Title Quality changes of rambutan in bulk packing systems

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#### Abstract

Quality changes of rambutan fruits in bulk packing system was evaluated by using insulated box lined with frozen gel ( 1 kg ) which was placed at different sides of the box (T1-top, T2-bottom, T3-opposite sides). Packing without the use of frozen gel was treated as control samples (C). Storage study was conducted at 10 oC with the relative humidity set at $85-90 \%$. Evaluation of the samples was conducted every 2 days interval for a duration of 14 days storage period. AU frozen gel packed fruits (T1, T2 and T3) retained the freshness and showed minimal colour changes as compared to the control fruits (C) till day 12 of storage. Rambutan fruits packed with frozen gel also exhibited lower weight loss ( $0.2-1.4 \%$ ), whilst weight loss of the control fruits increased with duration of storage (2.2-5.5\%) which probably contributed to the colour changes (brownish red) and serious dryness of the spintems on day 14. The total soluble solids (TSS values) of the packed fruits decreased on day 2 as compared to the control fruits. However, no significant difference was exhibited between the packing system (T1, T2 and T3). On day 10 , the TSS values of the packed fruits increases (16.5-16.6 oBrix) whilst sudden decreased ( 16.4 oBrix ) was observed to the control fruits which related to the higher weight loss (6\%). The use of frozen gel contributed to the high surrounding in package RH of $\mathrm{Tl}, \mathrm{T} 2$ and T 3 as compared to the surrounding in-package RH of the control fruits ( $65-70 \%$ ). Freshness of rambutan using T2 and T3 packing shown to be better as compared to Tl as noted to turgidity of the spinterns. Regardless of the packing system, all fruits shown serious quality degradation after day 14 onwards.


