Sampling Instructions for

**Raw Ground Beef for *E. coli* O157:H7, O26, O45, O103, O111, O121, O145**

For use with MPID-Form 27.5b

1. **Prior to Sample Collection**
2. **Check contents of shipper upon arrival**. The shipper should contain:

 Foam Plug

 Request for Sampling Form

 FedEx US Airbill

 2 ice packs

 Cardboard mat

 Large Plastic Bag (to place sample box into prior to placing in the establishment’s cooler)

 2 sample security seals

2 sterile Whirl-pak bags

If the establishment cannot provide this sample in final packaged form as discussed in **Section V. Sampling Procedures** you will need to obtain the following supplies as well: caddy and sterile gloves issued by NCDA&CS MPID Raleigh Office.

1. Contact the Raleigh Office at [MPIDSampling@ncagr.gov](mailto:MPIDSampling@ncagr.gov) immediately if you are missing supplies, if your gloves become contaminated, if there is not a security seal on the outside of the box or it shows evidence of being tampered with. The microbiologist places a seal on the outside of the shipping container before it is shipped from the lab.
2. Freeze the ice packs at least 24 hours before sample collection. In the hot summer months, be sure to have at least two (2) pre-frozen ice packs on-hand to ship with samples to prevent sample rejection.
3. Pre-chill the open shipping container in a cooler or refrigerator at least 24 hours prior to sample collection. Place the box in the enclosed bag before placing the shipping container in a cooler or refrigerator at the establishment. The shipping containers can get dirty during shipment to and from the laboratory. The bag will hopefully keep the shipping container from introducing any contaminants into the establishment’s cooler. This should also assist in reducing moisture damage to the boxes.
4. Place all other materials in a secure location until sample collection.
5. Inspectors should notify their supervisor and email [MPIDSampling@ncagr.gov](mailto:MPIDSampling@ncagr.gov) when a sample cannot be collected during the scheduled timeframe as soon as made aware. They should hold onto the lab supplies and collaborate with Ashleigh and Lisa for the next available collection date.

# II. Procedures for Establishment Notification of Upcoming Sample Collection

1. When inspection personnel are rotated into an unfamiliar establishment, they are to discuss sampling with the establishment during a weekly meeting. As part of this discussion, inspection personnel are to determine how much notice to give the establishment before collecting a sample.
2. Provide establishment management sufficient notification of the sample collection and provide them enough time to hold the sampled lot, but not enough time to alter the process.
   1. As per FSIS Directive 10,010.1, IPP are to:
      1. “Provide 1 days’ notice if such advance notice is sufficient for the establishment to hold the sampled lot. IPP may also provide 2 days’ notice, if necessary. The amount of time needed for the establishment notification is not to impede FSIS’s ability to conduct verification activities that are representative of the establishment’s actual production practices. If less than 1 day’s advance notice would not cause hardship for the establishment, IPP may provide less than 1 days’ notice.
      2. Consider establishment requests for more than 2 days’ notice before collecting the sample based on the establishment’s product and process flow. In some cases, based on this consideration, IPP may agree that more than 2 days’ notice is necessary. For example, if an establishment makes case-ready product and requests that the inspector give a notice of 2 days before taking a sample, the inspector is to accommodate this request to allow the establishment to adjust production levels to fill its orders but still hold the sampled lot.”
3. If IPP have questions about an establishment’s basis for requesting more notice, they are to discuss their concerns with their supervisor.
4. Inform establishment management of the reason that a sample is being collected (*e.g*., routine monitoring, or follow-up sampling in response to a STEC (*E. coli* O157:H7, O26, O45, O103, O111, O121, O145) positive result. Also, inform the establishment that it is required to hold or maintain control of the sampled lot when MPID collects samples for STEC until negative results become available. Negative laboratory results will be available within 48 hours. Positive or inconclusive results will require laboratory work that may take a week or more.

# III. Determination of the Establishment’s Sampled Lot

1. The cleanup-to-cleanup logic alone for defining affected product is no longer appropriate in E. coli O157:H7 and other STEC testing.
   1. If the establishment uses the same source material on multiple days, and a sample is collected from one of the production days and tests positive for E. coli O157:H7 or the other STECs, all product produced from that same source material is considered to be adulterated. In other words, not only the shift’s production that was sampled is adulterated, but also all product produced from the same source material is adulterated. This is the reason why advance notification may be necessary to facilitate holding of the entire lot, including the same source material.
2. The cleanup-to-cleanup procedure would apply when changing from one identified lot (all from the same source material) to another lot (from different source material). This would then identify the second lot as not being product from the “sampled” lot.

# IV. Collection of Sample

1. Inspection personnel are only to collect samples, when directed.
2. Samples eligible for verification sampling include:
   1. All raw ground beef, hamburger, ground veal, veal or beef patties.
   2. Products not mentioned in a. above that meet the standard of identity in 9 CFR 319.15.
   3. Other raw beef products that do not meet the standard of identity in 9 CFR 319.15, but are produced similarly:
      1. Raw ground beef products with added ingredients (i.e., beef patty mixes)
      2. Ground beef with one or more different species, but beef is the predominant species (i.e., finished ground product is comprised of greater than or equal to 50 percent beef)
      3. A not-ready-to-eat (NRTE) ground product that receives a heat treatment, but is not fully cooked (e.g., heat-treated, but not fully cooked char-marked beef patty, and chicken fried steak)
3. Collect the sample at any randomly selected day, shift, and time within the scheduled sample collection time frame.

# V. Sampling Procedures

1. When possible, product eligible for this sampling procedure should be collected in its final packaged form. Use the procedures starting in Part 2. of this section if product can be collected in its final packaged form. Reference Part 3. of this section if product cannot be collected in its final packaged form.
   1. If the establishment only packages product in containers larger than one pound, the establishment may short-weight or slack-fill a container. In such cases, the sample must be produced in the same way as the rest of the product it represents; the only difference would be the size of the package.
   2. If the finished product will not fit into one of our standard shipping boxes (even if it is slack-filled), please call the Raleigh Office. Broken or unlabeled containers will not be accepted.
2. For product collected in its final packaged form use the below procedures for collection:
   * 1. Collect a one-pound sample of the product chosen to be sampled as per section IV. of this document. The sample should be from the current day’s production.

NOTE: Fresh, not frozen products should be collected for STEC sampling. Frozen product should only be collected if the establishment has a critical control point (CCP) for freezing within its HACCP system, and freezing is an active process that achieves a reduction in STEC.

* + 1. Place the sample in its final packaging in one of the Whirl-pak bags provided by the lab.
       1. To open the Whirl-pak bag, remove the tear strip from the top, grasp the two small white tabs and pull apart.
       2. Once the sample is placed in the Whirl-Pak bag, close it by folding the top of the bag down a few times, and folding the wire attached to the bag inward against the bag.
       3. Place the small security seal over the top, so that the seal is sticking to the sides of the bag and over the top of the fold.
    2. See section VI. Packing and Shipment of Sample for additional packing and shipping procedures.

1. If collecting the sample in final packaged form is not possible (i.e., if the establishment only packages in bulk, the package is too large, and/or a slack-filled package is unavailable) use the below procedures for collection:
   * 1. Wash and dry your hands.
     2. Sanitize the caddy before collecting the samples by using the establishment’s sanitizing solution according to label instructions. If the establishment uses hot water only, then inspection program personnel are to also use hot water to sanitize sampling equipment.
     3. Remove the sterile gloves from their exterior packaging and set to the side. Do not remove them from the most interior packaging at this point.
     4. Open the sterile Whirl-pak bag. To open, remove the tear strip from the top, grasp the two small white tabs and pull apart. Do not touch the interior surface of the bag. Place the bag in the caddy and close to the area where you will take the samples.
     5. Place the sterile gloves on your hands in an aseptic manner. IPP are to maintain sanitary conditions after putting the gloves on; nothing should be touched except for the caddy and Whirl-pak bag.
     6. Aseptically collect grab samples of the raw ground product.
     7. Collect a one-pound sample of the product chosen to be sampled as per section IV. of this document. The sample should be from the current day’s production. Fill the Whirl-pak bag, as necessary, to obtain one-pound of product; do not under-fill or over-fill the bag.

NOTE: Fresh, not frozen products should be collected for STEC sampling. Frozen product should only be collected if the establishment has a critical control point (CCP) for freezing within its HACCP system, and freezing is an active process that achieves a reduction in STEC.

* + 1. Close the Whirl-pak bag by folding the top of the bag down a few times, and folding the wire attached to the bag inward against the bag.
    2. Place the closed Whirl-pak bag in the clear plastic bag provided to you by the lab. Fold the top of the clear plastic bag over a couple of times and place the small security seal over the top, so that the seal is sticking to the sides of the bag and over the top of the fold.

1. Refrigerate the sample until it is packed for shipping. IPP should ensure that sample integrity and security is maintained at all times.

**VI. Packing and Shipment of Sample**

1. **Complete the applicable section(s) of the request form MPID Form 27.5b**, **"Shiga Toxin-Producing E. coli Testing for Raw Ground Beef."**
   1. Fill in the Inspector Name, Collection Date, Shipping Date, Production Date, Production Lot Code, Production Volume, along with the establishment’s Contact Name and Phone Number or Email. Check Yes or No to indicate whether product is being held.
2. **Complete** **the pre-addressed FedEx US Airbill. Attach the completed Airbill to the exterior of the sample box.** The directions are attached to the Airbill.
3. **Place the sample and other contents in the pre-chilled shipper in the following order**:
   * 1. Place ice packs in the bottom of the shipper.
     2. Prevent the sample from coming into direct contact with the ice packs by placing the cardboard mat on top of the ice packs.
     3. Add the sample.
     4. Place the styrofoam plug on top.
     5. Place the completed Request for Sampling Form on top of the styrofoam plug.
     6. Use the second security seal to seal the inside flap of the shipping container. Your sample will not be processed by the laboratory without the appropriate seals affixed! See the [MPID Notice](https://www.ncagr.gov/meat-poultry-inspection/notices) entitled Instructions for Use of Sample Seals.
     7. Close the shipping container using the velcro tabs.
4. If a sample must be held overnight, it should be refrigerated. Refrigerate the sample until it is packed for shipping. Samples must be picked up by FedEx on the same day that the sample is collected. Samples must be analyzed on the day after collection. If a sample is not shipped on the same day that it is collected, or if the sample is not received by the laboratory on the day following collection, the sample cannot be used for bacterial testing and will be discarded.
5. Samples should not be shipped until the establishment has performed all interventions, except for any intervention that is based on microbiological test results. Ship the sample as soon as FedEx service is available (see below).
   1. By **noon** on the day of collection, **arrange for FedEx to pick up the sample** by calling 1-800-Go FedEx (1-800-463-3339).
   2. Samples collected **before** FedEx pickup Monday through Thursday should be refrigerated until shipped the same day.
   3. Samples collected **after** FedEx pickup Monday through Wednesday should be held refrigerated and shipped the next day.

**NOTE**: Samples should **not** be collected and shipped the day before a State Holiday or on a Friday. They will be discarded.

**VII. Documentation of Sample Collection in PHIS**

1. Inspection personnel are to gather information regarding the source materials and suppliers at the time of sample collection. See Attachment 1.
2. Inspection personnel are to document the information as collected per Attachment 1 in a MOI and provide establishment management with a copy.

**VIII. Microbiological Sampling Frame Update Form**

1. Inspection personnel, when becoming aware that an establishment begins producing or permanently ceases production of a product mentioned in section **IV.** of this document:
   1. IPP should review [MPID Form 6c](https://www.ncagr.gov/meat-poultry-inspection/MPID6C/download?attachment) (Microbiological Sampling Frame Update Form) and decide if changes need to be made to the form, considering the one previously submitted to the Raleigh Office.
      1. If no changes are needed, no further actions need to be taken.
      2. If changes are needed, IPP should contact their Area Supervisor, discuss the potential changes, complete the form and email it to Ashleigh Austin and Lisa Benton.

**NOTE**: See the [MPID Notice](https://www.ncagr.gov/meat-poultry-inspection/notices) entitled Microbiological Sampling Frame Update for State Inspected Plants, for more information.

**Attachment 1 - As found in FSIS Directive 10,010.3**

**Supplier and Source Material Information for the Sampled Lot Collected by IPP at the Time of**

**Ground Beef or Bench Trim Sample Collection**

A. Supplier information used in the production of the sampled lot if the establishment produces the source materials in-house:

1. Confirmation exists that it was produced in-house (establishment name and number);

2. Lot numbers or slaughter dates;

3. Production dates including slaughter production days if available;

4. Name of the beef components used in the production of the sampled product (e.g., beef trimmings, subprimal cuts, beef hearts, veal trimming, weasand, head or cheek meat) or any information that clearly identifies the source material used;

5. Information on the label of the source product; and

**NOTE**: IPP can keep the actual label from empty packages.

6. Approximate amount of the beef component produced in each lot (in lbs).

B. Supplier information from each supplier used in the production of the sampled lot if the establishment

uses the source materials from a domestic outside source:

1. Establishment name and number;

2. Establishment phone number;

3. Establishment point of contact:

a. Name;

b. Title;

c. E-Mail address; and

d. Fax number:

4. Supplier lot numbers or slaughter dates;

5. Production dates;

6. Name of the beef components used in the production of the sampled product (e.g., beef trimmings, subprimal cuts, beef hearts, veal trimming, weasand, head or cheek meat or any information that clearly identifies the source material used). Collect information from the label of the product; and

**NOTE**: IPP can keep the actual label from empty packages.

7. Approximate amount of the beef component produced in each lot (in lbs).