Title Role of different washing solutions and contact time on the microbial quality of fresh – cut paprika

Author B.K. Das, and J.G. Kim

Citation Book of Abstracts, Southeast Asia Symposium Quality and Safety of Fresh and Fresh Cut Produce Greater Mekong Subregion Conference on Postharvest Quality Management in Chains, August 3-5, 2009, Radisson Hotel, Bangkok, Thailand.

Keyword fresh-cut; paprika; contact time

Abstract

The role of different washing solutions and contact time was investigated as potential sanitizers for maintaining the microbial safety and quality of fresh – cut paprika. Samples were cut into small pieces (3 x 5 cm), washed for 90 seconds and 180 seconds in normal tap water (TW), 100 $\mu L.L^{-1}$ chlorinated water (Cl, pH 6.5), electrolyzed water (EW, pH 7.2) and 4 ppm ozonated water (O_3), respectively. Then, samples were packaged in 50 μm polypropylene bags and stored at 5°C for 12 days. Quality and safety parameters such as gas composition, color, off-odor, electrical conductivity and microbial numbers were evaluated during storage. No significant differences were observed in gas composition and color among washing solutions and with different contact time. No off-odor was detected in all samples throughout storage period. Fresh-cut paprika washed in ozonated water showed lower electrolyte leakage than other washing solutions. Samples washed in TW, Cl, and EW for 180 seconds showed higher microbial population during the storage compared to 90 seconds. However, samples washed with O_3 for 180 seconds showed more microbial reduction compared to 90 seconds contact time. The result indicated that longer time of ozone affects positively whereas other washing solutions adversely on the microbial quality and safety aspects of fresh-cut paprika.