

ABSTRACT

EFFECT OF ADDITION BENZILADENINE (BA) ON CHITOSAN COATING OF THE QUALITY AND SELF LIFE FRUIT GUAVA 'CRYSTAL'

By
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'Crystal' is one of guava cultivars in Indonesia'. Guava of 'Crystal' has expensive price in the market. The Short self life of fruit makes a fast post harvest damage. The way to maintain the freshness and quality of the fruit is by coating the fruit. The use was to prevent water evaporation and reduce so the damage can be slowed.

The material used for soaking the fruit was a plant growth regulators of benziladenine (BA). By soaking guava 'Crystal' in a solution of BA, the hormon is expected to infiltrate into the fruit slowly and evenly. A longer soaking can be accomplished by adding BA to the coating material of chitosan. By applying BA to the chitosan coating solution, the BA will slowly infiltrate into the fruit during storage, so it can maintain quality and prolong the shelf life of guava 'Crystal'.

This research was aimed at (1) studying the effects of the addition of BA on the application of chitosan coating on quality and shelf life of guava 'Crystal', and (2) obtaining the best concentration of BA added to the chitosan coating to maintain the quality and prolong the shelf life of guava 'Crystal'.

This research was conducted in the Laboratory of Horticulture, Faculty of Agriculture, University of Lampung during February—March 2012. This research used a completely randomized design, with treatments arranged in a factorial 3 x 4. The first factors were fruits without any treatment but water (K0), without chitosan but in acetic acid 0,5% (K1), and 2,5% chitosan (K2). The second factors were the concentrations of BA in four levels: 0 (B0), 25 (B1), 50 (B2) and 100 ppm (B3). For the control, three guava were directly observed at the first day of application. The observed variables were shelf life, fruit weight loss, fruit firmness, soluble solid (°Brix), and free acid content.

The results showed that (1) the addition of 2,5% chitosan coating were significantly able to prolong the shelf life Guava 'Crystal' of 2,83 and 6,12 days longer than control and acetic acid 0,5% (2) the addition of BA concentrations of 25, 50 and 100 ppm shortened significantly the shelf life of guava 'Crystal', but did not influence its quality, and (3) the using of 0,5% acetic acid as a solvent in 2,5% chitosan did not cause a bad affect, but soaking in 0,5% acetic acid as a main solution adversely affected the fruit quality and shelf life of guava 'Crystal'.

Key words: guava, browning, chitosan, BA, quality