

**Title** Microbial reduction and quality of fresh-cut 'Phulae' pineapple (*Ananas comosus*) treated with acidic electrolyzed water

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### Abstract

Electrolyzed water (EW) is a promising alternative as a novel sanitizer and disinfectant due to its broad spectrum of microbial decontamination and environmentally friendly technology. In this study the effect of acidic electrolyzed water (AEW) on microbial reduction and quality of fresh-cut 'Phulae' pineapple (*Ananas comosus*) was investigated. Fresh-cut 'Phulae' pineapple was treated in AEW (66 ppm, pH 2.36) for 1 and 2 min followed by washing with distilled water or 2% NaCl for 1 min. Sample treated in distilled water (DW) for 2 min followed by 2% NaCl for 1 min was used as a control. Washed sample was then packed into polypropylene bag and sealed. Total plate count (TPC), coliform, yeast and mold and quality in terms of firmness, vitamin C content and sensory evaluation were determined during 14 days storage at 5°C, 95% RH. TPC was found in all treatments from 8 days storage while coliform and yeast and mold was not detected during the end of experiment. Fresh-cut sample treated in AEW for 2 min followed by 2% NaCl for 1 min obtained the lowest TPC as 6.79 log CFU/g at 14 days storage. In addition, firmness and vitamin C content in all treatment was significantly decreased during the storage. Treated sample in AEW for 2 min followed by 2% NaCl for 1 min was also obtained the highest firmness and vitamin C content as 9.11 N and 7.40 mg/100 g fresh weight at 14 days storage. However, the storage life of fresh-cut 'Phulae' pineapple was only 10 days limited by the overall acceptance score from sensory evaluation. Therefore, the application of AEW could minimize the microbial growth and maintain quality of fresh-cut 'Phulae' pineapple during storage at 5°C.