

ABSTRACT

THE EFFECT OF 1-METHYLCYCLOPROPENE (1-MCP), PLASTIC WRAPPING AND STORAGE TEMPERATURE ON THE SHELF LIFE AND QUALITY OF BANANA 'CAVENDISH'

By

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Banana's respiration increases that is characterized by increasing metabolic activities from maturation to senescence phases. Bananas also can be easily damaged and its qualities are quickly changed. Ripening process on fruit can not be stopped, but it can be slowed down so that the fruit shelf life can be extended. Several postharvest techniques were applied to inhibit the ripening of bananas. They were the application of 1-MCP, plastic wrapping, and storage at cold temperature. The aims of this research were to study the effects of application of (1) 1-MCP, (2) plastic wrapping, (3) storage temperatures, and (4) interactions of 1-MCP, plastic wrapping, and storage temperatures on the shelf life and quality of 'Cavendish' banana fruit.

This research was conducted in the Horticultural Postharvest Laboratory, Faculty of Agriculture, Lampung University from July to August 2014. Treatments were

arranged in a completely randomized design with three replications and laid out in 2 x 2 x 2 factorially. The first factor was 1-MCP (with and without 1-MCP), the second factor was plastic wrapping (with and without plastic wrapping), and the third factor was storage temperature (a cold temperature of 20,8 °C and a room temperature of 25,2 °C).

The results showed that (1) application of 1-MCP was able to delay softening in banana 'Cavendish' better than without 1-MCP, although 1-MCP did not affect the shelf life of a banana, it was not able to inhibit the ripening stage of fruit, (2) the application of plastic wrapping increased its shelf life by one day longer and suppressed weight loss of banana 'Cavendish' better than without plastic wrapping. However, plastic wrapping accelerated its fruit softening, and (3) storage at cold temperature delayed softening of banana 'Cavendish', could not suppressed weight loss and could not extended the shelf life of banana 'Cavendish' at room temperature either, and (4) there was no interaction among 1-MCP, plastic wrapping, and cold temperature in extending shelf life and keeping quality of banana 'Cavendish'.

Keywords: banana 'Cavendish', 1-MCP, plastic wrapping, storage temperature, shelf-life, quality