

Intisari

Buah naga merah (*Hylocereus polyrhizus* (F.A.C. Weber) Britton & Rose) termasuk ke dalam *perishable commodity*, artinya komoditas ini sangat mudah mengalami kerusakan akibat aktivitas fisiologis yang masih berlangsung setelah pemanenan, misalnya seperti respirasi, transpirasi, dan produksi etilen. Pemberian bahan-bahan secara eksogen seperti CaCl_2 (kalsium klorida) dan kemasan oksidan etilen yang mengandung KMnO_4 (kalium permanganat) dilakukan guna memperpanjang daya simpan dan mempertahankan mutu buah. Penelitian ini disusun menggunakan rancangan faktorial dua faktor yang disusun dalam Rancangan Acak Kelompok (RAK). Faktor pertama berupa jumlah kemasan oksidan etilen yang terdiri dari 4 aras yaitu 0 gram, 5 gram, 10 gram, dan 15 gram. Faktor kedua berupa perendaman dalam konsentrasi CaCl_2 yang terdiri dari 4 aras yaitu 0%, 3%, 6%, dan 9%. Parameter penelitian dianalisis menggunakan uji *Honestly Significant Difference* (HSD) Tukey dengan taraf uji 95% dan uji kecenderungan polinomial orthogonal. Berdasarkan analisis, diketahui tidak ada interaksi antara faktor perlakuan kemasan oksidan etilen dan kalsium klorida terhadap variabel laju respirasi, susut bobot, padatan total terlarut, dan derajat keasaman. Namun, terdapat interaksi antar dua factor perlakuan terhadap variabel kekerasan kulit dan daging, *visual quality rate*, daya simpan, serta kadar vitamin C. Pemberian kalsium klorida 6% pada buah naga merah mulai memperlambat laju respirasi saat VQR 5 (173,8 mg $\text{CO}_2/\text{kg}/\text{jam}$) dan berhenti saat VQR 3. Pemberian kemasan oksidan etilen 10 gram mulai memperlambat susut bobot pada hari ke empat penyimpanan (2,76%) dan berhenti pada hari ke sepuluh penyimpanan. Sementara itu, perlakuan kombinasi kemasan oksidan etilen sebanyak 10 gram dan kalsium klorida 6% mulai mempertahankan nilai VQR 4,5 pada hari ke empat penyimpanan dan berhenti pada hari ke sepuluh, mulai memperlambat kelunakan kulit buah saat VQR 3 (71,39 N) dan tetap memperlambat saat VQR 2, mulai memperlambat kelunakan daging saat VQR 3 (16,29 N) dan tetap memperlambat saat VQR 2, memperpanjang daya simpan hingga 11,75 hari, dan tetap dapat mempertahankan kadar vitamin C saat VQR 3 (0,358 mg/mL) kemudian berhenti saat VQR 2.

Kata kunci: buah naga merah, daya simpan, KMnO_4 , CaCl_2 , mutu buah

Abstract

The Red Dragon fruit (*Hylocereus Polyrhizus* (F.A.C. Weber) Britton & Rose) is included in perishable commodity, so this fruit is very easily damaged by postharvest physiological activity, such as respiration, transpiration, and ethylene production. Some of exogenous materials like CaCl₂ (calcium chloride) and ethylene absorbers that containing KMnO₄ (potassium permanganate) is applied to extend the storability and maintain the quality of the fruit. The researched was arranged in a factorial 4x4 randomized complete block design with four blocks as replications. The amount of ethylene absorber, as first factor, was maintained number of 0 gram, 5 gram, 10 gram, and 15 gram. Calcium chloride, as second factor, was maintained a number of 0%, 3%, 6%, and 9%. Data were analyzed using analysis of variance $\alpha = 5\%$, posthoc analysis using Tukey Honestly Significant Different (HSD) with significant level of 95%, and also orthogonal polynomial test. Based on the analysis, there is no interaction between two factors to some of variables such as respiration rate, weight loss, total dissolved solids, and acidity. However, there is interactions between two factor to some of variables such as hardness, shelf life/storability, visual quality rate, and vitamin C level. Calcium chloride 6% is starting to slow down the respiration rate on VQR 5 (173,8 mg CO₂/kg/hour) then stopping on VQR 3. After four days storage ethylene absorbers 10 g is starting to slow down the weight loss (2,76%) then stopping on ten days after storage. The combination of calcium chloride 6% and 10 gram ethylene absorbers is starting to maintain the VQR score up to 4,5 on four days after storage then stopping on ten days after storage, starting to slow down the softness of skin on VQR 3 (71,39 N) and keep it slow down on VQR 2, starting to slow down the softness of flesh on VQR 3 (16,29 N) and keep it slow down on VQR 2, extending the storability until 11.57 days, and also starting to maintain the level of vitamin C on VQR 3 (0,358 mg/mL) then stopping on VQR 2.

Key words: CaCl₂, fruit quality, KMnO₄, red dragon fruit, storability