Food Safety and Inspection Service
Annual Sampling Plan
Fiscal Year 2023

United States Department of Agriculture

Food Safety and Inspection Service

Contents

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) 2023 and identifies changes made from the previous FY.

Background

FSIS Agency Planning

Since FY 2017, FSIS has implemented strategic measures and plans to strengthen FSIS sampling programs. The FY 2023-2026 Strategic Plan and FY 2023 Annual Plan will continue to ensure that sampling resource allocation remains aligned with Agency goals and FSIS is implementing the latest technological and sampling advances to detect microbiological contaminants and chemical residues to protect 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 Public Health Information System (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, or as part of foreign country 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. For those products that do not have a required monthly frequency, FSIS can

adjust the number of samples assigned throughout the year to reach the sample target numbers. 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 FSIS Field Service Laboratories (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 sampling data on the Agency's website and shares the data with establishments through quarterly letters, as well as directly sharing sampling results with IPP and establishments.

FSIS laboratories perform whole genome sequencing (WGS) on all foodborne pathogens isolated and confirmed from FSIS-regulated products. WGS-related projects are aligned with the goals and objectives of the FSIS Strategic Plan and other policies. 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 2022, to enhance transparency and use of the data, FSIS updated its publicly available establishment-specific datasets to include the "FSIS number" and date-stamped allele codes (FSIS *Constituent Update*, May 20,2022). The FSIS number provides a way to link sample metadata to already publicly available isolate sequence data on the National Center for Biotechnology Information (NCBI) website. The allele codes provide a nomenclature that's amenable to reporting and allows for the comparison of FSIS isolate sequences to each other. Moving forward, FSIS will 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 and to understand pathogen adaptability, persistence, and pathogenicity. These efforts will also build on the public health, regulatory, and research partners' endeavors in support of FSIS Research Priorities.

***Salmonella* Exploratory Sampling Project**

In FY 2022, FSIS implemented the Young Chicken Carcass Exploratory Sampling Program to generate microbial data for pre-intervention carcass rinsate samples collected at rehang. Furthermore, in late FY 2022 FSIS brought *Salmonella* enumeration online, which is a new quantification technology to analyze all chicken carcass rinsate samples. These additions and enhancements to sampling support FSIS' stronger and more comprehensive approach to reduce *Salmonella* illnesses associated with poultry products. Since it is not just the presence or absence of *Salmonella*, but the quantity of bacteria that can impact the likelihood of illness, FSIS will 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 focus on the *Salmonella* serotypes and the virulence factors that pose the greatest public health risk. In FY 2023, FSIS will further expand *Salmonella* enumeration analysis.

Microbiological and Chemical Residue Sampling Planned Changes from FY 2021 to FY 2023

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 2021, FY 2022, and FY 2023 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 Sampling Summary Report. A link to past years' Sampling Summary Reports can be found in the References section.

Table 1: Planned Number of Microbiological Analyses (Tests) and Analytes FY 2021-FY 2023

	Planned for FY 2021			Planned for FY 2022			Planned for FY 2023			Difference[1] (FY 2023-FY 2022)		
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	19,233	51,240	99,336	20,023	52,824	100,920	21,271	55,320	103,416	**1,248**	**2,496**	**2,496**
Raw Pork	11,040	22,080	33,120	11,040	22,080	33,120	11,040	22,080	33,120	**0**	**0**	**0**
Raw Poultry	47,892	64,248	64,248	47,892	64,248	64,248	48,692	67,136	67,136	**800**	**2,888**	**2,888**
Raw Siluriformes	660	660	660	660	660	660	0	0	0	**-600**	**-600**	**-600**
RTE/Eggs RTE	15,919	29,616	29,616	15,919	29,616	29,616	15,919	29,616	29,616	**0**	**0**	**0**
RTE/Eggs R*Lm*	5,437	5,437	5,437	5,437	5,437	5,437	5,437	5,437	5,437	**0**	**0**	**0**
RTE/Eggs Eggs	1,600	3,200	3,200	1,600	3,200	3,200	1,600	3,200	3,200	**0**	**0**	**0**
NARMS	7,780	18,600	443,100	6,492	25,968	419,832	5,655	22,752	418,920	**-837**	**-3,216**	**-912**
Imports[2]	6,312	13,884	27,893	6,312	13,884	27,893	5,604	13,176	27,576	**-708**	**-708**	**-317**
Total	**115,873**	**208,616**	**706,741**	**115,375**	**217,917**	**684,926**	**115,222**	**218,721**	**688,425**	**-149**	**800**	**3,495**

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

[1] The differences between FY 2022 and FY 2023 plans include the addition of MT60_CLOTH and exploratory beef carcass sampling, suspension of NARMS expansion testing and the discontinuation of Siluriformes sampling. For a full list of allocation changes, please see Table 4.

[2] Import microbiology testing analyses estimates are driven by expected shipment frequency and volume-based TOI assignments.

Table 2: Planned Number of Chemical Residue Analyses (Tests) and Analytes Reported FY 2021-FY 2023

	Planned for FY 2021			Planned for FY 2022			Planned for FY 2023			Difference[3] (FY 2023-FY 2022)		
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**
Domestic Residues												
Beef Cows	752	2,646	132,678	752	2,268	130,788	752	2,268	130,788	0	0	0
Bob Veal	400	1,428	71,604	400	1,224	70,584	400	1,224	70,584	0	0	0
Dairy Cows	788	3,152	144,992	788	2,376	137,016	788	2,376	137,016	0	0	0
Heifers	340	1,218	61,074	340	1,044	60,204	340	1,044	60,204	0	0	0
Steer	328	1,176	58,968	328	1,008	58,128	328	1,008	58,128	0	0	0
Sows	788	3,152	144,992	788	2,772	143,748	788	2,772	143,748	0	0	0
Market Swine	728	2,912	133,952	728	2,562	132,858	728	2,562	132,858	0	0	0
Young Chickens	394	1,182	53,190	394	1,584	72,270	388	1,386	71,874	-6	-198	-396
Whole Chickens	394	1,576	90,620	394	1,584	72,270	0	0	0	-394	-1,584	-72,270
Young Turkeys	788	2,772	137,808	788	2,772	137,808	388	1,188	68,508	-400	-1,584	-69,300
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	300	300	300	0	0	0
Veal - Other	150	588	29,484	150	500	29,064	150	500	29,064	0	0	0
Egg Product	250	500	38,637	250	500	36,427	250	500	36,427	0	0	0
Siluriformes	650	2,455	116,075	650	2,640	116,160	200	816	35,904	-450	-1,824	-80,256
State-Inspected Establishment Sampling for U.S. National Residue Program[1]	300	1,050	52,614	300	960	52,740	300	948	52,741	0	-12	1
Other												
Imports[2]	3,400	18,276	675,805	3,400	17,688	689,857	2,250	13,080	537,841	-1150	-4,608	-152,016
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**	**53,433**	**2,480,135**	**15,250**	**50,982**	**2,477,714**	**12,850**	**41,172**	**2,103,477**	**-2,400**	**-9,810**	**-374,237**

Abbreviation: KIS™, Kidney Inhibition Swab.

[1] State sampling adjusted to reflect number of eligible State establishments.

[2] Import residue testing analyses estimates are driven by expected shipment frequency and volume-based TOI assignments.

[3] The differences between the FY 2022 and FY 2023 plans include: Suspension of nitrofuran testing, whole chicken carcass, and Siluriformes sampling.

Significant Changes for the FY 2023 Plan

Table 3 lists key priorities FSIS plans to implement in FY 2023. Each row describes the challenges the Agency faces moving into FY 2023, what process is impacted and the objective(s) to achieve during the fiscal year. This table also includes modifications that may have taken place during FY 2022 after the FY 2022 Plan was published.

Table 3: FY 2023 Sampling Priorities

FY 2023 Modification	Impacted Sampling, Related Process, or Analyte	Description of Modification Implemented
Changes to the National Residue Program (NRP)	Whole Chicken Sampling	• Suspend nitrofuran sampling and testing in domestic and imported poultry products.
Reducing *Salmonella* in Poultry Initiative	Poultry Products	• Complete the *Salmonella* Young Chicken Carcass Exploratory Sampling. • Expand *Salmonella* enumeration analysis to other poultry products. • Reexamine sampling strategies for lower production volume establishments. • Identify verification testing approaches for raw, not ready-to-eat (NRTE) breaded, stuffed chicken products.
Availability of new rapid *Salmonella* serotype methods	Pathogen Identification	• Evaluate newly available, rapid *Salmonella* serotyping methods.
Use of new non-destructive cloth sampling device	Raw Beef Trim	• Continue non-destructive cloth sampling on raw beef trim samples.

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. The rationale is included for sampling number allocation changes between FY 2022 and FY 2023 sampling plans. FSIS' Sampling Summary reports contain more information regarding changes identified below. Some sampling allocations did not change as the Agency continues to verify these products meet requirements.

Table 4: Rationale for Changes in Sampling Allocations

Sampling by Program/Commodity	Program Description	Rationale for Any Changes from the FY 2022 Sampling Allocations
Beef Products	• FSIS conducts Shiga toxin-producing *E. coli* (STEC) sampling for raw beef products produced in domestic establishments, in imported products, and at retail. • 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. • 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 *E. coli* O157:H7 and *Salmonella*. Additionally, FSIS analyzes beef manufacturing trimmings for non-O157 STEC. • 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 *Salmonella*.	• Expand non-O157 STEC analysis to all raw beef products currently analyzed only for *E. coli* O157:H7. • Discontinue the beef manufactured trimmings cloth comparison study (~3,000 samples). • Investigate options for enumeration of positive *Salmonella* samples. • Increase allocations for exploratory beef carcass sampling (pre- and post-evisceration) by 268 (or more) samples due to additional establishment(s) selected for this exploratory project.

Sampling by Program/Commodity	Program Description	Rationale for Any Changes from the FY 2022 Sampling Allocations
Pork Products	• FSIS analyzes raw intact, non-intact, and comminuted domestic and imported pork for *Salmonella*, and indicator organisms.	• No allocation changes planned for FY 2023.
Poultry Products	• FSIS analyzes young chicken and turkey carcasses, comminuted chicken and turkey, and chicken parts samples for *Salmonella* and *Campylobacter*.	• Complete the exploratory young chicken carcass at rehang sampling (800 samples). • Evaluate options for enumeration of samples positive for *Salmonella*.
Siluriformes	• FSIS analyzes raw fish of the Order Siluriformes for *Salmonella*.	• Discontinue microbiological sampling samples (600 samples).

Sampling by Program/Commodity	Program Description	Rationale for Any Changes from the FY 2022 Sampling Allocations
Ready-To-Eat (RTE): Meat, Poultry, and Egg Products	• FSIS conducts microbiological testing for *Listeria monocytogenes* (*Lm*) and *Salmonella* in both domestically produced and imported egg products in addition to other RTE products. • 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. • R*Lm* sampling program is performed in establishments producing post-lethality exposed RTE product. An R*Lm* sampling event includes samples, consisting of product, contact surfaces, and the processing environment, collected and sampled for *Lm* under 3 R*Lm* project codes. • Intensified Verification Testing (IVT) is performed whenever an eligible establishment has a positive sample collected under the R*Lm* sampling program projects, or either one of the RTEPROD sampling projects.	• No allocation changes planned for FY 2023.

Sampling by Program/Commodity	Program Description	Rationale for Any Changes from the FY 2022 Sampling Allocations
National Residue Program (NRP)	• The NRP sampling 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. • FSIS IPP perform inspector-generated sampling (KIS) in livestock slaughter species as per FSIS Directive 10,800.1. Per this directive, a positive sample is submitted to the FSIS laboratory for confirmatory testing.	• Revised domestic Siluriformes sampling based on data (450 fewer samples). • Revised young turkey sampling based on data (400 fewer samples). • Suspend nitrofuran sampling and testing in domestic and imported poultry products based on data. Discontinue whole chicken sampling (394 samples).

Sampling by Program/Commodity	Program Description	Rationale for Any Changes from the FY 2022 Sampling Allocations
Import Sampling	• FSIS analyzes imported raw beef for *E. coli* O157:H7 and *Salmonella*. • FSIS also analyzes imported beef manufacturing trimmings for non-O157 STEC, which includes the following six O-antigen groups: O26, O45, O103, O111, O121, and O145. • FSIS analyzes imported poultry for *Salmonella* and *Campylobacter*. • FSIS analyzes imported raw pork products for *Salmonella*. • FSIS analyzes imported RTE and egg products for *Lm* and *Salmonella*. • FSIS analyzes imported raw meat, poultry products, processed products, and imported Siluriformes products for chemical residues.	• Discontinue imported Siluriformes microbiological sampling (700 samples). • Realign imported Siluriformes chemical residue sampling based on the data (450 fewer samples). • Expand non-O157 STEC analysis to all raw beef products currently analyzed only for *E. coli* O157:H7.

Sampling by Program/Commodity	Program Description	Rationale for Any Changes from the FY 2022 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 *Salmonella, Campylobacter,* generic *E. coli,* and *Enterococcus* to monitor trends in antimicrobial resistance.	• Suspend NARMS veal [Bob Veal, Formula-Fed Veal, and Non-Formula-Fed Veal] expansion sampling based on data (480 samples). • Suspend NARMS sheep expansion sampling based on data (100 samples). • Suspend NARMS lamb expansion sampling based on data (100 samples). • Suspend NARMS goat expansion sampling based on data (100 samples).
Other Sampling	• FSIS performs verification of species claims on domestic and imported product. • FSIS performs label verification sampling for certain labeling claims on domestic product.	• No allocation changes for FY 2023.

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 2022; and
2. Planned number of samples to be analyzed in FY 2023.

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 2022, and the number of samples planned to be analyzed in FY 2023, by product type. Raw products are presented first, beginning with beef (Table A2), followed by pork (Table A3), fish of the Order Siluriformes (Table A4) and poultry (Table A5). Ready-to-eat (RTE), not ready-to-eat (NRTE), and egg product sampling numbers are presented in Table A6.

Table A1 is a quick reference guide of the microbiological analytes by various FSIS regulated products in FY 2022. For a more in-depth review, the tables in Appendix A contain the stratification of the different analytes by product classes.

Table A1: Summary of Analyte tested by Product

	Microbiological Analyte						
Product	***Salmonella***	***Campylobacter***	***L. monocytogenes***	***E. coli* O157:H7**	**Non-O157 STEC**	**Indicator Organisms**	***Salmonella* Enumeration**
Raw Beef	√			√	√[1]	√[2]	
Raw Pork	√					√[2]	
Raw Siluriformes	√						
Raw Poultry	√	√					√[3]
RTE Products	√		√				
Egg Products	√		√				

[1] Only domestic raw beef manufacturing trim and imported raw beef trim. All other raw beef products are tested for *Salmonella* and *E. coli* O157:H7 only.

[2] Dependent upon the program as not all beef and pork projects are analyzed for indicator organisms.

[3] Dependent upon the program as not all poultry projects are analyzed for *Salmonella* enumeration.

Table A2: FY 2022 and FY 2023 Sample Numbers for Raw Beef

Product	Sampling Project Code	Pathogen(s)	FY 2022 Planned	FY 2023 Planned
Raw ground beef	MT43	*E. coli* O157:H7 and *Salmonella*	11,500	11,500
Follow-up testing to a ground beef *E. coli* positive[1]	MT44 and MT44T	*E. coli* O157:H7 and *Salmonella*	TBD	TBD
Raw ground beef components other than trim	MT64	*E. coli* O157:H7 and *Salmonella*	1,250	1,250
Bench trim	MT65	*E. coli* O157:H7 and *Salmonella*	1,500	1,500
Beef manufacturing trim	MT60	*E. coli* O157:H7, Non-O157 STEC and *Salmonella*	4,000	4,000
Beef manufacturing trim cloth study	MT60_CLOTH	*E. coli* O157:H7, Non-O157 STEC and *Salmonella*	4,000	1,000
Follow-up testing at supplier establishments following MT43, MT44, or MT65 positive[1]	MT52	*E. coli* O157:H7, Non-O157 STEC and *Salmonella*	TBD	TBD
Follow-up testing to an MT60, MT64, MT65, or MT52 positive[1]	MT53	*E. coli* O157:H7, Non-O157 STEC and *Salmonella*	TBD	TBD
Raw ground beef at retail stores	MT05	*E. coli* O157:H7 and *Salmonella*	500	500
Follow-up testing to a MT05 sample[1]	MT06	*E. coli* O157:H7 and *Salmonella*	TBD	TBD
Imported raw ground beef[2]	MT08	*E. coli* O157:H7 and *Salmonella*	50	50
Imported trim and other raw ground beef components[2]	MT51	*E. coli* O157:H7, Non-O157 STEC and *Salmonella*	1,200	1,200
Exploratory beef carcasses pre-evisceration[3]	MT_PSTHR	*Salmonella* and Indicator Organisms (Aerobic Count)	416	550
Exploratory beef carcasses post-interventions[3]	MT_PRECH	*Salmonella* and Indicator Organisms (Aerobic Count)	416	550

[1] Dependent on positive findings from other *E. coli* O157:H7 or non-O157 STEC sampling projects.
[2] Lab sampling for imports depends on the number of shipments received by country and the product.

[3] Allocations for these sampling projects can fluctuate depending on how many establishments are eligible and selected for the project.

Table A3: FY 2022 and FY 2023 Sample Numbers for Raw Pork

Product	Sampling Project Code	Pathogen(s)	FY 2022 Planned	FY 2023 Planned
Comminuted Pork	HC_PK_COM01	*Salmonella* and Indicator Organisms (Aerobic Count)	8,640	8,640
Intact and Non-Intact Cuts	HC_PK_CUT01	*Salmonella* and Indicator Organisms (Aerobic Count)	2,400	2,400
Imported Pork[1]	IMP_PORK	*Salmonella*	400	400

[1] Sampling for imports depends on the number of shipments received by country and product.

Table A4: FY 2022 and FY 2023 Sample Numbers for Raw Siluriformes

Product	Sampling Project Code	Analyses	FY 2022 Planned	FY 2023 Planned
Domestic Raw Fish of the Order Siluriformes	EXP_FI_MIC01	*Salmonella*	650	0
Imported Raw Fish of the Order Siluriformes	IMPFISH_MI	*Salmonella*	700	0

Table A5: FY 2022 and FY 2023 Sample Numbers for Raw Poultry

Product	Sampling Project Code	Pathogen(s)	FY 2022 Planned	FY 2023 Planned
Young Chicken Carcasses	HC_CH_CARC01	*Salmonella, Campylobacter, Salmonella* Enumeration	9,630	9,630
Ground and Other Comminuted Chicken (not Mechanically Separated)	HC_CH_COM01	*Salmonella, Campylobacter*	2,500	2,500
Exploratory – Mechanically Separated Chicken	EXP_CH_MSK01	*Salmonella, Campylobacter, Salmonella* Enumeration	150	150
Chicken Parts – Legs, Breasts, Wings	HC_CPT_LBW01	*Salmonella, Campylobacter*	16,300	16,300
Chicken Parts – Quarters, Halves	EXP_CPT_QH01	*Salmonella, Campylobacter*	120	120

Product	Sampling Project Code	Pathogen(s)	FY 2022 Planned	FY 2023 Planned
Exploratory – Young Chicken Carcass at Rehang	EX_CHCAR_RH1	*Salmonella*	4,000	800
Turkey Carcasses	HC_TU_CARC01	*Salmonella, Campylobacter*	1,730	1,730
Ground and Other Comminuted Turkey (not Mechanically Separated)	HC_TU_COM01	*Salmonella, Campylobacter*	1,500	1,500
Exploratory - Mechanically Separated Turkey	EXP_TU_MSK01	*Salmonella, Campylobacter*	150	150
Imported Raw Intact Chicken and Turkey[1]	IMP_POULTRY	*Salmonella, Campylobacter*	800	800
NPIS Fowl Carcass Exploratory	HC_HF_CAR01	*Salmonella, Campylobacter*	240	240
Follow-up Sampling for Chicken Parts, Carcasses, Comminuted Chicken and Turkey[2]	F_CPT_LBW01 F_CH_COM01 F_TU_COM01 F_CH_CARC01 F_TU_CARC01	*Salmonella*	TBD	TBD

[1] Sampling for imports depends on the number of shipments received by country and product.
[2] Dependent on findings from other *Salmonella* sampling results.

Table A6: FY 2022 and FY 2023 Sample Numbers for RTE, NRTE, and Egg Products

Product	Sampling Project Code	Pathogen(s)	FY 2022 Planned	FY 2023 Planned
Both post lethality-exposed and not post lethality-exposed RTE products	RTEPROD_RAND	*Lm, Salmonella*	7,400	7,400
Post lethality-exposed RTE products	RTEPROD_RISK	*Lm, Salmonella*	7,400	7,400
R*Lm* product samples (composited 5-sample units)	RLMPRODC	*Lm*	422(2,110)[2]	422(2,110)[2]
R*Lm* food contact surface samples	RLMCONT	*Lm*	4,220	4,220
R*Lm* non-food contact environmental samples (composited 5-sample units)	RLMENVC	*Lm*	422(2,110)[2]	422(2,110)[2]
Intensified Verification Testing (IVT) product samples[1]	INTPROD	*Lm* or *Salmonella*	TBD	TBD

Product	Sampling Project Code	Pathogen(s)	FY 2022 Planned	FY 2023 Planned
IVT food contact surface samples[1]	INTCONT	*Lm* or *Salmonella*	TBD	TBD
IVT non-food contact environmental samples[1]	INTENV	*Lm* or *Salmonella*	TBD	TBD
Imported intact RTE product[3]	IMVRTE	*Lm, Salmonella*	3,000	3,000
Egg Products	EGG_DY_MIC01 EGG_LQ_MIC01	*Lm, Salmonella*	1,600	1,600
Pasteurized imported liquid, frozen, or dried egg products	EGGIMP	*Lm, Salmonella*	120	120

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

[1] Dependent on positive findings from RTEPROD_RAND, RTEPROD_RISK, and R*Lm* sampling projects.

[2] 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.

[3] Sampling for imports depends on the number of shipments received by country and product.

Appendix B: Chemical Residue Sampling Numbers by Product

This appendix summarizes the numbers of samples in FSIS' chemical residue sampling program for FY 2022 and FY 2023. 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.

Table B1: FY 2022 and FY 2023 Sample Numbers for Chemical Residues

Production Class	Sampling Project Code	FY 2022 Planned	FY 2023 Planned
Beef Cows	NRP_BC	752	752
Beef Cow – State[1]	NRP_BC_S	48	48
Bob Veal	NRP_BV	400	400
Dairy Cows	NRP_DC	788	788
Dairy Cows – State[1]	NRP_DC_S	12	12
Heifers	NRP_HF	340	340
Heifers – State[1]	NRP_HF_S	60	60
Steer	NRP_ST	328	328
Steer – State[1]	NRP_ST_S	72	72
Market Swine	NRP_MS	728	728
Market Swine – State[1]	NRP_MS_S	72	72
Sows	NRP_SW	788	788
Sows – State[1]	NRP_SW_S	12	12
Young Chicken	NRP_YC	394	388
Young Chicken – State[1]	NRP_YC_S	12	12
Whole Chicken	NRP_WC	394	0
Young Turkey	NRP_YT	788	388
Young Turkey – State[1]	NRP_YT_S	12	12
Sheep	NRP_SH	100	100
Lambs	NRP_LA	100	100
Goats	NRP_GO	300	300
Roaster Swine	NRP_RS	300	300
Veal other than bob veal (formula-fed, non-formula fed)	NRP_FFV, NRP_NFFV	150	150
Feral Swine	NRP_FS	75	75
Egg Products	NRP_EG	250	250
Siluriformes – Domestic	RES_FI	650	200
Siluriformes – Imports[2]	IMPFISH_CH_E and IMPFISH_CH_W; IMPFISH_CH	700	250
KIS™ Test[3]	KIS	NA	NA

Production Class	Sampling Project Code	FY 2022 Planned	FY 2023 Planned
KIS™ Test – Laboratory Confirmation[4]	KIS	NA	NA
Collector Generated Residues	Various	NA	NA
Import Residue	Various	2,000	2,000

Abbreviations: KIS™, Kidney Inhibition Swab; NA, non-applicable.

[1] FSIS updated allocations for State establishments, which are part of the State meat and poultry inspection program, that produce the same species as those at federally inspected establishments to be based off the number of qualifying establishments..

[2] Siluriformes import sampling consolidated the IMPFISH_CH_E and IMPFISH_CH_W projects codes into a single new sampling project code, IMPFISH_CH.

[3] These KIS™ tests are performed by FSIS IPP in the field and not by the laboratories.

[4] FSIS IPP send positive KIS™ tests to FSIS laboratories for confirmation.

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

Methods	Number of Animals	Aminoglycosides	Antifungal Dyes	Carbadox	Metals	Multi-residue	Nitrofurans	Pesticides	PFAS	Sulfonamides
Beef Cows	**800**	800	-	-	100	800	-	400	-	-
Bob Veal	**400**	400	-	-	100	400	-	200	-	-
Dairy Cows	**800**	800	-	-	100	800	-	400	-	-
Heifers	**400**	400	-	-	100	400	-	200	-	-
Steers	**400**	400	-	-	100	400	-	200	-	-
Roaster Swine	**300**	-	-	300	-	-	-	-	-	-
Market Swine	**800**	800	-	-	100	800	-	400	200	-
Sows	**800**	800	-	-	100	800	-	400	200	-
Feral Swine	**75**	-	-	-	-	75	-	75	75	-
Young Chickens	**400**	400	-	-	150	400	-	200	400	-
Young Turkeys	**400**	400	-	-	150	400	-	200	-	-
Goats	**300**	300	-	-	-	300	-	-	-	-
Siluriformes	**200**	-	100	-	100	200	100	100	100	-
Egg Products	**400**	-	-	-	-	250	-	250	-	-
Formula-Fed Veal	**75**	75	-	-	-	75	-	-	-	-
Non-Formula-Fed Veal	**75**	75	-	-	-	75	-	-	-	-
Sheep	**100**	100	-	-	-	100	-	50	-	-
Lamb	**100**	100	-	-	-	100	-	50	-	-
Total	**8,075**	**5,850**	**100**	**300**	**1,100**	**6,375**	**1,125**	**3,125**	**975**	**0**

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

Methods	Aminoglycosides	Antifungal Dyes	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	25	-	-
Chicken, Processed	-	-	-	-	5	-	-	-	-	5
Turkey, Raw	40	-	-	-	10	40	25	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**	**175**	**400**	**125**	**60**

Appendix C: National Antimicrobial Resistance Monitoring System (NARMS) Programs

The National Antimicrobial Resistance Monitoring System (NARMS) is an interagency, collaborative partnership with State and local public health departments, the U.S. Food and Drug Administration (FDA), the Centers for Disease Control and Prevention (CDC), and the U.S. Department of Agriculture (USDA). 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 (USDA FSIS). The NARMS program at USDA focuses on two sampling points: samples collected from intestinal (cecal) content from food animals and carcass or food commodity samples. While the carcass or food 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. This appendix summarizes the number of samples needed to execute cecal sampling. 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.

Table C1: FY 2022 and FY 2023 Sample Numbers for NARMS

Sampling Project Description	Sampling Project Code	FY 2022 Planned	FY 2023 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	480	0
NARMS-Dairy Cows	NARMS_DC	980	980
NARMS-Heifers	NARMS_HF	456	456
NARMS-Steers	NARMS_ST	1,368	1,368
NARMS-Market Swine	NARMS_MS	860	860
NARMS-Sows	NARMS_SW	410	410
NARMS-Goat	NARMS_GO	100	0
NARMS-Lamb	NARMS_LB	100	0
NARMS-Sheep	NARMS_SH	100	0
NARMS-Young Chickens	NARMS_YC	690	690
NARMS-Young Turkeys	NARMS_YT	435	435

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 2022 and FY 2023.

Table D1: FY 2022 and FY 2023 Sample Numbers for FSIS Sampling Programs other than Microbiological and Chemical Residues

Sampling Project Description	Sampling Project Code	FY 2022 Planned	FY 2023 Planned
Domestic AMR – Beef[1]	AMR01	150	150
Import AMR – Beef[1]	IMPAMRBEEF	10	10
Follow-up AMR01 – Beef[1,2]	FAMR01	NA	NA
Foodborne Illness and Outbreak Sampling[3,4]	Various	7,000	7,000
Label Verification for Nutrient Content – Raw Ground Beef	EXP_LV_NUTR	200	200
Label Verification – Allergens[5]	EXP_LV_SOY	200	200
Label Verification – Antibiotic Free[5]	EXP_LV_ABX	400	400
Label Verification – Hormone Free[5]	EXP_LV_HORM	200	200
Species Identification – Collector Generated	SPECID	NA	NA
Import Species Identification	IMPSPECIESID	250	250
Food Chemistry – Collector Generated[5]	FOODCHEM	NA	NA
Compliance Testing[3,6]	COMPLIAN	NA	NA
Pathology – Collector Generated[3,7]	Various	NA	NA
Import – Abnormal Container	IMPABNCONT and ABNCONT	NA	NA

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

[1] 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.

[2] Dependent on positive findings from the AMR01 sampling project.

[3] Samples for these projects are not planned in advance, 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.

[4] FSIS collects and analyzes food samples potentially related to foodborne disease outbreaks. Analyses are conducted to identify and further characterize organisms in outbreak samples.

[5] FSIS performs food and residue chemistry analyses to identify mislabeling, economic fraud, and adulteration of meat, poultry, and egg products.

[6] 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.

[7] 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 83 FR 56046.

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: Sampling Program | Food Safety and Inspection Service (usda.gov) – under the Annual Sampling Reports menu

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

Links to Agency Sampling Summary Reports

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

Links to Posted Sampling Datasets

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

Links to Agency Directives

FSIS Directive 10,400.1: Sample Collection from Cattle Under the Bovine Spongiform Encephalopathy (BSE) 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: Sampling Verification Activities for Shiga Toxin-Producing Escherichia Coli (STEC) in Raw Beef Products - Revision 4 | Food Safety and Inspection Service (usda.gov)

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

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

Links to NARMS information

CDC NARMS website: www.cdc.gov/narms/reports/

FDA NARMS website:
www.fda.gov/AnimalVeterinary/SafetyHealth/AntimicrobialResistance/NationalAntimicrobialResistanceMonitoringSystem/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:
USDA Releases Proposed Regulatory Framework to Reduce Salmonella Infections Linked to Poultry Products | Food Safety and Inspection Service