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Listeria monocytogenes risk in poultry meat and usage of bacteriophages as a biocontrol agent

Poultry are playing a significant role in human food-borne infections because they are frequent vehicles of some human pathogens. In order not to take hygienic precautions, contaminations with pathogenic microorganisms such as *Listeria* may be occurred and consumption of such poultry meat and meat products can cause food-borne illnesses. *L. monocytogenes* is a zoonotic food-borne bacteria that leads to a variety of serious infections in humans such as encephalitis, meningitis, abortion and septicemia and those suffering with listeriosis occurs in approximately 30% mortality. Epidemiologic studies have revealed that a significant proportion of cases of listeriosis caused by contaminated foods. Consumption of poultry meat is increasing in the world. Related with the production technology, cross contamination risk is very high during processing, so it is important to control *L. monocytogenes* in poultry meat. Rapidly growing bacterial resistance to antibiotics and need for development of alternative methods, increasing interest in using bacteriophages in treatment or as biocontrol agents in foods nowadays. Bacteriophages can be applied to living tissues without causing any harm due to their highly selective toxicity. This is the most important advantage when they compared with antibiotics and antiseptics. The use of specific virulent bacteriophages for *L. monocytogenes* in order to reduce *L. monocytogenes* load in foods before, during and after slaughter processes emerges as an another method. It is reported that the usage of specific virulent bacteriophages to *L. monocytogenes* as a biocontrol agent of *L. monocytogenes* in foods, do not cause any side effects in humans.

Biography

Naim Deniz Ayaz is an Associate Professor of the Department of Food Hygiene and Technology at Kirikkale University, Faculty of Veterinary Medicine. He has received his PhD in Food Hygiene and Technology from the Ankara University in 2008. He is the Vice Dean and Executive Board Member of Kirikkale University, Faculty of Veterinary Medicine; an Expert of the Biosafety Clearing-House Mechanism of Turkey; a Research and Advisory Board Member of the National Red Meat Council and an Editorial Board Member of several scientific journals. His main research interests are food microbiology, characterization of food-borne pathogens, bacteriophages, biocontrol of pathogens and bacterial antibiotic resistance.

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