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15th International Conference on

Food Processing & Technology

October 27-29, 2016 Rome, Italy

Antimicrobial effects of vinegar against norovirus and *Escherichia coli* in the traditional Korean vinegar green laver (*Enteromorpha intestinalis*) salad during refrigerated storage

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This study investigated the antimicrobial effects of 5-15% vinegar on the survival of murine norovirus-1 (MNV-1) and *E. coli* in green lavers during 7-d storage period at 4°C. The MNV-1 were significantly (p<0.05) higher in 0% vinegar-containing lavers (3.63 log) than in 5~15% vinegar-containing lavers (3.29~3.04 log) throughout 7 d of storage. A 1-log reduction in MNV-1 was observed in 0~10% vinegar-containing laver after 5 d of storage and 15% vinegar-containing laver after 3 d of storage. The *E. coli* was also significantly decreased in 15% (6.84 log) vinegar-containing lavers than in 10% (7.33 log) and 5% (7.60 log) vinegar-containing lavers. >1-log reduction in *E. coli* was observed in 10~15% vinegar-containing laver after 5 d of storage. Using the Weibull model, the dR-values of MNV-1 were 4.90 d for 0%, 4.28 d for 5%, 3.79 d for 10%, and 2.88 d for 15% vinegar-containing lavers, whereas those for *E. coli* were 1.12 d for 5%, 1.03 d for 10%, and 0.90 d for 15% vinegar-containing lavers. This study suggests that ~1 d of storage is required for 1-log reduction in *E. coli* in vinegar-containing lavers.

Biography

Shin Young Park has completed her PhD from Texas A&M University in USA and Post-doctoral studies from Chung-Ang University (CAU) in Korea. She is the Research Professor in School of Food Science and Technology of CAU. She has published more than 70 research papers including review papers in reputed journals such as Food Microbiology, International Journal of Food Microbiology, Food Research International, and Food Control.

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