

Phage: A good virus versus bad bacteria for food safety

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Though not totally eliminated, the food borne pathogens can be reduced to the acceptable levels by application of bacteriophages as pre-harvest and post-harvest interventions in foods. Phages can be effectively used along with other food safety tools to protect public health. Therefore, this paper aims to review the potential of bacteriophages as biocontrol agents in food animals and in food processing. Pathogenic strains of *Salmonella*, *Campylobacter*, *E.coli*, *Listeria*, *Vibrio* spp. and many other food borne bacteria are the significant cause of food-borne illnesses worldwide. The concept of using bacteriophages as food safety tool is emerging rapidly and they are becoming the logical agents for targeted control of pathogenic food borne bacteria to overcome the food safety concerns over the entry of such pathogens in food chain. The significant reductions in the pathogenic bacteria can be achieved by their bacteriophage biocontrol in food processing. A great deal of research is being carried out for non-thermal ways of controlling food borne pathogens during processing for the want of maintaining nutritive values of food and phage-based non-thermal intervention is an ideal way in such situations. There are regulatory concerns over the human phage therapy but their application for food safety has relatively less regulatory concern owing to the presence of phages already in the food environment. Thus, the application of phages as biocontrol agents in food animals and in food processing is an ideal way of harnessing the potential of this nature's weapon for food safety.

Biography

Sudhakar Bhandare is an Assistant Professor at Bombay Veterinary College, Mumbai and has previous defence meat inspection experience. He was associated with procurement and inspection of meat supplied to the troops. His experience in meat inspection and his master's degree in Food Hygiene and Veterinary Public Health in India led him to pursue his further studies in Meat sciences at the University of Bristol, UK upon the Commonwealth funding. He also has meat industry experience as an Assistant Manager in Godrej Agrovet Ltd, Bangalore. Presently, he is pursuing his PhD at the University of Nottingham, UK upon Bacteriophage biocontrol.

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