

The Effect of Application of Palm Oil Derivative Coating on the Freshness of Climacteric and Non-Climacteric Fruits

Pengaruh Pengaplikasian Coating Turunan Kelapa Sawit Terhadap Kesegaran Buah Klimaterik Dan Non-Klimaterik

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ABSTRACT

Horticultural commodities tend to spoil quickly due to high respiration rates. This physiological process utilizes respiration energy to convert water into steam. High respiration rates can reduce the water content in the fruit and weaken the cell tissue, which accelerates fruit softening. Based on the respiration rate, fruits can be divided into two categories, climacteric and non-climacteric. Avocados are chosen as an example of climacteric fruit because they spoil quickly and have a short shelf life, but are beneficial for health. While lemons are non-climacteric fruits, often used in refreshing drinks, infused water, and cosmetics, and contain a lot of water, so they are also easily damaged. This study aims to determine the effect of applying palm oil derivative coatings on the freshness of climacteric and non-climacteric fruits and to determine the interaction of coatings on the freshness of climacteric and non-climacteric fruits. This study used avocados and lemons, with an experimental design of coated and uncoated fruit (control). Data were analyzed using Microsoft Excel and SPSS, with parameters of weight loss, hardness, image J color test, acidity, water content, and organoleptics. The results of the study showed that the use of edible coating made from palm oil is very effective in slowing down fruit ripening and maintaining freshness in both climacteric and non-climacteric fruits, because this coating affects the ripening process and maintains fruit freshness.

Keywords: *Edible layer, Respiration rate, Climacteric and Non-climacteric.*