

Impact of sanitizer solutions on microbial reduction and quality of fresh-cut pennywort (*Centella asiatica*) leaves

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Abstract

Fresh pennywort (*Centella asiatica*) is usually eaten raw as ‘ulam’ or salad-like lettuce. Unfortunately, the fresh pennywort has the potential to cause foodborne outbreaks due to pathogens present on the surface and between the leaves, as washing the pennywort using tap water alone cannot guarantee that the pathogens are eliminated. Thus, the efficacies of several sanitizing solutions, i.e., sodium chloride, sodium hypochlorite, acetic acid, acidic electrolyzed water (acidic EW), alkaline electrolyzed water (alkaline EW), and a combination of acidic EW and alkaline EW (acidic-alkaline EW), were evaluated for their potential applications as washing solutions for pennywort. Washing using acidic EW alone or in combination with alkaline EW (two-step washing) reduced the microbial count. In sensory evaluation, all sanitizer solutions were accepted by the panellists with a score greater than 5, except those washing with acetic acid. Overall, the use of acidic EW, either alone or in combination with alkaline EW, was the best treatment to decontaminate microbes while maintaining the physicochemical and sensory properties of pennywort leaves.