

**Title** UV-C treatment delays chlorophyll degradation in the bract of dragon fruit cv. Vietnam

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**Keyword** UV-C treatment; chlorophyll; dragon fruit

### **Abstract**

Dragon fruit cv. Vietnam is widely cultivated in Thailand due to it enriches of phyto-nutrient compounds especially fiber and some vitamins. However, the postharvest life of dragon fruit at room temperature is very short since the yellowing of bract around the fruit that made consumers are not happy to pay. The technology that may improve the postharvest quality of dragon fruit is needed for increasing the market life. UV-C treatment has been reported to control the microbial growth in various kinds of fruit and vegetable, moreover, it could decay the yellowing in leafy vegetable. Thus UV-C may help to reduce the yellowing of bract of dragon fruit. In this study, the dragon fruit were harvested from a commercial orchard and selected for the uniformity of size, colour and external quality. The fruit were then irradiated with UV-C at the dose of 0 (control), 2, 4 and 6 kJ/m<sup>2</sup> and they stored at 10°C. The results showed that the quality of fruit was a dose dependent. At 6 kJ/m<sup>2</sup>, the senescence was induced indicating by high respiration rate and water loss and low chlorophyll content. UV-C treatment at 2 and 4 kJ/m<sup>2</sup> delayed the bract colour change and also chlorophyll degradation. This indicated that UV-C treatment at 2 and 4 kJ/m<sup>2</sup> reduced the yellowing of the bract. There was no significant difference of the acid content in all treatments. The results revealed that the UV-C treatment at appropriate dose is another alternative method to keep the external quality of dragon fruit. For commercial use, UV-C treatment at 2 kJ/m<sup>2</sup> is recommended for saving an operating cost.