

Title Shelf life of minimally processed carrot and green pepper
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Abstract

The postharvest losses of horticultural products justify the use of preservation techniques. The processing not only adds value to the products, but also makes the products more convenient to the consumers. The objective of this research was to define the methodologies for the minimal processing of carrot and green pepper as to the type and intensity of the adoption of conservation techniques, and to monitor the products after processing through microbiological, physicochemical and nutritional analysis. The vegetables were washed and they were immersed in cold (7°C) water with 100 mg L⁻¹ free chlorine for sanitation, followed by centrifugation for 5 min. The product was put into BOPP/LDPE (biaxially orientated polypropylene/low-density polyethylene) plastic bags, which were sealed under atmospheric air, vacuum and modified atmosphere (2% O₂, 10% CO₂, 88% N₂) and stored at 1°C±0.5°C. The approximate composition of the vegetables stayed stable during the storage period, in the three tested treatments. The contents of vitamin C for the samples of minimally processed carrot and green pepper did not present differences among treatments. The contents of beta-carotene decreased slightly during the storage period for the minimally processed carrot and green pepper. After processing, carrot and green pepper had psychrotrophic counts of 10²-10⁵ and 10³-10⁶ CFU g⁻¹, respectively. Anaerobic mesophiles and total coliforms were found in green peppers, representing 1.6x10³ - 7.4x10⁵ and <10.g⁻¹ - 7.4x10⁵, respectively. Total and fecal coliforms, anaerobic mesophiles and Salmonella were not found in carrots. Salmonella was not found in green pepper.