

**Title** Firmness and Light Reflectance Properties of Dragon Fruits  
**Author** Jaitip Wanitchang and Bundit Jarimopas  
**Citation** Proceedings of the 9<sup>th</sup> Conference of Thai Society of Agricultural Engineering 2008, The Imperial Mae Ping Hotel, Chiang Mai, Thailand, 31 January – 1 February 2008. 203 p.  
**Keywords** Dragon fruit; firmness; reflectance

#### **Abstract**

The purpose of this research was to determine the firmness and light reflectance of dragon fruits of white flesh (*Hylocereus undatus*) and red flesh (*Hylocereus polyhizus*) varieties with respect to days after fruit setting (20-42 days). Methodology comprised compression test using the universal testing machine (Lloyd EZ20) to measure the firmness with two 8 mm probes, flat and ball indenter. The light reflectance was measured by Hunter color flex 450 D65/10°. The result showed that both indenters gave the same result. The firmness of dragon fruit decreased with days after fruit setting until 26 days for white flesh and 27 days for red flesh varieties. After that the firmness remained constant at 5-6 N/mm. The highest light reflectance were at 550 and 650 nm but at 680 nm which was the chlorophyll peak the value was lowest in both varieties. The red flesh variety starts to develop the color from white to red at 25 days after fruit setting and 2 days later the full red color was obtained. The light reflectance property could be developed to measure the firmness of dragon fruit in both varieties as non destructive technique.