

## ABSTRACT

### THE INFLUENCE OF N6-BENZYLADENINE (BA) ADDITION IN CHITOSAN COATING TO THE SHELF LIFE AND QUALITY OF BANANA cv. 'CAVENDISH'

By

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Banana is a potential commodity for export purposes, but its rapid damage problem causes a short shelf life and decreases quality. Proper postharvest processing can reduce the damage. Benzyladenine serves to inhibit the chlorophyll degradation and delays ageing. Chitosan is a functioning coating to prolonging the shelf life, and also to serve as bio-fungicide to prevent fruit roting.

This research was purposed to: (1) find out the influence of *benzyladenine* (BA) addition to *chitosan* coating to the shelf life and quality of banana cv. 'Cavendish', (2) obtain the best treatment of *benzyladenine* (BA) concentration on *chitosan* coating to prolonging the shelf life and maintaining the quality of banana cv. 'Cavendish'.

This research was conducted in the Horticulture Laboratory of Agricultural Faculty in Lampung University, from July to August 2011. This research used a completely randomized design with treatments arranged in 3 x 4 factorials. The first factors were three levels of *chitosan* coatings, i.e treatment without *chitosan*

coating (aquades)(C<sub>0</sub>), treatment with acetic acid 0.5% (C<sub>1</sub>), and treatment with *chitosan* 2.5% (C<sub>2</sub>). The second factors were four levels of *benzyladenine* (BA) concentrations: 0 (B<sub>0</sub>), 25 (B<sub>1</sub>), 50 (B<sub>2</sub>), and 100 ppm (B<sub>3</sub>). Observations were conducted on the variables of shelf life, fruit weight, fruit firmness, total soluble solid, free acid content, and fruit sweetness.

The results showed that: (1) *benzyladenine* (BA) addition into *chitosan* coating 2.5% was not significantly effective to prolong the shelf life and maintain quality of banana cv. 'Cavendish', (2) there was not best treatment in prolonging the shelf life and maintaining the quality of banana cv. 'Cavendish', (3) 0.5% acetic acid addition into *chitosan* 2.5% did not produce negative effect, however a soaking application in 0.5% acetic acid shortened the shelf life of banana cv. 'Cavendish'.

Keywords: benzyladenine, chitosan, Cavendish, banana, postharvest