Evaluation of microbiological quality and safety of fresh-cut fruit products at retail levels in Korea

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Abstract

The risk of foodborne illnesses caused by pathogens could be increased in fresh-cut fruit products owing to contamination during processing. Therefore, this study was conducted to investigate the microbiological quality and safety of commercial fresh-cut fruit products in Korea. Additionally, the growth of *Listeria monocytogenes* in selected fresh-cut fruits was evaluated, and their growth curves were analyzed using predictive growth modeling. The mean count of total aerobic bacteria, coliforms, and yeast/mold was 3.67±1.73 $\log_{10}$ CFU/g, 1.54±1.01 $\log_{10}$ CFU/g, and 3.81±1.51 $\log_{10}$ CFU/g, respectively. *Escherichia coli, Staphylococcus aureus, Escherichia coli* O157:H7, *L. monocytogenes*, *Salmonella* spp., and *Cyclospora* spp. were not detected in any of the tested samples. Only *Bacillus cereus* was detected in a few samples at the mean level of 1.72±0.13 $\log_{10}$ CFU/g. The growth *of L. monocytogenes* varied depending on the type of fruit; they grew well in non-acidic fresh-cut fruit products during storage at 10 °C.