

PolicyPennings by Daryll E. Ray & Harwood D. Schaffer

New USDA procedures to reduce “high event” *E. coli* O157:H7 contaminations

As a part of the new beef traceback procedures we described in last week’s column, the United States Department of Agriculture, Food Safety and Inspection Service (FSIS) announced that it “intends to provide more specific instructions to [its inspection personnel] concerning HEPs [high event periods] that may occur at slaughter establishments that produced source materials for product that FSIS has found positive for *E. coli* O157:H7” (<http://www.fsis.usda.gov/OPPDE/rdad/FRPubs/2011-0009.pdf>).

To produce hamburger, grinding plants can use beef that they obtain from trim lots they purchase from other establishments or from trim they produce as they break down primal and sub-primal cuts into the retail cuts they offer to their customers.

Traceback procedures are initiated when hamburger at a grinding plant tests positive for *E. coli* O157:H7 or another shiga toxin-producing *E. coli* (collectively referred to as STEC). Shiga toxin is the substance that causes the life-threatening illnesses that we generally associate with contaminated ground beef.

As FSIS traces the source of the contamination back to the plant that produced the source material, it wants to do more that identify whether or not beef from the lot that produced the presumptive positive at the grinding plant was sent to other customers. It wants to determine whether the presumptive contamination represents an isolated incident or a more systemic breakdown in process control.

One tool in making that determination is the identification of HEPs. The new HEP instructions for FSIS personnel are designed “to improve and expedite FSIS traceback procedures.”

According to FSIS “HEPs are periods in which slaughter establishments experience a high rate of *E. coli* O157:H7 (or STEC [shiga toxin-producing *E. coli*—the toxin that causes the life threatening illness] organisms or virulence markers) in trim samples from production lots containing the samesource materials....

“A high rate of positives in trim is problematic because the trim is typically used across multiple production lots, is handled by employees, and is therefore

likely to contaminate common conveyor belts and equipment. Also, such high rates of positives or HEPs may mean that a systemic breakdown of the establishment’s production process may have occurred, and that insanitary conditions existed at the establishment during these periods.”

FSIS identifies “two types of HEP that may indicate out-of-control situations in the [slaughter] establishment’s production process based on [that] establishment[’s] results.” The two types of HEP are:

1. “A HEP that indicates a localized out-of-control event in which some specific occurrence or event causes a clustering of *E. coli* O157:H7 (or STEC organisms or virulence markers) that indicate contamination in product. The event would not indicate, necessarily, a severe or global systemic break-down or inherent weakness of the process or food safety system....
2. “A HEP that indicates a systemic breakdown or inherent weakness of the process or food safety system. Virtually all raw beef product would likely be affected....

During a systemic break-down situation, establishments may identify more product that needs to be assessed to determine whether it may be adulterated than in a localized HEP.”

The immediate goal of helping FSIS personnel identify HEPs in slaughter plants is to help industry “identify HEPs, avoid recalls, and prevent adulterated product from entering commerce.” The overall goal is to improve food safety and save lives by reducing the number of STEC-related illnesses in the general population.

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