

Module 4a: Microbiological Testing—*E. coli*

Goal To inform inspectors of the regulatory and operational requirements that plants must implement for *E. coli*.

Objectives After completing this module, participants will be able to

1. Explain why *E. coli* testing is used. **Page 2, paragraph 2**
2. State who will conduct *E. coli* testing. **Page 2, paragraph 1**
3. Explain the difference between process microbiological control guidelines and performance standards. **Page 2, paragraph 4**
4. Explain how industry defines greater than very low volume and very low volume plants. **Page 4**
5. List dates for implementation of *E. coli* testing according to plant volume. **Page 4, paragraph 2**
6. List frequency based on plant volume. **Page 4—table at bottom of page; Page 1 of Fact Sheet for VLV Plants**
7. List the species that must be tested. **Page 3, paragraph 1**
8. Describe how industry may decide which of the 3 methods of sample collection to use for testing. **Page 6, 2nd full paragraph**
9. Name the sites of sample collection for cattle, swine, and turkeys. Name the methods used to sample chickens and/or turkeys. **Page 6, last 2 paragraphs**
10. List the plant recordkeeping requirements for its *E. coli* testing program. **Page 20, first paragraph under Recordkeeping**
11. State the options that industry may select for demonstrating statistically based process control. **Page 24, 25**
12. Discuss *E. coli* sampling techniques recommended in the FSIS guidelines. **Pages 9-19; Page 6 of Cattle and Swine Guidelines and Page 7 of Poultry Guidelines**

Steps Introduce the video.

Tell participants that page 2 of the script is different from the video, but the script is correct (the change reflects clarification on testing amenable species).

Show the video.

Review key points.

Facilitator Instructions

Play the video for Module 4a. Then stop the tape. Ask participants the following questions. Use these questions as “talking points.”

1. Who is responsible for collecting samples for *E. coli* testing?

Answer: Plant employees are responsible, specifically the employees designated in the written *E. coli* procedure.

2. Are *E. coli* performance criteria enforceable by FSIS? What is their purpose?

Answer: They are not enforceable by FSIS. Performance criteria are used by the plant to determine whether its sanitary dressing process is working. It helps the plant assess whether its bacterial counts are in keeping with the performance of other plants as determined by a national baseline study. When testing shows that the *E. coli* counts are out of line with the national baseline, the plant should be prompted to review its own dressing process, determine if there is special variation causing the high counts, and take corrective actions to lower bacterial counts.

3. What are the species that must be tested for *E. coli*?

Answer: All market classes of cattle, swine, chickens and turkeys.

4. Which sampling techniques can be used for each species as of August 1997?

Answer: Cattle: excision sampling, sponge sampling
Swine: excision sampling, sponge sampling
Chicken: whole bird rinse
Turkey: whole bird rinse, sponge sampling

5. What are the sampling sites on the carcasses of each species?

Answer: Cattle: flank, brisket, rump
Hide-on calves: inside flank, inside brisket, inside rump
Swine: belly, ham, jowls
Chicken: whole bird
Turkey: whole bird; or back and thigh for sponge sampling

New Notes to Facilitator:

Announce to participants that FSIS does have a role in *E. coli* sampling. Read or paraphrase the following statement as an introduction to Module 8, which follows, where FSIS's role is explained in more detail (Module 4a Facilitator's Guide, page 2, at end):

E. coli sampling is required to be performed by industry in cattle, swine chicken, and turkey slaughter establishments as an indicator of sanitary dressing control. Performance criteria are not enforceable regulatory standards; however, there are three basic regulatory requirements the establishment is required to meet or inspection **will be withheld**. Also, there are several on-going or "other" requirements that the establishment must meet which could lead to enforcement action for repeated noncompliance. The details of FSIS's role in *E. coli* sampling programs are addressed in the next module (Module 8).

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For Facilitator information only, the following clarifications have been incorporated into the Participant's Handout.

Agency policy on testing amenable species was clarified in July, 1998, as follows:

If an establishment slaughters a non-amenable species, such as ratites, in greatest number and also slaughters an amenable species required to be tested, such as cattle, then testing is required for the amenable species.

(This has been incorporated into Participant's Handout page 3, paragraph 2).

In some plants the major species slaughtered might be a type of livestock that does not yet require testing. In that case, that establishment will not be required to conduct *E. coli* testing **on that species, but would be required to test the species specified in the regulations. For example, an establishment that slaughters mostly sheep and some cattle will be required to conduct *E. coli* testing on the cattle**

(This has been incorporated into Participant's Handout page 3, paragraph 4).