Title Quality changes and shelf life of fresh-cut pitahaya (*Hylocereus undatus*) slice through packaging and low temperature storage

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Abstract

Pitahaya (*Hylocereus undatus*), is a tropical fruit from Mexico and Tropical America, and its market is growing rapidly. It is a spherical or slightly oval red skin berry, about 8–10 cm diameter. Through refrigerated storage at 4–8°C, after 15 to 18 days, decay and diminishing of quality of fruit is observed; however, pulp have no significantly changes, which limits marketing. Otherwise, fresh-cut fruits (minimally processed) are a rapidly growing segment of the retail and food service horticultural industry. Product quality and shelf life are very important in the distribution chain of these products. The objective of this work was to evaluate changes of some physical and chemical characteristics that are important in the quality and shelf life of fresh-cut pitahaya slices. Pitahayas were harvested with red color in 70% of its skin, washed, hand peeled and cut in slices about 1 cm thickness. Slices were dipped in 500 and 1000 ppm chlorine solutions during 5 minutes and then they were stored at 4, 8 and 20°C. The results indicate the necessity of use of chlorine to diminish the microbial populations of slices, also, the storage temperature influences significantly in changes of weight loss and quality characteristics, acidity, pH and firmness of pulp. The pitahaya slices fresh-cut stored at 4°C were able to maintain the shelf life until for 25 days, having a good sensorial acceptance and maintaining its microbiological stability during the whole study.