana 'Cavendish', 1-MCP, chitosan, storage life, quality.