U.S. Department of Agriculture

Food Safety and Inspection Service

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# Introduction

The Food Safety and Inspection Service (FSIS) is the food safety regulatory agency within the U.S. Department of Agriculture (USDA) responsible for ensuring that domestic and imported meat, poultry, and egg products are safe, wholesome, and accurately labeled. Verification activities serve to protect the public from foodborne hazards. Sampling and testing products under FSIS jurisdiction for microbiological and chemical residues is a key FSIS inspection verification activity.

This planning document describes the Agency's overall strategy for directing sampling resources in fiscal year (FY) 2024 and identifies changes made from the previous FY.

# Background

# **FSIS Agency Planning**

FSIS' sampling resource allocation remains aligned with the Agency's FY 2023-2026 Strategic Plan and the FY 2024 Annual Plan. FSIS will continue to leverage technological and sampling advances to detect microbiological contaminants and chemical residues, thereby protecting the food supply.

# FSIS Process for Scheduling, Collecting, and Analyzing Samples

The Agency's process of scheduling, collecting, and analyzing routine domestic samples typically begins with a sampling task assigned to FSIS inspection program personnel (IPP) through the <u>Public Health Information System</u> (PHIS). The number of sampling tasks IPP can receive at a domestic establishment varies greatly depending on the types and quantities of products produced. Additional non-routine sampling tasks may be assigned to an establishment in response to results or other establishment performance history. Similarly, sampling "type of inspection" (TOI) tasks are assigned to imported products for each foreign country and product combination based on the number of imported shipments received; these sampling rates vary based on the amount and type of product imported each year. Additional non-routine TOI tasks can also be assigned to countries for imported product in response to sampling results, foreign establishment performance history, equivalence determination activities.

It is important to note that this document reflects the Agency's plan and there may be a difference between the number of samples that are anticipated to be analyzed and the total number of samples analyzed within the fiscal year. Several variables can impact the plan as the fiscal year progresses. The lack of available products that are eligible for sampling within the specific sampling tasks' allotted timeframe is one of the biggest challenges IPP face when trying to collect all the samples anticipated in the sampling plan. Therefore, the FSIS Annual Sampling Plan is based on the number of samples anticipated to be analyzed instead of those assigned. Additionally, differences between the planned number and analyzed number of samples may be due to changes in the number of inspected establishments producing eligible products. FSIS adjusts the number of samples assigned based on the average number of samples collected throughout the sampling year to collect samples from infrequent producing establishments and optimize the total number of annual planned samples collected and analyzed. The estimates for each sampling program are based on current plans, FSIS policies, and industry practices that are subject to change over the course of the fiscal year.

After receiving the sampling tasks and verifying eligible product availability, IPP collect and ship the samples to one of three <u>FSIS Field Service Laboratories</u> (FSLs), where samples are tested for specified analytes. An analyte is a substance whose constituents are identified and measured, and the FSIS laboratories perform different tests depending on the sampling program and target analytes. The Agency increases sample resource efficiency by maximizing the number of analytes tested per sample collection event.

# Data Sharing and Analysis

FSIS routinely analyzes sampling data. The results of these analyses are used in a variety of ways, including verifying whether product is safe and not adulterated, verifying the effectiveness of Hazard Analysis and Critical Control Point systems where applicable, informing Agency policy making, estimating public health impact, and advising strategic and performance planning. FSIS posts <u>sampling data</u> on the Agency's website and shares the data directly with establishments.

FSIS laboratories perform whole genome sequencing (WGS) on all foodborne pathogens isolated and confirmed from FSIS-regulated products. When product samples test positive for bacterial pathogens, FSIS engages with Federal partners to use WGS data for regulatory and public health purposes. The information gathered from WGS helps FSIS to detect and investigate outbreaks of foodborne illness, identify potential instances of harborage, and identify unique genes, including antimicrobial resistance genes. In FY 2023, FSIS worked with a contractor to develop an allele code scheme for naming both Campylobacter jejuni and Campylobacter coli. The allele codes provide a nomenclature that is amenable to reporting and allows for the comparison of FSIS isolate sequences to each other, which allows for the identification of repetitive or persistent subtypes. The Campylobacter allele codes are publicly available in the establishment-specific sampling datasets. Additionally, FSIS has developed standardized language for reporting results of samples with incomplete characterization. This allows data users to know that the current result is final and/or that there is no linking data available on the National Center for Biotechnology Information (NCBI) website. FSIS continues to explore new ways to expand the use of WGS data. Current and future efforts include exploring the use of genomic data to attribute Salmonella and Campylobacter illnesses to foods, to understand pathogen adaptability, persistence, and pathogenicity, and to use subtyping data to understand the diversity and ubiquity of pathogen subtypes found in regulated products. These efforts will also build on the public health, regulatory, and research partners' endeavors in support of FSIS Research Priorities.

# Salmonella Exploratory Sampling

FSIS will continue to explore *Salmonella* enumeration analysis of multiple poultry product types in support of the Agency's comprehensive approach to <u>reduce *Salmonella*</u> illnesses associated with poultry products. As not only the presence of *Salmonella*, but also the quantity of *Salmonella* microorganisms can impact the likelihood of illness, FSIS will continue to examine how quantification can be incorporated into this approach. Moreover, with emerging science suggesting that not all *Salmonella* are equally likely to cause human illness, FSIS will explore *Salmonella* serotypes and virulence factors that pose the greatest public health risk.

# **Cell-Cultured Products**

The Food and Drug Administration (FDA) and FSIS jointly oversee the production of human food products made with cultured cells derived from livestock or poultry. <u>Per the agreement delineating each agency's jurisdiction</u>, FDA oversees the production process and produced biological material prior to harvest, including tissue collection, cell lines and cell banks, manufacturing controls, and all components and inputs. At harvest, FDA and FSIS coordinate a transfer of jurisdiction to FSIS, who oversees the processing, packaging, and labeling of the resulting meat and poultry products per <u>FSIS Directive 7800.1</u> and <u>FSIS Notice 31-23</u>. FSIS samples cell-cultured meat and poultry food products, food contact surface swabs, and environmental swabs to verify establishment food safety programs and assess process control.

# **Collaborative Sampling Programs**

FSIS collaborates with a multitude of partners to improve the efficiency and effectiveness of food safety outcomes. Select product sampling and pathogen isolate characterization partnerships with federal and state agencies are described below and in <u>Appendix C: Collaborative Sampling Programs</u>. Additional details for all FSIS partnerships and collaborations are provided in the <u>FSIS FY 2023–2026 Strategic Plan</u>.

Exploratory Sampling: Raised Without Antibiotics As described in the <u>September 22, 2023 Constituent Update</u>, FSIS is implementing a <u>multi-step effort aimed at strengthening the substantiation of animal-raising claims</u>. FSIS has received several petitions, comments, and letters from a wide range of stakeholders asking the agency to reevaluate its oversight of animal-raising claims, specifically, how they are substantiated. In addition, the veracity of "negative" antibiotics claims (e.g., "raised without antibiotics" or "no antibiotics ever") has come into question. In FY 2024, in partnership with USDA's Agricultural Research Service (ARS), FSIS will conduct sampling at establishments slaughtering cattle that will be used for products labeled with negative antibiotic claims, such as "No Antibiotics," "No Antibiotics Ever," "Raised Without Antibiotics," "Antibiotic Free," "No Antibiotics Administered," or related claims. The purpose of the new exploratory sampling program is to assess whether antibiotic residues are found in cattle intended for product with raised without antibiotics (RWA) claims.

<u>Dioxin Survey</u> FSIS is announcing plans to begin sampling for the FY 2024 Dioxin Survey in FY 2024 Q1. FSIS will also issue instructions to inspection program personnel (IPP) in upcoming FSIS Notices for Livestock and Siluriformes sample collection. This is the next survey of a cycle of dioxin surveys that FSIS has conducted with other federal partners, including ARS, the Environmental Protection Agency (EPA), and the FDA. The goal of the survey is to determine levels of dioxins and dioxin-like compounds in FSIS-regulated products. Dioxins are a group of compounds of public health concern. These compounds are ubiquitous, but generally occur at very low levels throughout the environment as persistent environmental contaminants. FSIS plans to suspend the sampling of poultry products in the FY 2024 Dioxin Survey as this slaughter class has shown a statistically significant downward trend in dioxin levels over all of the surveys. FSIS will collect survey samples over 12 months, with ARS completing analysis after sample collection has ended.

<u>NARMS</u> The <u>National Antimicrobial Resistance Monitoring System (NARMS)</u> is an interagency, collaborative partnership with State and local public health departments, the FDA, the Centers for Disease Control and Prevention (CDC), and FSIS. This national public health surveillance system tracks changes in antimicrobial susceptibility of select foodborne enteric bacteria found in ill people (CDC), retail meats (FDA), and food animals (FSIS). The NARMS program at FSIS focuses on two sampling points: samples collected from intestinal (cecal) content from food animals and carcass or food commodity samples.

<u>State Cooperative Agreement Program Laboratories in the Food Emergency Response Network</u> State Cooperative Agreement Program (CAP) laboratories will continue targeted food defense surveillance of FSIS-regulated commodities at retail for select/threat agents. The goal is to test approximately 5,000 retail samples over the course of the year, divided among microbiological, chemical, and radiochemical analysis. Any findings are subject to further review and Agency action, which may include product recalls. Importantly, this testing represents the only chemistry and radiochemistry analysis done on processed products regulated by FSIS.

<u>National Residue Program and State Residue Sample Analysis</u> The National Residue Program (NRP) <u>sampling</u> guides the collection of domestic and imported meat, poultry, and egg product samples. The domestic sampling plan includes surveillance sampling, inspector-generated, and special project sampling in both Federal and State-inspected slaughter establishments.

<u>Collaborative PFAS (per- and polyfluoroalkyl substances) Analysis</u> FSIS assists Federal Agencies, states, tribes, and local communities to identify and quantify specific PFAS which are impacting areas of interest. This information could be used to identify some specific sources and responsible parties, to identify and assess risk from exposure, and to enable selection of the optimal strategies for treating, removing, and disposing of PFAS contaminated material and restoring PFAS-contaminated agricultural and subsistence systems.

Isolate characterization for State MPI and AMS Commodity Purchase Program The FSIS Microbiology Characterization

Branch performs further characterization analyses on confirmed pathogen isolates obtained by laboratories in State MPI programs and the AMS Commodity Purchase Program. Pathogens tested include *Listeria monocytogenes, E. coli* O157:H7, non-O157 STEC, *Salmonella*, and *Campylobacter*. Analyses include confirmation of analyte, antimicrobial susceptibility testing (AST), WGS, lyophilization, and *Salmonella* serotype derivation. The results of the further characterization analyses may be used to improve capabilities in further investigating public illnesses and outbreak situations. WGS data is entered into the NIH NCBI database <u>Home - Pathogen Detection - NCBI (nih.gov)</u> and shared with <u>PulseNet | CDC</u>.

# Microbiological and Chemical Residue Sampling Planned Changes from FY 2022 to FY 2024

Table 1 and Table 2 summarize microbiological and chemical residue sampling, respectively, the total planned number of analyses and corresponding planned number of analytes tested for during FY 2022, FY 2023 and FY 2024 by product class to provide perspective over time. Data is based on the proposed number of samples and actual analyses performed during the previous fiscal years. Results for the fiscal year can be found in FSIS' Annual <u>Sampling Summary Report</u>. A link to past years' Sampling Summary Reports can be found in the <u>References</u> section.

#### Table 1: Planned Number of Microbiological Analyses (Tests) and Analytes FY 2022-FY 2024

	Planned f	or FY 2022		Planned f	or FY 2023		Planned f	or FY 2024		Difference	e <sup>1</sup> (FY 2024-I	FY 2023)
Product Class	Samples Planned	Tests Planned	Analytes Planned	Samples Planned	Tests Planned	Analytes Planned	Samples Planned	Tests Planned	Analytes Planned	Samples Planned	Tests Planned	Analytes Planned
Raw Beef	20,023	52,824	100,920	21,271	55,320	103,416	20,263	39,768	152,448	-1,008	-15,552	49,032
Raw Pork	11,040	22,080	33,120	11,040	22,080	33,120	2,196	4,146	4,392	-8,844	-17,934	-28,728
Raw Poultry	47,892	64,248	64,248	48,692	67,136	67,136	38,892	60,000	60,000	-9,800	-7,136	-7,136
Raw Siluriformes	660	660	660	0	0	0	0	0	0	0	0	0
ន្ល RTE	15,919	29,616	29,616	15,919	29,616	29,616	11,112	22,224	22,224	-4,807	-7,392	-7,392
≝ ⊒ RLm	5,437	5,437	5,437	5,437	5,437	5,437	5,437	5,437	5,437	0	0	0
Eggs	1,600	3,200	3,200	1,600	3,200	3,200	1,290	2,400	2,400	-310	-800	-800
Cecal, NARMS	6,492	25,968	419,832	5,655	22,752	418,920	5,090	16,152	416,688	-565	-6,600	-2,232
਼ <sub>ਯੂ</sub> Raw	0	0	0	20	40	40	60	120	120	40	80	80
	0	0	0	10	20	20	30	60	60	20	40	40
ច FCS/ENV	0	0	0	60	120	120	180	360	360	120	240	240
Imports <sup>2</sup>	6,312	13,884	27,893	5,604	13,176	27,576	5,604	13,176	27,576	0	0	0
Total	115,375	217,917	684,926	115,222	218,721	688,425	90,154	163,843	691,705	-25,068	-54,878	3,280

Abbreviations: RTE, ready-to-eat; *RLm*, Routine *Listeria monocytogenes* monitoring; Eggs, Egg products; NARMS, National Antimicrobial Resistance Monitoring System; FCS, food contact surface; ENV, environmental surface.

<sup>1</sup> The differences between FY 2022 and FY 2023 plans include the addition of MT60\_CLOTH and exploratory beef carcass sampling, harmonizing STEC analysis into one workflow and fewer tests, suspension of NARMS expansion testing and the discontinuation of Siluriformes sampling. For a full list of allocation changes FY 2023 to FY 2024, please see Table 4.

<sup>2</sup> Import microbiology testing analyses estimates are driven by expected shipment frequency and volume-based TOI assignments.

	Planned for FY 2022		Planned for FY 2023		Planned for FY 2024			Difference <sup>3</sup> (FY 2024-FY 2023)				
	Samples	Tests	Analytes	Samples	Tests	Analytes	Samples	Tests	Analytes	Samples	Tests	Analytes
Product Class	Planned	Planned	Planned	Planned	Planned	Planned	Planned	Planned	Planned	Planned	Planned	Planned
Domestic Residues												
Beef Cows	752	2,268	130,788	752	2,268	130,788	752	2,268	130,788	0	0	0
Bob Veal	400	1,224	70,584	400	1,224	70,584	400	1,224	70,584	0	0	0
Dairy Cows	788	2,376	137,016	788	2,376	137,016	788	2,376	137,016	0	0	0
Heifers	340	1,044	60,204	340	1,044	60,204	340	1,044	60,204	0	0	0
Steer	328	1,008	58,128	328	1,008	58,128	328	1,008	58,128	0	0	0
Sows	788	2,772	143,748	788	2,772	143,748	788	2,772	143,748	0	0	0
Market Swine	728	2,562	132,858	728	2,562	132,858	728	2,087	124,783	0	-475	-8,075
Young Chickens	394	1,584	72,270	388	1,386	71,874	388	998	65,278	0	-388	-6,596
Whole Chickens	394	1,584	72,270	0	0	0	0	0	0	0	0	0
Young Turkeys	788	2,772	137,808	388	1,188	68,508	388	1,188	68,508	0	0	0
Sheep	100	300	16,728	100	300	16,728	100	300	16,728	0	0	0
Lamb	100	300	16,728	100	300	16,728	100	300	16,728	0	0	0
Goats	300	600	35,100	300	600	35,100	300	600	35,100	0	0	0
Roaster Swine	300	300	300	300	300	300	0	0	0	-300	-300	-300
Veal – Other	150	500	29,064	150	500	29,064	150	500	29,064	0	0	0
Egg Product	250	500	36,427	250	500	36,427	100	200	14,570	-150	-300	-21,857
Siluriformes	650	2,640	116,160	200	816	35,904	200	816	35,904	0	0	0
State-Inspected Establishment Sampling for U.S. National Residue Program <sup>1</sup>	300	960	52,740	300	948	52,741	300	936	52,537	0	-12	-204
Other												
Imports <sup>2</sup>	3,400	17,688	689,857	2,250	13,080	537,841	2,250	13,080	537,841	0	0	0
KIS™	4,000	8,000	468,936	4,000	8,000	468,936	4,000	8,000	468,936	0	0	0
Total	15,250	50,982	2,477,714	12,850	41,172	2,480,135	12,400	39,697	2,066,445	-450	-1,7475	-37,032

## Table 2: Planned Number of Chemical Residue Analyses (Tests) and Analytes Reported FY 2022-FY 2024

Abbreviation: KIS<sup>™</sup>, Kidney Inhibition Swab.

<sup>1</sup>State sampling adjusted to reflect number of eligible State establishments.

<sup>2</sup> Import residue testing analyses estimates are driven by expected shipment frequency and volume-based TOI assignments.

<sup>3</sup> The differences between the FY 2023 and FY 2024 plans include: Reduction in egg products and Siluriformes sampling.

### Significant Changes for the FY 2024 Plan

Table 3 lists key priorities FSIS plans to implement in FY 2024. Each row describes the challenges the Agency faces moving into FY 2024, what process is impacted and the objective(s) to achieve during the fiscal year. FSIS intends to complete these changes in multiple phases, with all changes complete by Jan 2024. This table also includes modifications that may have taken place during FY 2023 after the FY 2023 Plan was published.

FY 2024 Modification	Impacted Sampling, Related Process, or Analyte	Description of Modification Implemented				
Reducing Salmonella in Poultry Initiative	Poultry Products	<ul> <li>Identify screening and quantification technology for Salmonella serotypes.</li> </ul>				
		<ul> <li>Implement verification testing approaches for raw, not ready-to-eat (NRTE) breaded, stuffed chicken products.</li> </ul>				
		• Identify verification testing approaches for enhanced <i>Salmonella</i> controls in raw poultry products.				
Availability of new rapid <i>Salmonella</i> serotype methods	Pathogen Identification	• Evaluate newly available, rapid <i>Salmonella</i> serotyping methods.				
Continue sampling cell-cultured meat and poultry food products	Cell-Cultured Meat and Poultry Food Products	<ul> <li>Continue to collect exploratory samples as new establishments receive FSIS Grants of Inspection and start producing cell-cultured products.</li> <li>Plan to transition new establishments producing cell-cultured meat and poultry products from exploratory sampling into routine verification sampling over time.</li> </ul>				
Reexamine sampling strategies for lower volume establishments	Sample Scheduling	• Monthly production volume will be factored into scheduled sampling thereby reducing sampling of lower production volume establishments.				
Implement allergen sampling for milk, eggs, crustacean shellfish, tree nuts, peanuts, wheat, and soybeans	RTE Products with negative allergen label claims	<ul> <li>RTE products to be collected and screened for allergens based on the allergen verification task (FSIS Directive 7230.1).</li> <li>Results will be compared to product labeling to confirm negative label</li> </ul>				

#### Table 3: FY 2024 Sampling Priorities

FY 2024 Modification	Impacted Sampling, Related Process, or Analyte	Description of Modification Implemented
		claims.
Use WGS technology to predict isolate antimicrobial susceptibility	Routine Isolate Characterization	• Expand WGS utilization by replacing antimicrobial susceptibility phenotype testing (AST) with WGS genotyping technology to characterize 90% of collected isolates. Remaining 10% will continue phenotype testing as verification for genotype determination through WGS.

Table 4 lists all products subject to sampling and includes a description of the sampling and testing, whether changes were made to sampling allocations for each product, and the Agency's reasoning for the changes. While many sampling allocations did not change, rationale is included for changes between FY 2023 and FY 2024 sampling plans. FSIS' <u>Sampling Summary</u> reports contain more information regarding changes identified below.

Sampling by Program/Commodity	Program Description	Rationale for Any Changes from the FY 2023 Sampling Allocations
Beef Products	<ul> <li>FSIS conducts Shiga toxin-producing <i>E. coli</i> (STEC) sampling for raw beef products produced in domestic establishments, in imported products, and at retail.</li> <li>Raw non-intact beef products and raw beef products intended for raw non-intact use are eligible for sampling, including raw ground beef, beef manufactured trimmings, bench trim, and other raw ground beef components.</li> <li>FSIS analyzes all raw beef products collected under the routine and follow-up sampling programs, including raw ground beef, beef manufactured trimmings, bench trim, and other raw ground beef components for seven adulterant STEC serogroups (O157, O26, O45, O103, O111, O121, and O145)and <i>Salmonella</i>.</li> <li>FSIS collects samples from beef carcasses before and after pathogen reduction interventions are applied in establishments that have requested a regulatory waiver related to presentation of carcasses for inspection. Carcass samples are analyzed for aerobic count and <i>Salmonella</i>.</li> </ul>	<ul> <li>Expanded non-O157 STEC analysis to all raw beef products previously analyzed only for <i>E. coli</i> O157:H7 (+ 49,032 analytes; implemented Feb. 1, 2023).</li> <li>Discontinued the beef manufactured trimmings cloth exploratory study and implemented cloth method for routine domestic sampling (-1,008 samples; -15,552 tests due to reduced need for subsamples; implemented Feb. 1, 2023).</li> <li>Increase allocations for exploratory beef carcass (pre- and post-evisceration) samples due to additional establishment(s) volunteering for this exploratory project (on-going).</li> </ul>
Pork Products	• FSIS analyzes raw intact, non-intact, and comminuted domestic and imported pork products for <i>Salmonella</i>	<ul> <li>Reduce comminuted pork sampling to minimum samples to estimate establishment categorization, i.e., 10 samples/establishment/year + 176 samples to monitor small establishments (-6,940 samples; implement Oct. 1, 2023).</li> <li>Reduce pork cuts sampling to minimum samples to estimate establishment categorization, i.e., 10</li> </ul>

### Table 4: Rationale for Changes in Sampling Allocations

Sampling by Program/Commodity	Program Description	Rationale for Any Changes from the FY 2023 Sampling Allocations
		samples/establishment/year + 50 samples to monitor small establishments (-1,910 samples; implement Oct. 1, 2023).
Poultry Products	• FSIS analyzes young chicken and turkey carcasses, comminuted chicken and turkey, and chicken parts samples for Salmonella and Campylobacter.	<ul> <li>Evaluate options for enumeration of samples positive for <i>Salmonella</i>.</li> <li>Suspended the exploratory young chicken carcass at rehang sampling (800 samples; implemented Nov. 2022).</li> <li>Suspend exploratory sampling of mechanically separated turkey and chicken products (-300 samples; implement Oct. 1, 2023); FSIS has collected adequate data from these products for analysis.</li> <li>Suspend exploratory sampling of chicken halves and quarters (-120 samples; implement Oct. 1, 2023); FSIS has collected adequate data from these products for analysis.</li> <li>Suspend exploratory sampling of chicken halves and quarters (-120 samples; implement Oct. 1, 2023); FSIS has collected adequate data from these products for analysis.</li> <li>Decrease <i>Campylobacter</i> analysis in all poultry products to the minimum samples needed to estimate prevalence (-13,600 tests; implement Oct. 1, 2023) while FSIS considers next steps for <i>Campylobacter</i> policy.</li> <li>Decrease sample scheduling for comminuted chicken and turkey products by 50% to align with the routine sampling assignments for carcasses and parts(-2,000 samples; implement Jan. 1, 2024).</li> </ul>

Sampling by Program/Commodity	Program Description	Rationale for Any Changes from the FY 2023 Sampling Allocations
		<ul> <li>Reduce turkey carcass sampling to the minimum samples needed to categorize most establishments (-1,042 samples; implement Oct. 1, 2023).</li> </ul>
Cell-cultured meat and poultry food products	FSIS conducts sampling of cell-cultured meat and poultry food products, food contact surface swabs, and environmental swabs to verify establishment food safety programs and assess process control.	<ul> <li>Add scheduled samples for any additional establishments that receive an FSIS Grant of Inspection to produce cell- cultured meat and poultry food products (on-going).</li> </ul>
Ready-To-Eat (RTE): Meat, Poultry, and Egg Products	<ul> <li>FSIS conducts microbiological testing for <i>Listeria monocytogenes</i> (<i>Lm</i>) and <i>Salmonella</i> in both domestically produced and imported egg products in addition to other RTE products.</li> <li>Product sampling is scheduled every month under random and risk-based sampling under 2 RTEPROD projects for meat and poultry RTE products. Product sampling is scheduled every month based on production volume under 2 EGG project codes for liquid, frozen, and dried egg products.</li> <li>R<i>Lm</i> sampling program is performed in establishments producing post-lethality exposed RTE product. An R<i>Lm</i> sampling event includes samples, consisting of product, contact surfaces, and the processing environment, collected and sampled for <i>Lm</i> under 3 R<i>Lm</i> project codes.</li> <li>Intensified Verification Testing (IVT) is performed whenever an eligible establishment has a positive sample collected under the R<i>Lm</i> sampling program projects, or either one of the RTEPROD sampling projects.</li> </ul>	<ul> <li>Reduce RTEPROD_RAND sampling by 50% (-3,700 samples; implement Oct. 1, 2023), this maintains product sampling at higher risk establishments in the RTEPROD_RISK program.</li> <li>Reduce egg products sampling to realign with industry production volume changes (-400 samples; implement Jan. 1, 2024).</li> </ul>

Sampling by Program/Commodity	Program Description	Rationale for Any Changes from the FY 2023 Sampling Allocations
National Residue Program (NRP)	<ul> <li>The <u>NRP sampling</u> guides the collection of domestic and imported meat, poultry, and egg product samples. The domestic sampling plan includes surveillance sampling, inspector-generated, and special project sampling in both Federal and State-inspected slaughter establishments.</li> <li>FSIS IPP perform inspector-generated sampling (KIS) in livestock slaughter species as per <u>FSIS Directive 10,800.1</u>. Per this directive, a positive sample is submitted to the FSIS laboratory for confirmatory testing.</li> </ul>	<ul> <li>Chemical residue exposure in egg product has been negligible, therefore FSIS is reducing the sampling number from 250 to 100 samples (-150 samples; implement Oct. 1, 2023).</li> <li>Suspend PFAS (per- and polyfluoroalkyl substances) testing in domestic pork and poultry products, as products shown to have very few positive samples. By suspending analysis in those two classes, FSIS labs can instead devote time and resources towards expanding the analytical method to detect additional PFAS of concern (-875 analyses; implement Oct. 1, 2023).</li> <li>Suspend carbadox sampling in roaster pigs, which have been shown to have very few positive samples (-300 samples; implement Oct. 1, 2023).</li> </ul>

Sampling by Program/Commodity	Program Description	Rationale for Any Changes from the FY 2023 Sampling Allocations
NARMS Cecal and Expansion Project Sampling	• FSIS analyzes cecal content from beef, swine, young chicken, turkeys, veal, sheep, goat, and lamb for the presence of <i>Salmonella, Campylobacter,</i> generic <i>E. coli,</i> and <i>Enterococcus</i> to monitor trends in antimicrobial resistance.	<ul> <li>NARMS sampling reduced by 10% to reflect best estimates for the number of samples needed to generate the isolate targets for each pathogen (-565 samples; implement Oct. 1, 2023).</li> <li>Resume NARMS sheep and lamb sampling in support of One Health Tri-agency (FSIS-APHIS-FDA) study (no additional samples, allocation redistributed from other NARMS projects as specified in Appendix C).</li> </ul>

Appendices A–C outline the sampling plan grouped by product group and divided by the individual sampling programs. Information for changes from previous years is provided in the preceding tables. Totals in the appendices' tables have been rounded. Each table contains the following information:

- 1. Planned number of samples to be analyzed in FY 2023; and
- 2. Planned number of samples to be analyzed in FY 2024.

# **Appendix A: Microbial Sampling Numbers by Product**

This appendix summarizes the number of samples in FSIS' microbiological sampling program and presents the number of samples planned in FY 2023, and the number of samples planned to be analyzed in FY 2024, by product type. Raw products are presented first, beginning with beef (Table A2), followed by pork (Table A3), and poultry (Table A4). Ready-to-eat (RTE), not ready-to-eat (NRTE), and egg product sampling numbers are presented Table A6. Cell-cultured meat and poultry food product sampling numbers are presented in Table A7.

Table A1 is a quick reference guide of the microbiological analytes by various FSIS regulated products in FY 2024. For a more in-depth review, the tables in Appendix A contain the stratification of the different analytes by product classes.

Product	Salmonella	Campylobacter	L. monocytogenes	STEC	Indicator Organisms	Salmonella Enumeration
Raw Beef	٧			V	$V^1$	
Raw Pork	V					
Raw Poultry	V	v				$\sqrt{2}$
<b>RTE Products</b>	٧		$\checkmark$			
Egg Products	٧		$\checkmark$			
Cell-cultured Meat & Poultry Products	$\sqrt{3}$		٧ <sup>3</sup>		v	

### Table A1: Summary of Analyte tested by Product

<sup>1</sup> Dependent upon the program as not all beef projects are analyzed for indicator organisms.

<sup>2</sup> Dependent upon the program as not all poultry projects are analyzed for *Salmonella* enumeration.

<sup>3</sup> Raw product samples are tested for Aerobic Count (AC), *Salmonella*, chemical residues, speciation, and pathology (microscopic anatomy and histologic examination). Environmental and FCS swab samples at establishments producing raw products are tested for AC and *Salmonella*. RTE product samples are tested for Aerobic Count (AC), *Listeria monocytogenes (Lm)*, chemical residues, speciation, and pathology (microscopic anatomy and histologic examination). Environmental and FCS swab samples at establishments producing monocytogenes (Lm), chemical residues, speciation, and pathology (microscopic anatomy and histologic examination). Environmental and FCS swab samples at establishments producing RTE products are tested for AC and *Lm*.

Table A2: FY 2023 and FY 202	4 Sample Numbers for Raw Beef
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Product	Sampling Project Code	Pathogen(s)	FY 2023 Planned	FY 2024 Planned
Raw ground beef	MT43	STEC and Salmonella	11,500	11,500
Follow-up testing to a ground beef <i>E. coli</i> positive	MT44 and MT44T	STEC and Salmonella	TBD	TBD
Raw ground beef components other than trim	MT64	STEC and Salmonella	1,250	1,250
Bench trim	MT65_C <sup>2</sup>	STEC and Salmonella	1,500	1,500
Beef manufacturing trim	MT60_C <sup>2</sup>	STEC and Salmonella	4,000	4,000
Beef manufacturing trim cloth study	MT60_CLOTH	STEC and Salmonella	1,000	0
Follow-up testing at supplier establishments following MT43, MT44, or MT65 positive	MT52_C <sup>2</sup>	STEC and Salmonella	TBD	TBD
Follow-up testing to an MT60, MT64, MT65, or MT52 positive	MT53_C <sup>2</sup>	STEC and Salmonella	TBD	TBD
Raw ground beef at retail stores	MT05	STEC and Salmonella	500	500
Follow-up testing to a MT05 sample	MT06	STEC and Salmonella	TBD	TBD
Imported raw ground beef <sup>1</sup>	MT08	STEC and Salmonella	50	50
Imported trim and other raw ground beef components <sup>1</sup>	MT51	STEC and Salmonella	1,200	1,200
Exploratory beef carcasses pre- evisceration <sup>3</sup>	MT_PSTHR	Salmonella and Indicator Organisms (Aerobic Count)	TBD	TBD
Exploratory beef carcasses post- interventions <sup>3</sup>	MT_PRECH	Salmonella and Indicator Organisms (Aerobic Count)	TBD	TBD

<sup>1</sup> Lab sampling for imports depends on the number of shipments received by country and the product.

<sup>2</sup> Beef sampling project codes were revised to include "\_C" to denote projects that use a cloth surface sampling device as of February 1, 2023.

<sup>3</sup> Allocations for these sampling projects fluctuate depending on how many establishments are selected for the project.

# Table A3: FY 2023 and FY 2024 Sample Numbers for Raw Pork

Product	Sampling Project Code	Pathogen(s)	FY 2023 Planned	FY 2024 Planned
Comminuted Pork	HC_PK_COM01	Salmonella	8,640	1,700
Intact and Non-Intact Cuts	HC_PK_CUT01	Salmonella	2,400	490
Imported Pork <sup>1</sup>	IMP_PORK	Salmonella	400	400

<sup>1</sup> Sampling for imports depends on the number of shipments received by country and product.

## Table A4: FY 2023 and FY 2024 Sample Numbers for Raw Poultry

	Sampling		FY 2023	FY 2024
Product	Project Code	Pathogen(s)	Planned	Planned
Young Chicken Carcasses	HC_CH_CARC01	Salmonella, Campylobacter,	9,630	9,630
		Salmonella Enumeration		
Ground and Other Comminuted Chicken (not Mechanically Separated)	HC_CH_COM01	Salmonella, Campylobacter	2,500	1,250
Exploratory – Mechanically Separated Chicken	EXP_CH_MSK01	Salmonella, Campylobacter, Salmonella Enumeration	150	0
Chicken Parts – Legs, Breasts, Wings	HC_CPT_LBW01	Salmonella, Campylobacter	16,300	16,300
Chicken Parts – Quarters, Halves	EXP_CPT_QH01	Salmonella, Campylobacter	120	0
Exploratory – Young Chicken Carcass at Rehang	EX_CHCAR_RH1	Salmonella and Indicator Organisms (Aerobic Count)	800	0
Turkey Carcasses	HC_TU_CARC01	Salmonella, Campylobacter	1,730	700
Ground and Other Comminuted Turkey (not Mechanically Separated)	HC_TU_COM01	Salmonella, Campylobacter	1,500	750
Exploratory - Mechanically Separated Turkey	EXP_TU_MSK01	Salmonella, Campylobacter	150	0
Imported Raw Intact Chicken and Turkey <sup>1</sup>	IMP_POULTRY	Salmonella, Campylobacter	800	800
NPIS Fowl Carcass Exploratory	HC_HF_CARC01	Salmonella, Campylobacter	240	180
Follow-up Sampling for Chicken Parts, Carcasses, Comminuted Chicken and Turkey <sup>2</sup>	F_CPT_LBW01 F_CH_COM01 F_TU_COM01 F_CH_CARC01 F_TU_CARC01	Salmonella	TBD	TBD

<sup>1</sup> Sampling for imports depends on the number of shipments received by country and product.

<sup>2</sup> Dependent on findings from other *Salmonella* sampling results.

	Sampling		FY 2023	FY 2024
Product	Project Code	Pathogen(s)	Planned	Planned
Both post lethality-exposed and not post lethality-exposed RTE products	RTEPROD_RAND	Lm, Salmonella	7,400	3,700
Post lethality-exposed RTE products	RTEPROD_RISK	Lm, Salmonella	7,400	7,400
R <i>Lm</i> product samples (composited 5-sample units)	RLMPRODC	Lm	422(2,110) <sup>2</sup>	422(2,110) <sup>2</sup>
RLm food contact surface samples	RLMCONT	Lm	4,220	4,220
R <i>Lm</i> non-food contact environmental samples (composited 5-sample units)	RLMENVC	Lm	422(2,110) <sup>2</sup>	422(2,110) <sup>2</sup>
Intensified Verification Testing (IVT) product samples <sup>1</sup>	INTPROD	Lm or Salmonella	TBD	TBD
IVT food contact surface samples <sup>1</sup>	INTCONT	Lm or Salmonella	TBD	TBD
IVT non-food contact environmental samples <sup>1</sup>	INTENV	Lm or Salmonella	TBD	TBD
Imported intact RTE product <sup>3</sup>	IMVRTE	Lm, Salmonella	3,000	3,000
Egg Products	EGG_DY_MIC01 EGG_LQ_MIC01	Lm, Salmonella	1,600	1,200
Pasteurized imported liquid, frozen, or dried egg products	EGGIMP	Lm, Salmonella	120	120

### Table A5: FY 2023 and FY 2024 Sample Numbers for RTE, NRTE, and Egg Products

Abbreviations: RTE, ready-to-eat; NRTE, not ready-to-eat.

<sup>1</sup> Dependent on positive findings from RTEPROD\_RAND, RTEPROD\_RISK, and RLm sampling projects.

<sup>2</sup> The number in parenthesis represents the number of samples collected by FSIS Office of Field Operations (OFO) IPP to generate the composite number of samples planned.

<sup>3</sup> Sampling for imports depends on the number of shipments received by country and product.

# Table A6: FY 2023 and FY 2024 Sample Numbers for Cell-Cultured Meat and Poultry FoodProducts

Product	Sampling Project Code	Pathogen(s)	FY 2023 Planned	FY 2024 Planned
Raw Product	CC_PROD_NRTE	Salmonella and Indicator Organisms (Aerobic Count) <sup>1</sup>	20	60 <sup>2</sup>
Raw Food Contact Surface	CC_ECS_NRTE	Salmonella and Indicator Organisms (Aerobic Count) <sup>1</sup>	20	60
Raw Environmental	CC_ENV_NRTE	Salmonella and Indicator Organisms (Aerobic Count) <sup>1</sup>	20	60
RTE Product	CC_PROD_RTE	Lm and Indicator Organisms (Aerobic Count) <sup>1</sup>	10	30
RTE Food Contact Surface	CC_FCS_RTE	<i>Lm</i> and Indicator Organisms (Aerobic Count) <sup>1</sup>	10	30
RTE Environmental	CC_ENV_RTE	Lm and Indicator Organisms (Aerobic Count) <sup>1</sup>	10	30

<sup>1</sup>Samples are split to allow analysis for chemical residues, speciation, and pathology (microscopic anatomy and histologic examination).

<sup>2</sup> Samples collected will depend upon the number of establishments which apply for and receive a grant of inspection from FSIS after clearing FDA regulatory review per the interagency agreement in FY 2024.

# **Appendix B: Chemical Residue Sampling Numbers by Product**

This appendix summarizes the numbers of samples in FSIS' chemical residue sampling program for FY 2023 and FY 2024. Chemical residues can include both drug residues and environmental contaminants. Table B1 presents the number of samples by production class. Tables B2 and B3 present the number of analyses performed by method used in each production class broken out by domestic and import sampling.

	Sampling	FY 2023	FY 2024
Production Class	Project Code	Planned	Planned
Beef Cows	NRP_BC	752	752
Bob Veal	NRP_BV	400	400
Dairy Cows	NRP_DC	788	788
Heifers	NRP_HF	340	340
Steer	NRP_ST	328	328
Market Swine	NRP_MS	728	728
Sows	NRP_SW	788	788
Young Chicken	NRP_YC	388	388
Young Turkey	NRP_YT	388	388
Sheep	NRP_SH	100	100
Lambs	NRP_LA	100	100
Goats	NRP_GO	300	300
Roaster Swine	NRP_RS	300	0
Veal other than bob veal (formula-fed, non-	NRP_FFV,	150	150
formula fed)	NRP_NFFV		
Feral Swine	NRP_FS	75	75
Egg Products	NRP_EG	250	100
Siluriformes – Domestic	RES_FI	200	200
Siluriformes – Imports	IMPFISH_CH	250	250
KIS™ Test <sup>1</sup>	KIS	NA	NA
KIS <sup>™</sup> Test – Laboratory Confirmation <sup>2</sup>	KIS	NA	NA
Collector Generated Residues	Various	NA	NA
Import Residue	Various	2,000	2,000
Total		8.625	8.175

#### Table B1: FY 2023 and FY 2024 Sample Numbers for Chemical Residues

Abbreviations: KIS<sup>™</sup>, Kidney Inhibition Swab; NA, non-applicable.

<sup>1</sup> These KIS<sup>™</sup> tests are performed by FSIS IPP in the field and not by the laboratories.

<sup>2</sup> FSIS IPP send positive KIS<sup>™</sup> tests to FSIS laboratories for confirmation.

Methods	Number of Animals	Aminoglycosides	Antifungal Dyes	Carbadox	Metals	Multi- residue	Nitrofurans	Pesticides	PFAS	Sulfonamides
Beef Cows	800	800	-	-	100	800	-	400	TBD <sup>1</sup>	-
Bob Veal	400	400	-	-	100	400	-	200	TBD <sup>1</sup>	-
Dairy Cows	800	800	-	-	100	800	-	400	TBD <sup>1</sup>	-
Heifers	400	400	-	-	100	400	-	200	TBD <sup>1</sup>	-
Steers	400	400	-	-	100	400	-	200	TBD <sup>1</sup>	-
Market Swine	800	800	-	-	100	800	-	400	-	-
Sows	800	800	-	-	100	800	-	400	-	-
Feral Swine	75	-	-	-	-	75	-	75	75	-
Young Chickens	400	400	-	-	150	400	-	200	-	-
Young Turkeys	400	400	-	-	150	400	-	200	-	-
Goats	300	300	-	-	-	300	-	-	-	-
Siluriformes	200	-	100	-	100	200	100	100	100	-
Egg Products	100	-	-	-	-	100	-	100	-	-
Formula-Fed Veal	75	75	-	-	-	75	-	-	-	-
Non-Formula-Fed Veal	75	75	-	-	-	75	-	-	-	-
Sheep	100	100	-	-	-	100	-	50	-	-
Lamb	100	100	-	-	-	100	-	50	-	-
Total	6,225	5,850	100	0	1,100	6,225	100	2,975	175	0

## Table B2: Planned Number of Chemical Residues Analysis by Production Class: Domestic Residue Plan

<sup>1</sup> PFAS analysis will be conducted on inspector-generated ("KIS Test - Laboratory Confirmation") samples, which are not scheduled and therefore not captured in this table.

Methods	Aminoglycosides	Antifungal Dves	Avermectins	Carbadox	Metals	Multi- residue	Nitrofurans	Pesticides	PFAS	Sulfonamides
Beef, Raw	200		-		50	200		100	-	-
Beef, Processed	-	-	25	-	12	-	-	-	-	25
Chicken, Raw	50	-	-	-	25	50	-	25	-	-
Chicken, Processed	-	-	-	-	5	-	-	-	-	5
Turkey, Raw	40	-	-	-	10	40	-	25	-	-
Turkey, Processed	-	-	-	-	5	-	-	-	-	5
Veal, Raw	70	-	-	-	-	70	-	35	-	-
Veal, Processed	-	-	5	-	-	-	-	-	-	-
Goat, Raw	25	-	-	-	-	25	-	25	-	-
Goat, Processed	-	-	5	-	-	-	-	-	-	-
Lamb, Raw	20	-	-	-	-	20	-	10	-	-
Lamb, Processed	-	-	5	-	-	-	-	-	-	-
Mutton, Raw	5	-	-	-	-	5	-	5	-	-
Mutton, Processed	-	-	5	-	-	-	-	-	-	-
Pork, Raw	200	-	-	-	50	200	-	100	-	-
Pork, Processed	-	-	25	-	12	-	-	-	-	25
Siluriformes, Raw	-	125	-	-	125	250	125	125	125	-
Egg Products	-	-	-	-	-	-	-	40	-	-
Total	610	125	70	0	294	860	125	490	125	60

# Table B3: Planned Number of Chemical Residues Analysis by Production Class: Import Residue Plan

# **Appendix C: Collaborative Sampling Programs**

The NARMS program at USDA focuses on two sampling points: samples collected from intestinal (cecal) content from food animals and carcass or food product/commodity samples. While the carcass or food product/commodity results are derived by co-analyzing samples collected for existing sampling programs, the cecal sampling program involves collection of cecal content samples from food animals at slaughter facilities. The planned number of samples are best estimates for the number of samples needed to execute the cecal program based on how many expected isolates each sample should recover. Table C1 summarizes how resources are attributed to each commodity.

Sampling Project Description	Sampling Project Code	FY 2023 Planned	FY 2024 Planned
NARMS-Beef Cows	NARMS_BC	456	456
NARMS-Veal (Bob Veal, Formula-Fed Veal, and Non-Formula-Fed Veal)	NARMS_BV, NARMS_FFV, NARMS_NFFV	0	0
NARMS-Dairy Cows	NARMS_DC	980	690
NARMS-Heifers	NARMS_HF	456	430
NARMS-Steers	NARMS_ST	1,368	972
NARMS-Market Swine	NARMS_MS	860	442
NARMS-Sows	NARMS_SW	410	300
NARMS-Goat	NARMS_GO	0	0
NARMS-Lamb	NARMS_LB	0	420
NARMS-Sheep	NARMS_SH	0	180
NARMS-Young Chickens	NARMS_YC	690	690
NARMS-Young Turkeys	NARMS_YT	435	510
Total		5,655	5,090

#### Table C1: FY 2023 and FY 2024 Sample Numbers for NARMS

FSIS conducts analyses for State establishments, which are part of the State Meat and Poultry Inspection program and produce the same species as those at federally inspected establishments. Numbers are based on the number of qualifying establishments.

Sampling Project Description	Sampling Project Code	FY 2023 Planned	FY 2024 Planned
Beef Cow – State	NRP_BC_S	48	48
Dairy Cows – State	NRP_DC_S	12	12
Steer – State	NRP_ST_S	72	72
Market Swine – State	NRP_MS_S	72	72
Sows – State	NRP_SW_S	12	12
Young Chicken – State	NRP_YC_S	12	12
Young Turkey – State	NRP_YT_S	12	12
Collaborative-PFAS <sup>1</sup>	STATE	400	400
Total	All	640	640

<sup>1</sup>Predominantly, samples are collected for cattle and pork, but other species are analyzed on request.

In FY 2024, FSIS will conduct sampling at establishments slaughtering cattle that will be used for products labeled with negative antibiotic claims, such as "No Antibiotics," "No Antibiotics Ever," "Raised Without Antibiotics," "Antibiotic Free," "No Antibiotics Administered," or related claims. The purpose of the new exploratory sampling program is to assess whether antibiotic residues are found in cattle intended for product with RWA claims. The Agricultural Research Service (ARS) will analyze FSIS samples from eligible establishments as part of a collaborative study. Depending on the results, FSIS may consider establishing a permanent sampling and testing program for this product or may consider initiating rulemaking. FSIS also plans to begin sampling for the FY 2024 Dioxin Survey in FY 2024 Q1. FSIS will collect survey samples as described in Table C3 over 12 months, with ARS completing analysis after sample collection has ended.

#### Table C3: FY 2024 Planned FSIS-Collected Samples to be Analyzed by ARS Collaborators

Sampling Project Description	Sampling Project Code	FY 2023 Planned	FY 2024 Planned
Raised without Antibiotics Label Verification	EXP_LV_RWA	0	300
Dioxin Survey – Steers and Heifers <sup>1</sup>	DIOX_ST_F, DIOX_ST_FL DIOX_HF_F, DIOX_HF_FL	0	139
Dioxin Survey – Market Swine	DIOX_MS_F	0	137
Dioxin Survey – Siluriformes	DIOX_FI	0	50
Total	All	0	626

<sup>1</sup>FSIS plans to collect paired liver samples for 60 of the 139 steers/heifers.

	ampers for interagency isola			
		FY 2023	FY 2024	
Sampling Project Description	Pathogen	Planned	Planned	
State MPI Programs	STEC	4	4	
	Salmonella	30	30	
	Campylobacter	10	10	
	Listeria	10	10	
AMS Commodity Purchase Program	STEC	16	16	
	Salmonella	325	325	
	Listeria	1	1	
Total	All	396	396	

# Table C4: FY 2023 and FY 2024 Sample Numbers for Interagency Isolate Characterization

# **Appendix D: Other Sampling Programs**

Table D1 summarizes the numbers of samples in FSIS' sampling programs other than microbiological and chemical residue sampling programs for FY 2023 and FY 2024.

	Sampling	FY 2023	FY 2024
Sampling Project Description	Project Code	Planned	Planned
Domestic AMR – Beef <sup>1</sup>	AMR01	150	150
Import AMR – Beef <sup>1</sup>	IMPAMRBEEF	10	10
Follow-up AMR01 – Beef <sup>1,2</sup>	FAMR01	NA	NA
Foodborne Illness and Outbreak Sampling <sup>3,4</sup>	Various	7,000	7,000
Label Verification for Nutrient Content – Raw Ground Beef	EXP_LV_NUTR	200	125 <sup>6</sup>
Label Verification – Allergens <sup>5,7</sup>	EXP_LV_SOY	200	25 <sup>6</sup>
Label Verification – Antibiotic Free <sup>5</sup>	EXP_LV_ABX	400	250 <sup>6</sup>
Label Verification – Hormone Free <sup>5</sup>	EXP_LV_HORM	200	25 <sup>6</sup>
Species Identification – Collector Generated	SPECID	NA	NA
Import Species Identification	IMPSPECIESID	250	250
Food Chemistry – Collector Generated <sup>5</sup>	FOODCHEM	NA	NA
Compliance Testing <sup>3,777</sup>	COMPLIAN	NA	NA
Pathology – Collector Generated <sup>3,888</sup>	Various	NA	NA
Import – Abnormal Container	IMPABNCONT and ABNCONT	NA	NA
Total		8,410	7,835

# Table D1: FY 2023 and FY 2024 Sample Numbers for FSIS Sampling Programs other thanMicrobiological and Chemical Residues

Abbreviation: AMR, advanced meat recovery. NA, non-applicable

<sup>1</sup> FSIS collects and analyzes samples in regulated establishments to verify that industry is preventing 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.

<sup>2</sup> Dependent on positive findings from the AMR01 sampling project.

<sup>3</sup> Samples for these projects are not planned, but rather an inspector can collect a sample on the basis of their findings or other circumstances. The planned samples for the Foodborne Illness and Outbreak Sampling are a baseline of 2,000 samples plus a calculated projected number of samples that includes the follow-up sampling. Since follow-up sampling is notated as TBD throughout the appendices, this notates the allocations set aside for all follow-up sampling and outbreak events. Actual values for follow-up sampling are located within their respective product class tables.

<sup>4</sup> FSIS collects and analyzes food samples potentially related to foodborne disease outbreaks. Analyses are conducted to identify and further characterize organisms in outbreak samples.

<sup>5</sup> FSIS performs food and residue chemistry analyses to identify mislabeling, economic fraud, and adulteration of meat, poultry, and egg products.

<sup>6</sup> FY 2024 planned sample allocation for label verification programs is based on average samples collected for previous three fiscal years in this program to be a more accurate estimation of budget needs. FSIS does not expect to collect fewer samples in FY 2024 compared to FY 2023.

<sup>7</sup> FSIS investigators collect compliance samples at in-commerce businesses on a "for-cause" basis in response to complaints,

allegations, and observations during routine or for-cause surveillance activities.

<sup>8</sup> FSIS carries out diagnostic and consultative pathology services to identify diseases, parasites, and related conditions in response to the needs of field operations.

# **Appendix E: Terms, Definitions, and References**

## **Terms and Definitions**

- Analyses: A target detection methodology is applied to a sample based on the sampling project.
- **Analytes:** The target of detection in the analysis, whether for microbiological pathogens, chemical residues, pathology diagnoses, or other various analyses.
- Analyzed: A sample that was processed by the laboratory.
- **Beef Manufacturing Trimmings:** Beef parts of any size, including primal cuts, subprimal cuts, and smaller pieces of trimmings from subprimal cuts, that the producing slaughter establishment intends for raw, non-intact use.
- **Bench Trim:** Beef parts of any size, including primal cuts, subprimal cuts, and smaller pieces of trimmings from subprimal cuts, derived from animals slaughtered at another establishment intended for raw, non-intact use (i.e., not slaughtered onsite).
- **Comminuted:** Product that has been ground, mechanically separated, or mechanically or hand-deboned and further chopped, flaked, minced, or otherwise processed to reduce particle size.
- **Distributed:** FSIS sampling task scheduling algorithm results in a sampling task to appear in PHIS. The algorithm may set to over distribute samples to compensate for predicted under performance in a particular sampling project. This excess distribution is often referred to as "over scheduling."
- Follow-up sampling: Sampling that is a result of failed performance standards or incomplete moving windows or positive results.
- **For-cause sampling**: Sampling that occurs in response to the production of adulterated product, product associated with an illness outbreak, or product that has an increased risk of producing a public health concern (e.g., failing a performance standard or receiving a public health-related noncompliance record).
- **Moving Window**: The results from FSIS sampling over 52 consecutive Sunday-to-Saturday weeks. For more information on moving windows, please see <u>83 FR 56046</u>.
- **Performed:** A sample was collected and submitted to the laboratory, and the laboratory analyzed the sample.
- **Planned:** Quantity of samples identified by the workgroup and annual FSIS Sampling Plan to be collected and analyzed.
- **Routine Sample:** Sample collected for sampling projects which are planned with predicted collection frequencies based on establishments' regular operations. Positive routine samples, or other unpredicted events, may trigger additional sample collections whose samples would not be considered "routine."
- Sampling Plan: A comprehensive annual Agency issuance (this document), which identifies the planned sampling programs, including statistical and policy basis, for a fiscal year. The data-driven strategic planning effort for microbiological and chemical residue sampling activities are aligned with the Agency's Strategic and Annual Plan priorities.
- Sample Scheduling Frequency: The sampling frequency targeting the number of samples collected on an annual basis instead of focusing on specific collection rates. To collect samples from infrequent producing establishments and optimize the total number of samples collected and analyzed, FSIS adjusts the number of samples being scheduled based on the average number of samples collected throughout the sampling year.
- **Scheduled:** A sample is specifically designated a collection date by the FSIS user in PHIS. An FSIS user may not be able to schedule all the samples distributed to a particular establishment in PHIS due to factors such as eligible project availability and other inspection activities.

Test: See Analyses definition.

**Windows:** An established timeframe FSIS uses to calculate categorization. For example, poultry performance standards use the results from the past 52 weeks to determine an establishment's category status.

# References

#### Links to Agency Planning Documents

FY 2017-2021 FSIS Strategic Plan: Food Safety and Inspection Service Strategic Plan 2017-2021 (usda.gov)

Past Annual Plans: Strategic Planning | Food Safety and Inspection Service (usda.gov)

#### Links to Agency Sampling Plans and Programs

Past Annual Sampling Plans: <u>Sampling Program | Food Safety and Inspection Service (usda.gov)</u> – under the Annual Sampling Reports menu

Food Safety and Inspection Service Microbiological and Residue Sampling Programs: <u>Report on the Food</u> <u>Safety and Inspection Service's Microbiological and Residue Sampling Programs (usda.gov)</u>

#### Links to Agency Sampling Summary Reports

Past Annual Sampling Summary Reports: <u>Sampling Program | Food Safety and Inspection Service (usda.gov)</u> – under the Sampling Summary Reports menu

#### Links to Posted Sampling Datasets

FSIS Data Collection and Reports webpage: <u>Sampling Results for FSIS Regulated Products | Food Safety and</u> <u>Inspection Service (usda.gov)</u>

#### Links to Agency Directives

FSIS Directive 10,400.1: <u>Sample Collection from Cattle Under the Bovine Spongiform Encephalopathy (BSE)</u> Ongoing Surveillance Program - Revision 1 | Food Safety and Inspection Service (usda.gov)

FSIS Directive 5,100.4: Public Health Risk Evaluation Methodology (usda.gov)

FSIS Directive 10,010.1: <u>Sampling Verification Activities for Shiga Toxin-Producing Escherichia Coli (STEC) in</u> <u>Raw Beef Products - Revision 4 | Food Safety and Inspection Service (usda.gov)</u>

FSIS Directive 10,250.1: <u>FSIS Directive 10,250.1 Revision 1 - Sampling Instructions Salmonella and</u> <u>Campylobacter Verification Program for Raw Poultry Products (usda.gov)</u>

FSIS Directive 10,250.2: <u>Performance Standards Salmonella Verification Program for Raw Poultry Products</u> | <u>Food Safety and Inspection Service (usda.gov)</u>

### Links to NARMS information

CDC NARMS website: <a href="http://www.cdc.gov/narms/reports/">www.cdc.gov/narms/reports/</a>

FDA NARMS website:

www.fda.gov/AnimalVeterinary/SafetyHealth/AntimicrobialResistance/NationalAntimicrobialResistanceMo nitoringSystem/default.htm

### USDA NARMS website:

National Antimicrobial Resistance Monitoring System (NARMS) | Food Safety and Inspection Service (usda.gov)

FSIS Quarterly Antimicrobial Resistance (AMR) Tables:

Microbiology | Food Safety and Inspection Service (usda.gov)

## Links to Reducing Salmonella in Poultry Information

Reducing Salmonella in Poultry | Food Safety and Inspection Service (usda.gov)

Salmonella Framework:

<u>USDA Releases Proposed Regulatory Framework to Reduce Salmonella Infections Linked to Poultry Products</u> <u>Food Safety and Inspection Service</u>