



Carcass Pathogen Interventions

Michael De La Zerda
Graduate Teaching/Research Assistant

Pathogen interventions are used to control or reduce pathogens to improve food safety. Because pathogen reduction is a major effort by the meat processing industry, a better understanding of options available for doing so is in order. Any one of these intervention systems will reduce pathogens on meat, but a combination of them will be more effective than using just one. Finding the correct system for meat operations is the key to successfully reducing pathogens and making food safer for the consumer.

Steam Vacuuming. Steam vacuuming is used in slaughter facilities to remove visible contamination and pathogens from the surface of carcasses. Operators spot-apply steam to the visibly contaminated surface, then vacuum the condensed moisture and contamination from the carcass. This method is effective only where the spot treatment has occurred and does not treat the entire carcass, which may have various areas of visible contamination.

Hot Water Washing. Hot water (>180°F) washing of carcasses is another way to reduce pathogens. The hot water wash cabinets can be obtained commercially from several vendors. Care must be taken to ensure that water remains hot when it reaches the carcass surface.

Organic Acid Application. An effective and inexpensive way to reduce the growth of pathogens on carcasses is the application of organic acids after the final trim wash. Two examples of commonly used organic acids are lactic and acetic acid. Application of a hot (>140°F) 2% solution (volume basis) of either lactic or acetic acid has been proven an effective method to control pathogens on carcasses. A thorough misting of the carcass with an organic acid will reduce pathogen contamination.

Steam Pasteurization. Steam pasteurization is another option to reduce pathogens on carcasses. Carcasses enter an in-line steam-pasteurizing chamber where they are sprayed with steam. This raises the surface temperature to approximately 200°F thereby killing pathogens with the high temperature. Although a more expensive application, steam pasteurization is an effective method of reducing bacterial contamination.

Regardless of the intervention(s) chosen, it is important to remember that these cannot replace the proper use of good manufacturing practices (GMPs) and effective standard operating procedures (SOPs) for sanitary dressing procedures. An effective food safety system incorporates multiple tools including prevention and intervention.