

ABSTRACT

THE APPLICATION OF 1-MCP AND CHITOSAN TO MAINTAIN QUALITIES AND EXTEND SHELF-LIFE OF 'CRYSTAL' GUAVA FRUITS

By

ARISHA AZIMA

Guava 'Crystal' has a short shelf life due to its high respiration and transpiration. Using chitosan for coating guava 'Crystal' is important to maintain the quality, because the rate of respiration and transpiration can be slowed. The use chitosan and 1-MCP ia also important to maintain the quality and extend shelf-life of guava 'Crystal'.

The aims of this research were to study the effect of (1) 1-MCP and, (2) combination on 1-MCP and chitosan on the shelf life and quality of guava 'Crystal'. The research was conducted in the Horticultural Postharvest Laboratory, Faculty of Agriculture, Lampung University from September to Oktober 2013. The research used a completely randomized design (CRD), with treatments arranged in a factorial 2 x 2. For the control, three guava fruits were directly observed at the day of application. The first factor was 1-MCP *gassing*

(control and 1-MCP), and the second one was chitosan (control and 2,5% chitosan). The observed variables were fruit weight, fruit firmness, soluble solid (⁰Brix), and free acid content.

The results of this research showed that (1) the sole application of 1-MCP increased fruit shelf-life and maintained fruit quality of 'Crystal' guava, and (2) the effect of 1-MCP with a concentration of 0,5 gram and 2,5% chitosan was able to extend shelf-life and maintained the fruit qualities of 'Crystal' guava up to 18 days of storage.

Keywords: guava, chitosan, 1-MCP, shelf-life, quality