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Biocontrol of *E. coli* O157:H7 in RTE salad using lytic bacteriophage

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E. coli O157:H7 is a food-borne pathogen of concern due to the serious clinical outcomes. Options for controlling bacterial pathogens in raw and ready-to-eat foods are limited but one is to use bacteriophages. The use of specific virulent bacteriophages for *E. coli* O157:H7 emerges as an important method in order to reduce *E. coli* O157:H7 load in foods. It is reported that the usage of specific virulent bacteriophages as a biocontrol and decontamination agent in foods, do not cause any side effects on human health, as well. This study was aimed to find out the efficiency of lytic bacteriophage against *E. coli* O157:H7 in ready-to-eat salads. For this purpose, *E. coli* O157:H7 NCTC12900 (EC00) and nalidixic acid resistant *E. coli* O157:H7 ATCC 43895 (naEC95) were used as the model bacterium in decontamination trials of Italian salads which are consumed without any heating process and include beans, carrots, potatoes, pickled cucumbers, salami, and mayonnaise. Phage M8AEC16 which was classified in Myoviridae family previously was used as biocontrol agent. Major reductions of viable *E. coli* O157:H7 counts reached up to 2.7 log cfu/g. In conclusion, results of this study showed that, phage M8AEC16 is an important biocontrol agent in decontamination of *E. coli* O157:H7 in RTE salads.

Biography

Bahar Onaran is a Research Assistant in Ankara University, Faculty of Veterinary Medicine, Department of Food Hygiene and Technology. She is interested especially in food microbiology. She is currently working on her PhD thesis entitled "Presence and antibiotic resistance of vancomycin resistant enterococci in chicken meat".

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