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Microbiological safety of cantaloupes and tomatoes in the Canadian retail market- Findings of multi-year targeted surveys conducted by the Canadian food inspection agency

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Targeted surveys are one of the tools used by the Canadian Food Inspection Agency (CFIA) to identify and prioritize potential food safety hazards in the Canadian market. Microbiological targeted surveys were conducted to collect information on the occurrence of bacterial pathogens in cantaloupes and tomatoes in the Canadian market between 2009 and 2014. Survey samples were collected from retail in 11 cities across Canada. The analyses were conducted in ISO17025 accredited laboratories using validated methods published in Health Canada's Compendium of Analytical Methods. In these surveys, a total of 3428 cantaloupe samples and 4,416 tomato samples were tested for *Salmonella*, *Listeria monocytogenes* (for fresh-cut only) and other bacterial pathogens (i.e., *E. coli* O157, *Shigella*). The prevalence for *Salmonella* was found to be 0.08% (95% CI: 0.02-0.30%) in whole cantaloupe samples and 0% (95% CI: 0-0.09%) in tomatoes. The prevalence for *Listeria monocytogenes* was found to be 0.3% (95% CI: 0.05-1.56%) in fresh-cut cantaloupe samples. Other bacterial pathogens were not found in any of the samples tested in these surveys. The prevalence appears to be generally similar or lower when compared to other surveillance data found in the literature. The results of bacterial pathogens in the cantaloupe (whole and fresh cut) surveys are compared with the results of the tomato surveys and the other fresh-cut melon surveys that were conducted during the same period of time by the CFIA. Risk profiles and trends of contamination of these fruits are evaluated and discussed.

Biography

Helen Zhang completed her education and training in Food Hygiene. She has joined the CFIA as a Microbiology Specialist and is working on Food Safety Surveillance since 2010.

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