

Thesis Title	The Physical and Chemical Quality Changes of Dragon Fruit (<i>Hylocereus undatus</i>) Britt. & Rose. After Storage.
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Abstract

The effects of the storage conditions, including temperatures and packaging materials, on the physical and chemical quality changes of the Dragon fruit (*Hylocereus undatus*) were investigated in this study. The Dragon fruits stored at the different temperatures; 2, 5, 8, 13, 17, 20 and 25 °C didn't change in total soluble solids, titratable acidity, ascorbic acid, fiber content, firmness, reducing sugar and peel color. Rather, the storage temperatures had significant effects on the respiratory rate, C₂H₄ production, weight loss, anthocyanin content and scales color. The production of CO₂ and C₂H₄ during storage at 2, 5, 8, 13, 17, 20 and 25 °C was 1-10 mg/kg.hr and 0.5 -1.0 µl/kg.hr respectively. These results were confirmed by acetylene gas (conc. 250 g/500g fruit weight) treatment and indicated that the dragon fruit could be classified in a non-climacteric fruit. In addition, clear pulp and internal browning were observed from the fruit stored at the low temperature at 5 and 8 °C. According to the effects of the packaging materials, included Polypropylene (PP) bag, Low - Density Polyethylene (LDPE) bag and tray wrapped with PVC film at 5, 8 and 13 °C, the results showed that the packaging materials affected only the weight loss. The lowest weight loss was observed in the fruit preserved in LDPE bag. In contrast, the highest weight loss was found in the fruit stored in a tray wrapped with PVC. In conclusion, the recommendation of storage condition for the dragon fruit is using LDPE bag and stored at 13 °C because of the lowest weight loss and in order to

retains the shelf life to 27 days. Finally, the consumer acceptability didn't affect by the storage temperatures, packaging materials and storage life.

Keywords : Dragon fruit / Storage / Chemical quality / Physical quality / Physical disorder