

## INTISARI

Kebutuhan buah tomat semakin tinggi setiap tahunnya, sehingga diperlukan teknologi tepat guna seperti *edible coating* untuk mengurangi masalah penurunan kualitas dan daya simpan buah tomat. Penelitian ini bertujuan untuk menekan laju respirasi buah tomat yang diberi perlakuan pelapisan kitosan udang dan kepiting dengan konsentrasi 2%, 4%, dan 6%. Penelitian dilaksanakan di Sub Laboratorium Hortikultura, Departemen Budidaya Pertanian, Fakultas Pertanian, Universitas Gadjah Mada pada bulan Desember 2018-Februari 2019. Rancangan yang digunakan yaitu Rancangan Acak Kelompok Lengkap (RAKL) dengan 4 blok sebagai ulangan. Penelitian ini terdiri dari 6 macam perlakuan konsentrasi kitosan (kitosan kepiting konsentrasi 2%, kitosan kepiting konsentrasi 4%, kitosan kepiting konsentrasi 6%, kitosan udang konsentrasi 2%, kitosan udang konsentrasi 4%, dan kitosan udang konsentrasi 6%) dengan 1 perlakuan kontrol (tidak diberikan pelapisan kitosan apapun). Variabel yang diamati berupa laju respirasi, *visual quality rating*, susut bobot, daya simpan, tingkat kematangan, panjang buah, diameter buah, kekerasan buah, tebal daging buah, tebal sekat buah, padatan terlarut, gula pereduksi, pH, total asam tertitrasi, vitamin C, dan likopen. Data yang diperoleh dianalisis varians (ANOVA) dengan  $\alpha=5\%$ , dilanjutkan dengan uji HSD-Tukey. Hasil penelitian menunjukkan aplikasi kitosan kepiting dan udang hingga 6% masih dapat mempertahankan kualitas kekerasan, panjang dan diameter, tebal daging dan tebal sekat, padatan terlarut, gula pereduksi, pH, total asam tertitrasi, vitamin C dan likopen pada tingkat kematangan *6/red*, namun belum mampu memperlambat laju respirasi, susut bobot, kematangan, *visual quality rating*, maupun memperpanjang daya simpan buah tomat.

Kata kunci: daya simpan, *edible coating*, kitosan, kualitas, tomat

## ***ABSTRACT***

The needs of tomatoes are getting higher every year so it needs appropriate technology such as edible coating to reduce the problem of deterioration in fruit quality and shelf life. This research was aimed to reduce the respiration rate of tomato fruit treated with chitosan crab and shrimp edible coating 2%, 4%, and 6% concentration. The experiment conducted at the Horticultural Sub Laboratory, Faculty of Agriculture, Universitas Gadjah Mada, Yogyakarta started in December 2018-February 2019. This research was arranged in Randomized Complete Block Design (RCBD) with 4 blocks as replications, with 6 composition treatments (2%, 4%, and 6% concentration of each crab and shrimp chitosan) with 1 control treatment (no coating). The variables observed were respiration rate, visual quality rating, weight loss, maturity level, length of fruit, diameter of fruit, firmness, thick flesh, wide of radial pericarp, soluble solid content, reducing sugar, pH, titratable acid, vitamin C, and lycopene. The data obtained were analyzed for variance (ANOVA) with  $\alpha=5\%$ , followed by the HSD Tukey test. The results showed the use of crab and shrimp chitosan up to 6% can maintain quality of firmness, length and diameter of fruit, flesh thickness and wide of radial pericarp, total soluble solid, reducing sugar, pH, titratable acid, vitamin C, and lycopene at red maturity level but have not been able to slow the respiration rate, weight loss, maturity, visual quality rating or extend the shelf life of tomatoes.

Keywords: shelf life, edible coating, chitosan, quality, tomato