

Effect of hydrogen-rich water and slightly acidic electrolyzed water treatments on storage and preservation of fresh-cut kiwifruit

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Abstract

Kiwifruit has a high nutritional value. However, fresh-cut kiwifruit is prone to tissue softening, leading to a decrease in fruit quality and shortening of shelf life. This study investigated the effects of hydrogen-rich water (HRW) and slightly acidic electrolyzed water (SAEW) on preserving fresh-cut kiwifruit. The weight loss, soluble solid content (SSC), titratable acidity (TA), ascorbic acid (ASA) content, chlorophyll content, color, firmness, total phenolic content, total flavonoid content, total colony numbers, malondialdehyde (MDA) content, and electrolyte leakage of treated fresh-cut kiwifruit were analyzed for 8 days at 4 ± 1 °C. The HRW or SAEW treatment delayed the decrease in TA, chlorophyll content, ASA content, total phenolic content, and total flavonoid content; reduced the total colony numbers and weight loss; inhibited the increase in SSC, MDA content, and electrolyte leakage; and maintained the green color and firmness compared with the control to varying degrees. Furthermore, the HRW combined with SAEW treatment was better than HRW or SAEW alone. This study indicated that the HRW combined with SAEW treatment might be a promising method to maintain the high storage quality of fresh-cut kiwifruit.