MSA DIRECTIVE	10,010.1 Rev. 5	2/1/2024

SAMPLING OF LOW PRODUCTION VOLUME RAW GROUND BEEF ESTABLISHMENTS FOR *SALMONELLA, ESCHERICHIA COLI* O157:H7 AND NON-O157 SHIGA TOXIN- PRODUCING *ESHCERICHIA COLI*

I. PURPOSE

A. This directive provides instructions to Inspection Program Personnel (IPP) on how to submit samples for *Salmonella*, *E. coli* O157:H7 and Non-O157 Shiga toxin- producing *E. coli* (Non-O157 STEC) testing at establishments producing low volumes of raw ground beef product, raw beef trimmings, and other non- intact, not-fully-cooked products containing predominantly beef. In the event of conflicting guidance, this notice supersedes any previous guidance. This notice instructs IPP to record information on the source materials and on the suppliers at the time they sample ground beef, beef trimmings or other non- intact, not-fully-cooked products containing predominantly beef for *E. coli* O157:H7 and Non-O157 STEC. IPP are to no longer wait for a positive test result before they gather supplier information. These instructions will better serve Texas Department of State Health Services Meat Safety Assurance (MSA) goal to respond to MSA presumptive positive results by identifying all affected product and all potential suppliers as quickly as possible to protect public health. IPP are to have knowledge of the establishment's production practices which includes knowledge of the establishment's raw beef supplier base.

B. This directive provides updated instructions to IPP for sampling beef manufacturing trimming, bench trim and certain follow-up sampling projects with the cloth sample collection method instead of N60 excision sampling.

II. BACKGROUND

Due to the unique nature of typical business practices of Texas meat producing establishments as well as other internal programmatic factors, the Texas Meat and Poultry Inspection Program (MPI Program) has determined that it can better protect the public health of the Texas public by expanding the range of products subject to sampling as well as expanding testing for those products to include testing for

Salmonella, *E. coli* O157:H7 and Non- O157 Shiga toxin-producing *E. coli* (Non-O157 STEC). The frequency will be determined by the annual production volume and will be a cumulative total of all sampling categories. The sampling will target source materials. In the event that source materials can't be submitted then the inspection staff will submit finished product.

III. REFERENCES

9 CFR §§310.25(b) and Part 417

IV. SAMPLING PRINCIPLES

1. Inspectors will utilize the cloth sample collection technique for raw beef sampling unless otherwise instructed.
2. When a product sample is requested, Inspectors must collect a minimum of 400g of product per raw beef sample.
3. Samples will be from a single source whenever possible. However, an establishment's decision to comingle material from multiple sources shall not prevent MSA from meeting sampling objectives.
4. Samples will be obtained from source material using the cloth sample collection technique. However, if source material is not obtainable, a finished product sample of ground beef may be substituted to meet sampling objectives attributable to an establishment's ground beef production.
5. Inspectors should attempt, whenever possible, to vary the source material sampled throughout the sampling year to include a variety of types of source materials reflective of the portion of the total samples attributed to that corresponding source type in Appendix A of this document. However, should that not be possible due to unavailability, an alternative source may be sampled in order to meet sampling objectives.
6. Inspectors will follow cloth sample collection techniques in an attempt to sample throughout the source material lot represented by the sample. For example, if an establishment has 6 boxes of source material from the same lot on hand, the inspector should use the cloth sample collection method to sample parts of each box of the source material.
7. Inspectors must utilize proper sample collection techniques and avoid cross-contamination of any sampled product.

Note: If an establishment utilizes an intervention on their source material, the sample should be taken after the intervention and only source material that received the intervention would be subject to being included in the sample.

V. SAMPLING FREQUENCY

The MSA-67 Sampling Information worksheet for each establishment will determine sampling frequency. Circuit Management personnel will notify the MSA Central Office in the event of significant production changes.

1. Establishments producing **Raw Ground Beef** products are subject to the following sampling frequencies based on their annual production volume.

    i. 5,000,001+ lbs annually: 6 samples
    ii. 250,001-5,000,000 lbs annually: 5 samples
    iii. 100,001-250,000 lbs annually: 4 samples
    iv. 50,001-100,000 lbs annually: 3 samples
    v. 25,001-50,000 lbs annually: 2 samples
    vi. 1-25,000 lbs annually: 1 sample
    vii. 0 lbs annually: 0 samples

2. Establishments producing **Raw Beef Manufactured Trimming** - Trimmings produced at a slaughter establishment only and to be sold as trimming or used at the slaughter establishment to produce raw Non - Intact Product are subject to the following sampling frequencies based on their annual production volume.

    i. 250,001+ lbs annually: 3 samples
    ii. 100,001-250,000 lbs annually: 2 samples
    iii. 1 -100,000 lbs annually: 1 sample
    iv. 0 lbs annually: 0 samples

    NOTE: Raw beef esophagus (weasand) meat, head meat, cheek meat, and/or hearts receiving the same interventions as the carcass from which trim described above is derived may be sampled under this category.

3. Establishments producing **Raw Beef Components Other Than Trim** - Components include raw beef esophagus (weasand) meat, head meat, cheek meat, hearts, beef from advanced meat recovery (AMR) systems, and low temperature rendered products such as lean finely textured beef (LFTB), partially defatted chopped beef (PDCB) and partially defatted beef fatty tissue (PDBFT) that were produced from cattle slaughtered at the establishment are subject to the following sampling frequencies

based on their annual production volume.

i. 250,000+ lbs annually: 2 samples
ii. 1 -250,000 lbs annually: 1 sample
iii. 0 lbs annually: 0 samples

NOTE: Raw beef esophagus (weasand) meat, head meat, cheek meat, and/or hearts receiving the same interventions as the rest of the carcass will be sampled under the Raw Beef Manufactured sampling program.

4. Establishments producing **Raw Beef Bench Trim** - Trimming from products derived from cattle not slaughtered at the establishment are subject to the following sampling frequencies based on their annual production volume.

i. 250,000+ lbs annually: 2 samples
ii. 1 -250,000 lbs annually: 1 sample
iii. 0 lbs annually: 0 samples

VI. INSPECTION PROGRAM PERSONNEL RESPONSIBILITIES FOR SAMPLING

IPP are to collect samples as described below:

A. IPP are to watch the cloth sampling training video on IPP help found here: https://www.youtube.com/watch?v=bSvXxUOlQ5g

B. Prior to sampling, IPP should advise establishment personnel to the potential public health implications of receiving a positive sample result. IPP should also recommend that establishment personnel voluntarily hold lots, represented by sampled products, until negative sample results are obtained.

C. Prior to sample collection, IPP are to complete the following steps to maintain proper temperature during sample collection and shipment:

1. Pre-chill nBPW at least twenty-four (24) hours prior to taking sample by placing it in refrigerated storage(where the supplies will remain under MSA control);

2. Place gel coolant packs into the freezer for at least 24 hours before sample collection; and

3. Pre-chill shipping containers by placing the pre-frozen gel pack(s) on top of the absorbent pads. The absorbent pads are used to line the bottom of the shipping containers.

NOTE: IPP are not to freeze nBPW or the sample.

D. MT60_C and MT65_C Sample Procedure

1. IPP are to wash and dry hands to the mid-forearm;

2. IPP are to remove the clear, perforated plastic shrink wrap from the tube of nBPW and set the nBPW aside;

3. Prior to gloving and without touching the cloth, IPP are to drop the folded cloth onto the surface of the product using the following procedures (see photos below).

   - Open the bag by removing the perforated strip at the top of the bag. Pull the tabs to open the wire mouth of the bag wide. Once the bag is open invert the bag to drop the cloth and allow the dry cloth to drop onto the surface of the product. If the cloth does not come out of the bag, IPP are to use one hand (on the outside of the sample bag) to push the dry cloth to the top of the sample bag and then invert again. Do not touch the cloth with bare hands.

Invert the bag, push the cloth to the top of the sample bag if needed, and allow the cloth to drop onto the surface of the combo

- Place the empty plastic outer bag in an upright position on a clean, sanitary surface such as a sample caddy/tote or table within suitable distance of the sampling area. This positioning will facilitate placement of the cloth back in the bag once the sampling procedure is complete;

4. Put on arm sleeves and non-sterile gloves over the sleeves. Using an alcohol-based spray sanitizer, IPP are to sanitize gloved hands and plastic sleeves simultaneously. Ensure there is no excess sanitizer on the gloved hands or forearm sleeves before touching the cloth and beginning the sampling procedure;

NOTE: IPP are to order sanitizer from the MSA Central Office in advance of collecting samples.

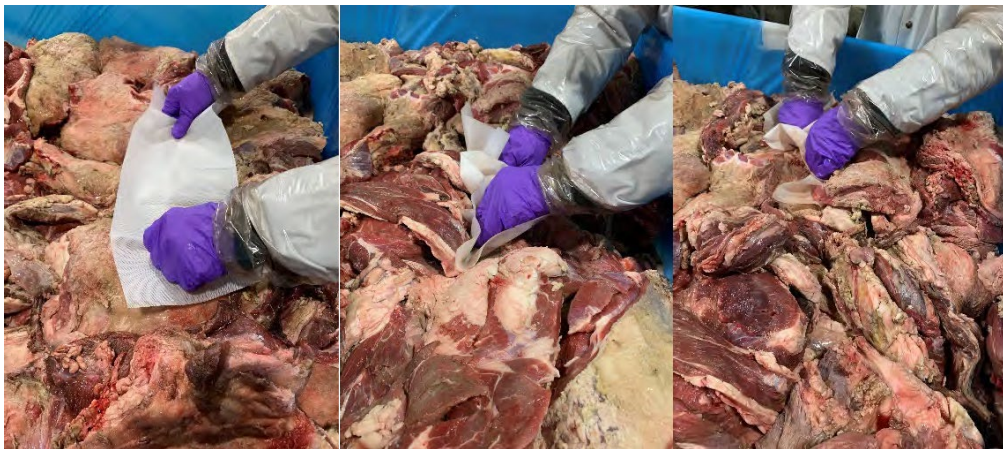
5. IPP are to maintain sanitary conditions after sanitizing gloved hands and forearm sleeves. Do not touch anything except for the cloth;

6. To perform this sampling procedure, after gloving and sanitizing as described above, IPP are to unfold the cloth, which is laying on top of the product in the combo/box;

7. IPP are to visually identify a point on the combo to begin and end the sampling procedure because IPP will move around the combo in a uniform manner to massage the entire surface of the combo;

8. Once a starting point for sampling has been identified, IPP are to tightly grasp the cloth with both hands. While using both hands, IPP are to apply downward pressure to vigorously massage the surface area of the product with the unfolded cloth;

9. IPP are to vigorously massage the surface of the beef trim, including the spaces and crevices between meat pieces, to ensure as much of the product surface area is sampled as possible;



Move uniformly around the perimeter of the combo, vigorously massaging the surface area and the space between the meat pieces

10. IPP are to use one side of the cloth to massage half of the combo;

11. At a point halfway around the combo, IPP are to flip the cloth and use the second side of the cloth to vigorously massage the remaining half of the combo until reaching the point in the combo where the sampling procedures started;

12. The total sampling time will be a minimum of 1.5 minutes per combo bin. IPP are to vigorously massage for a minimum of 45–60 seconds per side of the cloth to ensure a thorough sample collection (total sampling time of 1.5-2 minutes);

Cloth after sampling will be damp and have picked up juices and bits of meat pieces when the collection is completed.

*Fold cloth along original fold lines, then **add 2 additional folds***

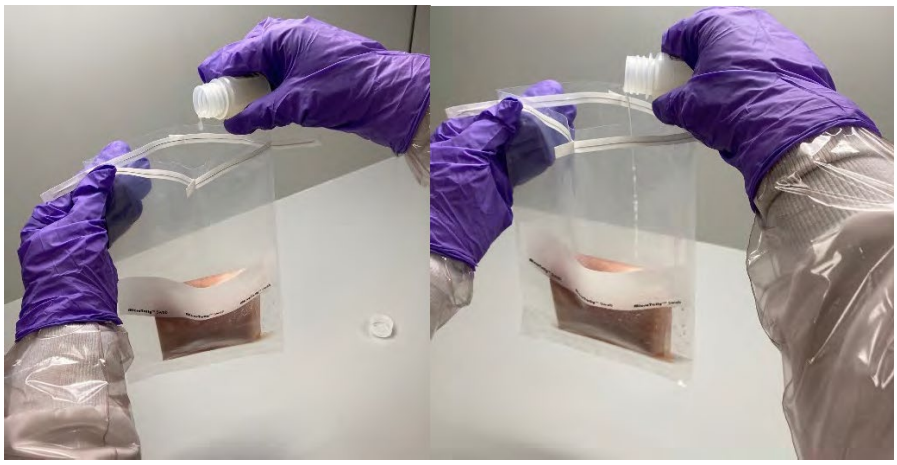
13. When the sampling procedure is complete, IPP are to re-fold the cloth following the original fold lines in the cloth and then add **2 additional folds** to the cloth—the 2 additional folds will assist with placing the cloth into the sample collection bag. As indicated in the photo above, the cloth is to be folded while resting on the meat product in the combo;

14. Once folded, IPP are to return the cloth to the original clear plastic sample roll top bag;

15. Next, IPP are to carefully open the nBPW tube and aseptically pour the pre-chilled nBPW into the open bag. IPP are to ensure that the tube does not touch the inside of the bag. The tube is not

to be inserted into the bag; only the buffer should contact the inside of the bag.

NOTE: IPP are to be aware that FSIS laboratories will discard samples with the reason, *Sampling Instructions Not Followed*, if nBPW is not used.



Pour the sterile nBPW into the roll top bag

Properly folded cloth with nBPW

16. IPP are to discard the empty nBPW tube.

17. IPP are to use gentle pressure on the outside of the roll top bag to push the cloth down into the nBPW and remove excess air from the bag;

18. IPP are to close the roll top bag and roll/fold the top of the bag down at least 3 times to prevent leakage. IPP are to fold in the wire tabs to secure the bag and prevent leakage; and

Insert bagged cloth into a bag for shipping.

19. IPP are to package the roll top bag containing the cloth in the box or insulated envelope for shipping.

VII. RESPONSE TO CONFIRMED POSITIVE TEST RESULTS AND REPORTING TEST RESULTS

1. All final sample results will be reported to the establishment by providing a printed copy of the final lab report. Providing the sample report to the establishment will be documented in the MOI generated as part of the next weekly meeting.

2. If a sample is positive for *E. coli* O157:H7 and/or Non-O157 STEC, inspection personnel will immediately take a regulatory control action to Retain all potentially implicated product, then proceed as directed by their manager or the MSA Central Office

    i. Follow up for positive *E. coli* O157:H7 and/or Non-O157 STEC
        a. Was product shipped? If yes, a recall will be needed. If no, place Retain Tag on products and wait for

further instructions.

b. Inspector - Schedule and Perform a directed HAV Task and start a follow up set of 8 additional samples. After the follow up set has been completed, resume routine sampling as directed based on the MSA-67.
c. MSA Central Office - Schedule a For Cause - Food Safety Assessment (FSA).

3. If a sample is positive for *Salmonella*, inspection staff should inform the establishment of the positive test and the potential sanitation implications of a positive test for *Salmonella*. This should then be documented on a MOI at the next weekly meeting.

VIII. IPP RESPONSIBILITIES FOR GATHERING SUPPLIER INFORMATION

A. IPP are to gather the supplier information at the time they collect a sample.

B. IPP are to gather the supplier information following the instructions in MSA Directive 10,010.3, "*Traceback Methodology for Escherichia coli (E. coli) O157:H7 in Raw Ground Beef Products and Bench Trim*".

IX. QUESTIONS

Refer questions through supervisory channels.

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