

· UNITED STATES DEPARTMENT OF AGRICULTURE
FOOD SAFETY AND INSPECTION SERVICE
WASHINGTON, DC

FSIS NOTICE

36-14

7/25/14

**NATIONWIDE BEEF AND VEAL CARCASS MICROBIOLOGICAL BASELINE DATA COLLECTION
PROGRAM - ACTUAL STUDY**

DO NOT IMPLEMENT THIS NOTICE UNTIL AUGUST 1, 2014

I. PURPOSE

A. This notice cancels FSIS Notice 83-13, Nationwide Beef and Veal Carcass Microbiological Baseline Data Collection Program – Shakedown and reissues its content with updated information, including additional instructions and clarifications regarding:

1. The number of samples supervisory inspection personnel can expect to collect from establishments during the actual study;
2. Reporting of results and the expected turnaround time;
3. Holding carcass parts;
4. Releasing carcasses;
5. Scheduling samples in PHIS and avoiding lab capacity issues;
6. Applying the sample seals;
7. Collecting samples from establishments that participate in the AMS School Lunch Program;
8. Questions supervisory inspection personnel are to answer in PHIS; and
9. Documenting carcass samples that cannot be taken prior to the application of interventions

B. This notice provides instructions on the upcoming beef and veal carcass baseline survey (BVCBS). The purpose of the BVCBS is to test for the presence and levels of the Shiga toxin-producing *Escherichia coli* (STEC), *Salmonella*, and certain indicator organisms during the beef slaughter process. FSIS will use the results from the BVCBS to develop compliance guidance for establishments that slaughter cattle (including veal) to use in assessing their process control of sanitary dressing and slaughter controls. FSIS may use the baseline survey results to make changes to its sampling, testing, and other verification activities.

DISTRIBUTION: Electronic

OPI: OPPD

NOTE: When the document references beef, veal is also included because veal is a cattle slaughter class.

II. BACKGROUND

A. In September 2011, FSIS announced to the public in a [Federal Register Notice](#) its intent to initiate a BVCBS to determine the presence and levels of STEC, *Salmonella*, and certain indicator organisms during the slaughter process.

B. FSIS will report the results of this survey on its website. FSIS will use the data to develop compliance guidance for industry and to estimate prevalence. The report will present a summary of baseline findings on a national basis. Individual establishment results will not be published.

C. [BVCBS design and sampling plan](#) is available on the FSIS Website.

D. FSIS Office of Field Operations (OFO) non-bargaining unit supervisory inspection personnel assigned to cattle slaughter operations are to perform the carcass sampling. Examples include frontline supervisors, supervisory public health veterinarians, and supervisory consumer safety inspectors.

1. The purpose of this sampling is to identify the type and level of contamination before antimicrobial interventions (excluding pre-harvest and hide-on interventions) are applied, and the type and level of contamination after all slaughter interventions are applied. [Attachment 1, Beef Carcass Swab Sampling](#), summarizes the sampling locations, sites swabbed, materials, and methods for sampling.
2. Supervisory inspection personnel are to be aware that eligible subclasses for the survey include steer, heifer, bull, cow, and dairy cow for beef and bob veal, formula-fed veal, non-formula veal and heavy calves for veal.
3. Carcasses will be tested for adulterant STEC, *Salmonella*, generic *E. coli*, Total Aerobic Bacteria (i.e., Total Viable Count or Aerobic Plate Count), Enterobacteriaceae, and coliforms.

III. REFERENCES AND REVIEW OF TRAINING MATERIALS

Upon issuance of this notice, supervisory inspection personnel assigned to establishments that will be participating in the BVCBS are to be familiar with the following FSIS issuances along with the information provided in this notice:

1. [Beef/Veal Carcass Baseline Sampling Video](#), which can be viewed online;
2. [PHIS Directive 13000.2](#), *Performing Sampling Tasks in Official Establishments Using the Public Health Information System*;
3. [FSIS Directive 10,250.1](#), *Salmonella and Campylobacter Verification Program for Raw Meat and Poultry Products*, CHAPTER VI. *Submitting the Collected Sample (All Product Classes)*; and
4. [FSIS Directive 7355.1, Revision 2](#), *Use of Sample Seals for Laboratory Samples and Other Applications*.

IV. INITIAL DISTRICT OFFICE PERSONNEL RESPONSIBILITIES

A. The Office of Public Health Science (OPHS) will notify the District Offices (DOs) of the establishments within their Districts that are included in the BVCBS shortly before or immediately after the issuance of this notice.

B. Once they are contacted by OPHS, DOs are to notify supervisory inspection personnel assigned to establishments included in the BVCBS.

V. INITIAL SUPERVISORY INSPECTION PERSONNEL RESPONSIBILITIES

A. Supervisory inspection personnel are to notify Inspectors-in-Charge (IIC) of establishments included in the baseline survey as needed.

B. Supervisory inspection personnel are to verify that the IIC has an initial awareness meeting with establishment management at establishments included in the survey (Section VI below).

VI. INITIAL IIC RESPONSIBILITIES

A. At the next weekly meeting, after receiving notification from supervisory inspection personnel that the establishment is included in the survey, the IIC is to inform establishment management that the establishment is included in the BVCBS, and that:

1. OFO supervisory inspection personnel will perform the carcass sampling. They will sample a beef carcass at two locations: 1) immediately after de-hiding, before evisceration, and before the establishment applies any antimicrobial or hot water interventions to the exposed carcass surface (post-hide removal/pre-evisceration swab samples); and 2) at pre-chill, at least 1 - 5 minutes after the establishment applies its last intervention on the slaughter floor and no later than one (1) hour inside the hot box, preferably as soon as possible after the above mentioned 1 - 5 minute wait time, when the carcass enters the chiller (pre-chill samples). OFO supervisory inspection personnel will collect the post-hide removal/pre-evisceration and pre-chill samples, provided the establishment does not process sampled carcasses differently (Section VI.A.6.).
2. The Agency will test carcasses for adulterant STECs (*E. coli* O157:H7 and the top six non-O157 STEC serotypes O26, O45, O103, O111, O121, and O145 that contain *eae* and *stx* genes), *Salmonella*, generic *E. coli*, Total Aerobic Bacteria (i.e., Total Viable Count or Aerobic Plate Count), Enterobacteriaceae, and coliforms.
3. During the 12-month study, supervisory inspection personnel are to be aware that they may be requested to perform up to two (2) sampling events per month. A sampling event consists of one sample collected at the post-hide removal/pre-evisceration location, and a second sample collected from the same carcass at the pre-chill location.
4. Post-hide removal/pre-evisceration samples will be collected on the leading side of a carcass, and pre-chill samples will be collected on the trailing side of the same carcass. Supervisory inspection personnel are to tag each sampled carcass with a USDA Retained tag in order to track it through the slaughter process. If supervisory inspection personnel cannot safely collect the pre-chill sample from the same carcass sampled at pre-evisceration, supervisory inspection personnel will sample a different carcass that is more accessible and adjacent or in close proximity to the tagged carcass as an alternative.
5. Supervisory inspection personnel are to be aware that establishments may choose to track the carcasses using their own tags as well. The IIC is to advise the establishment that it must hold

or control the movement of sampled carcasses at pre-chill until the establishment is notified of STEC results.

6. Supervisory inspection personnel will verify that the establishment does not treat the sampled carcasses any differently than any of the other carcasses it is processing. In the event a sampled carcass is treated differently, supervisory inspection personnel are to randomly select another carcass during the same processing time and collect samples from that carcass. For example, if the establishment processes the sampled and tagged pre-evisceration carcass differently, supervisory inspection personnel are to select and tag a different carcass to collect the pre-chill sample.
7. Post-hide/pre-evisceration and pre-chill sample results will be reported through Laboratory Information Management System (LIMS) Direct. Establishments that have signed up to receive FSIS sample results electronically will receive notification of sample results electronically. FSIS supervisory inspection personnel are to notify establishment management that have not signed up for their sample results.
8. Supervisory inspection personnel are to be aware that the results for BVCBS will become available after all analyses for STECs and *Salmonella* are complete. Results usually are reported in two to six days but may take longer depending on individual circumstances.
9. Inspection program personnel (IPP) will not issue noncompliance records (NRs) for STEC positive results. In response to a positive result from the pre-chill sample only, IPP are to perform a directed Slaughter HACCP Verification task to verify that the establishment has adequate slaughter controls (including antimicrobial intervention implementation) for the specific production lot represented by the positive STEC carcass result. IPP also are to verify that the establishment implements corrective actions that meet the applicable requirements in 9 CFR 417.3. IPP are not required to verify corrective actions in response to a positive STEC result from the post-hide/pre-evisceration sample.
10. Supervisory inspection personnel are to be aware that the establishment may release the carcass upon notification of negative STEC results from pre-chill samples only. Establishments are not required to continue to hold the carcass pending *Salmonella* test results once a negative STEC result is reported. Section XI.G. below provides instructions for IPP assigned to establishments that participate in Agricultural Marketing Service (AMS) Nutrition Assistance Programs.
11. Supervisory inspection personnel will be aware that the establishment is required to hold or control carcasses until negative STEC results are available. The presence of STEC on a pre-chill carcass intended for use as raw non-intact product is considered to adulterate the carcass. The establishment is responsible for ensuring that carcasses found positive for STEC during the pre-chill sampling and testing are not processed into raw non-intact product.
12. The head and cheek meat, weasand, hearts, and offal do not need to be held pending STEC results. Because establishments remove these parts during the slaughter process and process them separately from the rest of the carcass, IPP are not to consider head and cheek meat, weasand, hearts, or offal as being implicated by the positive STEC result, unless there is evidence of cross-contamination, inadequate sanitary dressing procedures, or inadequate controls to prevent contamination.
13. STEC on a pre-chill carcass intended for use as raw intact product would not adulterate the entire carcass if the carcass is going for use as intact product. In the event that a carcass tests positive for STEC, IPP are to verify that establishments take action to ensure that all products from the carcass go for cooking or take action to recondition the carcass and ensure that the carcass goes for intact use only. IPP are to refer to Attachment 2, Corrective Actions for

Adulterated Product, for additional information when verifying that the establishment has taken these actions.

14. In the event of an STEC positive on a post-hide removal/pre-evisceration sample on a carcass intended for raw non-intact use, the carcass would not be considered adulterated. The carcass will undergo further sanitary dressing procedures and interventions after hide removal/pre-evisceration. In the event of an STEC positive from a pre-chill test result on a carcass intended for raw non-intact use, the carcass is considered adulterated. The establishment is required to take corrective action (Section XII.A. and [Attachment 2](#) has additional information on responses to positive STEC results).

B. Additionally, during the weekly meeting the IIC is to discuss with establishment management:

1. Where supervisory inspection personnel can safely collect post-hide removal/pre-evisceration (immediately after de-hiding, before evisceration, and before the establishment applies any antimicrobial or hot water interventions to the exposed raw carcass surface) and pre-chill (at pre-chill, at least 1 - 5 minutes after the establishment applies its last intervention and no later than one (1) hour inside the hot box, preferably as soon as possible after the above mentioned 1 - 5 minute wait time, when the carcass enters the chiller) samples;
2. Establishment safety requirements and protocols that OFO supervisory inspection personnel must follow during sample collection; and
3. The potential need for line stoppages for OFO supervisory inspection personnel to safely and properly collect the samples.

C. If establishment management has questions that the IIC cannot answer, the IIC is to direct the establishment management to submit a question through askFSIS using the information provided in [Section XIV](#).

D. The IIC is to document the weekly meeting in a Memorandum of Interview (MOI), in accordance with instructions in [FSIS PHIS Directive 5000.1](#), *Verifying and Establishment's Food Safety System*.

VII. SAMPLING SUPPLIES

A. The FSIS Midwestern laboratory will ship the sampling supplies automatically to the FSIS IIC at the selected establishments. Supervisory inspection personnel are to ensure sample supplies are available to perform the monthly sampling events once the sampling tasks appear on the PHIS Task List. Sample supplies for the BVCBS include a M20 box (shipping container) with baseline sorting labels (light green "BVCBS" project labels) plus one (1) set of the following supplies:

1. Two (2) sterile specimen sponges pre-moistened with sterile Buffered Peptone Water (BPW) in yellow color-coded, pre-labeled ("Pre-evis – Posterior" and "Pre-evis – Anterior") Whirl-Pak® bags;
2. Two (2) sterile specimen sponges pre-moistened with sterile BPW in blue color-coded, pre-labeled ("Pre-chill – Posterior" and "Pre-chill – Anterior") Whirl-Pak® bags;
3. Two (2) non-sterile one-quart ziplock-type bags for collected samples;
4. Six (6) pairs of sterile gloves;
5. 6" X 12" plastic sleeve for the sample request form;
6. Laboratory Sample Seal Set (FSIS Form 7355-2A/2B);

7. Absorbent pad;
8. Cardboard separators;
9. Gel coolant packs; and
10. FedEx airbill (pre-printed).

NOTE: The supplies included in each M20 shipping container are enough for one (1) sampling event. A sampling event consists of one sample collected at the post-hide removal/pre-evisceration location, and a second sample collected from the same carcass at the pre-chill location. Supervisory inspection personnel are to use the sponges in the two (2) yellow color-coded Whirl-Pak® bags to collect the posterior and anterior samples for the post-hide removal/pre-evisceration sample, respectively, and they are to use the sponges in the two (2) blue color-coded Whirl-Pak® bags to collect the posterior and anterior samples for the pre-chill sample.

B. The number of cardboard separators and gel coolant packs provided in the shipping container may change depending on the weather. Supervisory inspection personnel are to use all of the separators and gel coolants that are provided in the shipping container.

C. If BVCBS supplies have not arrived, or some of the supplies are missing, OFO supervisory inspection personnel are to send a request for the needed supplies through the FSIS - Sampling Supplies – Midwestern Lab mailbox in Outlook using the following address: SamplingSupplies-MidwesternLab@fsis.usda.gov with the subject line “Sampling Supplies/Carcass Baseline.” If additional supplies are needed, requests are to be made through the same mailbox and the sampling task should be rescheduled, if possible.

D. Supervisory inspection personnel are to review [Attachment 3](#), Sampling Supplies and Packing the Shipper, for pictures of the BVCBS sample supplies. Additional supplies, which should already be available at the establishment, such as a caddy, rolling platform or step stool, and a small table may be needed to safely and properly collect the samples.

E. Upon receipt of the BVCBS sample supplies, supervisory inspection personnel are to verify that the BPW in the Whirl-Pak® bags is clear, and that the shipping container is refrigerated. The bags must be pre-chilled, and the BPW must be clear prior to sample collection. The condition of the sample supplies is critical to the baseline survey. BPW that shows signs of cloudiness or turbidity, or that contains any particulate matter, is not to be used. If any of these conditions exist, supervisory inspection personnel are to request another set of sponges through the FSIS - Sampling Supplies – Midwestern Lab mailbox in Outlook using the following address: SamplingSupplies-MidwesternLab@fsis.usda.gov with the subject line “Sampling Supplies/Carcass Baseline” prior to the scheduled sampling event.

F. Supervisory inspection personnel are to place the gel coolant packs in the freezer upon receipt of the sample collection kit or at least one (1) day before the scheduled sampling event.

G. Supervisory inspection personnel are to notify establishment management of the monthly sampling events. Supervisory inspection personnel are to provide adequate notice for the establishment to be able to segregate or control the movement of affected product, but not enough time for the establishment to alter its normal slaughter process.

VIII. MANAGING BVCBS SAMPLING TASKS IN PHIS

A. Supervisory inspection personnel will receive notification of BVCBS sample requests as two (2) tasks added to the establishment's task list in PHIS, under the following project codes:

<u>Code Name</u>	<u>Site/Location</u>	<u>Sponges per sample</u>
B52_PSTHR	Post-hide removal/pre-evisceration	Two (2) sponges labeled "Pre-evis – Posterior" and "Pre-evis – Anterior"
B52_PRECH	Pre-chill	Two (2) sponges labeled "Pre-chill – Posterior" and "Pre-chill – Anterior"

B. Supervisory inspection personnel have 37 days from the date of the sample request (sampling window) to collect and ship the sample to the Midwestern Laboratory. Upon receiving the sampling task, supervisory inspection personnel are to randomly select a production day and time within the sampling window and schedule the task in PHIS to reserve lab capacity. Samples are not to be collected unless the sampling task has been scheduled in PHIS. If supervisory personnel randomly select a day that has no available lab capacity, they are to randomly select another day. To avoid the possibility of no available lab capacity or closing of the sample collection window, supervisory inspection personnel are to make every effort to schedule the samples on the random date and time as soon as possible after receiving the sampling task and collect those samples on that scheduled date. Supervisory inspection personnel are to schedule and complete the B52_PSTHR and B52_PRECH on the same day because they are to be from the same carcass. After this window has closed, supervisory inspection personnel will no longer be able to collect the sample.

C. Supervisory inspection personnel are to refer to [FSIS PHIS Directive 13,000.2](#) for instructions on entering sample information in PHIS, submitting the sample information, and printing a final sample collection form. Supervisory inspection personnel are to complete the questionnaire located under the "Additional Info" tab when performing the sampling collection task in PHIS. The list of questions is included in [Attachment 4](#), Questionnaire for the Beef-Veal Carcass Baseline Study.

D. Cancelling or Deleting the Sampling Task in PHIS: If the establishment is not eligible for the BVCBS sampling, supervisory inspection personnel are to cancel the task from the task list and provide the appropriate justification from the drop down list (Requested sample/product never slaughtered/produced).

1. If the sampling task has already been scheduled on the task calendar, and supervisory inspection personnel were unable to collect the sample within the collection window, or the sample was not sent to the lab, supervisory inspection personnel are to cancel the task using the following instructions:
 - a. Go to Task Calendar on the left navigation menu;
 - b. Go to Establishment Task Calendar;
 - c. Filter by the establishment;
 - d. Locate the sample to cancel on the calendar;

- e. Right click on the sample task scheduled on the calendar;
- f. In the menu that pops up, select Cancel/Reschedule;
- g. On the popup window, choose “Cancel this task and return it to the Task List” if the sampling window has not expired to return the sample to the task list. If the sampling window has expired, choose “Cancel this task and remove it and all other instances of this task from the Task List” to permanently cancel the sampling task;
- h. In the Select reason dropdown, select the correct reason for cancelling the sample;
and
- i. Click the Save button.

NOTE: If the collection window has not expired, the sampling task will be returned to the task list for rescheduling after it is cancelled from the task.

2. If the task has not been scheduled to the task calendar, supervisory inspection personnel are to delete the task from the task list by using the following instructions:
 - a. Click on Task Calendar in the left navigation menu and go to task list;
 - b. Select the correct assignment from the Assignments dropdown list;
 - c. Select the correct establishment from the Select Establishment dropdown list;
 - d. Select Lab Sampling from the Filter tasks dropdown list;
 - e. In the Cancel column, click on the Delete link;
 - f. In the “Please, Select Reason for Cancelling” dropdown, select the reason for cancelling the sampling task; and
 - g. Click Submit Task for Cancelling button so that the sampling task no longer appears on the Establishment Task List.

IX. SAMPLE COLLECTION INSTRUCTIONS

A. General Information

1. Samples are to be collected at two (2) locations:
 - a. Post-hide removal/pre-evisceration that is immediately after de-hiding, before evisceration, and before the establishment applies any antimicrobial or hot water interventions to the exposed carcass surface.
 - b. Pre-chill which is at least 1 - 5 minutes after the establishment applies its last intervention on the slaughter floor and no later than one (1) hour inside the hot box, preferably as soon as possible after the 1 - 5 minute wait time, when the carcass enters the cooler. If additional interventions are applied to the carcass during chilling, the sample is still to be collected before the application of those interventions.
2. The post-hide removal/pre-evisceration and pre-chill carcass sponges are to be collected by

swabbing an area of 8,000 cm² that includes two (2) approximately equal sized parts of 4,000 cm² each for beef and a 4000 cm² surface area that includes two (2) approximately equal sized parts of 2000 cm² each for veal. Two (2) sponges are to be collected for each sampling location. For each sampling location, one (1) sponge is to be collected from the posterior area of the carcass, and the second sponge is to be collected from the anterior area resulting in four (4) sponges:

- a. The top round area, from the inside and outside round (Posterior sampling area shown as the pink-shaded areas of [Figure 1](#) and [Figure 2](#)); and
- b. The bottom brisket-foreshank area, laterally from the midline over the navel-plate-brisket-foreshank (Anterior sampling area shown as the pink-shaded areas of [Figure 1](#) and [Figure 2](#)).

NOTE: If all four (4) sponges (1 anterior post-hide removal/pre-evisceration, 1 posterior post-hide removal/pre-evisceration, 1 anterior pre-chill, and 1 posterior pre-chill) and the two (2) corresponding PHIS forms are not received at the lab in one shipper, the sample will be discarded.

3. Supervisory inspection personnel who have slaughter duties and need to collect a baseline survey sample must take precautions after visiting the ante-mortem pens or working the kill floor so they do not contaminate the samples. These precautions include washing and sanitizing boots and helmets and putting on a clean coat or frock.
4. When supervisory inspection personnel conduct sampling in the slaughter process, personal safety is paramount.
 - a. Sampling is to be conducted from a safe vantage point, especially when collecting the posterior samples from the post-hide/pre-evisceration and pre-chill locations.
 - b. Supervisory inspection personnel are to follow the same safety procedures provided for employees at that establishment which may require the use of a harness.
 - c. For safety purposes, it may be necessary to slow down or stop the production line as often as needed to take the sample for the post-hide removal/pre-evisceration and pre-chill samples.
 - d. Supervisory inspection personnel are reminded to be extremely cautious and aware of their surroundings.
 - e. Assistance from other FSIS personnel may be necessary to collect the samples from the two locations. Additional supplies such as a caddy, rolling platform or step stool, and a small table are recommended to safely and properly collect the samples.
 - f. If for any reason, supervisory inspection personnel feel that the sample cannot be collected safely, they are to contact their supervisors.
5. Whenever possible, in establishments with multiple shifts, supervisory inspection personnel are to alternate the scheduling of sample collection to ensure that the different shifts are represented. Once sampling tasks are scheduled to the task calendar, a form number is generated and assigned to the sampling form associated with the task. Supervisory inspection personnel are to print a draft copy of the sampling forms from PHIS to get the form numbers for the companion samples collected during the same shift. The draft copies are used as a reference during sample collection to document product information to be recorded in PHIS ([Attachment 4](#) has the PHIS Questionnaire).

6. Supervisory inspection personnel are to complete the questionnaires associated with the sampling tasks they receive each month. Although the post-hide removal/pre-evisceration and pre-chill samples make up one sampling event, each questionnaire is gathering different information. In order for the samples to be considered complete, and before they can be submitted to PHIS, the two corresponding questionnaires must be completed for the post-hide removal/pre-evisceration and pre-chill sample locations.


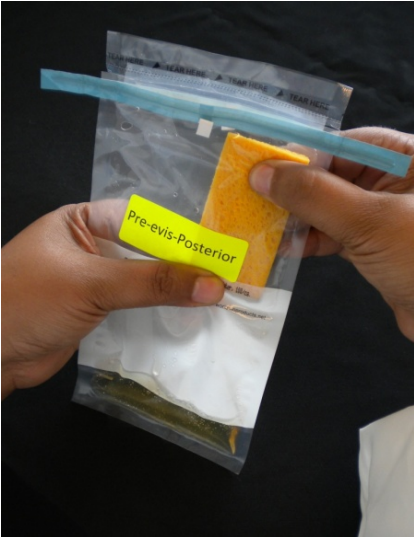
B. Post-hide removal/Pre-evisceration Sampling



1. The leading and trailing sides of the carcass depend on the direction the production line is moving. Supervisory inspection personnel are to collect the post-hide removal/pre-evisceration sample from the leading side of the carcass and collect the pre-chill sample from the trailing side of the carcass. It is critical to ensure that the same side of the carcass is not sampled twice. A complete sample will consist of four (4) sponges (two (2) at post-hide removal/pre-evisceration and two (2) at pre-chill). The figure in [Attachment 5](#). Determining the Leading and Trailing Sides of the Carcass, illustrates how to determine which side is to be sampled for the post-hide removal/pre-evisceration and pre-chill samples.



NOTE: The pictures of the carcasses, provided below, give supervisory inspection personnel a visual of the areas on the carcass that are to be swabbed. These pictures are not to be used to determine the leading and trailing sides of the carcass. Figure in [Attachment 5](#) illustrates that determination.

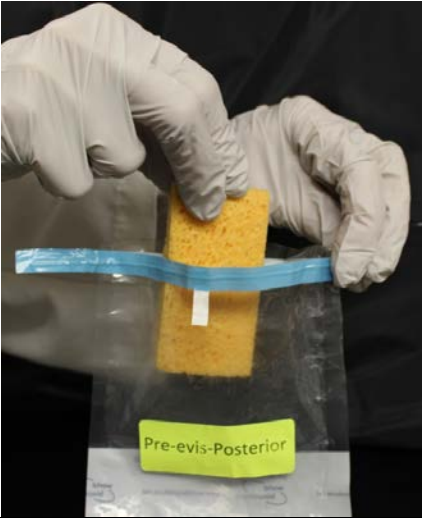


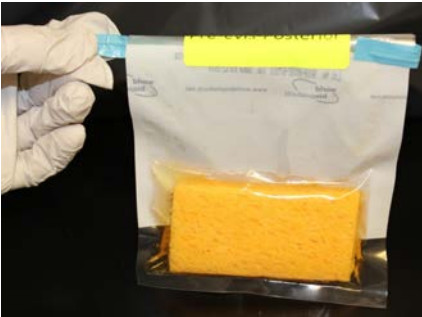
2. Some establishments apply interventions to the carcass before it is completely deided. When collecting the post-hide removal/pre-evisceration sample, supervisory inspection personnel are to consider where in the process the establishment first applies an intervention (e.g., steam vacuum) and determine where the best location is to collect this sample. Supervisory inspection personnel are to collect the pre-evisceration sample before the establishment applies any antimicrobial interventions, unless they cannot safely do so. In the case where the sample cannot be safely collected before interventions are applied, supervisory inspection personnel are to document this fact in the PHIS Questionnaire - Post-hide removal/Pre-evisceration Questions (Sampling task B52 PSTHR), specifically questions 12 and 13.
3. In some cases, supervisory inspection personnel are to collect the posterior pre-evisceration sample at one sampling location and collect the anterior pre-evisceration sample at another sampling location because the establishment applies interventions to the carcass during the deiding process. [Attachment 6](#). Post-hide removal/Pre-evisceration Options, provides different scenarios for where to collect the post-hide removal/pre-evisceration sample. Supervisory inspection personnel are to use this attachment to determine which scenario best describes the situation in the establishment and are to take the swabs at the points in the process described in the attachment. If supervisory inspection personnel are still unsure about where to collect the sample prior to the application of interventions, they are to submit a question to [askFSIS](#) with the subject line “Notice 36-14” using the instructions provided in Section XIV.

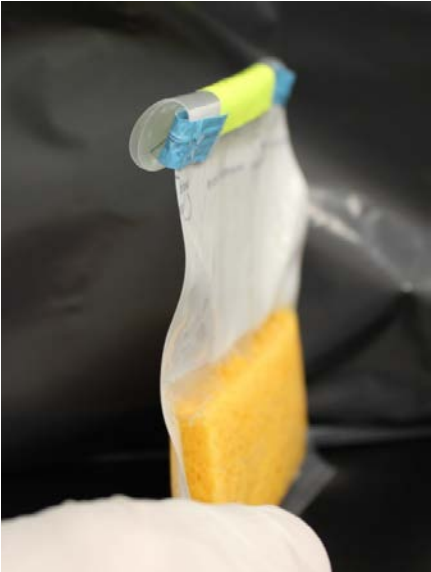


STEP 1	Supervisory inspection personnel are to randomly select the date and time when the establishment will be slaughtering beef or veal during the 37-day sampling window when the B52_PSTHR and B52_PRECH sampling tasks are open. Schedule both tasks on the randomly selected date.	Sampling Task = Sample Location B52_PSTHR = post-hide removal/pre-evisceration B52_PRECH = pre-chill
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<p>STEP 2</p>	<p>Gather all supplies to collect the post-hide removal/pre-evisceration samples:</p> <ol style="list-style-type: none"> 1. Two (2) pre-moistened sponges with yellow labels: “Pre-evis – Posterior” and “Pre-evis – Anterior” 2. Two (2) pairs of sterile gloves 3. Additional supplies such as a caddy are needed to hold the sponges and gloves. <p>A rolling platform or step stool and a small table are recommended to safely and properly collect the samples.</p>	 <p>Supervisory inspection personnel are to have the shipping container with the frozen gel pack and cardboard separator nearby so that they can place the collected samples inside the container to keep cool. Sample bags should not come in direct contact with the gel pack.</p>
<p>STEP 3</p>	<p>Wash your hands before you begin sampling.</p>	
<p>STEP 4</p>	<ol style="list-style-type: none"> a. With the bag labeled “Pre- evis - Posterior” still closed, squeeze as much as possible any excess diluent out of the pre-moistened sponge. b. Carefully push the sponge to the uppermost portion of the bag. 	

<p>STEP 5</p>	<p>a. Tear the strip from the top of the bag.</p> <p>b. Set the bag aside in an upright position in the caddy or inside the pocket of the lab coat to keep the bag sterile and prevent excess diluent from seeping back in to the sponge.</p>	
<p>STEP 6</p>	<p>a. Randomly select one (1) beef or veal carcass for post-hide removal/pre-evisceration sampling.</p> <p>b. Determine the leading side of the carcass using the figure in Attachment 5 and prepare to collect the “Pre-evis – Posterior” sample.</p> <p>NOTE: If the establishment utilizes bed dressing, ensure that the post-hide removal/pre-evisceration is collected from one side of the carcass and the pre-chill is collected from the other.</p> <p>c. Tag the trailing side (opposite side of leading side) of the carcass being sampled so the carcass half can be identified for the pre-chill sample.</p> <p>d. Place the tag toward the middle of the carcass away from the areas that will be trimmed during processing or swabbed during the pre-chill sampling.</p>	<p>NOTE: For veal samples, if the establishment does hide-on processing, collect the posterior and anterior swabs for the post-hide removal/pre-evisceration sample from the hide-on carcass before evisceration and before the establishment applies any interventions.</p> <p>Supervisory inspection personnel are to review Attachment 7, Hide-on Processing and document whether the carcass was sampled with the hide on in the PHIS Questionnaire - <u>Post-hide removal/Pre-evisceration Questions (Sampling task B52 PSTHR)</u>, specifically question 4a.</p> 

<p>STEP 7</p>	<p>Aseptically put on a pair of sterile gloves and remove the sponge from the bag.</p> <p>Note: The outside of the bag is not sterile. Do not hold the sponge in the glove that touched the bag or any other non-sterile surface.</p>	
<p>STEP 8</p>	<p>Supervisory inspection personnel are to collect the “Pre-evis - Posterior” sample on the leading side of the carcass:</p> <ol style="list-style-type: none"> Collect the swab from the lateral hock over the round and to the rump. Using a sweeping motion, follow the hide pattern lines. Apply sufficient pressure to the carcass surface when swabbing (as demonstrated in the training video) to ensure that any bacteria present can be dislodged from the tissue and transferred to the sponge. Flip the posterior swab after swabbing the inside round. Use the other side of the sponge to swab the outside round, making sure to apply sufficient pressure. 	


<p>STEP 9</p>	<p>Replace the sponge in the Whirl-Pak® bag labeled “Pre- evis – Posterior.”</p>	
<p>STEP 10</p>	<p>Expel any excess air from the sample bag without letting the opening of the bag touch any surfaces.</p>	
<p>STEP 11</p>	<p>To close the bag, fold over the top edge of the bag 5 or 6 times using the blue tabs. Do not touch the opening of the bag.</p>	
<p>STEP 12</p>	<p>a. Secure the top by folding the wire attachments back against the bag.</p>	




	<p>b. Place the sealed bag back into the caddy.</p> <p>c. Discard the gloves.</p>	
<p>STEP 13</p>	<p>a. Collect the “Pre-evis - Anterior” sample.</p> <p>b. Repeat Steps 4 – 5 except use the bag labeled “Pre- evis - Anterior”.</p> <p>c. Put on a second pair of sterile gloves and remove the sponge from the bag.</p>	
<p>STEP 14</p>	<p>a. Collect the swab laterally from the midline over the short plate and brisket.</p> <p>b. Using a sweeping motion, follow the hide pattern lines.</p> <p>c. Apply sufficient pressure to the carcass surface when swabbing (as demonstrated in the training video) to ensure that any bacteria present can be dislodged from the tissue and transferred to the sponge.</p> <p>d. Flip the anterior swab after sampling the navel-plate area. Use the other</p>	



	<p>side of the sponge for the brisket and foreshank area making sure to apply sufficient pressure.</p>	
<p>STEP 15</p>	<p>a. Replace the sponge in the Whirl-Pak[®] bag labeled “Pre- evis – Anterior.”</p> <p>b. Repeat Steps 10 – 12.</p> <p>c. After the two pre-evisceration swabs are collected, place the two bagged post-hide/pre-evisceration swabs inside the shipping container on the cardboard separator on top of the gel coolant packs so that the cardboard separator is between the sample and coolant pack.</p>	 




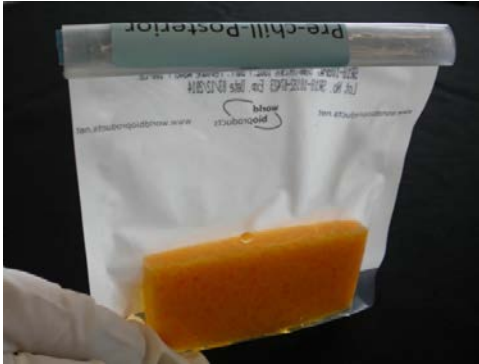
C. Pre-chill Sampling



Supervisory inspection personnel are to collect the pre-chill samples from the same carcass that was sampled at pre-evisceration unless they cannot safely do so. Because of the crowded conditions in the hotbox, if supervisory inspection personnel cannot safely collect the pre-chill samples from the same carcass sampled at pre-evisceration, supervisory inspection personnel can sample a different carcass that is more accessible and adjacent or in close proximity to the tagged carcass as an alternative. In the event that supervisory inspection personnel sample a different carcass they are to tag the sampled pre-chill carcass and require the establishment to hold or control the movement of the sampled carcass until the establishment receives its results. Supervisory inspection personnel are to document this occurrence in the PHIS Questionnaire - Pre-Chill Questions (Sampling task B52_PRECH), specifically questions 2 and 2a.

<p>STEP 16</p>	<p>a. Supervisory inspection personnel are to take precautions after having been on the kill floor to not contaminate the sample or the sampling area. These precautions include washing and sanitizing boots and helmets and putting on a clean coat or frock.</p> <p>b. Wash your hands before you begin sampling.</p> <p>c. Follow carcass to second sample location and find the tagged carcass half (trailing side).</p>	<p>NOTE: For veal samples, if the establishment does hide-on processing, collect the posterior and anterior swabs for the pre-chill sample from the hide-on carcass after the establishment applies all interventions. If the establishment ships veal carcasses with the hide-on, sample the hide-on carcass after the establishment applies all interventions and prior to shipment.</p> <p>Hide-on carcasses are not split. The sample unit for these carcasses is one carcass.</p>
<p>STEP 17</p>	<p>Gather remaining supplies to collect the pre-chill sample:</p> <ol style="list-style-type: none"> 1. Two (2) pre-moistened sponges with blue labels: “Pre-chill – Posterior” and “Pre-chill – Anterior” 2. Two (2) pairs of sterile gloves 3. Caddy <p>A rolling platform or step stool and a small table are recommended to safely and properly collect the samples as well.</p>	 <p>Supervisory inspection personnel are to have the shipping container with the frozen gel pack and cardboard separator nearby so they can place the collected samples inside the container to keep cool. The cardboard separator is to be on top of the frozen gel packs so that the sample bags should not come in direct contact with the gel pack.</p>

<p>STEP 18</p>	<p>a. With the bag labeled “Pre-chill - Posterior” still closed, squeeze out as much as possible any excess diluent out of the pre-moistened sponge.</p> <p>b. Carefully push the sponge to the uppermost portion of the bag.</p>	
<p>STEP 19</p>	<p>a. Tear the strip from the top of the bag.</p> <p>b. Set the bag aside in an upright position in the caddy or inside the pocket of the lab coat to keep the bag sterile and prevent excess diluent from seeping back in to the sponge.</p>	
<p>STEP 20</p>	<p>Aseptically put on a pair of sterile gloves and remove the sponge from the bag.</p> <p>Note: The outside of the bag is not sterile. Do not hold the sponge in the glove that touched the bag or any other non-sterile surface.</p>	

<p>STEP 21</p>	<p>Supervisory inspection personnel are to collect the “Pre-chill - Posterior” sample on the trailing side of the carcass half:</p> <ol style="list-style-type: none"> Collect the swab from the lateral hock over the round and to the rump. Using a sweeping motion, follow the hide pattern lines. Apply sufficient pressure to the carcass surface when swabbing (as demonstrated in the training video) to ensure that any bacteria present can be dislodged from the tissue and transferred to the sponge. Flip the posterior swab after swabbing the inside round. Use the other side of the sponge to swab the outside round, making sure to apply sufficient pressure. 	 <p>Note: The glove handling the railing should not be in contact with the sponge. This hand should be the same one that handled the outside of the sample bag.</p>
<p>STEP 22</p>	<p>Replace the sponge in the Whirl-Pak® bag labeled “Pre-chill – Posterior.”</p>	

<p>STEP 23</p>	<p>Expel any excess air from the sample bag being careful not to let the opening touch any objects.</p>	
<p>STEP 24</p>	<p>To close the bag, fold over the top edge of the bag 5 or 6 times using the blue tabs. Do not touch the opening of the bag.</p>	
<p>STEP 25</p>	<p>a. Secure the top by folding the wire attachments back against the bag.</p> <p>b. Place the sealed bag back into the caddy.</p> <p>c. Discard the gloves.</p>	 

<p>STEP 26</p>	<p>a. Collect the “Pre-chill - Anterior” sample.</p> <p>b. Repeat Steps 18 – 20 except use the bag labeled “Pre-chill - Anterior”.</p>	
<p>STEP 27</p>	<p>a. Collect the swab laterally from the midline over the short plate and brisket.</p> <p>b. Using a sweeping motion, follow the hide pattern lines.</p> <p>c. Apply sufficient pressure to the carcass surface when swabbing (as demonstrated in the training video) to ensure that any bacteria present can be dislodged from the tissue and transferred to the sponge.</p> <p>d. Flip the anterior swab after sampling the navel-plate area. Use the other side of the sponge for the brisket and foreshank area making sure to apply sufficient pressure.</p>	

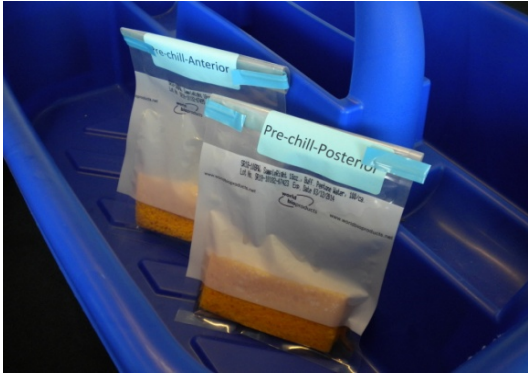

<p>STEP 28</p>	<p>a. Replace the sponge in the Whirl-Pak® bag labeled “Pre-chill – Anterior.”</p> <p>b. Repeat Steps 23 – 25.</p>	
<p>STEP 29</p>	<p>After the pre-chill samples are collected, immediately place the pre-chill swabs in the same shipping container as the post-hide removal/pre-visceration samples. Do not put the sample bags directly on the gel coolant pack. Make sure the cardboard separator is between the samples and coolant pack.</p>	

Figure 1. 4000 cm² anterior (lateral brisket and short plate) and 4000 cm² posterior (lateral hock, round, and rump) sampling sites for post-hide removal/pre-evisceration and pre-chill carcass swabs from adult cattle carcasses. The swabbing size is 2000 cm² for each sampling site in veal carcasses.

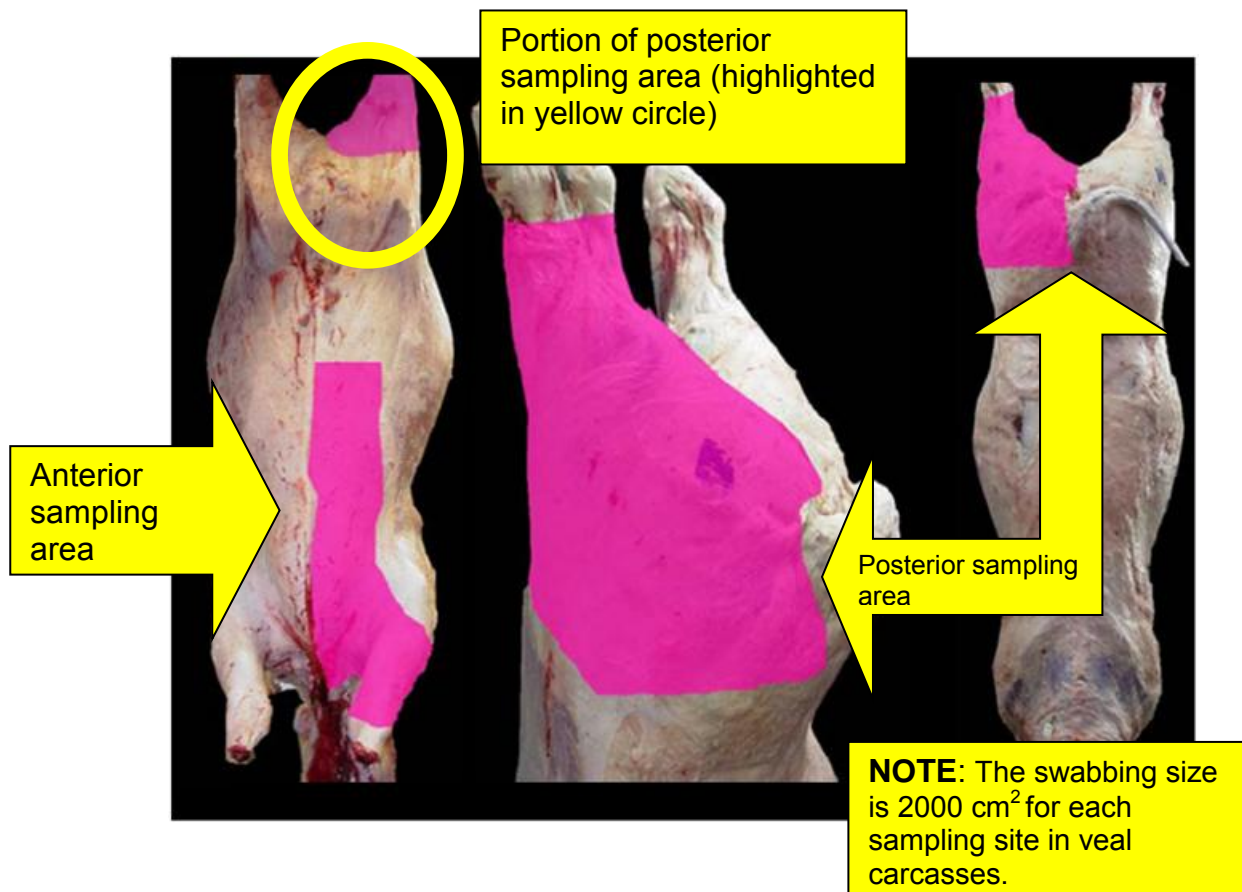
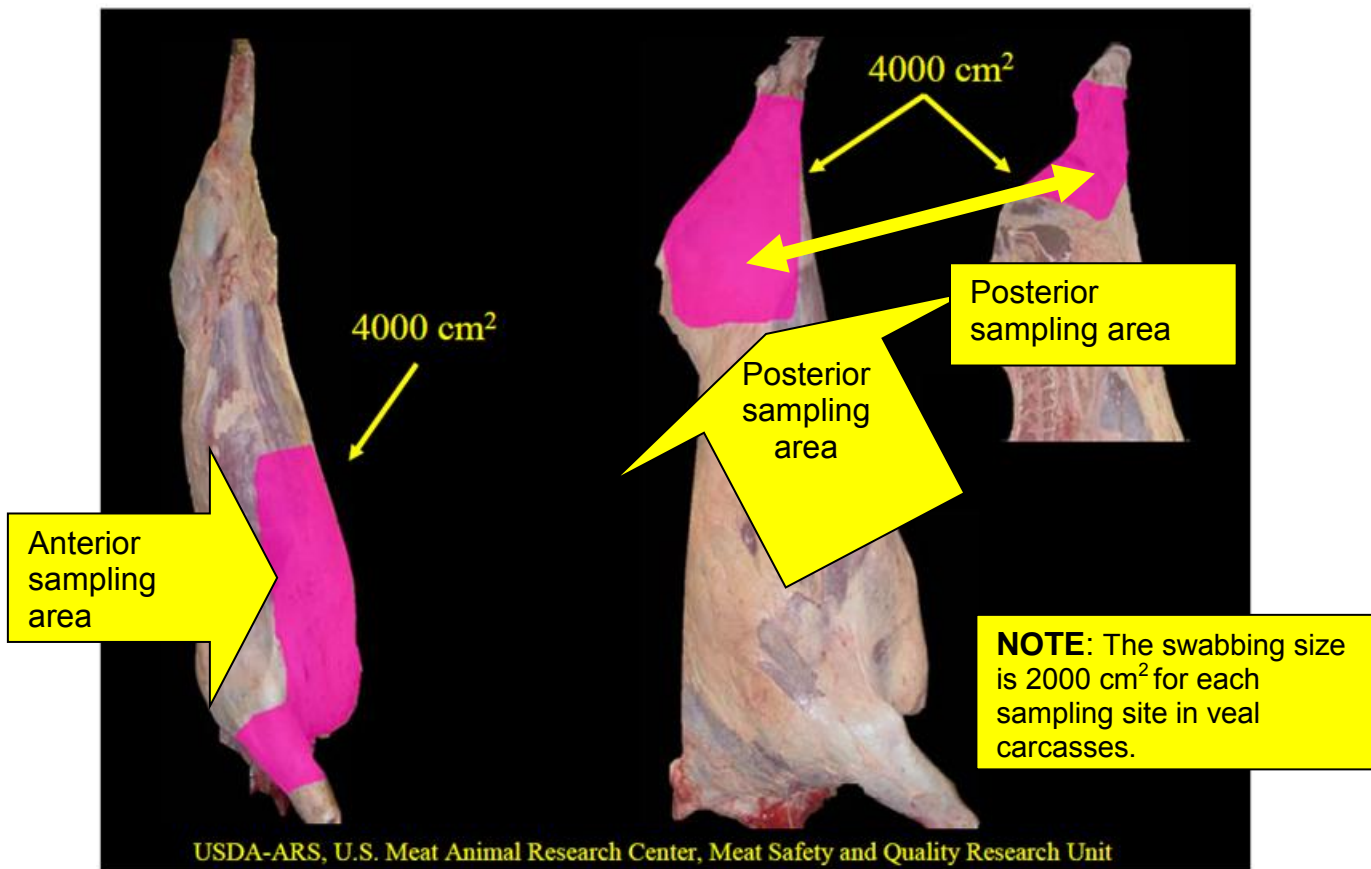


Figure 2. 4000 cm² anterior (lateral brisket and short plate) and 4000 cm² posterior (lateral hock, round, and rump) sampling sites for post-hide removal/pre-evisceration and pre-chill carcass swabs from adult cattle carcasses. The swabbing size is 2000 cm² for each sampling site in veal carcasses.



X. HOW TO COMPLETE THE SAMPLING TASK AND SHIP THE SAMPLE

A. Storage Prior to Shipment

Supervisory inspection personnel are to review and follow Chapter VI, Submitting the Collected Sample (All Product Classes), of [FSIS Directive 10.250.1](#), for all samples collected. They are to refrigerate all samples after sampling and maintain refrigeration at 40°F, or lower but not freezing, until shipped. Supervisory inspection personnel are to secure the samples and not freeze or place them in direct contact with the gel coolant pack.

B. Completing the sample request form

Supervisory inspection personnel are to enter the requested information into PHIS. After completing sample collection data entry, supervisory inspection personnel are to click the “Submit to Lab” button, print a finalized form, and sign the form. PHIS will display a message stating that the sample collection information has been successfully submitted.

C. Securing the sample

Supervisory inspection personnel are to follow the instruction provided in [FSIS Directive 7355.1](#), *Use of Sample Seals for Laboratory Samples and Other Application*, on the use of sample seals (FSIS

Form 7355-2A/2B) to maintain sample security and identification. To secure the sample, supervisory inspection personnel are to:

1. Affix one (1) small bar-coded label to the top center of each completed sample form making sure not to cover up any important information such as other bar codes or written information. Place each sample form in its own plastic sleeve; and
2. Put one (1) small sample seal bar code on the outside of each of the two (2) secondary containment bags (medium-sized zip-lock bags). Put the two (2) **post-hide/pre-evisceration** Whirl-Pak[®] bags into the medium-sized zip-lock bag. Expel as much air as possible before closing. Put the two (2) **pre-chill** Whirl-Pak[®] bags into the second medium-sized zip-lock bag. Expel as much air as possible before closing. Each of the four post-hide/pre-evisceration and pre-chill Whirl-pak bags will **not** have a small bar-coded label. The lack of such a label will not result in a sample discard.

D. Shipping the sample

To pack the shipping container, supervisory inspection personnel are to follow the instructions in [Attachment 3](#). Sampling Supplies and Packing the Shipper:

1. Place the absorbent pad in the shipping container and place the gel coolant pack on top of it;
2. Place the cardboard separator on top of the gel coolant pack to prevent the sample from freezing;
3. Place the two (2) zip-lock bags inside the shipping container on top of the cardboard separator, followed by the plastic sleeve containing the **B52_PSTHR** and **B52_PRECH** sampling forms;
4. Place the foam plug on top of the zip-lock bags and forms and press down slightly to secure contents;
5. Enter the required information on FSIS Laboratory Sample Container Seal (FSIS Form 7355-2A), and apply the seal to the box, using the instructions provided in FSIS Directive 7355.1;
6. Complete the return address fields on the FedEx billable stamp and apply it to the shipping container. Supervisory inspection personnel are to call FedEx to schedule pick up of the sample;
7. Maintain the shipping container in a secure refrigerated area and under FSIS control until FedEx picks up the sample; and
8. Ship first shift samples the same day they are collected Monday through Friday. Samples can be shipped on Friday for Saturday delivery at the laboratory. Ship second shift samples collected Monday through Thursday at the next available FedEx pick up.

NOTE: Supervisory inspection personnel are to collect and ship samples to the laboratory on the same calendar day whenever possible. First shift samples that do not arrive the following day will be discarded by the laboratory.

E. Returning sample supplies

If at any time, supervisory inspection personnel need to return supplies that are not used they are to send them via ground shipping to:

USDA, FSIS Midwestern Laboratory
Bldg.105-D Federal Center
4300 Goodfellow Road
St. Louis, MO 63120
Tel: (314) 263-2680

XI. HOW SAMPLE RESULTS ARE REPORTED

- A. Results of individual samples collected are reported in LIMS Direct and PHIS.
- B. IPP are not to issue NRs for STEC positive results. However, establishments are required to hold or control the sampled carcass at pre-chill, pending the reporting of STEC results.
- C. The IIC, and establishment management if it has signed up for electronic notification, will receive results for carcass samples through LIMS Direct. If the establishment has not signed up for electronic notification, IPP are to notify plant management and instruct them to do so. The specific pathogen analysis is to be reported as positive or negative, but the sample result in LIMS will report as “non-regulatory” result.
- D. All three (3) analyses, *E. coli* O157:H7, non-O157 STEC, and *Salmonella*, will be completed before the final results are reported out in LIMS Direct. IPP are to open sample reports completely to view all results and determine whether the carcass can be released.
- E. IPP are to verify that establishment management takes corrective actions to address the hazard if the STEC results are positive for the pre-chill sample.
- F. IPP are to advise establishment management that carcasses may be released if the pre-chill STEC results are negative. Even if the post-hide removal/pre-evisceration sample results have not been reported, carcasses may still be released upon notification of negative STEC results for the pre-chill sample. Positive post-hide removal/pre-evisceration samples do not indicate that the product is adulterated because the carcass will undergo further sanitary dressing procedures and interventions. Therefore, no action is required for positive results on these samples.
- G. IPP are to be aware that, for establishments supplying AMS Nutrition Assistance Programs, including the National School Lunch Program, FSIS recommends that carcasses yielding positive STEC and *Salmonella* results at pre-chill not be used to manufacture AMS beef manufacturing trimmings or AMS purchased ground beef.

XII. FSIS ACTIONS FOR POSITIVE STEC RESULTS FROM CARCASS SAMPLES

- A. Upon notification of a confirmed STEC positive finding in the pre-chill sample results, IPP are to:
 - 1. Perform a directed Slaughter HACCP Verification task to verify the establishment met all HACCP requirements for the specific production lot for the positive carcass result; and
 - 2. Verify that the establishment implements corrective actions. For the purposes of the BVCBS only, these corrective actions could include ensuring the sampled carcass goes for cooking or reconditioning the carcass for carcasses intended for intact product only (per [Attachment 2](#)).

B. IPP are not to verify that establishments took corrective actions in response to a positive STEC result from the post-hide removal/pre-evisceration sample because these samples do not indicate that the product is adulterated. Carcasses will undergo further sanitary dressing procedures and interventions.

C. Supervisory inspection personnel are to continue to collect carcass samples according to the design and scheduling of the BVCBS. FSIS will not schedule follow-up sampling tasks or for cause food safety assessments in response to the positive result.

XIII. DATA ANALYSIS

OPHS will use the data collected from the 12-month survey to estimate the national prevalence and levels of pathogens and certain indicator organisms on carcasses throughout the slaughter process. The Office of Policy and Program Development, Risk, Innovations, and Management Staff (OPPD, RIMS) will use this data to develop compliance guidance for industry to use in assessing the performance of individual establishments against the national performance. FSIS may use the baseline survey data to make changes to its sampling, testing, and other verification activities.

XIV. QUESTIONS

Refer questions regarding this notice to RIMS through [askFSIS](#) or by telephone at 1-800-233-3935. When submitting a question, use the Submit a Question tab, and enter the following information in the fields provided:

Subject Field:	Enter Notice 36-14
Question Field:	Enter question with as much detail as possible.
Product Field:	Select General Inspection from the drop-down menu.
Category Field:	Select Sampling <i>E. coli</i> O157:H7 from the drop-down menu.
Policy Arena:	Select Domestic (U.S.) Only from the drop-down menu.

When all fields are complete, press **Continue** and at the next screen press **Finish Submitting Question**.



Assistant Administrator
Office of Policy and Program Development

Attachment 1. Beef and Veal Carcass Swab Sampling

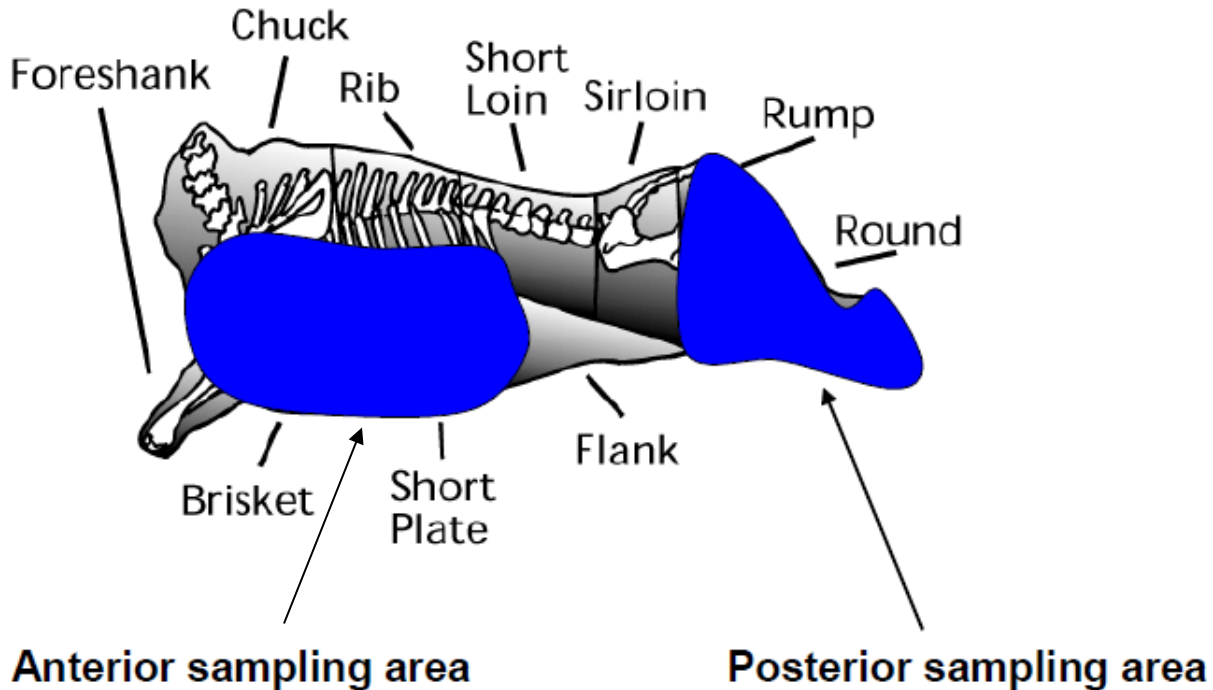
Table 2 summarizes the sampling locations, sites swabbed, materials, and methods for sampling.

Table 2. Locations, Sites, Materials, and Methods for Sampling

Sampling Location and Task	Sites swabbed	Materials	Methods
<p>Post-hide removal/pre-evisceration sampling location</p> <p>B52_PSTHR sampling task</p>	<p>Leading side of carcass</p> <p>One (1) 4000 cm² swab posterior area for adult cattle carcasses (2000 cm² for veal carcasses) (lateral hock, round, and rump)</p> <p>One (1) 4000 cm² swab anterior area for adult cattle carcasses (2000 cm² for veal carcasses) (lateral brisket and short plate)</p> <p>(Figures 1 - 3).</p> <p>Total swabs at post-hide /pre-evisceration: 2</p>	<p>Two (2) Speci-Sponges pre-moistened with BPW in two (2) yellow color-coded, pre-labeled (“Pre-evis – Posterior” and “Pre-evis – Anterior”) Whirl-Pak® bags and two (2) pairs of sterile gloves.</p>	<p>Tag the opposite side of the carcass (trailing side). Place the tag toward the middle of the carcass away from the areas that will be trimmed during processing or swabbed during the pre-chill sampling.</p> <p>Swabbing of posterior area: Using back and forth strokes and applying sufficient pressure, swab the inside round. Flip the sponge and use the other side of the sponge to swab the outside round making sure to apply sufficient pressure.</p> <p>Swabbing of the anterior area: Using back and forth strokes and applying sufficient pressure, swab the navel-plate area. Flip the sponge and use the other side of the sponge to swab the brisket and foreshank area making sure to apply sufficient pressure.</p>

<p>Pre-chill sampling location</p> <p>B52_PRECH sampling task</p>	<p>Trailing side of carcass</p> <p>One (1) 4000 cm² swab posterior area for adult cattle carcasses (2000 cm² for veal carcasses). (lateral hock, round, and rump)</p> <p>One 4000 cm² swab anterior area for adult cattle carcasses (2000 cm² for veal carcasses) (lateral brisket and short plate).</p> <p>(Figures 1 - 3).</p> <p>Total swabs at pre-chill: 2</p>	<p>Two (2) Speci-Sponges pre-moistened with BPW in two (2) blue color-coded, pre-labeled ("Pre-chill – Posterior" and "Pre-chill – Anterior") Whirl-Pak® bags and two (2) pairs of sterile gloves.</p>	<p>Locate the tagged carcass half.</p> <p>Swabbing of posterior area: Using back and forth strokes and applying significant pressure, swab the inside round. Flip the sponge and use the other side of the sponge to swab the outside round making sure to apply significant pressure.</p> <p>Swabbing of the anterior area: Using back and forth strokes and applying significant pressure, swab the navel-plate area. Flip the sponge and use the other side of the sponge to swab the brisket and foreshank area making sure to apply significant pressure.</p>
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Figure 3. The 4000 cm² anterior (lateral brisket and short plate) and 4000 cm² posterior (lateral hock, round, and rump) sampling sites for post-hide removal/pre-evisceration and pre-chill carcass swabs from adult cattle carcasses. The swabbing size is 2000 cm² for each sampling site in veal carcasses.



Supervisory inspection personnel are to use the carcass sampling method developed by scientists with the USDA Agricultural Research Service (ARS). FSIS has modified the carcass sampling method developed by scientists with the ARS for veal to involve a smaller carcass swabbing area given the smaller size of veal carcasses. Additional information on the carcass sampling method used can be found in two study reports published in the *Journal of Food Protection*:

- Arther, T. M., J. M. Bosilevac, X. Nou, S. D. Shackelford, T. L. Wheeler, M. P. Kent, D. Jaroni, B. Pauling, D. M. Allen, and M. Koohmaraie. 2004. *Escherichia coli* O157 Prevalence and Enumeration of Aerobic Bacteria, *Enterobacteriaceae*, and *Escherichia coli* O157 at Various Steps in Commercial Beef Processing Plants. *J. Food Prot.* 67:658-665.
- Barkocy-Gallagher, G. A., E. D. Berry, M. Rivera-Betancourt, T. M. Arthur, X. Nou, and M. Koohmaraie. 2002. Development of methods for the recovery of *Escherichia coli* O157:H7 and *Salmonella* from beef carcass sponge samples and bovine fecal and hide samples. *J. Food Prot.* 65:1527–1534.

Attachment 2. Corrective Actions for Adulterated Product

In verifying corrective actions, IPP are to be aware that the establishment is required to ensure appropriate product disposition for adulterated products.

- a. Following a pre-chill positive STEC result, the establishment may ensure proper disposition by:
 - i. Denaturing the carcass under 9 CFR 314.3 and moving it to a renderer;
 - ii. Denaturing the carcass under 9 CFR 314.3 and moving it to a landfill; or
 - iii. Moving the carcass under controls to an official establishment for the application of a lethality treatment.

OR

- b. In the event of an STEC positive test result for a carcass intended for raw intact use, the establishment can either treat the carcass as adulterated or recondition the carcass to ensure that STEC (or a virulence marker) is no longer detectable. To ensure that it is preventing production of contaminated product, the establishment would have to have reconditioning procedures incorporated into its HACCP plan. The establishment also would need to have decision-making documents to support that the reconditioning effectively addresses the hazard. In practice, removal of the pathogen can be difficult for the establishment to achieve and support. An example of an acceptable reconditioning process involves the following steps:
 - i. Resurfacing (removing all exterior surface tissue) the carcass that will be used for raw, intact products;
 - ii. Applying a different intervention than previously applied or an intensified application of an intervention previously applied;
 - iii. Re-testing the carcass for STEC (or virulence markers) to verify the reconditioning was effective;
 - iv. Having proper controls in place to ensure that the carcass is used to produce raw, intact product only that will reach the consumer in a raw, intact state; and
 - v. Maintaining HACCP records to demonstrate that such controls were effective

Attachment 3. Sampling Supplies and Packing the Shipper

1

M20 sample box with baseline sorting label (light green “BVCBS” project label) and supplies for sample collection include:

- Two (2) sponges pre-moistened with BPW in two (2) yellow color-coded, pre-labeled (“Pre-evis – Posterior” and “Pre-evis – Anterior”) Whirl-Pak® bags;
- Two (2) sponges pre-moistened with BPW in two (2) blue color-coded, pre-labeled (“Pre-chill – Posterior” and “Pre-chill – Anterior”) Whirl-Pak® bags;
- Six (6) pairs of sterile gloves;
- Two (2) Medium-sized, non-sterile ziplock-type bags;
- 6” X 12” plastic sleeve for the sample request forms ;
- Laboratory Sample Seal Set (FSIS Form 7355-2A/2B);
- Absorbent pad;
- Cardboard separator(s);
- Gel coolant pack(s); and
- FedEx airbill (pre-printed)



2 Supervisory inspection personnel are to pack the shipping container as follows:

Place the large absorbent pad in the bottom of the shipping box followed by the frozen gel coolant pack. Place the cardboard separator on the top of the coolant pack. Sample bags should never come in direct contact with the coolant packs, as this may cause the samples to freeze. Next, put the two (2) ziplock bags containing the four (4) bagged swabs, followed by the plastic sleeve containing the two (2) sampling forms inside the box.

Place the foam plug on top and firmly press to remove excess space in the container.



3 The number of cardboard separators and gel coolant packs may change due to the weather.

If your supplies contain two (2) cardboard separators and two (2) gel coolant packs, the second cardboard separator goes on top of the bagged swabs, followed by the second frozen gel coolant pack and then the plastic sleeve containing the forms. Place the foam plug on top and firmly press to remove excess space in the container

NOTE: Use only the supplies provided in the shipping container.



Attachment 4. Questionnaire for the Beef-Veal Carcass Baseline Study

Post-hide removal/Pre-evisceration Questions (Sampling task B52 PSTHR)

- Q.1** Did the establishment perform a total clean-up/pre-op sanitation on the same shift you collected the sample?
Yes
No
- Q.2** Collection time: (record the time of collection using the 24-hour clock (HHMM) (military time) (e.g., if collected at 3:28 pm, the appropriate entry would be 1528)
- Q.3** Age of carcass sampled:
<12 mos.
12-29 mos.
>30 mos.
- Q.4** Does the establishment perform further processing of veal carcasses with the hide-on?
Yes
No
- Q.4a** If this establishment performs hide-on processing of veal carcasses, was this sample taken from the hide?
Yes
No
- Q.5** Which of the following hide-on interventions does the establishment apply after knocking?
Dehairing
Bacteriophages
Hot water washing
Medium water washing
Cold water washing
Caustic soda
Chlorine
Lactic acid hide-on carcass wash
Acetic acid hide-on carcass wash
Peroxyacetic acid (PAA) hide-on carcass wash
Other
None
- Q.6** If 'other' selected for hide-on interventions the establishment applies after knocking, describe the other interventions here:

- Q.7** If an antimicrobial hide-on carcass wash intervention is applied after knocking, provide what kind here:
- Q.8** If the establishment applies a hide-on intervention after knocking of 'washing with detergents or compounds and rinsing', list the type of detergents:
- Q.9** **Where was the pre-evisceration posterior swab sample collected?**
 After first legger
 After second legger
 After carcass rumping
 After final hide puller
 Other
- Q.9a** **Describe 'other' location where the pre-evisceration posterior swab sample was collected:**
- Q.10** **Where was the pre-evisceration anterior swab sample collected?**
 After final hide puller
 Other
- Q.10a** **Describe 'other' location where pre-evisceration anterior swab sample was collected:**
- Q.11** **Does the establishment apply an intervention after opening the hide or during and after hide removal but prior to pre-evisceration? If 'yes', answer all the applicable follow-up questions related to these interventions. Choosing 'No' indicates the plant does not apply any interventions at this point in processing.**
 Yes - If selected, answer the following questions
 11a., 11b., 11c., 11d., 11e., 11f., 11g., 11h., 11i., 11j., 11k., 11l., 11m., 11n., 11o., 11p., 11q., 11r., 11s., 11t., 11u., 11v., 11w., 11x., 11y., 11z., 11aa., 11bb., 11cc., 11dd., 11ee., 11ff., 11gg., 11hh.
 No
- Q.11a** **If a steam vacuum (hand held steam vacuum, temperature specific) intervention is applied after opening the hide or during and after hide removal but prior to pre-evisceration, how many steam vacuumers does the plant have?**
- Q.11b** **If a steam vacuum (hand held steam vacuum, temperature specific) intervention is applied after opening the hide or during and after hide removal but prior to pre-evisceration, where is the steam vacuum (hand held steam vacuum, temperature specific) intervention applied?**
 After first legger
 After second legger
 After carcass rumping
 After final hide puller

Other

- Q.11c** If 'other' selected for where a steam vacuum (hand-held steam vacuum, temperature specific) intervention is applied after opening the hide or during and after hide removal but prior to pre-evisceration, describe here:
- Q.11d** If a lactic acid carcass wash intervention is applied after opening the hide or during and after hide removal but prior to pre-evisceration, where is the lactic acid carcass wash intervention applied?
- After first legger
 - After second legger
 - After carcass rumping
 - After final hide puller
 - Other
- Q.11e** If 'other' selected for where a lactic acid carcass wash intervention is applied after opening the hide or during and after hide removal but prior to pre-evisceration, describe here:
- Q.11f** If a trimming intervention is applied after opening the hide or during and after hide removal but prior to pre-evisceration, how many trimmers does the establishment have?
- Q.11g** If a trimming intervention is applied after opening the hide or during and after hide removal but prior to pre-evisceration, where are the trimmers located?
- After first legger
 - After second legger
 - After carcass rumping
 - After final hide puller
 - Other
- Q.11h** If 'other' selected for where a trimming intervention is applied after opening the hide or during and after hide removal but prior to pre-evisceration, describe here:
- Q.11i** If an acetic acid carcass wash automated application intervention is applied after opening the hide or during and after hide removal but prior to pre-evisceration, where is the acetic acid carcass wash automated application intervention applied?
- After first legger
 - After second legger
 - After carcass rumping
 - After final hide puller
 - Other

- Q.11j** If 'other' selected for where an acetic acid carcass wash automated application intervention is applied after opening the hide or during and after hide removal but prior to pre- evisceration, describe here:
- Q.11k** If a peroxyacetic acid (PAA) carcass wash cabinet intervention is applied after opening the hide or during and after hide removal but prior to pre-evisceration, where is the peroxyacetic acid (PAA) carcass wash cabinet intervention applied?
After first legger
After second legger
After carcass rumping
After final hide puller
Other
- Q.11l** If 'other' selected for where a peroxyacetic acid (PAA) carcass wash cabinet intervention is applied after opening the hide or during and after hide removal but prior to pre-evisceration, describe here:
- Q.11m** If a hypobromous acid carcass wash cabinet intervention is applied after opening the hide or during and after hide removal but prior to pre-evisceration, where is the hypobromous acid carcass wash cabinet intervention applied?
After first legger
After second legger
After carcass rumping
After final hide puller
Other
- Q.11n** If 'other' selected for where a hypobromous acid carcass wash cabinet intervention is applied after opening the hide or during and after hide removal but prior to pre-evisceration, describe here:
- Q.11o** If a lactic acid carcass hand-held application intervention is applied after opening the hide or during and after hide removal but prior to pre-evisceration, where is the lactic acid carcass hand-held application intervention applied?
After first legger
After second legger
After carcass rumping
After final hide puller
Other
- Q.11p** If 'other' selected for where a lactic acid carcass hand-held application intervention is applied after opening the hide or during and after hide removal

but prior to pre-evisceration, describe here:

- Q.11q** If an acetic acid carcass hand-held application intervention is applied after opening the hide or during and after hide removal but prior to pre-evisceration, where is the acetic acid carcass hand-held application intervention applied?
- After first legger
 - After second legger
 - After carcass rumping
 - After final hide puller
 - Other
- Q.11r** If 'other' selected for where an acetic acid carcass wash intervention is applied after opening the hide or during and after hide removal but prior to pre-evisceration, describe here:
- Q.11s** If a peroxyacetic acid (PAA) hand-held application intervention is applied after opening the hide or during and after hide removal but prior to pre-evisceration, where is the peroxyacetic acid (PAA) hand-held application intervention applied?
- After first legger
 - After second legger
 - After carcass rumping
 - After final hide puller
 - Other
- Q.11t** If 'other' selected for where a peroxyacetic acid (PAA) hand-held application intervention is applied after opening the hide or during and after hide removal but prior to pre-evisceration, describe here:
- Q.11u** If a hypobromous acid hand-held application intervention is applied after opening the hide or during and after hide removal but prior to pre-evisceration, where is the hypobromous acid hand-held application intervention applied?
- After first legger
 - After second legger
 - After carcass rumping
 - After final hide puller
 - Other
- Q.11v** If 'other' selected for where a hypobromous acid hand-held application intervention is applied after opening the hide or during and after hide removal but prior to pre-evisceration, describe here:

- Q.11w** If another antimicrobial carcass wash (cabinet or hand-held application) intervention is applied after opening the hide or during and after hide removal but prior to pre- evisceration, where is the other antimicrobial carcass wash (cabinet or hand-held application) intervention applied?
- After first legger
 - After second legger
 - After carcass rumping
 - After final hide puller
 - Other
- Q.11x** If 'other' selected for where other antimicrobial carcass wash (cabinet or hand-held application) is applied after opening the hide or during and after hide removal but prior to pre- evisceration, describe here:
- Q.11y** If a steam cabinet intervention is applied after opening the hide or during and after hide removal but prior to pre-evisceration, where is the steam cabinet intervention applied?
- After first legger
 - After second legger
 - After carcass rumping
 - After final hide puller
 - Other
- Q.11z** If 'other' selected for where a steam cabinet intervention is applied after opening the hide or during and after hide removal but prior to pre-evisceration, describe here:
- Q.11aa** If a hot water carcass wash (temperature specific) intervention is applied after opening the hide or during and after hide removal but prior to pre-evisceration, where is the hot water carcass wash (temperature specific) intervention applied?
- After first legger
 - After second legger
 - After carcass rumping
 - After final hide puller
 - Other
- Q.11bb** If 'other' selected for where a hot water carcass wash (temperature specific) intervention is applied after opening the hide or during and after hide removal but prior to pre-evisceration, describe here:
- Q.11cc** If a chlorinated water intervention is applied after opening the hide or during

and after hide removal but prior to pre-evisceration, where is the chlorinated water intervention applied?

After first legger

After second legger

After carcass rumping

After final hide puller

Other

Q.11dd If 'other' selected for where a chlorinated water intervention is applied after opening the hide or during and after hide removal but prior to pre-evisceration, describe here:

Q.11ee Are there other pre-evisceration interventions other than interventions previously mentioned?

Yes - If selected, answer the following questions Q.11ff, Q.11gg, Q.11hh

No

Q.11ff What other kinds of pre-evisceration interventions are being used (describe)?

Q.11gg For other pre-evisceration intervention types provided, where is the pre-evisceration intervention located?

After first legger

After second legger

After carcass rumping

After final hide puller

Other

Q.11hh If 'other' selected for where other types of pre-evisceration intervention types are located, describe the locations here:

Q.12 Was the posterior swab sample taken prior to the application of any interventions to the carcass surface? (Identify whether the carcass swab for the posterior area was collected after the hide was removed but prior to any antimicrobial or hot water interventions by selecting 'Yes' or 'No')

Yes

No

Q.13 Was the anterior swab sample taken prior to the application of any interventions to the carcass surface? (Identify whether the carcass swab for the anterior area was collected after the hide was removed but prior to any antimicrobial or hot water interventions by selecting 'Yes' or 'No')

Yes

No

Q.14 Typically, how soon after hide-removal are interventions applied? (Record the length of time between when the carcass hide is removed and the whole

carcass interventions are applied in minutes and seconds. Use the format MM:SS, e.g., 3 minutes 20 seconds would be entered as 03:20).

- Q.15** What is the sample form number for the pre-chill (B52_PRECH) sample in this sample pair? (Once both sampling tasks have been assigned and scheduled, you should be able to view a draft version of the sample form. This draft form contains a form number. Record the sample request form number of the companion pre-chill (B52_PRECH) sample collected from the same shift.)

Pre-Chill Questions (Sampling task B52 PRECH)

- Q.1** Carcass dressed weight (in pounds) - Estimate the dressed weight of the carcass in pounds (Dressed weight refers to the carcass weight taken at the scale at the cooler, and affixed to each carcass.) Use whole numbers only - round up to the nearest whole number.
- Q.2** Were you able to collect the pre-chill and pre-evisceration samples from the same carcass?
Yes
No
- Q.2a** Provide an explanation for why the pre-chill and pre-evisceration samples were not collected from the same carcass.
- Q.3** Does the establishment use any pre-chill interventions (choose all that apply)?
Steam vacuum (hand held steam vacuum) (temperature specific)
Lactic acid carcass wash cabinet
Acetic acid carcass wash cabinet
Peroxyacetic acid (PAA) carcass wash cabinet
Hypobromous acid carcass wash cabinet
Lactic acid carcass hand-held application
Acetic acid carcass hand-held application
Peroxyacetic acid (PAA) hand-held application
Hypobromous acid hand-held application
Other antimicrobial carcass wash (cabinet or hand-held application)
Steam cabinets
Hot water carcass wash (temperature specific)
Trimming
Chlorinated water
None
Other
- Q.4** If 'other' selected for pre-chill interventions, describe the 'other' pre-chill interventions here:
- Q.5** How long (in minutes) after the last intervention was applied on the kill floor was the carcass sampled? Use the format MM:SS, e.g., 3 minutes 20 seconds would be entered as 03:20).
- Q.6** How long (in minutes) was the carcass in the cooler prior to sampling? Use the format MM:SS, e.g., 3 minutes 20 seconds would be entered as 03:20).
- Q.7** Were you able to sample the carcass prior to the application of any interventions in the cooler?
Yes
No

- Q.8 Select all interventions that were applied in the cooler prior to sampling.**
 Lactic acid (LAA)
 Acetic Acid (AA)
 Lauramide arginine ethyl ester (LAE)
 Acidified sodium chloride (ASC)
 Hypobromous acid
 Peroxyacetic acid (PAA) (trade names: Inspexx, Microtox, other)
 Other
- Q.9 If 'other' selected for interventions that were applied in the cooler prior to sampling, describe the 'other' interventions here:**
- Q.10 Specify total number of employees on this shift (approximate number of employees as best you can, e.g., 1, 2, 25, 100, 200):**
- Q.11 Does the establishment have written sanitary dressing procedures?**
 Yes
 No
- Q.12 Does the written program contain any of the following procedures that the establishment will perform to prevent contamination from occurring at each step of the dressing process (e.g., live, receiving/holding sticking, and hide removal)?**
 The establishment trains its employees on their written sanitary dressing procedures
 The establishment monitors whether its employees are consistently performing the sanitary dressing procedures as written
 The establishment maintains records on their sanitary dressing procedures
 The establishment verifies that its sanitary dressing procedures are effective
 Other
- Q.13 If 'other' selected for 'procedures the establishment will perform to prevent contamination from occurring at each step of the dressing process', describe those other procedures here:**
- Q.14 Which steps in the slaughter process does the written program address?**
 Live receiving/holding
 Sticking
 Hide removal
 Bunging

Brisket opening
Head removal
Rodding the weasand (esophagus)
Evisceration
Carcass splitting
Head and cheek meat processing
Chilling
None of the above

Q.15 How does the establishment verify that its sanitary dressing procedures are effective?

Conducting carcass audits (carcass audits mean the establishment observing a set number of carcasses for visual carcass defects, e.g., fecal contamination, at points in the slaughter process where carcasses are vulnerable to contamination)

Relating carcass testing results to the effectiveness of its sanitary dressing/slaughter operation

Relating trim testing results to the effectiveness of its sanitary dressing/slaughter operation

Relating other raw ground beef component testing results to the effectiveness of its sanitary dressing/slaughter operation

Relating ground beef testing results to the effectiveness of its sanitary dressing/slaughter operation

Establishment does not verify sanitary dressing procedures

Other

Q.16 If 'other' selected for 'how does the establishment verify that its sanitary dressing procedures are effective', describe 'other' here:

Q.17 Does the written sanitary dressing plan contain the following?

Microbiological sampling procedures

Establishment process criteria

None of the above

Q.18 Approximately how many employees perform sanitary dressing tasks on this shift (approximate number of employees as best you can, e.g., 1, 2, 25, 100, 200)?

Q.19 Of employees who perform sanitary dressing tasks, approximately how many employees are trained in performing the written sanitary dressing procedures tasks (e.g., 0, 1, 2, 10, 100, 200 - approximate the number of employees as best you can)?

Number of employees (enter number in prompt) - If selected, answer the following question Q.19a

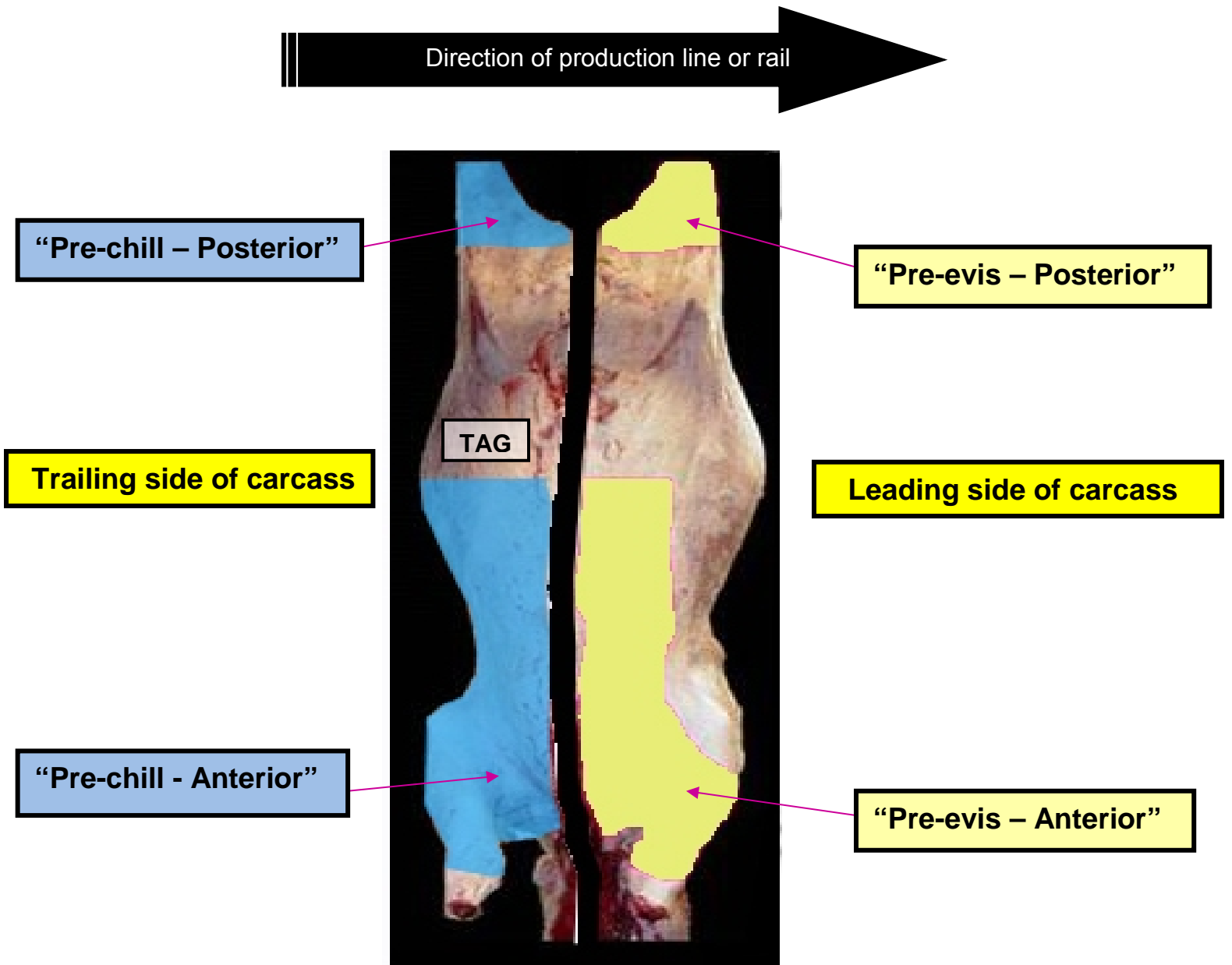
Cannot determine based on available records or my observations

Q.19a Enter number of employees on this shift:

Q.20

What is the sample form number for the post-hide/pre-evisceration (B52_PSTHR) sample in this sample pair? (Once both sampling tasks have been assigned and scheduled, you should be able to view a draft version of the sample form. This draft form contains a form number. Record the sample request form number of the companion post-hide/pre-evisceration (B52_PSTHR) sample collected from the same shift.)

Attachment 5. Determining the Leading and Trailing Sides of the Carcass



Attachment 6. Post-hide removal/Pre-evisceration Options

A key factor in determining where to collect the post-hide removal/pre-evisceration sample is whether the establishment applies interventions during the hide removal process and, if so, where in the dehiding process the establishment applies interventions. The objective of the post-hide removal/pre-evisceration sampling is to collect pre-evisceration samples before the establishment applies interventions. If the establishment does not apply interventions during the hide removal process, supervisory inspection personnel are to collect the sample as shown in Option 1, after the establishment has completely removed the hide but prior to evisceration and the application of any pre-evisceration interventions. If the establishment applies interventions during the dehiding process, supervisory inspection personnel are to collect pre-evisceration samples before the establishment applies interventions. This means supervisory inspection personnel will collect the posterior pre-evisceration sample at a different sampling location on the slaughter floor than they collect the anterior pre-evisceration sample as described in options 2 and 3.

Option 1: If the establishment does not apply interventions during the hide removal process, supervisory inspection personnel are to collect the posterior and anterior post-hide removal/pre-evisceration samples after the hide has been completely removed from the carcass but before the application of any interventions (e.g., washing or steam vacuuming) and prior to evisceration. If the establishment applies interventions during the hide removal process, supervisory inspection personnel are to consider options other than Option 1.



Carcass completely dehidied

Option 2: If the establishment does not apply interventions until after the establishment rumps the carcass, supervisory inspection personnel are to collect the posterior pre-evisceration sample after rumping and before the establishment applies interventions (e.g., washing or steam vacuuming). In this situation, supervisory inspection personnel would collect the anterior pre-evisceration sample at a different location on the slaughter floor, i.e., after the hide puller and prior to the application of any interventions and before evisceration.



Carcass has been rumped

Option 3: If the establishment applies an intervention after the first legger, supervisory inspection personnel are to collect the posterior pre-evisceration sample after first legging but before the establishment applies any interventions (e.g., steam vacuuming and washes). In this situation, supervisory inspection personnel would collect the anterior pre-evisceration sample at a different location on the slaughter floor, i.e., after the hide puller and prior to the application of any interventions and before evisceration.



Carcass after the first legger

For posterior and anterior samples where the sampling area (4000 cm², for beef and 2000 cm² for veal) has not been fully exposed, supervisory inspection personnel are to be aware that FSIS does not expect the establishment to alter its HACCP plan, interventions, or skinning strategies to collect baseline samples. Although the ideal sample would be taken prior to interventions, the entire surface area of the carcass must be exposed and swabbed in order for a sample to be properly collected.

If supervisory inspection personnel are unable to swab the entire sampling area prior to interventions, they will have to wait until after the interventions are applied and document this in B52_PSTHR PHIS Questionnaire, specifically questions 11, 12 and 13. Follow-up questions 11a through 11hh allow the sample collector to document what interventions were used and where they were applied.

Attachment 7. Hide-on Processing

This photo shows hide-on processing. Hide-on processing involves dressing cattle with the hide-on. Supervisory inspection personnel are to use this photograph to determine whether the establishment performs hide-on processing and then document the procedure in the PHIS Questionnaire - Post-hide removal/Pre-evisceration Questions (Sampling task B52 PSTHR), specifically question 4a.

