ACTIVE MODIFIED ATMOSPHERE PACKAGING BERBASIS *OXYGEN ABSORBER* UNTUK MEMPERPANJANG UMUR SIMPAN BUAH NAGA

INTISARI

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Buah naga (*Selenicereus costaricensis*) merupakan salah satu buah tropis penting dan populer di Indonesia yang mudah mengalami layu pada bagian sirip, kehilangan air atau transpirasi, dan pengerutan pada kulit selama penyimpanan. Tujuan dari penelitian ini mempelajari tentang kombinasi penerapan *oxygen absorber* pada kemasan MAP dan suhu rendah untuk menjaga kualitas buah naga selama penyimpanan dan memperpanjang umur simpannya. Salah satu kegunaan *oxygen absorber*, MAP, dan suhu rendah yakni untuk mengurangi laju respirasi buah, aktivitas bakteri, dan aktivitas enzim pada buah naga. Buah naga yang telah dipanen dikemas dengan kombinasi variasi kapasitas *oxygen absorber* 30 cc, 60 cc, dan 120 cc, MAP berbahan plastik *biodegradable* dan LDPE dengan tebal yang sama 0,04 mm, penggunaan silika gel dan perforasi pada MAP, dan *cold storage* suhu 5℃ dan RH 90%. Penerapan kombinasi *oxygen absorber,* MAP, dan suhu rendah pada umumnya dapat mempertahankan kualitas buah naga hingga 42 hari atau 6 minggu dalam *cold storage*. Buah naga mengalami tanda *chilling injury,* peningkatan kehilangan air, peningkatan susut bobot, penurunan kekerasan, kerusakan kulit, pelayuan sirip, dan pertumbuhan jamur pasca pemindahan pada suhu ruang 27℃ tanpa MAP. Penerapan perforasi pada MAP berpengaruh pada tingginya konsentrasi oksigen dalam MAP selama penyimpanan dalam *cold storage* sehingga pertumbuhan jamur dan kehilangan kadar air pada buah naga dengan penerapan ini berpotensi terjadi. Penyimpanan pada suhu 5℃ tidak direkomendasikan untuk mengurangi kejadian *chilling injury.*

Kata kunci: buah naga, MAP, *oxygen absorber,* perforasi, *cold storage*

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OXYGEN ABSORBER BASED ACTIVE MODIFIED ATMOSPHERE PACKAGING TO PROLONG DRAGON FRUIT SHELF LIFE

ABSTRACT

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Dragon fruit (Selenicereus costaricensis*) is one of the important and popular tropical fruits in Indonesia that is prone to wilting of the fins, water loss or transpiration, and shrinkage of the skin during storage. The purpose of this research is to study the combination of oxygen absorber application in MAP and low temperature environment to maintain the quality of dragon fruit during storage and extend its shelf life. One of the uses of oxygen absorber, MAP, and low temperature is to reduce the rate of respiration, bacterial activity, and enzyme activity in dragon fruit. Harvested dragon fruit was packed with a combination of variations in oxygen absorber capacity of 30 cc, 60 cc, and 120 cc, MAP made from biodegradable plastic and LDPE with the same thickness of 0.04 mm, the use of silica gel and perforations in MAP, and cold storage at 5℃ and 90% RH. The application of a combination of oxygen absorber, MAP, and low temperature generally able to maintain the quality of dragon fruit for up to 42 days or 6 weeks in cold storage. However, dragon fruit had signs of chilling injury, increased water loss, increased weight loss, decreased hardness, skin damage, fin withering, and mold growth after removal at 27℃ room temperature without MAP. The application of perforation to MAP has an effect on the high concentration of oxygen in MAP during storage in cold storage so that fungal growth and water content loss in dragon fruit with this application is potentially occured. Storage at 5℃ is not recommended to reduce the incident of chilling injury.*

Keywords: dragon fruit, MAP, oxygen absorber, perforation, cold storage

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