Amin Olaimat, J Food Technol Pres, Volume 3
DOI: 10.4066/2591-796X-C1-005

Joint Event
2nd International Conference on
Food Safety and Hygiene
&
7th International Conference on
Nutrition, Food Science and Technology
March 07-09, 2019 | London, UK

Survival of *Shigella* and *Salmonella* in ready-to-eat Mediterranean vegetable salads

Amin Olaimat
Hashemite University, Jordan

Salads form an indispensably healthy part of the Mediterranean diet. Recently, salads have served as a transmission mode for pathogens. This study investigated the growth behavior of *Salmonella* and *Shigella* in different types of salads namely: tomato cucumber (TC) salad without additives, TC with additives (1.0% lemon juice and 0.5% salt), TC with tahini (10% w/w), coleslaw, and toum sauce. Salads were inoculated with ca. 5-6 log10 CFU/g of either a cocktail of 5 serotypes of *Salmonella* or 2 *Shigella* spp. The salads were stored at 4°C, 10°C or 24°C for 5 d. The pathogens were able to grow or survive in the different salad types except for coleslaw and toum sauce, where the numbers in these salads declined sharply at 24°C but slowly at 4 and 10°C. *Shigella* spp. Survived in higher numbers in the different salads at low temperatures and low pH salads compared to *Salmonella* spp. This study shows that *Salmonella* and *Shigella* spp. are able to survive and potentially grow in different types of salads. Therefore, proper control of storage temperature, strict hygienic practices, and application of decontaminate washing steps for the food ingredient, utensils and food contact surfaces prior to preparation are crucial.

Speaker Biography

Amin Olaimat is an assistant professor of food safety and hygiene at the department of Clinical Nutrition and Dietetics, Faculty of Allied Health Sciences in the Hashemite University, Jordan. He has completed his PhD in food science from University of Manitoba, Canada and obtained his BSc and MSc degrees from the Jordan university of Science and Technology, Jordan. He also published 40 peer-reviewed papers in reputed international journals and 20 conferences beside 1 book chapter. His publications have been cited over 900 times with H-index of 13. His current research areas include study and analysis the microbial quality and safety of traditional foods, the antimicrobial activity of functional ingredients from natural sources against food borne pathogens in different food products, development of active packaging materials to improve the quality and safety of foods, development of functional products and study the sensory characteristics.

e: aminolaimat@hu.edu.jo

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