

Title Application of aqueous ozone for treating pre-cut green peppers (*Capsicum annuum* L.)
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Abstract

The effect of immersing pre-cut green peppers (*Capsicum annuum* L.) in ozonated water at a range of ozone concentrations and for a range of contact times on the numbers of naturally occurring microorganisms was investigated. To achieve different levels of natural contamination on the peppers they were stored, either pre-cut or as whole peppers, for 5 days at 5 °C, before the treatments were carried out. All samples were cut into 28 mm diameter discs either before storage or immediately before treatment in the case of being stored whole. Three separate trials were carried out; each trial using improved equipment to achieve higher concentrations of aqueous ozone (0.30–0.36, 0.38–0.45, and 3.85–3.95 mg ozone l⁻¹ of water, respectively). In each trial, samples were either washed in agitated, non-ozonated water for 15 min, or in agitated, ozonated water for times ranging from 20 s to 30 min. Washing with ozonated water was not found to be significantly more effective than washing with non-ozonated water. Maximum reductions in mean Aerobic Plate Counts (APCs) of 0.66 log₁₀ cfu g⁻¹ were achieved by washing with non-ozonated water, while maximum reductions of 0.72 log₁₀ cfu g⁻¹ were achieved using aqueous ozone, in comparison with untreated controls. Such reductions were considered too small to be commercially viable.