

Title Hydrocooling improves quality and storage life of 'Rong-Rein' rambutan (*Nephellium lappaceum* L.) fruit

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Abstract

Rambutan (*Nephellium lappaceum* L.) fruit cv. 'Rong-rein' harvested at color stage 4-5 (light red peel and green spinterns) were cooled in 2°C, 5°C or 10°C water to 13°C internal temperature prior to storage at 13°C with 90-95% RH. Hydrocooled fruit showed markedly reduced pericarp browning quantified as higher L* values than non-hydrocooled fruit (control). Water temperature of 10°C caused the greatest reduction in browning. Lower water temperatures, particularly at 2°C, induced chill injury shown as increased surface discoloration. Browning severity correlated well with weight loss, which was similarly decreased in hydrocooled fruits. Hydrocooling also retarded respiration rates and maintained better quality by reducing ascorbic acid and titratable acid loss and delaying soluble solid increase. Shelf life increased from 4-6 days in the control to 10-14 days in hydrocooled fruits.