ABSTRACT

THE EFFECTS OF KD-112 AND PLASTIC WRAPPING ON THE FRUIT QUALITIES AND SHELF-LIFE OF 'CALIFORNIA' PAPAYA

By

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Papaya 'California' is a climacteric fruit. After harvest papaya 'California' is still in the process of metabolism, such as respiration and transpiration. In addition, papaya fruit 'California' is responsive to both ethylene gases from outside and ethylene produced by pepaya fruits 'California '. An application of KD-112 is a ways to increase the shelf-life and to slow fruit detioration by lowering the processes.

This research was aimed at studying the changes in the qualities of papaya 'California' during storage due to the application of (1) KD-112, (2) plastic wrapping, and (3) combinations of fruit coatings KD-112 and plastic wrapping. The research was conducted in the Laboratory of Horticultural Postharvest, Department of Agrotechnology, Faculty of Agriculture, University of Lampung. The research was conducted in July to August 2015. Treatments were arranged in a completely randomized design, with six treatment combinations of fruit coatings KD-112 (0, 7, and 14%) and the plastic wrapping

(without and with a layer of plastic wrapping). The combination of each treatment was repeated three times so that the number of units of the experiments was 18 units.

The results showed that (1) the application of KD 112 14% was able to extend the fruit shelf-life by 3.66 days longer than without the application of KD 112, although it did not affect the fruit quality, (2) the application of plastic wrapping was able to extend the fruit shelf-life by 8.44 days longer and to supress fruit weight loss and fruit softening, but did not affect the chemical qualities of the fruit compared to control, and (3) the combination application of KD-112 14% and plastic wrapping was the best treatment in maintaining the qualities of papaya fruit 'California' up to 19 days storage.

Keywords: papaya 'California', KD-112, plastic wrapping, shelf life, quality

ABSTRAK

EFEK KD-112 DAN *PLASTIC WRAPPING* TERHADAP MUTU DAN MASA SIMPAN BUAH PEPAYA ‘CALIFORNIA’

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Pepaya ‘California’ merupakan buah klimakterik. Setelah panen buah pepaya ‘California’ masih melakukan proses metabolisme, antara lain respirasi dan transpirasi. Selain itu juga, buah pepaya ‘California’ ini tanggap terhadap gas etilen baik etilen dari luar maupun etilen yang dihasilkan oleh buah pepaya‘Caifornia’. Pengaplikasian pelapis buah KD-112 dan *plastic wrapping* merupakan salah satu cara untuk meningkatkan masa simpan dan memperlambat penurunan mutu buah dengan menekan proses fisiologis yang terjadi di dalam buah.

Penelitian ini bertujuan untuk mempelajari perubahan mutu buah pepaya ‘California’ selama masa simpan sebagai tanggapan dari aplikasi (1) KD-112, (2) *plastic wrapping*, dan (3) kombinasi pelapis buah KD-112 dan *plastic wrapping*. Peneilitian ini dilaksanakan di Laboratorium Pascapanen Hortikultura, Jurusan Agroteknologi, Fakultas Pertanian, Universitas Lampung. Penelitian

dilaksanakan pada Juli hingga Agustus 2015. Penelitian ini menggunakan Rancangan Teracak Sempurna (RTS), dengan enam kombinasi perlakuan, yaitu kombinasi dari pelapis buah KD-112 (0, 7, dan 14%) dengan *plastic wrapping* (tanpa dan dengan satu lapis *plastic wrapping*). Kombinasi masing-masing perlakuan diulang sebanyak tiga kali sehingga jumlah satuan percobaannya adalah 18 satuan percobaan.

Hasil penelitian menunjukkan bahwa (1) aplikasi KD 112 14% mampu memperpanjang masa simpan buah 3,66 hari lebih lama dibandingkan tanpa aplikasi KD 112, walaupun tidak mempengaruhi mutu buah, (2) aplikasi *plastic wrapping* mampu memperpanjang masa simpan 8,44 hari lebih lama dan menekan susut bobot dan pelunakan buah namun tidak mempengaruhi mutu kimia buah dibandingkan tanpa aplikasi *plastic wrapping,* dan (3) kombinasi perlakuan KD-112 14% dan *plastic wrapping* paling efektif dalam mempertahankan mutu buah pepaya ‘California’ hingga 19 hari simpan.

Kata kunci: pepaya ‘California’, KD-112, *plastic wrapping*, masa simpan, mutu