Bacteriophage biocontrol as a food safety measure in both human and pet foods

Interest in using bacteriophages to improve food safety has been gaining momentum recently, driven by both the continued occurrence of foodborne outbreaks worldwide and the desire of consumers for natural foods. Bacteriophages are naturally part of the normal microflora of many foods, and the ‘phage biocontrol’ approach is based on the concept of using the right phage, in the right place, in the right concentration, to control foodborne pathogens. This approach has been applied to three main areas of food safety: (i) pre-harvest treatment of livestock, (ii) decontamination of inanimate surfaces in the processing environment, and (iii) post-harvest treatment (i.e. direct food applications). The last type of intervention has perhaps received the most attention, with an increasing number of studies supporting the idea that bacteriophages may provide a safe, environmentally-friendly, and effective approach for improving food safety, by significantly reducing contamination of various foods with specific foodborne bacterial pathogens. Bacteriophages can reduce levels of the targeted bacterial pathogen on a variety of foods, including, but not limited to, dairy products, fruits and vegetables, and poultry. This presentation will review the use of bacteriophage biocontrol as a food safety measure, in both human and pet foods, as well as discuss regulatory and safety issues concerning their use.

Biography

Joelle Woolston is a Research Scientist and Laboratory Manager at Intralytix, where she provides hands-on research, directs and supervises laboratory staff, and assists in the regulatory approval process. Prior to joining Intralytix, she worked on Metabolic Transporters at the Children’s Hospital in Washington, DC and co-developed a patented phage-based vector system at the University of Maryland.

jwoolston@intralytix.com