

Effect of carnauba coating and plastics wrapping on the physico-chemical and sensory characteristics of rambutan

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Abstract

As a tropical country, Indonesia has plenty kinds of tropical fruits. Rambutan (*Nephelium lappaceum*) is one of the tropical fruits that is specific to South-East Asian countries, especially Indonesia. However, since rambutan is perishable it cannot easily be sold to other provinces or abroad. Rambutan still performs active respiration although it has been picked up from the tree, which will affect the physico-chemical characteristic and the shelf life. The aim of this research was to prolong the shelf life of rambutan by introducing carnauba coating and plastics wrapping combined with low temperature and CAS (controlled atmosphere storage). Treated and untreated fruit as control were stored at low temperature within cold storage (15°C). The characteristics including weight loss, sugar content (TSS) and total acid (TA) were observed periodically until all fruits were rejected by panelists which evaluated the sensory attributes. The results noted that rambutan stored with controlled atmosphere (CAS, 3% O₂-5% CO₂) at 15°C had prolonged shelf life up to 11 days based on sensory analysis of panelists on hairy skin color as critical sensory attributed to rambutan. Carnauba coating was the best method that could reduce the weight loss, followed by treatment without coating/wrapping. Moreover, all treatments showed a similar increase in total soluble solid (TSS) and total acid (TA) parameter, and then decrease after a certain number of days of storage.