

**ANALISIS MATEMATIK PENGARUH KALSIMUM KLORIDA DAN
KELEMBABAN RELATIF TERHADAP KUALITAS DAN UMUR SIMPAN
CABAI MERAH (*Capsicum annum L.*)**

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Intisari

Cabai merah (*Capsicum annum L.*) merupakan salah satu produk hortikultura yang banyak diproduksi di Indonesia. Namun, penanganan pascapanen terhadap produk cabai merah masih sangat kurang. Hal ini memicu resiko kemunduran kualitas cabai merah yang lebih tinggi dan tingkat penerimaan oleh konsumen. Banyak metode pascapanen yang belum diketahui untuk memperahankan kualitas cabai merah selama penyimpanan. Salah satunya yaitu dengan perlakuan kalsium klorida dan pengkondisian RH penyimpanan. Tujuan umum penelitian ini adalah untuk menganalisis pengaruh penerapan kalsium klorida dan kelembaban relatif terhadap perubahan kualitas dan umur simpan cabai merah. Penelitian ini menggunakan rancangan percobaan *Completed Randomized Design* (CRD) dengan variasi konsentrasi kalsium klorida (CaCl_2) yaitu 0% , 1%, dan 4%, dan variasi kelembaban relatif (RH) yaitu 85% dan 65%. Analisis perubahan kualitas yang diukur adalah susut bobot, kuat tekan, warna, dan Brix. Hasil penelitian menunjukkan bahwa konsentrasi CaCl_2 berpengaruh signifikan (<0.05) terhadap susut bobot, dan kuat tekan, sedangkan kondisi ruang penyimpanan (RH) berpengaruh signifikan (<0.05) terhadap susut bobot, kuat tekan, dan Brix. Interaksi antara konsentrasi CaCl_2 , RH, dan hari penyimpanan berpengaruh terhadap susut bobot. Konsentrasi 4% CaCl_2 dan 85% RH merupakan perlakuan terbaik yang dapat diaplikasikan untuk cabai merah. Penerapan kalsium klorida 4% dan RH 85% penyimpanan dapat memperpanjang umur simpan cabai merah dengan maksimum penyimpanan hingga 31 hari.

Kata Kunci: cabai merah, kalsium klorida, kelembababan relatif, umur simpan

Mathematics Analysis of Calcium Chloride and Relative Humidity Effect on The Quality and Shelf Life of Red Chili (*Capsicum annum* L.)

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ABSTRACT

*Red chili (*Capsicum annum* L.) is one of the horticultural products that are widely produced in Indonesia. However, the postharvest handling for red chili products is still very lacking. This leads to a higher risk of deterioration in the quality of red chili and the level of acceptance by consumers. Many postharvest methods are not known to maintain the quality of red chili during storage. One of them is by calcium chloride treatment and storage RH conditioning. The general objective of this study was to analyze the effect of the application of calcium chloride and relative humidity to changes in the quality and shelf life of red chili. This study used a Completed Randomized Design (CRD) with variations in the concentration of calcium chloride (CaCl_2), namely 0%, 1%, and 4%, and variations in relative humidity (RH) of 85% and 65%. Analysis of quality changes measured is weight loss, compressive strength, colour, and Brix. The results showed that the concentration of CaCl_2 had a significant effect (<0.05) on weight loss, and compressive strength, while the conditions of storage space (RH) had a significant effect (<0.05) on weight loss, compressive strength, and Brix. The interaction between the concentration of CaCl_2 , RH, and storage day had an effect on weight loss. The concentration of 4% CaCl_2 and 85% RH is the best treatment that can be applied to red chili. The application of 4% calcium chloride and 85% RH of storage can prolong the shelf life of red chili with a maximum storage of up to 31 days.*

Keywords: red chili, calcium chloride, relative humidity, shelf life