Title Minimal processing of 'Crimson Sweet' watermelon: effect of cutting types and cold storage under modified atmosphere

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Abstract

This work aimed to evaluated the biochemical, physiological, microbiological, and sensorial quality of watermelon fruits minimally processed, using different cutting types, packages and storage temperatures. 'Crimson Sweet' watermelons, after washing with neutral detergent, rinsed and dipped in chlorinated water (200 mg L^{-1}) were stored at 10°C, in previously hygienized chamber for 12 hours. The flesh was hygienically cut in cubes (2.5 cm) and slices (2.5x2.5x5.0cm), conditioned in plastic packages, glass or trays with lids, made with polyethylene terephthalate (PET), and stored at 3°C and 6°C. Watermelon yield in minimally processed products were 29-37%. Fruits minimally processed showed, in first 3 hours, increase in respiratory rate followed by reduction and stabilization until the end of storage. The effect was a reduction f O_2 and an increase of CO_2 content inside the packages, during storage. The shelf-life of these products were five days, with appearance development as the limiting factor. The fresh weight loss, color, firmness, sensorial and microbiological qualities, pH and content of ascorbic acid, titratable acidity, soluble solids, soluble and reducing sugars, showed variations with little significance.