

## From Whence Came The E. Coli That Caused Recalls?



**DR. DARYLL E. RAY**  
Agricultural Economist  
University of Tennessee

In researching the articles on beef recalls we were not surprised to find the major E. coli recalls involved firms that were directly engaged in slaughtering beef. That made sense to us because E. coli grows in the intestinal track of cattle and is contained in fecal matter that can be found on the surface of beef cuts if there is a processing failure in the slaughter

process.

What did surprise us was the number of small firms who were involved in recalls for E. coli contamination of their meats. These are firms that purchase box beef from a slaughter house and then convert the beef into retail products like frozen beef patties. These firms have no cattle on the premises so we wondered where the E. coli came from.

Reading through the recall orders we noted that in one case the contamination came from a firm that slaughtered the beef. In that case the meat had been tested by the firm of origin, found to be contaminated, set aside for destruction, and was accidentally shipped to the firm that was involved in the recall.

It turns out that it is rather common that slaughter plants are the source of the E. coli contamination that turns up later in downline processing plants, so common in fact that John Munsell of Montana has written The Traceback Bill to track down where the contamination originated.

Currently the United States Department of Agriculture (USDA) Food Safety and Inspection Service (FSIS) orders the secondary (processing) firm to correct their meat handling processes without ordering corrective action at the firm, for example, a slaughtering plant, where the contamination actually occurred.

Contrary to our sense of logic, it seems that

the presence of E. coli on the surface of box beef cuts leaving a slaughtering firm is not cause for issuing a hold order on the meat or requiring the slaughter house to improve their meat handling procedures. The stated expectation is that the E. coli on the surface of box beef cuts will be easily killed when the meat is cooked even though further processing firms purchase box beef cuts and grind the meat to make their products.

It is true that when we grill beef cuts, any E. coli that may be on the surface of the meat would be killed as the flames seared the surface of the meat. And there is no possibility of contamination of the interior of the beef cut so it can be cooked rare and still be safe.

Ground beef is another matter. If there is any E. coli on the surface of the box beef cuts when the meat is ground up, the contamination is distributed throughout the meat. It takes an internal temperature of 160 degrees to kill the E. coli pathogen so eating rare hamburger runs the risk of making the eater ill from E. coli while the eating of rare steaks does not run that risk.

It would seem clear to us that contamination on the surface of beef cuts should trigger corrective action before any beef is shipped. The Traceback Bill would correct this problem by forcing the FSIS to identify the original source of the contamination, and require corrective action.

Readers interesting in tracking meat recalls can find the information at [http://www.fsis.usda.gov/Fsis\\_Recalls/index.asp](http://www.fsis.usda.gov/Fsis_Recalls/index.asp). That page contains direct links to active recall cases as well as archives of closed cases.

We have noted a recent change in the listings of both active and archived cases. When we were researching the last couple of columns, the tables included a column that listed the amount of meat involved in the recall. As this column is being written in mid-March 2008, that column is missing. We would hope the FSIS would restore that column and add a column that lists the actual amount of meat that is received as the result of the recall. △