

Title Use of packaging as a vehicle deliver a misin-based antibacterial to RTE surfaces  
Author M.D. Nicholson  
Citation Book of Abstracts, 2004 IFT (Institute of Food Technologists) Annual Meeting and Food Expo, 13-16 July 2004, Las Vegas, Nevada, USA. 321 pages.  
Keyword ready to eat meat; packaging; Listeria

### Abstract

Post-pasteurization contamination after packaging removal represents one of the main concern of the Ready-to-Eat (RTE) processed meat and poultry industry. Using the packaging to deliver a surface treatment, a uniform surface application of an antibacterial is applied to intervene against post-pasteurization inadvertent microbiological contamination. This work will describe the results of using specific cellulose casing as the vehicle to deliver a nisin-based antibacterial to the surface of hot dogs and RTE sausages. The development of an internal treatment system allows the cellulose casing to carry and release sufficient nisin to the hot dog surface to be able to have a lethality effect upon a post-packaging challenge with *Listeria monocitogenes*. Data has been generated with a variety of meat blocks, processing, and formulation conditions found in commercial operations. When used in conjunction with other interventions, this casing technology can be part of a food safety strategy to achieve Alternative 1 in the FSIS Final Rule on *Listeria* in RTE Meats. The magnitude of lethality in the post-packaging *Listeria* challenge studies of commercially prepared product has been in the area of 1-2 logs based upon an inoculation of Log 3-4 of a cocktail of *Listeria monocytogenes* serotypes into a package of hot dogs. Storage is under refrigeration at 4 °C. Sensory testing of the hot dogs produced in the treated casing have shown no adverse taste or preference effects. This represents one more tool for the meat and poultry industry in their war against foodborne illness due to microbiological contamination.