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Microbiological quality of ready-to-eat salads sold at popular food establishments in Trinidad

Ready-to-eat salads are becoming increasingly popular as they combine the healthy characteristics of fruits and vegetables with short preparation time prior to consumption. This study seeks to determine the microbial quality of ready-to-eat salads that are sold in food establishments in Trinidad. A total of 56 samples were collected from two supermarkets and two shopping malls and were analyzed using culture procedures. The total number of aerobic mesophilic bacteria and *Escherichia coli* colonies were determined for each salad sample. Samples were also tested for the presence of *Salmonella* spp. The average number of aerobic bacteria was 6.3 ± 1.1 log CFU g⁻¹ with a range 4.3-7.5 log CFU g⁻¹. The level of aerobic bacteria in the salad samples was dependent on the food establishment from which it was purchased and varied significantly across food establishments ($P < 0.001$). The shopping malls also had higher levels of aerobic bacteria than supermarkets ($P < 0.001$). *E. coli* was found in 100% of the salad samples analyzed and the level present varied significantly among food establishments ($P < 0.05$). The average *E. coli* colony count was 3.7 ± 0.7 log CFU g⁻¹ ranging from 2.7-5.0 log CFU g⁻¹. *Salmonella* spp. was detected in 67.86% of the samples analyzed; however, there were no significant differences in the number of samples contaminated with the bacteria among food establishments ($P > 0.05$). The number of salad samples contaminated with *Salmonella* varied significantly during the two periods of testing, week 1 and week 2 ($P < 0.05$). This study confirmed the need to implement measures to reduce the risk of microbial contamination.

Biography

Neela Badrie is a Professor and Researcher at the Faculty of Food and Agriculture, The University of the West Indies. She is the recipient of several awards such as a Fulbright Scholarship, European Union/CARPIMS Fellowship, Rudranath Capildeo Gold Medal for applied science and technology and the TWAS/CARISCIENCE Young Scientist Award. Her research focus is on food safety, risk assessment, food microbiology and food product development.

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