Title Effect of storage temperature on fruit quality of red dragon fruit (*Hylocereus polyrhizus*)

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Keyword red dragon fruit; storage; temperature

Abstract

Dragon fruit, *Hylocereus polyrhizus* is a type of climbing cacti that have been in traduced as exotic fruit croup. This fruit which is also known as pitaya in Latin America, is a fleshy berry with thick peel enclosing delicately flavoured and seedy red pulp. An understanding of the postharvest characteristics is essential for the successful market introduction of dragon fruit. One of the postharvest parameter is the optimum storage temperature at which a commodity will have the longest marketable life with minimal loss of quality. In this study, three different temperatures were evaluated, low 6°C, intermediate 16°C and high (ambient) 23°C ± 2 for 14 days. Samples were analysed for peel colour, fruit firmness, total soluble solids, pH, total sugar and total reducing sugar. Attributes showing greatest tendency to be affected in storage temperature include reduction in the fruit firmness and increase in peel colour. The rate of weight loss was maintained lowest for fruit stored at low temperature than fruit stored at intermediate and ambient. Total solution solids values were maintained in 6°C as opposed to high temperature in with the values decreased especially at 16°C. Furthermore, the percentage of reduction of total sugar, total reducing sugar was less in fruit kept at low temperature while pH value increased gradually regardless of storage temperature. Based on the visual appearance and organoleptic properties, fruit kept at 6°C resulted in better storage condition compared to intermediate and ambient.