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| Thesis Title | Effect of Carbon dioxide on Prolong Storage Life of 'Rong-rien' Rambutan (<i>Nephelium lappaceum</i> Linn.) |
| Thesis Credits | 12 |
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Abstract

'Rong-rein' rambutans were stored in Controlled Atmosphere (CA) and Modified Atmosphere to investigate the prolonging of storage life. Under CA condition, rambutans were stored under 0.03%, 1%, 5%, 10% and 20% carbon dioxide at 13°C and 20°C. It was found that the fruits stored under normal atmosphere (0.03%CO₂) at 20°C and 13°C had storage life of 6 days and 10 days, respectively. Carbon dioxide injury was observed on fruits stored at 20°C under 5%, 10% and 20% CO₂. The storage life of fruits stored at 13°C under 1%, 5%, 10% and 20% CO₂ were 12, 14, 18 and 12 days, respectively. It was observed that the fruits stored at 13°C under 10% CO₂ maintained the best quality, had the least weight loss and respiration rate. Moreover, concentration of ethylene production was lowest and the fruits colour showed the best appearance. Pretreatment with high CO₂ for short period was studied. Rambutans were placed under 20% and 40% CO₂ for 30, 90 and 120 minutes then stored at 13°C and 90-95 %RH. There were no difference among treatments. The fruits could be stored up to 10 days. Under modified atmosphere, rambutans were treated under 20% and 40% CO₂ for 30, 90 and 120 minutes. The fruits were packed in polyethylene (PE bag) modified atmosphere. All CO₂ treated and untreated fruits could be stored up to 16 days.

The most effective treatments in prolonging of storage life of rambutans from this studied was CA storage under 10 %CO₂ at 13°C.

Keywords : Rambutan / Carbon Dioxide / Controlled Atmosphere / Modified Atmosphere /
Storage Life