

Food Safety and Inspection Service's
Annual Sampling Program Plan
Fiscal Year 2014

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1.0 Introduction

Introduction

The Food Safety and Inspection Service (FSIS) within the United States Department of Agriculture (USDA) inspects meat, poultry and egg products establishments to ensure that the food produced in them is safe, wholesome and properly labeled. The overall purpose of FSIS inspection activities is to verify that establishments meet requirements to control physical, chemical, and microbiological hazards in regulated product. Verification activities serve to protect the public from foodborne hazards. A key component of FSIS' inspection activities is sampling of product to test for microbiological contaminants or chemical residues.

FSIS Sampling and Strategic Plan Goals to Utilize a Data-Driven Approach and Reduce Foodborne Illness

In September 2010, FSIS released two reports:

1. *FSIS Strategic Data Analysis Plan for Domestic Inspection*¹
2. *Data-Driven Inspection for Processing and Slaughter Establishments: Public Health Decision Criteria.*²

These reports were developed to communicate FSIS' strategy for a data-driven approach to domestic inspection and describe the Agency's public health-based, data-driven decision criteria, as well as a decision tree to select meat and poultry establishments for additional inspection activities. Further, these reports were designed to directly support FSIS' strategic goals by providing the data and analyses necessary to effectively allocate resources and measure performance.

FSIS also released the *Report on the Food Safety and Inspection Service Microbiological and Residue Sampling Programs* in December 2011, which identifies all of FSIS' sampling programs and discusses the statistical and policy basis for the programs.³ Subsequent to the release of the original report in 2011, FSIS has released a new sampling plan each year. In February 2012, FSIS released the Agency's *Annual Sampling Program Plan, Fiscal Year 2012*.⁴ In November 2012, FSIS released the Agency's *Annual Sampling Program Plan, Fiscal Year 2013*.⁵ These Plans continued FSIS' efforts to comprehensively identify Agency microbiological and chemical

¹ Please see the following website for more information:

http://www.fsis.usda.gov/OPPDE/NACMPI/Sep2010/2010_Strategic_Data_Analysis_Plan.pdf.

² Please see the following website for more information:

http://www.fsis.usda.gov/OPPDE/NACMPI/Sep2010/2010_Public_Health_Decision_Criteria_Report.pdf.

³ Please see the following website for more information:

http://www.fsis.usda.gov/wps/wcm/connect/0816b926-c7ee-4c24-9222-34ac674ec047/FSIS_Sampling_Programs_Report.pdf?MOD=AJPERES

⁴ Please see the following website for more information:

http://www.fsis.usda.gov/wps/wcm/connect/9a484b86-583d-4e2a-aa29-9fa208acd37d/Sampling_Program_Plan_FY2012.pdf?MOD=AJPERES

⁵ Please see the following website for more information:

http://www.fsis.usda.gov/wps/wcm/connect/7f3810da-cc8f-47a7-89a1-570438511130/Sampling_Program_Plan_FY2013.pdf?MOD=AJPERES

residue sampling activities and consider them in light of data-driven strategic planning efforts. Both of these plans described FSIS' major activities related to microbiological and chemical residue sampling in domestic establishments, imports, and in-commerce facilities in fiscal year (FY) 2012 and FY2013 and described the Agency's overall strategy for directing its sampling resources for following year.

This new FY2014 Plan seeks to accomplish similar goals, by describing FSIS' major activities related to microbiological and chemical residue sampling programs in domestic establishments, imports, and in-commerce facilities in FY2013 and describing the Agency's overall strategy for directing its sampling resources in FY2014.

Background

The process of scheduling, collecting and analyzing routine samples typically consists of a sample request assigned to FSIS inspection program personnel (IPP) through the Agency's Public Health Information System (PHIS) or via paper forms mailed to the IPP.⁶ The IPP then collect and ship the samples to one of three FSIS testing laboratories, where the sample is tested for microbiological contaminants or chemical residues. The FSIS laboratories perform different tests depending on the type of sample and the sampling project for which the sample was collected. In contrast, some sampling projects are triggered by positive test results from other projects and so are not considered to be regularly-scheduled. In general, sampling for a specific pathogen, such as *Salmonella*, is referred to in this plan as a "sampling program," whereas individual sampling projects for specific pathogens, such as HC11 for *Salmonella*, are considered a "sampling project."

All tables in this plan contain the following information:

1. Number of samples that were planned to be analyzed in FY2013,⁷
2. Number of samples actually analyzed in FY2013, and
3. Number of samples that are planned to be analyzed in FY2014.

Totals in the individual tables have been rounded. Unlike the FY2013 plan, this new FY2014 plan is based on the samples analyzed instead of the number of samples scheduled. This change was made because FSIS is using new operational abilities provided through PHIS. These abilities allow the Agency to adjust the number of samples scheduled on a monthly basis to better target the number of samples collected and analyzed.

In FY2014, FSIS plans to collect and analyze approximately 84,720 domestic microbiological samples, 6,400 domestic chemical residue samples, 3,140 microbiological and 1,550 chemical

⁶ FSIS uses PHIS to send sampling tasks to IPP in establishments that use PHIS (federal slaughter and processing meat and poultry establishments and import establishments). Paper forms are used for all other sampling projects (egg product plants, state establishments, and in-commerce facilities). At the time that this document was published RLM and IVT forms were still in transition from paper to electronic forms in PHIS.

⁷ The total number of samples planned to be scheduled in FY2013 was included in the *FSIS Annual Sampling Program Plan, Fiscal Year 2013*. The tables in this Plan show numbers that have been converted from the number of samples planned to be scheduled to the number of samples planned to be analyzed. Please see the following website for more information: http://www.fsis.usda.gov/wps/wcm/connect/7f3810da-cc8f-47a7-89a1-570438511130/Sampling_Program_Plan_FY2013.pdf?MOD=AJPERES

residue import samples, and 460 in-commerce microbiological samples. Totals have been rounded to reflect that they are approximations. The estimates for each sampling project are based on current plans, FSIS policies, and industry practices and therefore are subject to change over the course of the fiscal year. Sections are included where significant changes to sampling programs or projects have occurred in FY2013 or are planned for the FY2014.

Finally, it is important to note that the number of samples that were anticipated to be analyzed in FY2013⁸ may differ from the total number of samples actually analyzed over the same period. This discrepancy occurs for a variety of reasons, including improved sampling frames due to updates to the establishment's PHIS Profile (which could lead to more samples being analyzed than previously planned), emergencies, lack of production at the establishment-level, and other unforeseen circumstances (which could lead to fewer samples being analyzed than previously planned). When these discrepancies occur, IPP may not be able to collect all sample requests originally assigned. This same discrepancy may exist moving forward for samples scheduled in FY2014.

Potential FY2014 Initiatives

In FY2014, FSIS will conduct Pulsed field Gel Electrophoresis (PFGE) and drug resistance analyses currently conducted by the Agricultural Research Service (ARS), eliminating the need to ship isolates to outside entities or import data from an outside system, which will speed up analysis and facilitate the Agency's access to this information.

In addition to microbiological and chemical residue sampling and testing, FSIS intends to conduct limited, non-routine nutritional analyses of products required to bear nutrition information on their labels. In FY2014, FSIS will also consider whether and how to evaluate verification sampling collected and tested by states under Cooperative Interstate Systems (CIS) inspection systems, to determine if they are "the same as FSIS testing methodology."

FSIS currently tests for species identification on inspector generated sampling requests. In FY2014, the Agency is considering a routine, scheduled species verification testing program.

⁸ Please see the following website for more information: http://www.fsis.usda.gov/wps/wcm/connect/7f3810da-cc8f-47a7-89a1-570438511130/Sampling_Program_Plan_FY2013.pdf?MOD=AJPERES.

Salmonella and Campylobacter

FSIS Domestic Sampling Projects

FSIS conducts *Salmonella* sampling through a variety of projects. Sampling is conducted for the *Salmonella* and *Campylobacter* Pathogen Reduction Performance Standards in HC11 for young chicken and turkey carcasses. Ground chicken and turkey are analyzed for *Salmonella* under HC01. A new exploratory sampling project has expanded ground poultry sampling to include additional types of not-ready-to-eat (NRTE) comminuted poultry and to test for both *Salmonella* and *Campylobacter*.

Project code EM is used to identify collected samples of egg products; FSIS currently has nine egg product categories. In addition, *Salmonella* testing is conducted on some raw ground beef samples collected for *E. coli* O157:H7 testing, with the *Salmonella* results recorded under project code MT43S. In addition, samples of ready-to-eat (RTE) meat and poultry products are collected for *Salmonella* as well as *Listeria monocytogenes* (*Lm*) testing under project codes RTEPROD_RISK and RTEPROD_RAND. (See Table 3 for RTE sampling projects). Information on the different domestic *Salmonella* sampling projects is summarized in Table 1.

Table 1: FSIS *Salmonella* and *Campylobacter* Domestic Sampling Projects

Product Class	Sampling Projects	Pathogen(s)	Planned Number of Samples to Analyze in FY2013	Actual Number of Samples Analyzed in FY2013	Planned Number of Samples to Analyze in FY2014
Raw ground beef*	HC01_GB	<i>Salmonella</i>	12,750	18,300	8,340 ⁹
Raw ground beef*	MT43S	<i>Salmonella</i>	1,905	4,700	2,120
Raw ground beef*	multiple	<i>Salmonella</i>	N/A	N/A	6,240
Beef Trim*	multiple	<i>Salmonella</i>	N/A	N/A	2,530
Young Chickens	HC11_BR	<i>Salmonella</i> and <i>Campylobacter</i>	12,750	12,700	12,750 ¹⁰
Turkeys	HC11_TU	<i>Salmonella</i> and <i>Campylobacter</i>	2,125	2,400	2,130 ¹⁰
Ground Chicken	HC01_GC	<i>Salmonella</i>	5,400	770	N/A
Ground Turkey	HC01_GT	<i>Salmonella</i>	3,475	470	N/A
Exploratory Raw Comminuted Chicken	NRTE_EXP_CH	<i>Salmonella</i> and <i>Campylobacter</i>	4,800	1,000	5,400
Exploratory Raw Comminuted Turkey	NRTE_EXP_TU	<i>Salmonella</i> and <i>Campylobacter</i>	1,200	550	3,000
Processed Egg Products	EM	<i>Salmonella</i>	1,800	1,500	1,800
Exploratory Pork+	RAW_EXP_PK	<i>Salmonella</i>	N/A	N/A	1,800

* Assumes HC01_GB and MT43 sampling projects are run for 6 months concurrently, and then samples will be co-analyzed for both *E. coli* and *Salmonella* on all MT projects for the remaining 6 months.

+ Assumes a 6 month sampling project.

⁹ FSIS anticipates that the total number of planned ground beef samples to be analyzed for *Salmonella* will decrease in the second half of the fiscal year due to the planned merging of the HC01_GB and MT43 sampling projects. The total number *Salmonella* samples are not anticipated to decrease as these samples will be reallocated to other products, including exploratory sampling projects for comminuted poultry and pork products.

¹⁰ Establishments that produce young chicken and turkeys are sampled for *Salmonella* and *Campylobacter* and then categorized by FSIS based on the number of positive samples identified during a sampling set. Based on current FSIS testing, the majority of young chicken and turkey establishments sampled for *Salmonella* have been categorized into Category 1, which means that the establishment would not be scheduled for another sampling set for one year. Therefore, the total number of establishments in Category 1 often prevents full collection of the total number of *Salmonella* and *Campylobacter* samples allocated for the fiscal year. In this situation, FSIS reallocates sampling capacity to other sampling programs, as needed. This reallocation occurs on a monthly basis, and, moving forward, the reallocation is dependent on the implementation of several sampling initiatives, including exploratory sampling projects for comminuted poultry and pork products, as identified in this report.

Major Activities in Salmonella and Campylobacter Sampling Projects in FY2013:

1. FSIS issued a *Federal Register* Notice (FRN) informing stakeholders that the Agency will be sampling comminuted chicken and turkey products; this includes raw ground, raw mechanically separated, and other raw comminuted products. Results from this project will be used to compute prevalence and develop performance standards for these products. This project started in FY2013, and FSIS intends to collect samples under this project until the performance standards are issued.
2. FSIS issued an FRN informing stakeholders that the Agency intends to begin sampling all raw beef products collected under the *Salmonella* testing program for *E. coli* O157:H7, as well as *Salmonella*. This action will allow the Agency to recognize operational efficiencies by combining the *Salmonella* testing in MT43 and HC01_GB under the MT43 sampling program, which will result in all MT43 samples being co-analyzed for both *E. coli* O157:H7 and *Salmonella*. FSIS will respond to comments and announce the implementation date of these changes in the *Federal Register*.

Changes to Salmonella and Campylobacter Sampling Projects Planned for FY2014:

1. FSIS intends to inform stakeholders that the Agency will be sampling raw pork products for *Salmonella*; this includes both intact and non-intact raw pork products. Results from this project may be used to establish performance standards in these products.
2. Based on the results of the FSIS baseline survey for chicken parts, FSIS intends to develop performance standards and initiate a new *Salmonella* and *Campylobacter* verification sampling program for chicken parts.
3. FSIS is considering moving its current set-based sampling to a continuous sampling model using a moving window to evaluate performance.
4. FSIS will assume PFGE and drug resistance analyses currently conducted by the ARS. Together with providing additional PFGE-related information derived from comparing the PFGE patterns in the Centers for Disease Control and Prevention (CDC) PulseNet database, FSIS believes that this information could be an effective foundation for providing industry with information useful in further reducing the prevalence of those *Salmonella* subtypes that are most likely to cause human illness.

Shiga toxin producing *E. coli* (STEC)

FSIS Domestic Sampling Projects

FSIS maintains many adulterant Shiga toxin producing *E. coli* (STEC) sampling projects for domestic establishments. The different STEC sampling projects are summarized in Table 2.

Table 2: FSIS STEC Domestic Sampling Projects

Product Class	Sampling Projects	Pathogen(s)	Planned Number of Samples to Analyze in FY2013	Actual Number of Samples Analyzed in FY2013	Planned Number of Samples to Analyze in FY2014
Raw ground beef	MT43	<i>E. coli</i> O157:H7	12,480	12,490	12,480
Follow up testing to a raw ground beef positive*	MT44	<i>E. coli</i> O157:H7	N/A	250	N/A
Follow up testing at supplier establishments following MT43, MT44, or MT55 positive*	MT52	<i>E. coli</i> O157:H7/ Non-O157 (STEC)	N/A	310	N/A
Follow up testing to a MT60, MT54, MT55, or MT52 positive*	MT53	<i>E. coli</i> O157:H7/ Non-O157 (STEC)	N/A	990	N/A
Raw ground beef components other than trim	MT54/ MT64	<i>E. coli</i> O157:H7	620	340	620
Bench trim	MT55/ MT65	<i>E. coli</i> O157:H7	1,440	870	1,440
Beef Manufacturing trim	MT60	<i>E. coli</i> O157:H7/ Non-O157 (STEC)	2,800	2,720	2,800

* Dependent on positive findings from other *E. coli* O157:H7 or non-O157 (STEC) sampling projects.

Major Activities in STEC Sampling Projects in FY2013:

1. FSIS automated all STEC follow-up sampling for PHIS, improving the turnaround time between confirmed positives and follow-up task delivery in PHIS.
2. FSIS issued a FRN informing stakeholders that the Agency will begin sampling all raw beef products collected under the *E. coli* O157:H7 sampling program for *Salmonella*.

3. In FY2013, based upon a statistical analysis,¹¹ FSIS redesigned its bench trim and non-trim components sampling projects to improve detection of O157:H7 in regulated product using a data-driven approach. The new MT65 and MT64 sampling projects replace the MT55 and MT54 sampling projects, respectively. The new designs were approved in FY2013 and will be implemented in FY2014.
4. FSIS is computing national prevalence estimates of *E. coli* O157:H7 in raw ground beef for FY2007 - FY2013 using data from the MT43 sampling project. This research will be made available on the FSIS website in FY2014 and supports the research FSIS has already done on prevalence estimation.¹²

Changes Planned to STEC Sampling Projects for FY2014:

1. Based on a statistical analysis, FSIS intends to update the risk factors used by the MT43 sampling algorithm.
2. FSIS is developing a cost-benefit analysis on expanding non-O157 STEC testing to include ground beef, bench trim, and other components for non-O157 STEC in FY2014. FSIS intends make the cost-benefit analysis available to the public and request comment on it before implementing new testing.
3. FSIS intends to begin a beef and veal carcass baseline survey.
4. FSIS intends to collect data in FY2014 to support prevalence estimation of O157:H7 in beef manufacturing trimmings.
5. FSIS is considering reallocating samples from the MT43 sampling program to the MT60 sampling program. This would result in an increase in the number of beef manufacturing trimmings samples analyzed under MT60, which would provide sufficient data to compute national prevalence in beef manufacturing trimmings, while maintaining a sufficient number of samples in the MT43 project.¹³
5. FSIS will implement its redesigned bench trim and non-trim components sampling projects to improve detection of O157:H7 in regulated product using a data-driven approach; the new sampling design is nationally representative and comparable to the existing MT60 and MT43 sampling designs.

¹¹ Berg-Devney, Sarah. Redesign of FSIS Sampling Methodologies to Improve Detection of *E. coli* O157:H7. (March 2012) For more information, please see the following website: http://www.fsis.usda.gov/shared/PDF/Redesign_Beef_Trim_Sampling_Methodology.pdf.

¹² For more information, please see the following website: http://www.fsis.usda.gov/wps/wcm/connect/56b2ccbd-ad57-4311-b6df-289822d28115/Prevalence_Estimates_Report.pdf?MOD=AJPERES

¹³ For more information, please see the following website: http://www.fsis.usda.gov/wps/wcm/connect/56b2ccbd-ad57-4311-b6df-289822d28115/Prevalence_Estimates_Report.pdf?MOD=AJPERES

Ready-to-Eat (RTE) for *Listeria monocytogenes* (*Lm*) and *Salmonella*

FSIS Domestic Sampling Projects

FSIS conducts microbiological testing of RTE meat and poultry products for *Lm* and *Salmonella*. RTE domestic sampling projects are summarized in Table 3.

Table 3: FSIS Domestic Ready-to-Eat (RTE) Sampling Projects for *Listeria monocytogenes* (*Lm*) and *Salmonella*

Product Class	Sampling Projects	Pathogen(s)	Planned Number of Samples to Analyze in FY2013	Actual Number of Samples Analyzed in FY2013	Planned Number of Samples to Analyze in FY2014
Both post-lethality exposed and non-post-lethality exposed RTE products	ALLRTE	<i>Lm</i> and <i>Salmonella</i>	2,810 ⁺	2,750	N/A
Post-lethality exposed RTE products	RTE001	<i>Lm</i> and <i>Salmonella</i>	6,630 ⁺	7,700	N/A
Both post-lethality exposed and non-post-lethality exposed RTE products	RTEPROD_RAND	<i>Lm</i> and <i>Salmonella</i>	940 ⁺	550	3,360
Post-lethality exposed RTE products	RTEPROD_RISK	<i>Lm</i> and <i>Salmonella</i>	2,210 ⁺	820	9,300
Routine <i>Listeria monocytogenes</i> (RLm) product samples ¹⁴	RLMPROD	<i>Lm</i>	520	440	N/A
RLm product samples ¹³	RLMPRODC	<i>Lm</i>	520	500	690
RLm food contact surface samples	RLMCONT	<i>Lm</i>	6,880	6,500	6,880
RLm non-food contact environmental samples (Composited 5-sample Units)	RLMENVC	<i>Lm</i>	690	650	690
Intensified Verification Testing (IVT) product samples*	INTPROD	<i>Lm</i> or <i>Salmonella</i>	N/A	450	N/A

¹⁴ On January 1, 2013, the RLm product sampling project (RLMPROD) was discontinued and replaced with the RLm product sampling project where samples are composited into 5-sample units (RLMPRODC).

Product Class	Sampling Projects	Pathogen(s)	Planned Number of Samples to Analyze in FY2013	Actual Number of Samples Analyzed in FY2013	Planned Number of Samples to Analyze in FY2014
IVT food contact surface samples*	INTCONT	<i>Lm</i> or <i>Salmonella</i>	N/A	950	N/A
IVT non-food contact environmental samples*	INTENV	<i>Lm</i> or <i>Salmonella</i>	N/A	600	N/A

*Dependent on positive findings from RTEPROD_RAND, RTEPROD_RISK, and RLM sampling projects.

+ FSIS' total allocation for RTEPROD_RAND and RTEPROD_RISK has not changed from previous years; the FY2013 planning numbers included in Table 3 were split based on the conversion date in August 2013 of ALLRTE and RTE001 to RTEPROD_RAND and RTEPROD_RISK.

Major Activities in RTE Sampling Projects for *Lm* and *Salmonella* in FY2013:

1. FSIS converted its ALLRTE and RTE001 sampling projects to RTEPROD_RAND and RTEPROD_RISK on August 1, 2013.
2. FSIS converted its RLMPROD sampling project to RLMPRODC (increase from 3 product samples/sampling unit to 5 samples/sampling unit with compositing into a single test sample at the testing lab), effective January 1, 2013.

Changes Planned to RTE Sampling Projects for *Lm* and *Salmonella* for FY2014:

1. FSIS intends to review the Agency's RTE sampling projects and may propose changes to sampling projects based on repeat positives at particular establishments or trends found in particular establishment types (e.g., small establishments).

Chemical Residues

FSIS Domestic Sampling Projects

FSIS conducts sampling for chemical residues in regulated meat, poultry and egg products. Domestic sampling projects are summarized in Table 4.

Table 4: FSIS Domestic Sampling Projects for Chemical Residues

Sampling Project	Sampling Project Code	Planned Number of Samples to Analyze in FY2013	Actual Number of Samples Analyzed in FY2013	Planned Number of Samples to Analyze in FY2014
National Residue Program (NRP) ¹⁵ Tier 1 Samples	NRP_Product	5,750	5,900	5,700
State Residues ¹⁶	RS12	440	270	640
EU ¹⁷	EU	N/A	350	N/A
KIS™ Test-Field ¹⁸	KIS	N/A	225,180 [^]	N/A
KIS™ Test –Lab	KIS	N/A	5,000	N/A
Mastitis Testing ¹⁹	N/A	40	40	260

[^] KIS™ samples are not scheduled in advance by FSIS; rather they are collected at the discretion of field inspectors and therefore the total number of samples collected and analyzed by FSIS may change markedly from year to year.

¹⁵ FSIS maintains three tiers of sampling for the NRP. The three-tiered system is as follows: Tier 1: scheduled sampling (collected as a part of exposure assessment activities), Tier 2: targeted sampling at the production or compound class level, and Tier 3: targeted sampling at the herd/flock or compound class level. FSIS conducts testing in nine production classes: beef cow, bob veal, dairy cow, steer, heifer, market hog, sow, young chickens, and young turkeys.

¹⁶ State meat and poultry inspection programs that are equivalent to FSIS must conduct residue testing in accordance with current FSIS policies. FSIS assigns residue samples to states using PHIS as part of the NRP.

¹⁷ FSIS routinely schedules and collects residue samples from meat and poultry products for products exported to the European Union (EU). These samples, however, are analyzed by an outside contract laboratory, not FSIS.

¹⁸ In addition to the 225,180 KIS™ field tests performed, there were additional 62 FAST tests performed in the field.

¹⁹ FSIS intends to analyze a total of 300 samples as a part of the Mastitis Testing Project; the project was implemented in September 2013 and 40 samples were analyzed in FY2013, so the Agency intends to collect and analyze the remaining 260 samples over the course of FY2014.

Please see Table 5 for more information about the animal classes and methods for which FSIS tests in its National Residue Program.

Table 5: Relevant Animal Production Classes and Methods for FSIS’ Residue Sampling Program

Methods	Beef cow	Bob veal	Dairy cow	Steers	Heifers	Sows	Market hogs	Young Chickens	Young Turkeys
Multi-class	√	√	√	√	√	√	√	√	√
Aminoglycoside	√	√	√	√	√	√	√	√	√
Pesticides	√	√	√	√	√	√	√	√	√
Metals	√	√	√	√	√	√	√	√	√
Beta-agonists	√	√	√	√	√		√		
Avermectins	√	√	√	√	√	√	√		
Carbadox							√		
Arsenic	√	√	√	√	√	√	√	√	√

Major Activities in Chemical Residue Sampling Programs in FY2013

1. FSIS began an exploratory project, applying the in-laboratory multi-residue method (MRM) to samples from dairy cows that appeared to have mastitis, but yielded negative KIS™ tests.

Changes Planned for Chemical Residue Sampling Programs for FY2014:

1. The U.S. NRP Residue Sampling Plan (otherwise known as the “Blue Book”) provides a summary of the scheduled domestic and imported meat, poultry, and processed egg product sampling plans. Detailed discussions describing the principles and methods used to plan and design the NRP sampling plans for 2014 will be provided when the report is released.

Imports

FSIS maintains a number of different sampling projects for meat, poultry, and egg products imported into the United States. The FSIS sampling project (EGGIMP) for imported egg products tests only for *Salmonella*. There are two primary STEC sampling projects for imported beef products: 1) Raw ground beef (MT08) and 2) Raw ground beef (MT51); each of these projects also has a follow-up sampling component in the case of a positive sample—FMT01 and FMT51. FSIS also maintains one verification sampling project (IMVRTE) for *Lm* and *Salmonella* in RTE products from importing countries. Finally, FSIS maintains a chemical residue sampling project for imported product. See Table 6 for more information on the sampling projects.

Table 6: FSIS Import Sampling Projects

Product Class/Sampling Project	Sampling Project Codes	Pathogen/ Chemical Residue/ Chemistry	Planned Number of Samples to Analyze in FY2013	Actual Number of Samples Analyzed in FY2013	Planned Number of Samples to Analyze in FY2014
Pasteurized imported liquid, frozen or dried egg products	EGGIMP	<i>Salmonella</i>	80	0	80
Imported raw ground beef	MT08	<i>E. coli</i> O157:H7	10	10	10
Follow up testing to an imported raw ground beef positive	FMT08	<i>E. coli</i> O157:H7	N/A	0	N/A
Trim and other raw ground beef components	MT51	<i>E. coli</i> O157:H7/ Non-O157 (STEC)	850	470	850
Follow up testing to an imported trim or components positive	FMT51	<i>E. coli</i> O157:H7/ Non-O157 (STEC)	N/A	50	N/A
Imported intact RTE product	IMVRTE	<i>Lm</i> and <i>Salmonella</i>	2,200	870	2,200
Follow up testing to imported Intact RTE Product	FLISTERIA	<i>Lm</i>	N/A	50	N/A
Follow up testing to imported Intact RTE Product	FRTESALMONEL	<i>Salmonella</i>	N/A	40	N/A

Product Class/Sampling Project	Sampling Project Codes	Pathogen/ Chemical Residue/ Chemistry	Planned Number of Samples to Analyze in FY2013	Actual Number of Samples Analyzed in FY2013	Planned Number of Samples to Analyze in FY2014
Food Chemistry	IMPFOODCHEM	Food Chemistry	N/A	10	N/A
Imported Fresh and Processed Product*	Residue	Residue	1,300	1,080	1,550
Import Species Identification	IMPSPECIESID	N/A	Varies**	400	Varies**

*Scheduling of 1,300 samples based on anticipated implementation of new NRP in FY2012.

**Species sampling occurs for 1 out of every 48 lots reinspected by FSIS.

Major Activities in Import Sampling Projects in FY2013

1. In May 2012, FSIS began a systematic implementation of PHIS for imports, replacing the Automated Import Information System (AIIS) and the Performance Based Inspection System (PBIS); this implementation extended into FY2013.
2. FSIS increased routine species testing in imported product in FY2013 in response to the horse meat adulteration that occurred in Europe in FY2013.

Major Changes Planned for Import Sampling Projects for FY2014:

1. No significant changes to import sampling programs are proposed at this time.

In-Commerce

FSIS has the following sampling projects at retail:

- 1) *E. coli* O157:H7 testing in raw ground beef at businesses operating under a retail exemption (MT05)
- 2) Follow-up testing for *E. coli* O157:H7 in raw ground beef products (MT06) scheduled only when an MT05 sample tests positive for *E. coli* O157:H7.

For more information, please see Table 7.

Table 7: FSIS *E. coli* O157:H7 Sampling Projects for In-Commerce Surveillance

Product Class	Sampling Projects	Pathogen	Planned Number of Samples to Analyze in FY2013	Actual Number of Samples Analyzed in FY2013	Planned Number of Samples to Analyze in FY2014
Raw ground beef at retail stores	MT05	<i>E. coli</i> O157:H7	460	500	460
Follow-up testing to a MT05 sample*	MT06	<i>E. coli</i> O157:H7	N/A	0	N/A

* Dependent on positive findings from the MT05 sampling project.

Major Activities in In-Commerce Sampling Projects in FY2013

1. FSIS collected and analyzed approximately 500 retail MT05 samples; none of the samples tested positive, so no MT06 samples were collected. FSIS monitors retail sampling each quarter to ensure that samples are collected throughout the year and are geographically representative of retail ground beef sales.

Changes Planned for In-Commerce Sampling Projects for FY2014:

1. FSIS will continue to monitor the number of MT05 retail samples that test positive for *E. coli* O157:H7 and respond appropriately to events that suggest a trend detrimental to public health.

Other Sampling Programs

FSIS also conducts sampling in other areas²⁰:

1. Advanced Meat Recovery (AMR01) and Follow-Up AMR (FAMR01)
 - a. FSIS conducts a sampling project in regulated establishments for AMR processes to help prevent beef spinal cord material from entering the food supply and being misrepresented as meat. If an AMR sample is positive, additional samples are assigned to the establishment in PHIS through the FAMR01 sampling project.
2. Baselines
 - a. FSIS conducts baseline studies, where the Agency collects samples of meat and poultry products to estimate the national prevalence and levels of bacteria of public health concern. Each report produced after the completion of a baseline study is a compilation of data obtained for a particular species or type of animal.
3. National Antimicrobial Resistance Monitoring System (NARMS)
 - a. NARMS is a national public health surveillance system that tracks antibiotic resistance in foodborne bacteria.²¹ NARMS monitors antimicrobial susceptibility among enteric bacteria from humans, retail meats, and food animals. The major bacteria currently under surveillance are *Salmonella*, *Campylobacter*, *E. coli*, and *Enterococcus*. In FY2013, FSIS began collecting intestinal cecal samples from cattle (steer, heifer, dairy cow, and beef cow), swine (market swine and sows), young chickens, and young turkeys presented for slaughter at FSIS-inspected establishments for the pathogens listed above. While FSIS schedules and collects samples for the NARMS program, the samples are analyzed by non-FSIS laboratories.
4. Pathology Testing
 - a. FSIS carries out diagnostic and consultative pathology services to identify diseases, parasites and related conditions in response to the needs of field operations.
5. Foodborne Illness Outbreak Sampling
 - a. FSIS collects and analyzes food samples potentially related to human disease outbreaks. Analyses include cultural and molecular methods such as polymerase chain reaction (PCR), PFGE, antimicrobial susceptibility testing and molecular serotyping to identify and further characterize organisms in outbreak samples.
6. Food Chemistry
 - a. FSIS performs food chemistry analyses such as moisture, protein, fat and testing for the presence of food additives to identify mislabeling, economic fraud, and adulteration of meat, poultry, and egg products.

²⁰ The USDA Animal and Plant Health Inspection Service (APHIS) conducts an on-going surveillance program for bovine spongiform encephalopathy (BSE) where approximately 40,000 animals are sampled each year. Under the program, either APHIS or FSIS collect samples from the cattle populations where the disease is most likely to be detected, similar to the enhanced surveillance program procedures. Laboratory analysis of collected samples is handled exclusively by APHIS. For more information about FSIS' role in sample collection for BSE, please see FSIS Directive 10,400.1, http://www.fsis.usda.gov/wps/wcm/connect/839b2b6b-521f-41f3-a0b7-fbfaada0c735/10400_150.pdf?MOD=AJPERES.

²¹ For more information about the NARMS program, please see the following website: <http://www.fda.gov/AnimalVeterinary/SafetyHealth/AntimicrobialResistance/NationalAntimicrobialResistanceMonitoringSystem/default.htm>.

7. Compliance Testing

- a. FSIS investigators collect compliance samples at in-commerce businesses on a “for-cause” basis in response to complaints, allegations, and their own observations during routine or for-cause surveillance activities.

These projects are described in Table 8.

Table 8: FSIS Other Sampling Programs

Product Class	Sampling Projects	Planned Number of Samples to Analyze in FY2013	Actual Number of Samples Analyzed in FY2013	Planned Number of Samples to Analyze in FY2014
Advanced Meat Recovery	AMR01	180	160	180
Follow-up testing to a AMR01 Sample*	FAMR01	N/A	30	N/A
Baselines	TBD	0	0	2,660
Dioxin	DIOX	510	510	0
NARMS	NARMS	1,920	3,400	2,700 ²²
Pathology	multiple	N/A	4,200	N/A
Outbreaks	multiple	N/A	1,000	N/A
Compliance Testing	COMPLIAN	N/A	170	N/A

* Dependent on positive findings from the AMR01 sampling project.

Major Activities in Other Sampling Programs in FY2013

1. FSIS completed a Raw Liquid Egg Baseline Study in FY2013.
2. FSIS conducts a periodic (approximately every five years), statistically-based survey of dioxins and dioxin-like compounds in domestic meat and poultry products to estimate the levels of dioxin and dioxin-like compounds in FSIS-regulated meat and poultry products, compare levels found in the various products to past years’ results, and collaborate with other Agencies to

²² FSIS may adjust the number of samples analyzed in FY2014 based on a review of collected samples to ensure proper distribution of samples among the eligible animal classes.

investigate causes of any detected spikes in dioxin levels. In the 2007-2008 survey, 17 toxic polychlorinated dibenzo-p-dioxins and dibenzofurans (PCDD/Fs) and four nonortho-polychlorinated biphenyls (no-PCBs) were measured in 510 beef (steer/heifer), market hog, young turkey, and young chicken samples.²³ FSIS completed a new survey in FY2013 and collected the same number of samples in the same regulated products as were sampled in the 2007-2008 survey.

3. FSIS began a NARMS sampling program in FY2013.

Changes Planned for Other Sampling Programs for FY 2014:

1. FSIS intends to begin sampling a beef and veal carcass baseline survey.

²³ For more information about the 2007-2008 dioxin survey, please see the following website at: http://www.fsis.usda.gov/wps/wcm/connect/ad01c1f4-878e-4a37-9103-de67eb7729d7/Dioxin_Report_1009.pdf?MOD=AJPERES .