

Title Bioactive substance content and antioxidant activity changes during refrigerated storage of yellow without spines cactus pears

Author M.A. Nazareno, Y. Coria Cayupán, G. Targa and J. Ochoa

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Abstract

Fresh cactus fruits are highly appreciated as good sources of vitamins and antioxidants that are very beneficial for the health. The most cultivated variety in Argentina is *Opuntia ficus-indica* "Yellow spineless". The harvest date for Southern hemisphere starts in January and February and, for export, the transfer of the fruits is carried out by sea (5-8°C) and delays approximately 3-4 weeks. In order to evaluate the real amount of health-promoting substances present in the fruits when they arrive to external markets and consumers, post-harvest and transport conditions were simulated during the same period of time. The objective of the present work was to evaluate possible changes in the content of bioactive substances and nutritional values of cactus pears conserved under refrigerated storage. Total soluble solids, flesh humidity, fruit loss of weight, antiradical activity, vitamin C and total polyphenol content were determined at the harvest date and after their storage at 8°C for 3 and 4 weeks. The vitamin C analysis was carried out by HPLC. On the other hand, Capillary Electrophoresis as an alternative technique to determine the vitamin C content was applied to reduce time and cost of analysis. These results were compared with those obtained ones by HPLC. In general, an increase in the concentration of active substances is observed corresponding to the loss of water content of the fruits of almost 10% in 4 weeks. The flesh humidity showed much smaller variations of approximately 4%, in the mentioned period of time. No important vitamin losses were detected.