

## **ACTIVE-MODIFIED ATMOSPHERIC PACKAGING (a-MAP) DALAM MEMPERPANJANG UMUR SIMPAN BUAH NAGA MERAH SETELAH PENYIMPANAN (POST-STORAGE)**

### **INTISARI**

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Buah naga merupakan buah eksotik yang memiliki penampilan menarik dan potensi berpeluang untuk dikembangkan sebagai komoditas penunjang agribisnis dan peningkatan devisa serta dapat bersaing dengan buah tropis. Umur simpan merupakan salah satu masalah utama dalam mengembangkan dan memasarkan produk buah naga karena buah akan mudah mengalami kerusakan selama penyimpanan dan pemasaran akibat proses metabolisme buah masih berlangsung. Tujuan dari penelitian ini adalah untuk menentukan kombinasi penyimpanan suhu rendah dan a-MAP yang tepat pada buah naga selama proses pendistribusian hingga ke tangan konsumen sebagai upaya peningkatan umur simpan (*shelf life*). Penelitian ini menggunakan Rancangan Acak Lengkap (RAL) dengan faktor suhu dan jenis kemasan. Masing-masing perlakuan diulang sebanyak 5 kali. Sampel buah naga dipanen dari kebun di Kabupaten Banyuwangi Provinsi Jawa Timur yang kemudian dikemas menggunakan plastik PE dan PP lalu disimpan dengan suhu 4°C dan 8°C selama 21 dan 35 hari. Setelah disimpan pada suhu rendah buah, buah dikeluarkan dari kemasan kemudian dipindahkan pada suhu ruang  $\pm 25^{\circ}\text{C}$ , RH 76.9% selama 3-7 hari untuk pengujian umur simpan (*shelf life*) setelah penyimpanan dingin (*post-storage*). Hasil yang diperoleh menunjukkan bahwa kombinasi suhu dan a-MAP mampu memperpanjang umur simpan buah selama 7 hari setelah penyimpanan 21 hari dan 3 hari setelah penyimpanannya 35 hari. Perlakuan terbaik adalah perlakuan suhu 4°C dengan pengemasan plastik PP. Perlakuan ini mampu menekan perubahan warna kulit dan daging buah, kekerasan daging, kandungan asam, betasianin daging buah, rasa dan tekstur, serta kerusakan visual buah naga seperti kelayuan sirip buah, pertumbuhan jamur, kerusakan kulit luar buah, dan kulit pecah (*cracking*).

**Kata kunci** : buah naga, umur simpan, suhu, kemasan, kerusakan

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**ACTIVE-MODIFIED ATMOSPHERIC PACKAGING (a-MAP) TO EXTEND  
THE SHELF LIFE POST-STORAGE OF RED DRAGON FRUIT**

**ABSTRACT**

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*Dragon fruit is an exotic fruit that has an attractive appearance and has the potential to be developed as a commodity to support agribusiness and increase foreign exchange and can compete with tropical fruit. Shelf life is one of the main problems in developing and marketing dragon fruit products because the fruit will easily be damaged during storage and marketing due to the fruit's metabolic process still taking place. The aim of this research is to determine the appropriate combination of cold storage and a-MAP for dragon fruit during the distribution process to consumers as an effort to increase shelf life. This research used a Completely Randomized Design (CRD) with factors such as temperature and type of packaging. Each treatment was repeated 5 times. Dragon fruit samples were harvested from gardens in Banyuwangi Regency, East Java Province, which were then packaged using PE and PP plastic and then stored at temperatures of 4°C and 8°C for 21 and 35 days. After storing the fruit at a cold temperature, the fruit is removed from the packaging and then moved to room temperature  $\pm 25^{\circ}\text{C}$ , RH 76.9% for 3-7 days to test shelf life after treatment (post-storage). The results obtained showed that the combination of temperature and a-MAP was able to extend the shelf life of fruit for 7 days after 21 days of storage and 3 days after 35 days of storage. The best treatment is 4°C temperature treatment with PP plastic packaging. This treatment is able to suppress changes in the color of the epicarp and flesh of the fruit, flesh hardness, acid content, betacyanin of the fruit mesocarp, taste and texture, as well as visual damage to dragon fruit such as extend of change color, fungal growth, damage to the epicarp of the fruit, and cracking of the epicarp.*

**Keyword** : dragon fruit, shelf life, temperature, packaging, damage

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