Title Effect of ozonated water wash on quality of fresh-cut 'Josapine' pineapple during storage

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Citation ISHS Acta Horticulturae 902:487-492.2011.

Keywords ozone; fresh-cut; storage; microbial

Abstract

Chlorine is prohibited in organic food production while aqueous ozone is approved for such use in the United States. Ozonated water leaves no residue on products and could replace chlorine as a sanitizer. The effects of an aqueous ozone wash on the quality of fresh-cut 'Josapine' pineapple was investigated in this study. Fruits were pre-cooled overnight at 10 °C prior to cutting. Cut pineapple samples were washed with ozone water concentrations of 0.6, 0.9 and 1.5 ppm with a water wash as the control. A corona-discharge ozone generator was used to produce the ozone. Fresh cut fruit samples weighing 220 g were packed in rigid polypropylene containers and stored for 20 days at 2°C. The pH values of the ozone-treated samples were slightly but significantly higher than in control samples and also increased significantly over time in all samples. The quality parameters total soluble solids, ascorbic acid and total titratabel acidity, colour attributes (*L*, a*, b**, hue and chroma), texture, total plate count, total coliform and total yeast and moulds were not significantly different from those in the control samples. The microbial population was reduced as the ozone concentration increased. Further research is needed to evaluate the effect of ozone on the quality of fresh-cut pineapple.