



LABORATORY TESTING OF NON-FEDERAL PURCHASED COMMODITIES

PURPOSE

This document sets forth U.S. Department of Agriculture (USDA), Agricultural Marketing Service (AMS), Quality Assessment Division (QAD) policies and procedures for the selection, collection, preparation, shipment, and fees of product samples requiring laboratory testing.

POLICY

It is USDA policy to analyze products for the presence of microbiological organisms, fat and/or salt content when specified by the contract, specification and/or purchaser. This Instruction applies to all products requiring laboratory testing with the exception of USDA purchased product for the National School Lunch Program for which the sampling, preparation, shipment, and testing has been specified in USDA Technical Requirements Schedules and the contractor's approved technical proposal.

AMS' Science and Technology Program's (S&T) National Science Laboratories (NSL) will conduct laboratory testing for USDA certified products. Applicants agree to the testing methods used by S&T's NSL as identified on their website at <https://www.ams.usda.gov/services/lab-testing/nsl>, and to the fees charged for their services. Applicants should contact the S&T NSL (see contact information below) for more information on the NSL fee schedule.

For all non-federal purchased products requiring laboratory testing, it is the policy of the QAD to select samples in accordance with universally recognized protocols, maintain sample integrity, and ensure that samples are prepared for laboratory testing in accordance with the Association of Official Analytical Communities (AOAC) International (QAD 610E: Exhibit), [the Food and Drug Administration Microbiological Analytical Manual \(BAM\)](#), and the appropriate chapter of the Compendium of Methods for the Microbiological Examination of Foods (current edition) published by the American Public Health Association. E. coli O157:H7 samples will be tested using the referenced test method within the [USDA/FSIS Microbiology Laboratory Guidebook, 3rd Edition/1998, Chapter 5](#).

REFERENCES

The following referenced documents are used for the application of this document. The latest edition of the referenced document (including any amendments) applies.

[QAD 610A Exhibit: National Science Laboratory FRM - 400](#)

[QAD 610B Exhibit: National Science Laboratory FRM - 301](#)



[QAD 610C Exhibit: National Science Laboratory FRM 301 Instructions](#)

[QAD 610D Exhibit: Official USDA Meat Grading Sample Bag](#)

[QAD 610E Exhibit: AOAC Official Method 983.18](#)

SCOPE

This procedure applies to any applicant who supplies products as a contractor or subcontractor which requires laboratory testing, **but does not have specified** sampling procedures in contracts, specifications, schedules, technical proposals, etc.

GENERAL PROCEDURES

1. **Application for Service:** If the facility does not already have a current application for service on file; the facility must complete an [LP-109 Application for Service](#) and submit to QAD.BusinessOps@ams.usda.gov.
2. **NSL Customer Agreement:** Applicant must complete and submit applicable S&T NSL documentation. Applicants please contact the S&T NSL (see contact below) regarding the documentation and procedure for submitting the documentation.
3. **Collecting Samples:** QAD agents shall follow procedures outlined below for selection, collection, preparation, and shipment of samples. Following submission of the sample QAD agents shall email QAD 610A Exhibit: NSL FRM 400 and/or QAD 610B Exhibit: NSL FRM 301 to QAD.SupportService@ams.usda.gov; and include the sample shipping date, the facility name, the program the sample was produced under and the respective Supervisor.
4. **Types of Testing:** Food Chemistry, Residue Chemistry, Microbiological, Bio-molecular, and numerous food and agricultural commodities. For specific testing capabilities and requirements, please contact the S&T NSL (see contact below).
5. **Notifying QAD and S&T NSL:** Designated QAD agents shall ensure that the laboratory testing for potential, presumptive and/or confirmed positive samples are emailed to the respective supervisor and Regional Director.
6. **Mailing:** QAD agents seal the sample with the approved sealing method, then mail to the S&T NSL.

National Science Laboratories
Laboratory Approval and Testing Division
Science & Technology Program



801 Summit Crossing Place, Suite B
Gastonia, NC 28054

Phone: (704) 867-3873 (Main)

Phone: (704) 833-1525 (Direct)

Fax: (855) 296-1230

General Email: NationalScienceLaboratories@ams.usda.gov.

Web site: <https://www.ams.usda.gov/services/lab-testing/nsi>

7. **Billing:** The cost of laboratory testing is borne by the requesting facility. S&T NSL will bill the requesting facility directly for the cost of the laboratory testing. No action is necessary on the part of the QAD agent.
8. **Notification of Results:** The S&T NSL will notify the applicant and QAD at QAD.SupportService@ams.usda.gov of the laboratory testing results. QAD Support Service, will forward the results to the applicable Supervisor, as noted on QAD 610A Exhibit: NSL FRM 400 and/or QAD 610B Exhibit: NSL FRM 301, submitted at step 3.

RESPONSIBILITIES

Contractors will:

1. Provide facilities and applicable equipment necessary for preparing samples for laboratory testing, including:
 - a. Adequate and secure freezer facilities for sample storage.
 - b. A commercial food processor, approved by the AOAC International (i.e., Robot Coupe or equivalent must be used) for USDA purchases.
 - c. A plastic or rubber spatula with a 2-inch by 4-inch blade.
 - d. Plastic bags, knives, etc.
2. Provide a plant employee trained in laboratory sampling and sample preparation procedures capable of operating and cleaning the food processing equipment.
3. Provide for Microbiological sampling:
 - a. A plant employee trained and experienced in microbiological sampling, knowledgeable of the documents referenced in the Policy section of this procedure, and capable of preparing microbial samples under the supervision of QAD agents.



- b. A Food Safety and Inspection Service (FSIS)-approved sanitary work area and sampling equipment, including a sanitized table, knives, spatulas, and other sample collecting devices.
- c. A FSIS-approved water sterilizer capable of maintaining water at a temperature of 180° Fahrenheit (F) (82.2° Celsius (C)) within easy access of the sample preparation facilities and equipment.

Note: Knives, spatulas, etc., shall not be sterilized with chemical sanitizers. Chemical sanitizers may be used to sanitize work spaces and table tops provided the area rests for a minimum of one hour prior to sample collection.

4. Pay for all shipment and testing charges for samples forwarded to the AMS' Science and Technology Program's (S&T) National Science Laboratories (NSL).
5. Select and analyze internal control samples.

Contracted laboratory will:

Provide the following supplies for submitting samples:

1. Permanent marker or pre-printed labels
2. Sterile sampling bag
3. Plastic screw cap containers
4. Commercially available gloves
5. Frozen ice packs
6. Insulated shipping container

QAD supervisors and agents at the point of production will:

1. Establish plant specific sampling protocol in the quality manual.
2. Maintain adequate sample control measures at all times to prevent tampering.
3. Ensure contractors comply with all microbiological sampling requirements of applicable QAD Procedures and other contractual requirements.
4. Approve the work area, sample collecting equipment, and related supplies.
5. Ensure that only sanitized equipment and supplies are used for sample withdrawal and preparation.



6. Monitor sample preparation.
7. Prepare the sample labels and attach to the applicable original and reserve sample jars.
8. Select and prepare samples for mailing.

QAD Office will:

1. Monitor movement of samples submitted to the contracted laboratory.
2. Ensure testing results are submitted to shipping personnel in a timely manner.
3. Manage and maintain laboratory testing files, which are accessible only to designated persons.

SAMPLE SELECTION, COLLECTION, AND PREPARATION

Microbiological Testing:

A. Sampling:

1. The contracted laboratory will analyze two pound samples for the microbial organisms specified which may include Standard Plate Count, Total Coliforms, E. coli, E. coli 0157:H7, Salmonella, and Coagulase Positive Staphylococci.
2. The contracted laboratory requires that the original two-pound micro sample and the two-pound reserve samples be placed in the provided sterile sample bags and flattened into bricks.
3. Composite samples may be obtained from any randomly selected eight boxes during the production day. Each sample should be approximately one pound. At the end of each production day, the eight one-pound samples must be composited into one sample for testing purposes. Two pounds of the composite sample should be forwarded to the laboratory for testing purposes. The compositing must be done at the plant and the final composite sent to the laboratory for testing. The laboratories will have sufficient reserve material, based on the scheme above; however, a reserve sample must be maintained by the supplier in case a retest is needed.

Note: Select an adjacent loaf, bag, chub, or patty if the primary selected sample is inadvertently contaminated during the withdrawal, compositing, and preparation process.

4. After selecting the final sample from the composite, place the reserve sample into the secure freezer facilities provided by the contractor.



B. Sample Shipment

1. Prepare the QAD 610A Exhibit: National Science Laboratory FRM – 400 and include:
 - QAD 610D Exhibit: Official USDA Meat Grading Sample Bag number.
 - QAD.SupportService@ams.usda.gov, Phone: 501-224-9201, Fax: 1-844-345-3575.
 - Applicable Supervisor's contact information.
2. Place a copy of the completed form in the side pouch of the Official USDA Meat Grading Sample Bag and close.
3. Place the original sample into the Official USDA Meat Grading Sample Bag and secure for shipment (step-by-step instructions are on the bag). If the original sample is lost or unusable, follow the same shipping instructions when sending the reserve sample.
4. Wrap the Official USDA Meat Grading Sample Bag with a paper buffer, place into the insulated shipping container, place frozen ice packs around sample and fill in the open space with paper products to ensure that the sample maintains temperature throughout shipment.
5. Securely close the insulated shipping container. Do not apply a shield stamp when sealing the insulated shipping container. Ship to the contracted laboratory at the following address:

National Science Laboratories
Laboratory Approval and Testing Division
Science & Technology Program
801 Summit Crossing Place, Suite B
Gastonia, NC 28054
Phone: (704) 867-3873 (Main)
Phone: (704) 833-1523 (Direct)
6. Ensure samples are shipped by guaranteed Next Day delivery (not 2-day) courier service. Contractors will provide return address and postage labels, so that the mailing containers can be returned.
7. Place the reserve sample(s) in a secure freezer. Reserve samples may be analyzed only when the original sample was lost; or the original sample was unsuitable for testing.
8. Return any corresponding reserve samples to the contractor once the lot has been shipped.

Fat Testing:



A. Sample Selection, Collection and Preparation

1. Randomly select 4 filled shipping containers from each lot.
2. Randomly select an area within each shipping container and collect a 2-pound sample.
3. Each sample will be homogenized with careful mixing with a spatula through a rotary knife meat grinder with plate holes of 1/8" and 4 knife blades such as the Hobart type. A second grinding, again with careful mixing with a spatula, will be performed. Alternatively, adequate results may be obtainable with a food processor or high speed vertical chopper/mixer. If this option is used, care must be taken that the ultimate sample consistency is that of a uniform paste or pâté, comparable to what would be obtainable with the grinding procedure described. Equipment should be cleaned and drip dried between each group of 4 sample units. Eight sample containers (2 from each of the four sample units) of this product will be placed in screw-capped plastic containers. Each container can hold approximately 150-200 grams.
4. Four sample containers (one from each sample unit) will be placed in a tamper proof bag and will be sent to the contracted laboratory for testing. The other four sample containers will be reserved and held in case the original samples are damaged or lost during shipment.

B. Sample Shipment

1. Complete QAD 610B Exhibit: National Science Laboratory FRM – 301 and include:
 - QAD 610D Exhibit: Official USDA Meat Grading Sample Bag number.
 - QAD.SupportService@ams.usda.gov, Phone: 501-224-9201, Fax: 1-844-345-3575.
 - Applicable Supervisor's contact information.
2. Secure the completed QAD 610B form and the original samples in the Official USDA Meat Grading Sample Bag. Follow the step-by-step instructions printed on the bag.
3. Ensure that samples are solidly frozen prior to mailing.
4. Place the Official USDA Meat Grading Sample Bag(s) into the insulated container, with frozen ice packs.
5. Securely close the insulated shipping container. Do not apply a shield stamp when sealing the insulated shipping container.



6. Ensure samples are shipped by guaranteed Next Day delivery (not 2-day) courier service. Contractors will provide return address and postage labels, so that the mailing containers can be returned.
7. Ensure samples are sent to the correct laboratory.

Ship all samples derived from plants to:

National Science Laboratories
Laboratory Approval and Testing Division
Science & Technology Program
801 Summit Crossing Place, Suite B
Gastonia, NC 28054
Phone: (704) 867-3873 (Main)
Phone: (704) 833-1523 (Direct)

8. Place the reserve sample(s) in a secure freezer. Reserve samples may be analyzed only when the original sample was lost; or the original sample was unsuitable for testing.
9. Return any corresponding reserve samples to the contractor once the lot has been shipped.

Sample Receipt all Testing:

1. The laboratory will receive samples on Monday through Friday, except on select Federal Holidays (New Year's Day, Memorial Day, July 4th, Labor Day, Columbus Day, Veterans Day, Thanksgiving and Christmas).
2. If samples are not suitable for testing, the contracted laboratory will contact a designated QAD agent immediately by phone or e-mail, and will send a follow-up notification by fax.

Phone: 501-224-9201.

E-mail: QAD.SupportService@ams.usda.gov

Fax: 1-844-345-3575.

3. A designated QAD agent will then contact the appropriate grader and request that the reserve sample(s) be submitted to the contracted laboratory for testing.

Reporting Results

1. The contracted laboratory will transmit test results electronically to the QAD Branch Office by 5:00 PM EST, Monday through Friday, at QAD.SupportService@ams.usda.gov.



2. Test results completed during a weekend will be transmitted no later than 9:00 AM EST of the following Monday or first official business day of the week.
3. In case of network problems, the laboratory will fax the test results to the QAD Branch Office at 1-844-345-3575.
4. A designated QAD staff member will transmit test results electronically to the appropriate QAD field personnel.

CHANGE OF RECORD

Revisions made include:

- Language updated with current QAD structure.
- Removed Silliker, Inc. language and replaced with language associated with AMS' Science and Technology (S&T) Program's National Science Laboratory (NSL).
- Combined QAD 610, QAD 612, and QAD 428 procedures.

SUPERSEDES

QAD 428 Procedure: Fees for Laboratory Analysis; January 2, 2013

QAD 610 Procedure: *Preparation of Samples for Laboratory Fat Analysis for Non-Federal Purchase Items*; October 30, 2008

QAD 612 Procedure: *Examination and Sampling Procedures for Microbiological Requirements for Non-Federal Purchased Items*; October 30, 2008

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