

ABSTRACT

*This research was conducted to determine the concentration of inhibitor, the duration of soaking in the inhibitor solution and the chitosan concentration which can suppress the storage duration on the response and predict the shelf life of red guava (*Psidium guajava* L.) of Citayam variety which were treated combination of soaking the fruit stalks into the inhibitor solution and coating of chitosan.*

The research consisted of two stages. The first stage is the determination of the concentration of inhibitor solution and the duration of soaking used in the second phase of the research. Variations in the concentration of inhibitor solution used were 0, 10, 30 and 50 ppm. The variations of the soaking period used were 4, 8 and 12 hours. The treated fruit is stored for 12 days at room temperature. The second stage is the determination of chitosan concentration combined with the concentration of inhibitor and the duration of the selected soaking that can suppress the effect of storage duration on the response and the prediction of the shelf life of red guava fruit. The chitosan concentration variations used were 0, 1, 2 and 3%. The treated fruit is stored for 12 days at room temperature.

The results showed that in the first stage research, increasing the concentration of inhibitor solution can suppress the effect of storage duration on the red guava shrinkage weight loss, but can not suppress the effect of storage on the response of hardness, vitamin C content and total soluble solids content. An increase in the duration of soaking of red guava fruit stalks into the inhibitor solution can not suppress the effect of long storage on all responses. The concentration of inhibitor and the duration of soaking that can suppress the effect of long storage of red guava to the response of weight shrinkage, hardness level, vitamin C content and total soluble solids content are 50 ppm 4 hours, 10 ppm 4 hours, 10 ppm 8 hours, 10 ppm 8 hours and 30 ppm 4 hours. In the second stage of research, the prediction of shelf life of red guava of Citayam variety using linear regression method with the combination of soaking treatment of red guava stalks into 10 ppm inhibitor solution for 4 hours and coating of fruit with 3% chitosan resulted 35,14 days on the response vitamin C content compared with control only 8 days storage.

Keywords: red guava fruit, Citayam variety, shelf life, inhibitor solution, soaking time, chitosan.