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Inside

Small Plant NEWS

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Tackling Non-O157 Shiga Toxin-producing *E. coli*

By Jane Johnson, DVM

In this article, we're going to explain a little bit about the non-O157 Shiga toxin-producing *E. coli* pathogens that you may have heard about, as well as give you an update on the U.S. Department of Agriculture's (USDA) Food Safety and Inspection Service's (FSIS) policy regarding these pathogens.

Background

E. coli are normal inhabitants in the intestines of all animals, including humans. They serve a useful function in the body by suppressing the growth of harmful bacteria and synthesizing appreciable amounts of vitamins.

A minority of *E. coli* serotypes are capable of causing human illness by different mechanisms. The pathogen of primary concern has been *E. coli* O157:H7, which is a Shiga toxin-producing *E. coli* (STEC). However, other serogroups of *E. coli*, referred to as non-O157:H7 STECs, also can cause human illness. The most significant of these serogroups are *E. coli* O26, O103, O111, O121, O45, and O145, sometimes referred to collectively as "the big six."

Serogroups O26, O111, and O103 are the non-O157 STEC that most often cause illness in people in the United States.

Like *E. coli* O157:H7, the big six pathogenic STECs possess other virulent determinants in addition to Shiga toxin. The subset of STECs that contain both the toxin and these additional virulent determinants is known as enterohemorrhagic *E. coli*. A low infectious dose of these enterohemorrhagic STEC strains – just a few cells – can lead to disease. The illnesses caused include hemorrhagic colitis (HC) and hemolytic uremic syndrome (HUS). HUS has been cited as the primary cause of renal failure in American children. All people are believed to be susceptible to hemorrhagic colitis, but young children and the elderly appear to progress to more serious symptoms more frequently for HUS.

In food processing, pathogenic *E. coli* infection is of concern in raw ground and non-intact beef products. *E. coli* O157:H7, as you know, was declared an adulterant by FSIS back in 1994 in raw ground and non-intact beef products.

Continued on Page 2 ...

... Continued from Page 1

Up until August 2010, there had not been a definitive outbreak or recall associated with non-O157:H7 STEC contaminated beef in the United States. However, on August 28, 2010, Cargill Meat Solutions Corp., in Pennsylvania, recalled approximately 8,500 pounds of ground beef products that may have been contaminated with *E. coli* O26 after FSIS linked these ground beef products with three illnesses (two in Maine and one in New York). The agency issued FSIS Notice 70-10 on November 30, 2010, which provided instructions to inspection program personnel (IPP) and import inspection personnel for collecting product samples from establishments that produced product associated with the outbreak.

Agency Action

On September 13, 2011, USDA announced that *E. coli* serogroups O26, O103, O45, O111, O121, and O145 adulterate non-intact raw beef. Raw ground beef, its components, and tenderized steaks found to contain these bacteria will be prohibited from sale to consumers. FSIS will launch a testing program to detect these dangerous pathogens and prevent them from reaching consumers.

During the announcement, Agriculture Secretary Tom Vilsack stated, "The Obama Administration is committed to protecting our food supply and preventing illnesses before they happen. Today's announcement does exactly that by targeting and eliminating contaminated products from the market. Too often, we are caught reacting to a problem instead of preventing it. This new policy will help stop problems before they start."

According to Dr. Elisabeth Hagen, Under Secretary for the USDA's Office of Food Safety, "The impact of foodborne illness on a family can be devastating. Consumers deserve a modernized food safety system that focuses on prevention and protects them and their families from emerging threats. As non-O157 STEC bacteria have emerged and evolved, so too must our regulatory policies to protect the public health and ensure the safety of our food supply."

A final determination and request for comments on the implementation plan, titled "Shiga Toxin-Producing *Escherichia coli* in Certain Raw Beef Products," Docket Number FSIS-2010-0023, was published in the *Federal Register* on September 20, 2011. It may be viewed on the agency's Web site at *www.fsis.usda.gov/regulations_&_policies/Proposed_Rules/index.asp.*

FSIS held a public meeting on December 1, 2011, to provide the public with an opportunity to comment on the agency's implementation plans and methods for controlling non-O157 STEC in raw, non-intact beef products (or intact products intended for use in non-intact products) and product components, clarify the final determination, and to hear comments from stakeholders. The transcript from the public meeting has been posted to the FSIS Web site at *www.fsis.usda.gov/News_&_Events/Past_Events/index.asp*.

In addition, comments received in response to the docket are available for public inspection and posted without change, including any personal information, to *www.regulations.gov*. For access to background documents or comments received, you may go to the FSIS Docket Room located at Patriots Plaza III, 355 E Street, SW., Room 8-164, Washington, DC 20024-3221, Monday through Friday from 8:30 a.m. and 4:30 p.m.

The Impact on You

On June 4, 2012, the agency will begin routine testing for the six serogroups of STEC and enforcing the new policy. FSIS will initially sample and test raw beef manufacturing trimmings and other ground beef product components produced domestically and imported for these serogroups. The agency will expand this program to conduct verification testing of ground beef products for the big six at a later date. When FSIS implements its testing program, the agency will consider other products, including raw ground beef, contaminated with any of the six additional STEC serogroups to be adulterated.

You may need to address non-O157:H7 species in your hazard analysis and include them in your Hazard Analysis and Critical Control Point (HACCP) plan.

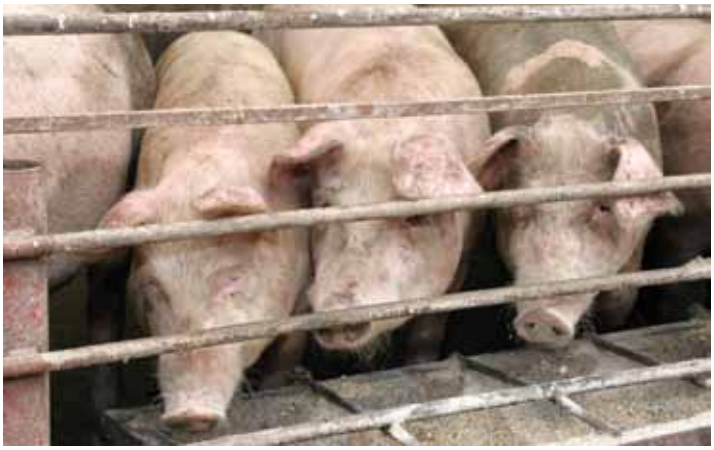
Fortunately, the preventions and interventions you have in place for *E. coli* O157:H7 will most likely help control the prevalence of non-O157:STEC in your plant and on your product. The majority of knowledge you have regarding *E. coli* O157:H7 will assist you in dealing with the big six.

FSIS will provide updates as information becomes available. In the meantime, for any questions about *E. coli*, please call the Small Plant Help Desk at 1-877-FSISHelp (1-877-374-7435).

Consider FSIS' Compliance Guidelines If You Want To Use Electronic Monitoring in Your Plant

By Jane Johnson, DVM

Have you ever considered using video and other types of electronic recording equipment in your plant? Well, if you have, FSIS has a compliance guide that will provide you with information on their use.



The compliance guide, titled "Compliance Guidelines for Use of Video or Other Electronic Monitoring or Recording Equipment in Federally Inspected Establishments," includes recommendations on the use of video or other electronic monitoring or recording equipment to help you maintain compliance with Federal regulations, including the humane treatment of livestock and the use of good commercial practices in poultry. The guide is available on FSIS' Web site at *www.fsis.usda.gov/PDF/Compliance_Guidelines_for_Use_of_Video_082611.pdf*.

This guide informs establishments of the agency's expectations if they decide to use video or electronic monitoring to create records to meet requirements of the Hazard Analysis and Critical Control Points (HACCP) regulations or the regulations governing Sanitation Standard Operating Procedures (Sanitation SOPs) or associated prerequisite programs. In addition, this guide provides information on issues establishments should consider if they use this equipment for any other purpose, such as part of their food defense plans. Most importantly, this guide provides information and encourages industry to use this technology, particularly as part of a systematic approach to ensure that livestock are handled humanely and that good commercial practices for poultry are followed.

Although encouraged, the use of video or other electronic monitoring or recording equipment is **not** required in FSIS-inspected establishments, and this compliance guide provides recommendations only, **not** regulatory requirements.

If you have questions or would like more information on the use of video or other electronic monitoring or recording equipment, or this compliance guide, contact the Small Plant Help Desk at 1-877-FSISHelp (1-877-374-7435) or email *InfoSource@fsis.usda.gov*.

Resources on Nutritional Labeling Available

By Jane Johnson, DVM

On December 29, 2010, FSIS published a final rule in the *Federal Register* regarding the nutrition labeling of single-ingredient meat and poultry products and ground or chopped meat and poultry products. The rule took effect on March 1, 2012.

To provide guidance on meeting the requirements of the new regulations, the agency's Office of Policy and Program Development, Labeling and Program Delivery Division, hosted a series of monthly webinars between September and December 2011. A link to the PowerPoint presentation used during the Webinars is available on FSIS' Web site at *www.fsis.usda.gov/Regulations_&_Policies/Nutrition_Labeling/index.asp.*

You'll also find links to the final rule, nutrition information charts, examples of nutrition facts panels, nutrition labeling questions and answers, the USDA National Nutrient Database for Standard Reference, and the Food Marketing Institute.

If you have any questions or require more information on nutritional labeling, please contact the FSIS Small Plant Help Desk at 1-877-FSISHelp (1-877-374-7435) or email *InfoSource@fsis.usda.gov*.

Commonly Asked Questions & Answers

Q. *Does documenting the specific time an event occurs [9 Code of Federal Regulations (CFR) 417.5(a)(3)] apply to the performance of pre-shipment review?*

A. No. The regulation that describes the requirements associated with pre-shipment review [9 CFR 417.5(c)] does not require that the time associated with the performance of the review be recorded.

Q. *Can foreign language added to meat and poultry product labels be generically approved or does it require sketch approval?*

A. The only circumstance where a foreign language may be added generically would be if the product is for export only and the foreign language is a direct translation of the English language already present on the label (refer to 9 CFR 317.5(b)(9)(xxiv) and 381.133(b)(9)(xxv)). Otherwise, the label must be sent to the Labeling and Program Delivery Division (LPPD) for approval.