

ABSTRACT

POSTHARVEST APPLICATIONS OF CHITOSAN AND PLASTIC WRAPPING TO MANGOSTEEN (*Garcinia mangostana* L.) FRUITS OF STAGE II IN AFFECTING FRUIT SHELF-LIFE AND QUALITIES

By

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Mangosteen (*Garcinia mangostana* L.) is classified as a climacteric fruit, so it ripens during storage. Problems encountered during storage is the duration of shelf-life decline in fruit quality. Handling that can be applied in postharvest mangosteen is the application of chitosan and plastic wrapping. The purposes of this research were to study (1) the effect of chitosan treatment application on the shelf-life and the quality of mangosteen fruit stage II, (2) the effect of plastic wrapping treatment application on the shelf- life and the quality of the mangosteen fruit stage II and, (3) the application effect (chitosan and plastic wrapping) of the two treatment combinations on the shelf-life and the quality of the mangosteen fruit stage II.

This research was conducted in the Laboratory of Horticultural Postharvest, Department of Agrotechnology, Faculty of Agriculture, University of Lampung. The research was conducted in July–August 2017. Treatments were arranged in a completely randomized design (CRD) with treatments arranged in a factorial 3 x 2

consisted of chitosan (K_0 0%, K_1 1,25%, dan K_2 2,50%), and plastic wrapping (W_0 control and W_1 one layer of plastic). The results showed that (1) chitosan treatment did not affect the shelf-life and the qualities of mangosteen fruit, (2) plastic wrapping treatment caused the shelf -life 5 days longer than the control and affected the weight loss and the level of hardness but did not affect the other qualities parameters of other mangosteen fruit, (3) combination treatment between chitosan and plastic wrapping caused the shelf-life 8 days to be longer than the control and did not affect the qualities of mangosteen fruit.

Keywords: chitosan, mangosteen, plastic wrapping, shelf-life, quality

ABSTRAK

PENGARUH PERLAKUAN PASCAPANEN DENGAN KITOSAN DAN PLASTIC WRAPPING TERHADAP MASA SIMPAN DAN MUTU BUAH MANGGIS (*Garcinia mangostana* L.) FASE PEMASAKAN STADIUM II

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Manggis (*Garcinia mangostana* L.) tergolong ke dalam buah klimakterik, sehingga dapat masak saat penyimpanan. Permasalahan yang dihadapi selama penyimpanan adalah lama masa simpan penurunan mutu buah. Penanganan yang dapat diterapkan dalam pascapanen manggis adalah pengaplikasian kitosan dan *plastic wrapping*. Penelitian ini bertujuan mengetahui (1) efek aplikasi perlakuan kitosan terhadap masa simpan dan mutu buah manggis stadium II, (2) efek aplikasi perlakuan *plastic wrapping* terhadap masa simpan dan mutu buah manggis stadium II dan, (3) efek aplikasi dua kombinasi perlakuan terhadap masa simpan dan mutu buah manggis stadium II.

Penelitian dilaksanakan di Laboratorium Hortikultura, Jurusan Agroteknologi, Fakultas Pertanian, Universitas Lampung pada bulan Juli–Agustus 2017.

Penelitian ini menggunakan Rancangan Acak Lengkap (RAL), dengan perlakuan yang disusun secara faktorial 3 x 2, yaitu kitosan (K_0 0%, K_1 1,25%, dan K_2 2,50%)

dan *plastic wrapping* (W_0 tanpa pelapis dan W_1 satu lapis *plastic*). Hasil penelitian menunjukkan bahwa (1) perlakuan kitosan tidak mempengaruhi masa simpan dan mutu buah manggis, (2) perlakuan *plastic wrapping* mampu memperpanjang masa simpan 5 hari lebih lama dibanding kontrol dan menurunkan susut bobot serta tingkat kekerasan, tetapi tidak mempengaruhi peubah mutu buah manggis lainnya (3) kombinasi perlakuan kitosan 12,5% dan *plastic wrapping* mampu memperpanjang masa simpan 8 hari lebih lama dibandingkan dengan kontrol, dan tidak mempengaruhi mutu buah manggis lainnya.

Kata kunci: kitosan, manggis, *plastic wrapping*, masa simpan, mutu