

Kinetika Kualitas Buah Pisang Ambon Kuning (*Musa paradisiaca* var. *Sapientum*) Terlapis Larutan Kitosan Selama Penyimpanan

INTISARI

Penanganan pascapanen produk hortikultura seperti buah pisang penting dilakukan untuk mengurangi kerugian karena umur simpan yang pendek. Salah satu upaya untuk memperpanjang umur simpan adalah dengan melapisi buah pisang menggunakan kitosan. Metode pelapisan diduga dapat menghambat laju respirasi dan transpirasi pada produk pascapanen. Tujuan dari penelitian ini adalah untuk mempelajari kinetika kualitas buah pisang ambon kuning terlapis larutan kitosan selama penyimpanan. Penelitian ini dilakukan dengan bahan pisang ambon kuning yang dilapisi larutan kitosan 1% dengan penambahan 4 variasi zat aditif yang berbeda yaitu NaCl 0,1M ; tween 0,04% dan 0,06% ; gliserol 0,4% dan 0,6% ; dan NH₃ 4%. Pisang disimpan pada suhu ruang dan diamati perubahan susut bobot, kekerasan dan warna setiap hari selama 7 hari. Laju penurunan kualitas dianalisis menggunakan persamaan kinetika orde reaksi nol untuk susut bobot, orde reaksi satu untuk perubahan kekerasan dan orde reaksi dua untuk perubahan warna. Hasil penelitian menunjukkan laju perubahan susut bobot buah pisang perlakuan kontrol berkisar 1,4 - 2,04 hari⁻¹, sedangkan perlakuan *coating* berkisar 1,4 – 1,98 hari⁻¹. Laju perubahan kekerasan perlakuan kontrol berkisar 0,35 – 0,52 hari⁻¹, sedangkan perlakuan *coating* berkisar 0,19 – 0,517 hari⁻¹. Laju perubahan kecerahan perlakuan kontrol berkisar 0,00014 – 0,00018 hari⁻¹, sedangkan perlakuan *coating* berkisar 0,00009 – 0,00027 hari⁻¹. Laju perubahan *hue angle* perlakuan kontrol berkisar 0,0001 – 0,00019 hari⁻¹, sedangkan perlakuan *coating* berkisar 0,00005 – 0,00025 hari⁻¹. Hasil penelitian menunjukkan bahwa perlakuan pelapisan kitosan mampu menghambat perubahan kualitas pisang ambon kuning. Perlakuan terbaik adalah larutan kitosan dengan penambahan zat aditif NH₃ 4%.

Kata kunci : penyimpanan, pisang, kitosan, *edible coating*.

**Kinetics of Ambon Kuning Banana (*Musa paradisiaca* var. *Sapientum*)
Quality are Coated with Chitosan Solution During Storage**

ABSTRACT

Post-harvest handling of horticultural products such as bananas are very important to reduce the losses because of the short shelf-life. One of the post-harvest efforts to extend the shelf-life of bananas is coating using chitosan. Method of coating can inhibit transpiration and respiration rate. The purpose of this research was to study kinetics of ambon kuning banana quality are coated with chitosan solution during storage. This research uses ambon kuning banana are coated with chitosan solution 1% with 4 different additive variations, i.e. NaCl 0,1 M ; Tween 0,04% and 0,06%; glycerol 0,4 % and 0,6% and NH₃ 4%. Bananas stored at room temperature and shrinkage changes of weight loss, hardness and color for 7 days. The rate of degradation is analyzed using zero-order kinetics reaction for weight loss, one-order kinetics for hardness and two-order kinetics for color change. The rate of weights loss on banana with control treatment ranged from 1,4-2,04 day⁻¹, while on coating treatment ranged from 1,4-1,98 day⁻¹. Rate of hardness texture on control treatment ranged from 0,35-0,52 day⁻¹, while on coating treatment ranged from 0,019-0,517 day⁻¹. Rate of brightness with control treatment ranged from 0,00014-0,00018 day⁻¹, with coating treatment ranged from 0,00009-0,00027 day⁻¹. Rate of hue angle with control treatment ranged from 0,0001-0,00019 day⁻¹, while on coating ranged from 0,00005-0,00025 day⁻¹. The research result showed that the coating with chitosan were able to inhibit quality change of ambon kuning banana. Chitosan solution by addition of NH₃ 4% is the best variation among the other variations that were able to inhibit the rate of quality change ambon kuning banana.

Keywords : Storage, banana, chitosan, edible coating