

Title The effects of aqueous chlorine dioxide or fumaric acid treatment combined with UV-C on postharvest quality of 'Maehyang' strawberries

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Abstract

The combined effect of aqueous chlorine dioxide (ClO_2) or fumaric acid with ultraviolet-C (UV-C) on postharvest quality of "Maehyang" strawberries was examined. The strawberries were treated with distilled water, $50 \text{ mg L}^{-1} \text{ ClO}_2$, 0.5% fumaric acid, 5 kJ m^{-2} UV-C irradiation, and a combination of $50 \text{ mg L}^{-1} \text{ ClO}_2/5 \text{ kJ m}^{-2}$ UV-C and 0.5% fumaric acid/ 5 kJ m^{-2} UV-C. The combined treatment of fumaric acid/UV-C reduced the initial populations of total aerobic bacteria and yeast and molds in the strawberries by 2.25 and 2.01 log CFU g^{-1} , respectively. Sensory evaluation results indicated that the combined treatment provided better sensory scores than did the control. These results suggest that postharvest treatments of either ClO_2 or fumaric acid with UV-C can be useful for maintaining the quality of 'Maehyang' strawberries.