

## **ABSTRACT**

### **THE EFFECTS OF AMINOETHOXYVINYLGLYCINE (AVG), CHITOSAN AND STORAGE TEMPERATURE TO THE SHELF-LIFE AND QUALITY OF 'MUTIARA' GUAVA**

By

**BERTHA BRAJA**

'Mutiara' guava is classified as a climacteric fruit with a short shelf-life of 2-7 days. Guava fruits are easily damaged such as the changes of fruit texture and the appearances of brown spot on the fruit peel. These changes decreased fruits quality for marketing. Applying *aminoethoxyvinylglycine* (AVG), chitosan and storage temperature were needed to postharvest handling to the shelf-life and quality of 'Mutiara' guava. This research was aimed to study the effect of AVG, chitosan, storage temperature, and interaction of AVG, chitosan, and storage temperature to the shelf-life and quality of 'Mutiara' guava.

The research was conducted in the Horticultural Postharvest Laboratory, Agriculture Faculty, University of Lampung from September until October 2014. This research used a completely randomized design with three replications by 2 x 2 x 2 factorials. The first factor was AVG (AVG and control), the second factor was chitosan (chitosan and control), and the third factor was storage temperature (low temperature of 20 °C and room temperature of 28 °C).

The results showed that (1) AVG significantly influence the firmness of 'Mutiara' guava but it did not significantly influence fruit shelf-life and chemical quality; (2) chitosan significantly lengthened fruit shelf-life by 2,17 days longer than control but it did not significantly influence fruit firmness, weight loss, soluble solid, acidity and sweetness level of 'Mutiara' guava; (3) low temperature influence fruit shelf-life and firmness but it did not significantly influence weight loss and chemical quality of 'Mutiara' guava; (4) no interaction among AVG, chitosan, and low temperature in lengthening the fruit shelf-life and chemical quality of 'Mutiara' guava, and the combination of AVG and chitosan influenced fruit shelf-life and firmness, but did not influenced weight loss and chemical quality of 'Mutiara' guava.

**Keywords:** AVG, 'Mutiara' guava, chitosan, shelf- life, quality ,storage temperature

## **ABSTRAK**

### **PENGARUH AMINOETHOXYVINYLGLYCINE (AVG), KITOSAN, DAN SUHU SIMPAN TERHADAP MASA SIMPAN DAN MUTU BUAH JAMBU BIJI ‘MUTIARA’**

Oleh

**BERTHA BRAJA**

Jambu biji ‘Mutiara’ tergolong buah klimakterik dengan masa simpan pendek antara 2-7 hari. Buah jambu biji mudah mengalami kerusakan seperti perubahan tekstur buah dan munculnya bercak coklat pada kulit buah. Perubahan seperti ini menyebabkan penurunan mutu buah untuk dipasarkan. Aplikasi (*aminoethoxyvinylglycine*) AVG, kitosan, dan suhu simpan diperlukan untuk penanganan pascapanen untuk memperpanjang masa simpan dan mempertahankan mutu buah jambu biji ‘Mutiara’. Penelitian ini bertujuan untuk mengetahui pengaruh aplikasi AVG, kitosan, suhu simpan dan interaksi AVG, kitosan, dan suhu simpan terhadap masa simpan dan mutu buah jambu biji ‘Mutiara’.

Penelitian ini dilaksanakan di Laboratorium Pascapanen Hortikultura, Fakultas Pertanian, Universitas Lampung pada bulan September hingga Oktober 2014. Penelitian ini menggunakan Rancangan Teracak Sempurna (RTS) dengan tiga ulangan yang disusun secara faktorial  $2 \times 2 \times 2$  dengan faktor pertama adalah

AVG (dengan dan tanpa AVG), faktor kedua adalah kitosan (dengan dan tanpa kitosan), dan faktor ketiga adalah suhu simpan (suhu rendah 20 °C dan suhu ruang 28 °C).

Hasil penelitian menunjukkan bahwa (1) aplikasi AVG secara nyata mampu mempertahankan kekerasan buah tetapi tidak mempengaruhi masa simpan dan mutu kimia buah jambu biji ‘Mutiara’ (2) aplikasi kitosan secara nyata mampu memperpanjang masa simpan 2,17 hari lebih lama dibandingkan tanpa kitosan tetapi tidak mempengaruhi kekerasan buah, susut bobot, kandungan padatan terlarut, asam bebas, dan tingkat kemanisan buah jambu biji ‘Mutiara’ (3) penyimpanan pada suhu rendah mempengaruhi masa simpan dan kekerasan buah tetapi tidak berpengaruh nyata terhadap susut bobot dan mutu kimia buah jambu biji ‘Mutiara’ (4) tidak terdapat interaksi antara AVG, kitosan, dan suhu rendah dalam memperpanjang masa simpan dan mempertahankan mutu buah jambu biji ‘Mutiara’ tetapi kombinasi perlakuan AVG dan kitosan mampu mempengaruhi masa simpan dan kekerasan buah jambu biji ‘Mutiara’.

Kata kunci: AVG, jambu biji ‘Mutiara’, kitosan, masa simpan, mutu ,suhu simpan