

USDA Food Safety and Inspection Service
Annual Sampling Summary Report
Fiscal Year 2021

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Introduction

The U.S. Department of Agriculture's (USDA) Food Safety and Inspection Service (FSIS) inspects meat, poultry, and egg products to ensure that the food produced is safe, wholesome, and properly labeled. Verification activities serve to protect the public from foodborne hazards. A key FSIS inspection verification activity is the sampling of product for microbiological contaminants or chemical residues.

Each new fiscal year, FSIS develops its [Annual Sampling Plan](#) in alignment with the Agency's [Strategic Plan](#) goals, outcomes, objectives and measures, as well as the Agency's [Annual Plan](#). The Annual Sampling Plan identifies changes planned to FSIS sampling programs and describes the Agency's overall strategy for directing its sampling resources. This report, the FY 2021 Annual Sampling Summary Report, summarizes the activities and provides an overview of results for the products the Agency inspected during fiscal year (FY) 2021 (October 1, 2020 – September 30, 2021).

FSIS routinely evaluates sampling data, posts these data (including establishment-specific datasets) to the [FSIS website](#), and shares data through quarterly letters directly with regulated establishments. These data include [FSIS pathogen verification data](#), [FSIS National Residue Program data](#), and [import data](#). These data are used in a variety of ways, including monitoring the effectiveness of Hazard Analysis and Critical Control Points (HACCP) plans, informing Agency policymaking, estimating public health impact, and advising strategic and performance planning.

Summary of Sampling

Each sampling project has a unique description name and alphanumeric data system code; both are commonly used when discussing sampling projects and are both included in this report. For microbiological analyses, FSIS analyzes sampling data and calculates either percent positive or prevalence. "Percent positive" is defined as the percentage of samples of a specific FSIS-regulated product where a specific pathogen is detected. "Prevalence" is defined as the estimated proportion, nationally, of a specific FSIS-regulated product with a specific pathogen. More information on sampling definitions can be found on the FSIS website [sampling results data dictionary](#).

This report separates sampling results into various sections: domestic microbiological sampling, domestic chemical residue sampling as conducted through the National Residue Program (NRP), import sampling, and all other sampling. FSIS continues to focus on its mission to protect public health and prevent foodborne illness in several different ways. Each section in the report below identifies any new sampling activities designed to further food safety and policy changes.

1. Domestic Microbiological Sampling

Raw Beef Products

FSIS collects raw beef samples from Federally inspected establishments and retail firms to verify that products are not adulterated and that establishments have systems in place to address pathogens. FSIS schedules sample collection monthly by randomly selecting establishments from the current population that produces eligible products. The frequency of sampling at any establishment is based on the volume of eligible products ([FSIS Directive 10,010.1](#)). FSIS analyzes raw beef products from establishments for *Escherichia coli* (*E. coli*) O157:H7, non-O157 Shiga toxin-producing *E. coli* (STEC), and *Salmonella* and samples from retail for *E. coli* O157:H7 and *Salmonella* (**Table 1**).

Follow-up samples are a tool FSIS uses to verify whether the establishment has taken effective corrective action in response to the initial STEC positive detected through routine FSIS verification testing. FSIS collects raw beef follow-up samples in response to a STEC positive finding from routine sampling. FSIS analyzes ground beef follow-up samples for *E. coli* O157:H7 and *Salmonella*. FSIS analyzes beef trim follow-up samples for *E. coli* O157:H7, non-O157 STEC, and *Salmonella*. For ground beef product or bench trim samples that are positive for STEC, FSIS also collects follow-up samples from suppliers, when suppliers provided source materials (**Table 3**). Follow-up samples may also be collected at retail and tested for *E. coli* O157:H7 and *Salmonella* in response to a positive result.

For more information on source materials sampled, the sample project summary, sample method, and product sampled, see the [FSIS Directive 10,010.1 Informational Dashboard](#) and select the appropriate sample code for more information.

Table 1. FSIS’ Raw Beef Verification Sampling

FSIS has five verification sampling codes and corresponding follow-up sampling codes.

Raw Beef Sampling Verification Code	Sample Project Description	Corresponding Follow-Up Sampling Code
MT43	Raw ground beef	MT53 or MT44 ¹
MT60	Beef manufacturing trimmings produced from cattle slaughtered onsite	MT53
MT64	Raw ground beef components other than trim, produced from cattle slaughtered onsite	MT53
MT65	Bench trim produced from cattle not slaughtered onsite	MT52 or MT53
MT05	Raw ground beef in commerce	MT06

¹FSIS also conducts MT44T follow-up sampling for positive samples not from FSIS verification sampling (e.g., traceback related to outbreaks).

Table 2. FY 2021 Summary of FSIS' Raw Beef Verification Sampling Programs

FY 2021 results for FSIS' five verification sampling codes for detecting *E. coli* O157:H7 and/or non-O157 STECs (including O23, O45, O103, O111, O121, and O145) and *Salmonella* in raw beef product samples.

Product Name and Project Code	Pathogen	Number of Establishments Sampled	Number of Samples Analyzed	Number Positive	Type of Calculation ¹	Prevalence or Percent Positive Calculation
Raw Ground Beef MT43	<i>E. coli</i> O157:H7	1,231	11,009	8	Prevalence	0.04%
	<i>Salmonella</i> spp.	1,231	11,009	144	Prevalence	2.1%
Beef Manufacturing Trim MT60	<i>E. coli</i> O157:H7	524	3,833	7	Prevalence	0.05%
	non-O157 STEC	520	3,805	17	Prevalence	0.20%
	<i>Salmonella</i> spp.	524	3,833	72	Prevalence	1.0%
Raw Ground Beef Components other than Trim MT64	<i>E. coli</i> O157:H7	137	1,355	4	Percent Positive	0.3%
	<i>Salmonella</i> spp.	137	1,355	84	Percent Positive	6.2%
Bench Trim MT65	<i>E. coli</i> O157:H7	478	1,359	0	Percent Positive	0.0%
	<i>Salmonella</i> spp.	478	1,359	12	Percent Positive	0.88%
Raw Ground Beef In-Commerce MT05 ²	<i>E. coli</i> O157:H7	519	520	1	Percent Positive	0.19%
	<i>Salmonella</i> spp.	519	520	8	Percent Positive	1.54%

¹Percent positive is 100*(the total number of positive samples divided by the total number of tested samples). Prevalence is a calculated percentage that takes into account establishment production volumes and the volume of contaminated product. See the [sampling results data dictionary](#) on the FSIS website for a detailed description of prevalence.

²MT05 ground beef samples are collected from retail firms, not Federal establishments.

Table 3. FY 2021 Summary of FSIS' Beef Follow-Up Sampling Programs

FY 2021 follow-up testing results in raw beef product samples in response to samples positive for either *E. coli* O157:H7 or non-O157 STEC in the verification sampling projects are shown.

Product Name and Project Code ¹	Pathogen	Number of Establishments Sampled	Number of Samples Analyzed	Number Positive	Percent Positive Calculation
Raw Ground Beef MT44	<i>E. coli</i> O157:H7	5	53	0	0.0%
	<i>Salmonella</i> spp.	5	53	2	3.77%
Trim and Components MT52	<i>E. coli</i> O157:H7	3	34	0	0.0%
	non-O157 STEC	3	34	0	0.0%
	<i>Salmonella</i> spp.	3	34	1	2.94%
Beef Manufacturing Trim MT53	<i>E. coli</i> O157:H7	46	549	2	0.36%
	non-O157 STEC	44	511	1	0.2%
	<i>Salmonella</i> spp.	46	549	23	4.19%

¹No MT06 or MT44T samples were collected in FY 2021.

Raw Pork Products

FSIS samples raw pork products samples for *Salmonella* and aerobic count indicator organisms. FSIS began sampling raw pork products in May 2015 ([80 FR 3940](#)) to test for pathogens of public concern. In 2019, FSIS focused sample collection on eligible establishments producing greater than 6,000 pounds of comminuted product and eligible establishments producing greater than 50,000 pounds per day of pork cuts, both intact and non-intact (**Table 4**).

Table 4. FSIS' Raw Pork Sampling

FSIS has two raw pork sampling codes. FSIS does not conduct follow-up sampling for pork products.

Raw Pork Sampling Code	Sample Project Description	Establishment Volume	Task Frequency
HC_PK_CUT01	Intact and Nonintact Cuts	1,001 – 50,000 lbs/day	Random
HC_PK_CUT01	Intact and Nonintact Cuts	>50,000 lbs/day	5 times/month
HC_PK_COM01	Comminuted	1,0001 – 6,000 lbs/day	Random
HC_PK_COM01	Comminuted	>6,000 lbs/day	5 times/month

Table 5. FY 2021 Results for FSIS' Raw Pork Sampling Program

FY 2021 exploratory sampling results for detecting *Salmonella* in raw pork product samples are shown. This is exploratory sampling because FSIS does not take any action in response to these results and is evaluating them to inform future policy or procedures.

Product Name and Project Code	Pathogen	Number of Establishments Sampled	Number of Samples Analyzed	Number Positive	Percent Positive Calculation
Comminuted HC_PK_COM01	<i>Salmonella</i> spp.	311	6,330	1,292	20.4%
Intact and Non-Intact Cuts HC_PK_CUT01	<i>Salmonella</i> spp.	89	2,248	193	8.6%

Raw Siluriformes Products

FSIS began sampling raw fish of the order Siluriformes in May 2016 ([FSIS Directive 14,010.1](#)) for *Salmonella*. Samples are collected monthly from eligible establishments.

Table 6. FY 2021 Siluriformes Sampling Results

FY 2021 exploratory sampling results for FSIS raw Siluriformes product sampling are shown. This is exploratory sampling because FSIS does not take any action in response to these results and is evaluating them to inform future policy or procedures.

Product Name and Project Code	Pathogen	Number of Establishments Sampled	Number of Samples Analyzed	Number Positive	Percent Positive Calculation
Raw Siluriformes EXP_FI_MIC01	<i>Salmonella</i>	69	583	16	2.7%

Raw Poultry Products

FSIS samples Federally inspected establishments to verify whether eligible products meet applicable *Salmonella* performance standards ([81 FR 7285](#)).¹ Eligible products were scheduled for sampling 2 to 5 times per month throughout the year (based on volume of product produced at establishments), thereby allowing FSIS to define a category² for each product, based on 10 to 60 sample results. All samples are tested for *Salmonella* and *Campylobacter* (**Table 7**). Although FSIS has established *Campylobacter* performance standards, FSIS is not currently assessing whether product meets those performance standards because FSIS established them under a sampling method the Agency is no longer using. Other products (quarter or half chicken carcasses, and mechanically separated chicken and turkey) were also sampled but at lower numbers per establishment (**Table 7**). These other products are under exploratory sampling and not under performance standards.

¹ Product eligibility described at [FSIS Establishment Eligibility Criteria for the Salmonella Verification Sampling Program and FSIS Scheduling Algorithm for the Salmonella Verification Sampling Program for Raw Meat and Poultry \(usda.gov\)](#)

² [Salmonella Verification Testing Program Monthly Posting | Food Safety and Inspection Service \(usda.gov\)](#)

Table 7. FY 2021 Sampling Result Summary for FSIS' Raw Poultry Sampling Programs

FY 2021 sampling results for *Salmonella* and *Campylobacter* in raw poultry product samples are shown. Results do not include follow-up sample data.

Product Name and Project Code	Pathogen	Number of Establishments Sampled	Number of Samples Analyzed	Number Positive	Type of Calculation	Prevalence or Percent Positive Calculation
Chicken Whole Carcasses HC_CH_CARC01	<i>Salmonella</i> spp.	208	9,666	420	Prevalence	3.3%
	<i>Campylobacter</i> spp.	208	9,659	1,820	Percent Positive	18.8%
Chicken Quarter or Half Carcasses EXP_CPT_QH01 ₁	<i>Salmonella</i> spp.	68	81	8	Percent Positive	9.9%
	<i>Campylobacter</i> spp.	68	81	25	Percent Positive	30.9%
Chicken Parts - Legs, Breasts, Wings HC_CPT_LBW01	<i>Salmonella</i> spp.	480	14,092	1,075	Prevalence	7.0%
	<i>Campylobacter</i> spp.	480	14,079	2,141	Percent Positive	15.2%
Comminuted Chicken HC_CH_COM01	<i>Salmonella</i> spp.	72	2,057	550	Prevalence	29.2%
	<i>Campylobacter</i> spp.	72	2,045	130	Percent Positive	6.4%
Mechanically Separated Chicken ¹ EXP_CH_MSK01	<i>Salmonella</i> spp.	26	122	102	Percent Positive	83.6%
	<i>Campylobacter</i> spp.	26	122	83	Percent Positive	68.0%
Turkey Whole Carcasses HC_TU_CARC01	<i>Salmonella</i> spp.	42	1,709	8	Prevalence	0.28%
	<i>Campylobacter</i> spp.	42	1,711	13	Percent Positive	0.76%
Comminuted Turkey HC_TU_COM01	<i>Salmonella</i> spp.	47	1,395	216	Prevalence	16.8%
	<i>Campylobacter</i> spp.	47	1,391	22	Percent Positive	1.6%
Mechanically Separated Turkey ¹ EXP_TU_MSK01	<i>Salmonella</i> spp.	14	111	47	Percent Positive	42.3%
	<i>Campylobacter</i> spp.	14	111	29	Percent Positive	26.1%

¹ Exploratory sampling projects.

Table 8. FY 2021 Follow-Up Sampling Result Summary for FSIS’ Raw Poultry Sampling Programs

FY 2021 follow-up sampling results for detecting *Salmonella* in raw poultry product samples are shown below. Follow-up sampling is assigned when an establishment does not meet a *Salmonella* performance standard (i.e., is in Category 3). FSIS *Salmonella* follow-up sampling results provide a snapshot of a specific establishment’s performance based on intensified sample collection after the establishment implemented corrective actions, which can assist FSIS personnel during a Public Health Risk Evaluation or Food Safety Assessment. For this reason, the aggregated set of data reflects FSIS’ efforts to collect follow-up samples but does not provide overall information about individual establishment performance.

Product Name and Project Code	Pathogen	Number of Establishments Sampled	Number of Samples Analyzed	Number Positive	Type of Calculation	Percent Positive Calculation
Chicken Whole Carcasses F_CH_CARCO1	<i>Salmonella</i> spp.	28	366	38	Percent Positive	10.4%
Chicken Parts - Legs, Breasts, Wings F_CPT_LBW01	<i>Salmonella</i> spp.	67	953	113	Percent Positive	11.9%
Comminuted Chicken F_CH_COM01	<i>Salmonella</i> spp.	14	171	52	Percent Positive	30.4%
Turkey Whole Carcasses F_TU_CARCO1	<i>Salmonella</i> spp.	1	4	0	Percent Positive	0.0%
Comminuted Turkey F_TU_COM01	<i>Salmonella</i> spp.	14	169	20	Percent Positive	11.8%

Ready-to-Eat (RTE) Products

FSIS conducts microbiological testing of all RTE meat, poultry, and egg products for *Lm* and *Salmonella*, which are adulterants in these products. FSIS collects RTE product samples and environmental swab samples under various RTE sampling programs; see [RTE Meat and Poultry Products Microbiological Sampling Programs](#).

Table 9: FY 2021 Ready-to-Eat Product Sampling Results

FY 2021 sampling results for FSIS RTE microbiological sampling programs are reported for *Listeria monocytogenes (Lm)* and *Salmonella*, if applicable.

Product Name and Project Code	Pathogen	Number of Establishments Sampled	Number of Samples Analyzed	Number Positive	Percent Positive Calculation
Post-lethality exposed (PLE) and non-PLE products selected randomly RTEPROD_RAND	<i>Listeria monocytogenes (Lm)</i>	2,190	6,909	13	0.19%
	<i>Salmonella</i> spp.	2,190	6,910	3	0.04%
PLE products selected by risk RTEPROD_RISK	<i>Listeria monocytogenes (Lm)</i>	1,673	7,846	15	0.19%
	<i>Salmonella</i> spp.	1,673	7,847	2	0.03%
Intensified Verification Testing (IVT/for-cause) product INTCONT	<i>Listeria monocytogenes (Lm)</i>	36	710	11	1.55%
	<i>Salmonella</i> spp.	4	26	0	0.00%
IVT non-food contact environmental INTENV	<i>Listeria monocytogenes (Lm)</i>	36	360	21	5.83%
	<i>Salmonella</i> spp.	3	40	0	0.00%
IVT product INTPROD	<i>Listeria monocytogenes (Lm)</i>	36	354	7	1.98%
	<i>Salmonella</i> spp.	4	26	0	0.00%
Routine risk-based <i>Lm</i> (RLm/risk-based) food contact surfaces RLMCONT	<i>Listeria monocytogenes (Lm)</i>	205	2,692	4	0.15%
RLm non-food contact environmental (composite of 5-swabs) RLMENVC ¹	<i>Listeria monocytogenes (Lm)</i>	205	270	15	5.56%
RLm product (composite of five 25-gram products from same lot) RLMPRODC	<i>Listeria monocytogenes (Lm)</i>	205	269	1	0.37%

¹Includes one RLMENVR noncomposited brine sample that was negative.

Table 10. RTE Egg Products FY 2021 Sampling Results

FY 2021 microbiological sampling of liquid and dried pasteurized egg products tested for *Listeria monocytogenes (Lm)* and *Salmonella* are shown.

Product Name and Project Code	Pathogen	Number of Establishments Sampled	Number of Samples Analyzed	Number Positive	Percent Positive Calculation
Egg Product Sampling - Dried Egg Products EGG_DY_MIC01	<i>Listeria monocytogenes (Lm)</i>	23	291	0	0.0%
	<i>Salmonella</i> spp.	23	291	0	0.0%
Egg Product Sampling - Liquid / Frozen Egg Products EGG_LQ_MIC01	<i>Listeria monocytogenes (Lm)</i>	50	1,201	0	0.0%
	<i>Salmonella</i> spp.	50	1,201	1	0.08%

2. Domestic Chemical Residue Sampling

National Residue Program

The U.S. National Residue Program (NRP) guides the sampling of domestic and imported meat, poultry, and egg product samples for chemical residue testing: see [Residue Chemistry](#). Information about sampling of imported product is below. The NRP includes surveillance sampling, inspector-generated sampling, and special project sampling in both Federal and State-inspected slaughter establishments.

a. Surveillance Sampling Plan

Surveillance sampling is the scheduled sampling of specified slaughter subclasses at the time of slaughter, after a carcass has passed antemortem inspection. In FY 2021, 9 analytical methods were used to detect approximately 250 different veterinary drugs, pesticides, and environmental contaminants. In FY 2021, detected residue violations consisted of the following residues: metolachlor (9), diclofenac (4), piperonyl butoxide (4), salbutamol (3), atrazine and metabolites (2), doramectin (2), ractopamine (2), and one instance each for amoxicillin, carbadox, diazinon, moxidectin, penicillin, and tetraconazole. In some cases, sample violations were associated with multiple residues in a single sample.

Table 11: Summary of FY 2021 NRP Surveillance Sampling Residue Results

FY 2021 summary of surveillance sampling results from FSIS inspector-collected muscle, kidney, and liver tissue from carcasses and parts is shown.

Animal Category	Animal Category	Number of Samples Analyzed by Animal Class			
		Total Samples	Number of Non-Detect Samples	Number of Non-Violative ¹ Positive Samples	Number of Violative ² Samples
Bovine	Beef Cows	821	814	5	2
	Bob Veal	330	321	9	--
	Dairy Cows	820	810	7	3
	Formula-Fed Veal	70	70	--	--
	Heifers	417	400	15	2
	Non-Formula-Fed Veal	53	52	1	--
	Steers	424	400	23	1
Porcine	Feral Swine	63	63	--	--
	Market Swine	809	808	--	1
	Roaster Swine	311	310	--	1
	Sows	740	732	7	1
Poultry	Young Chickens	430	422	7	1
	Whole Chickens	394	389	5	--
	Young Turkeys	835	827	8	--
Other Species	Goats	309	306	2	1
	Lambs	95	91	2	2
	Mature Sheep	105	105	--	--
	Siluriformes (Catfish)	609	591	6	12
	Egg Products	189	183	5	1
Annual Total		7,824	7,694	102	28

¹ Non-violative samples: residue sample below tolerable level set by the Food and Drug Administration (FDA) and/or the Environmental Protection Agency (EPA).

² Violative samples: residue sample exceeding an acceptable or tolerable level set by the FDA and/or the EPA.

Table 12: FY 2021 Number Collected NRP Surveillance Sampling Residues by Chemical Method

FY 2021 number collected surveillance sampling residue sampling summary is shown reflecting the number of samples (carcasses) analyzed per chemical method per animal class.

Animal Category	Animal Class	Number of Samples Analyzed per Chemical Method								
		Aminoglycosides	Antifungal Dyes	Carbadox	Metals	MRM ¹	Nitrofurans	Pesticides	PFAS ²	Speciation
Bovine	Beef Cows	820	--	--	117	821	--	399	--	--
	Bob Veal	330	--	--	105	330	--	168	--	--
	Dairy Cows	819	--	--	120	820	--	380	--	--
	Formula-Fed Veal	70	--	--	1	70	--	1	--	--
	Heifers	417	--	--	103	417	--	211	--	--
	Non- Formula Fed Veal	53	--	--	--	53	--	1	--	--
	Steers	424	--	--	110	424	--	220	--	--
Porcine	Feral Swine	--	--	--	--	--	--	63	--	--
	Market Swine	808	--	--	131	809	--	434	162	--
	Roaster Swine	1	--	311	--	--	--	--	--	--
	Sows	739	--	--	106	740	--	404	146	--
Poultry	Young Chickens	430	--	--	155	430	33	33	--	--
	Whole Chickens	394	--	--	--	394	394	394	356	--
	Young Turkeys	835	--	--	156	835	441	441	--	--
Other Species	Goats	308	--	--	--	309	--	171	--	--
	Lambs	95	--	--	--	95	--	68	--	--
	Mature Sheep	105	--	--	--	105	--	67	--	--
	Siluriformes (Catfish)	--	300	--	301	546	246	246	138	363
	Egg Products	--	--	--	--	175	--	187	--	--
Annual Total		6,648	300	311	1,405	7,373	1,114	3,888	802	363

¹ MRM: multiresidue method

² PFAS: polyfluoroalkyl substances

Table 13. Summary FY 2021 Surveillance Sampling Residue Violations by Animal Class

List of FY 2021 surveillance sampling residue violations, including specific compound, concentration, tolerance, and regulatory citation by animal class is shown.

Animal Category	Tissue	Compound	Concentration	Units	Tolerance Level Value	Authority (CFR Citation)
Beef Cow	Muscle	Diazinon	*	*	*	Not Approved ¹
Beef Cow	Liver	Doramectin	285	PPB	100	21 CFR 556.225
	Muscle	Doramectin	52.4	PPB	30	21 CFR 556.225
Dairy Cow	Muscle	Salbutamol	*	*	*	Not Approved ¹
Dairy Cow	Kidney	Penicillin	0.306	PPM	0.050	21 CFR 556.510
Dairy Cow	Muscle	Salbutamol	*	*	*	Not Approved ¹
	Liver	Salbutamol	*	*	*	Not Approved ¹
Egg Products	Eggs	Piperonyl Butoxide	1.02	PPM	0.100	40 CFR 180.127
Goat	Muscle	Moxidectin	32.6	PPB	*	21 CFR 556.426
Heifer	Liver	Ractopamine	0.113	PPM	0.090	21 CFR 556.570
Heifer	Muscle	Diclofenac	*	*	*	Not Approved ¹
Lamb	Muscle	Piperonyl Butoxide	0.169	PPM	0.100	40 CFR 180.127
Lamb	Muscle	Piperonyl Butoxide	0.260	PPM	0.100	40 CFR 180.127
Market Swine	Muscle	Amoxicillin	*	*	*	Not Approved ¹
Roaster Swine	Liver	Carbadox	60.0	PPB	30.0	21 CFR 556.100
Siluriformes	Muscle	Atrazine and Metabolites	*	*	*	Not Approved ¹
		Metolachlor	*	*	*	40 CFR 180.368
Siluriformes	Muscle	Diclofenac	*	*	*	Not Approved ¹
Siluriformes	Muscle	Atrazine and Metabolites	*	*	*	Not Approved ¹
		Metolachlor	*	*	*	40 CFR 180.368
Siluriformes	Muscle	Metolachlor	*	*	*	40 CFR 180.368
Siluriformes	Muscle	Metolachlor	*	*	*	40 CFR 180.368
Siluriformes	Muscle	Diclofenac	*	*	*	Not Approve ¹
Siluriformes	Muscle	Metolachlor	*	*	*	40 CFR 180.368
Siluriformes	Muscle	Metolachlor	*	*	*	40 CFR 180.368
Siluriformes	Muscle	Metolachlor	*	*	*	40 CFR 180.368

Animal Category	Tissue	Compound	Concentration	Units	Tolerance Level Value	Authority (CFR Citation)
Siluriformes	Muscle	Metolachlor	*	*	*	40 CFR 180.368
Siluriformes	Muscle	Metolachlor	*	*	*	40 CFR 180.368
Siluriformes	Muscle	Tetraconazole	*	*	*	Not Approved ¹
Sow	Muscle	Piperonyl Butoxide	0.425	PPM	0.100	40 CFR 180.127
Steer	Liver	Ractopamine	0.125	PPM	0.090	21 CFR 556.570
Young Chicken	Muscle	Diclofenac	*	*	*	Not Approved ¹

* Violative residue results were detected but not quantified

¹Not Approved: the residue detected is not approved for the animal class

PPB – parts per billion (µg/kg)

PPM – parts per million (mg/kg)

CFR – Code of Federal Regulations

b. Inspector-Generated Sampling Plan

FSIS inspectors collect samples for residue testing when they suspect that animals presented for slaughter may have violative levels of chemical residues. If an inspector suspects that there is misuse of drugs that cannot be detected by the Kidney Inhibition Swab (KIS™) test, the samples are sent directly to the laboratory for analysis. These samples are reported under the inspector-generated program ([FSIS Directive 10,800.1](#)).

In FY 2021, 151,780 Kidney Inhibition Swab (KIS™) tests were conducted on animals selected by FSIS (**Table 14**). Of these, 1,999 samples were submitted to FSIS field laboratories for further analysis, and 456 chemical residue violations were reported from 397 samples (multiple residue violations may be found in the same sample).

- Dairy cows (65%) and bob veal (14%) accounted for 79% of the 397 violations reported under the inspector-generated sampling plan.
- Desfuroylceftiofur (the primary metabolite of ceftiofur) and penicillin accounted for 44% and 27% of the violations reported in 259 dairy cows, respectively.
- Of the 55 bob veal violations, 62% of the violations were associated with neomycin.
- Inspectors performed 18,055 in-plant KIS™ test in swine slaughter classes (market swine, sows, roaster swine, boar swine, and feral swine), resulting in only six violative samples (0.03%).
- The predominant violative residues in the inspector-generated samples were ceftiofur (n=133), penicillin (94), and neomycin (38), which account for 29%, 21%, and 8.3% of total violative residues, respectively.

Table 14. Summary of FY 2021 Inspector-Generated Sampling (KIS™) Test and Confirmatory Tests

FY 2021 summary of KIS™ tests, number of in-plant screens with negative results, number of carcasses sent to FSIS laboratory for confirmation, and the number of carcasses (i.e., samples) with violations for each animal class.

Animal Category	Animal Class	KIS™ Test			
		Total Number of In-plant Carcasses	Number of In-plant Negative Carcasses	Number of Samples Analyzed in FSIS Labs	Number of Samples with Confirmed Lab Violations
Bovine	Beef Cows	11,434	11,201	231	38
	Bison	2	2	--	--
	Bob Veal	22,939	22,813	123	55
	Bulls	1,607	1,553	54	6
	Dairy Cows	83,568	82,284	1,260	259
	Formula-fed Veal	149	148	1	--
	Heavy Calves	279	261	17	2
	Heifers	4,385	4,285	92	12
	Non-Formula-fed Veal	164	161	2	--
	Steers	9,259	9,127	123	10
Porcine	Boar/Stag Swine	66	66	--	--
	Feral Swine	6	6	--	--
	Market Swine	12,923	12,841	47	2
	Roaster Swine	1,158	1,155	1	--
	Sows	3,902	3,871	29	4
Other Species	Deer/Reindeer	1	1	--	--
	Goats	580	573	6	4
	Lambs	1,141	1,129	9	3
	Mature Sheep	314	303	4	2
Annual Total		153,877	151,780	1,999	397

Table 15. Summary of FY 2021 Inspector-Generated Sampling Residue Violation Results by Chemical Residue and Animal Class

FY 2021 summary of chemical residue violations reported within the inspector-generated sampling.

Chemical Residue	Animal Class												Total
	Beef Cows	Bob Veal	Bull/ Stag	Dairy Cows	Goats	Heavy Calves	Heifers	Lambs	Market Swine	Mature Sheep	Sows	Steers	
Ampicillin	--	--	--	9	--	--	1	--	--	--	--	--	10
Butorphanol	1	--	--	--	--	--	--	--	--	--	--	--	1
Ciprofloxacin	1	3	--	--	--	--	--	--	1	--	--	--	5
Desethylene Ciprofloxacin	--	1	--	--	--	--	--	--	--	--	--	--	1
Desfuroylceftiofur	4	6	--	115	--	--	6	--	--	--	--	2	133
Dihydrostreptomycin	--	1	--	1	--	--	--	--	--	--	--	--	2
Doxycycline	--	--	--	1	--	--	--	--	--	--	--	--	1
Enrofloxacin	--	3	--	--	--	--	--	--	--	--	--	--	3
Eprinomectin	--	--	--	--	--	--	--	--	--	1	--	--	1
Florfenicol	3	1	--	6	--	--	--	--	--	--	--	1	11
Florfenicol Amine		1	--	--	--	--	--	--	--	--	--	--	1
Flunixin	5	4	--	18	--	--	--	1	--	--	--	2	30
Gamithromycin	--	--	--	--	--	--	--	1	--	--	--	--	1
Gentamycin Sulfate	2	--	1	3	--	--	1	--	--	--	--	--	7
Ketoprofen	--	--	1	3	--	--	--	--	1	--	--	--	5
Lincomycin	--	1	--	--	--	--	--	--	--	--	--	--	1
Meloxicam	1	1	--	15	--	--	--	--	--	--	--	1	18
Neomycin	1	34	--	2	--	1	--	--	--	--	--	--	38
Oxyphenylbutazone	--	--	1	--	--	--	--	--	--	--	--	--	1
Oxytetracycline	2	--	--	1	1	--	--	--	--	--	--	--	4
Penicillin	14	1	2	70	--	1	1	--	1	1	3	--	94
Phenylbutazone	--	--	1	--	--	--	--	--	--	--	--	--	1
Spectinomycin	--	--	--	--	1	--	--	--	--	--	--	--	1
Sulfadimethoxine	2	2	--	23	--	--	1	--	--	--	--	2	30

Chemical Residue	Animal Class												
	Beef Cows	Bob Veal	Bull/ Stag	Dairy Cows	Goats	Heavy Calves	Heifers	Lambs	Market Swine	Mature Sheep	Sows	Steers	Total
Sulfadoxine	--	--	1	3	--	--	--	--	--	--	1	--	5
Sulfamethazine	8	2	1	10	--	--	2	1	--	--	--	4	28
Sulfamethoxazole	--	4	--	--	--	--	--	--	--	--	--	--	4
Sulfamethoxypyridazine	--	--	--	1	--	--	--	--	--	--	--	1	2
Sulfathiazole	--	4	--	1	--	--	--	--	--	--	--	--	5
Tetracycline	--	--	--	1	2	--	--	--	--	--	--	--	3
Tilmicosin	4	--	--	3	--	--	1	--	--	--	--	--	8
Tylosin	--	--	--	--	1	--	--	--	--	--	--	--	1
Annual Total	48	69	8	286	5	2	13	3	3	2	4	13	456

Table 16. Summary of FY 2021 Inspector-Generated Sampling

FY 2021 summary of suspect animal samples sent directly to any FSIS laboratory (inspector-generated sampling) for analysis.

Animal Category	Animal Class	Total Samples	Number of Non-Detect Samples	Number of Non-Violative Positives Samples	Number of Violative Samples
Bovine	Beef Cows	15	13	1	1
	Bob Veal	5	2	1	2
	Bull/Stag	2	2	--	--
	Dairy Cows	44	38	2	4
	Heavy Calves	3	3	--	--
	Heifers	8	6	2	--
	Non-Formula-fed Veal	1	1	--	--
	Steers	22	19	3	--
Porcine	Market Swine	22	20	2	--
	Sows	7	7	--	--
Poultry	Young Turkey	2	2	--	--
Other Species	Goats	7	5	1	1
	Lamb	8	8	--	--
	Mature Sheep	1	1	--	--
Annual Total		147	127	12	8

3. Import Sampling

a. Import Microbiological Sampling

FSIS conducts port-of-entry reinspection of imported meat, poultry, and egg products. This activity is a reinspection of products that have already been inspected and passed by an equivalent foreign inspection system. Thus, imported product reinspection is a means of verifying the equivalence of a foreign country’s inspection system on an ongoing basis.

Table 17. Summary of FY 2021 Microbiology Sampling of Imported Products

FY 2021 microbiological sampling results for imported products by inspection level. The values shown here summarize results over all countries and do not reflect the percent positive for individual countries. Additionally, no direct comparisons should be made to domestic sampling because sampling for imported product varies based on the volume of shipments received by country and product.

Product Name and Project Code	Pathogen	Normal		Increased ¹		Intensified ²		Percent Positive Calculation	Total
		Number of Samples Analyzed	Number Positive	Number of Samples Analyzed	Number Positive	Number of Samples Analyzed	Number Positive		
Imported Raw Beef Manufactured Trimmings or Components for use in Ground Beef or Beef Products MT51	<i>E. coli</i> O157:H7	1,745	--	140	--	76	1	1.32%	1,961
	non-O157 STEC	1,710	2	129	3	66	1	1.52%	1,905
	<i>Salmonella</i> spp.	1,745	6	140	2	76	--	0.0%	1,961
Imported Raw Ground or Comminuted Beef or Veal Product MT08	<i>E. coli</i> O157:H7	43	--	--	--	--	--	0.0%	43
	<i>Salmonella</i> spp.	43	--	--	--	--	--	0.0%	43
Micro Pathogen Sampling of RTE Products IMVRTE	<i>Listeria monocytogenes</i>	3,051	3	6	--	115	--	0.0%	3,172
	<i>Salmonella</i> spp.	3,051	1	6	--	115	--	0.0%	3,172
Imported Egg Products EGGIMP	<i>Listeria monocytogenes</i>	101	--	--	--	--	--	0.0%	101
	<i>Salmonella</i> spp.	101	--	--	--	--	--	0.0%	101
Imported Raw and NRTE Poultry Products IMP_Poultry	<i>Salmonella</i> spp.	830	151	--	--	--	--	0.0%	830
	<i>Campylobacter</i>	828	99	--	--	--	--	0.0%	828

Imported Raw Pork Product IMP_Pork	<i>Salmonella</i> spp.	433	15	--	--	--	--	0.0%	433
Imported <i>Siluriformes</i> Microbiology Sampling IMPFISH_MI	<i>Salmonella</i> spp.	834	1	--	--	--	--	0.0%	834

¹Increased is a level of reinspection above the normal level that is directed by a FSIS management decision. Under increased reinspection, FSIS may hold, on a case-by-case basis, lots of imported meat, poultry, or egg products pending receipt of a laboratory analysis. If FSIS does not place the product on hold, the importer of record is still required to hold product tested for adulterants by FSIS and is not to allow such product to enter commerce unless and until negative results are received.

²Intensified is a level of reinspection that is implemented automatically by the Public Health Information System (PHIS) when a Type of Inspection PHIS task is reported as "Fail." Under intensified reinspection, FSIS holds the sampled lot at the official import inspection establishment pending receipt of laboratory analysis. The sampled lot is not allowed to move off-site to be held.

b. Import Residue Sampling

Imported meat, poultry, and egg products are sampled through the point-of-entry Import Reinspection Sampling Plan, a chemical residue monitoring program that is conducted to verify whether foreign inspection systems in exporting countries are equivalent to U.S. standards. The results are summarized in **Table 18**.

Table 18. Summary of FY 2021 Residue Sampling of Imported Products

Project Code	Analyte	Normal			Increased ¹		Intensified ²		Annual Total
		Number of Samples Analyzed	Non-Violative Positives Samples	Violative Samples	Number of Samples Analyzed	Number of Samples Analyzed	Non-Violative Positives Samples	Violative Samples	
Imported Siluriformes Fish Products-Eastern Laboratory IMPFISH_CH_E	Antifungal Dyes, Metals, MRM	840	--	1	--	15	--	--	855
Imported Siluriformes Fish Products-Western Laboratory	Nitrofurans, Pesticides	832	3	3	--	40	1	9	872

Project Code	Analyte	Normal			Increased ¹	Intensified ²			Annual Total
		Number of Samples Analyzed	Non-Violative Positives Samples	Violative Samples	Number of Samples Analyzed	Number of Samples Analyzed	Non-Violative Positives Samples	Violative Samples	
IMPFISH_CH_W									
Imported - Metals IMPMETALS	Metals	374	--	--	4	--	--	--	378
Nitrofurans IMPNITROFUR ³	Nitrofurans	21	--	2	--	--	--	--	21
Imported - Pesticide IMPPESTICIDE	Pesticides	515	--	2	--	62	0	1	577
Imported Egg Products - Chemistry IMPRESEGG	Pesticides	43	--	--	--	--	--	--	43
Imported Fresh Products - Residue Eastern Lab IMPRESFR_EL	Aminoglycosides, Avermectins, MRM	329	1	2	--	40	1	--	369
Imported Fresh Products - Residue Western Lab IMPRESFR_WL	Aminoglycosides, Beta Agonists, MRM, Nitrofurans	302	3	2	--	38	--	--	340
Imported Fresh Products IMPRESFRESH ³	Aminoglycosides, MRM	202	2	--	--	--	--	--	202
Imported Processed Products - Residue Eastern Lab IMPRESPR_EL	Avermectins	64	--	--	4	--	--	--	68
Imported Processed Products	Sulfonamides	34	--	--	--	--	--	--	34

Project Code	Analyte	Normal			Increased ¹		Intensified ²		Annual Total
		Number of Samples Analyzed	Non-Violative Positives Samples	Violative Samples	Number of Samples Analyzed	Number of Samples Analyzed	Non-Violative Positives Samples	Violative Samples	
- Residue Midwestern Lab IMPRESPR_MWL									
Annual Total		3,556	9	12	8	195	2	10	3,759

¹Increased is a level of reinspection above the normal level that is directed by a FSIS management decision. Under increased reinspection, FSIS may hold, on a case-by-case basis, lots of imported meat, poultry, or egg products pending receipt of a laboratory analysis. If FSIS does not place the product on hold, the importer of record is still required to hold product tested for adulterants by FSIS and is not to allow such product to enter commerce unless and until negative results are received. During FY 2021, there were no violative samples and no non-violative samples at increased level of inspection.

²Intensified is a level of reinspection that is implemented automatically by the Public Health Information System (PHIS) when a Type of Inspection PHIS task is reported as “Fail.” Under intensified reinspection, FSIS holds the sampled lot at the official import inspection establishment pending receipt of laboratory analysis. The sampled lot is not allowed to move off-site to be held.

³As of June 1, 2021 IMPRESFRESH and IMPNITROFUR replace IMPRESFR_EL and IMPRESFR_WL sampling projects.

MRM: multiresidue method

Table 19. FY 2021 Import Residue Sampling Violations by Foreign Country/Animal Class

List of FY 2021 import residue sampling violations (foreign country, specific compound, concentration, tolerance, and regulatory citation) by animal class. FSIS detected semicarbazide, a nitrofurazone indicator, in 11 lots of imported products. FSIS engaged with the applicable foreign government and did not uncover evidence of nitrofurazone use: [Investigation into the Detection of Semicarbazide \(SEM\), a Nitrofurazone Indicator, in Chicken](#).

Foreign Country	Animal Class	Compound	Concentrations	Units	Tolerance Level Value	Authority (CFR Citations)
Argentina	Beef	Ethion	*	*	*	Not Approved ¹
Argentina	Beef	Diazinon	*	*	*	Not Approved ¹
Canada	Beef	Meloxicam	*	*	*	Not Approved ¹
Canada	Beef	Meloxicam	*	*	*	Not Approved ¹
Mexico	Beef	Dipyrone; Phenylbutazone	*	*	*	Not Approved ¹

Mexico	Beef	Dipyrrone; Phenylbutazone	*	*	*	Not Approved ¹
New Zealand	Mutton	DDT and Metabolites	*	*	*	Not Approved ¹
The People's Republic of China	Siluriformes - Ictaluridae (Catfish)	Nitrofurazone	*	*	*	Not Approved ¹
The People's Republic of China	Siluriformes - Ictaluridae (Catfish)	Nitrofurazone	*	*	*	Not Approved ¹
The People's Republic of China	Siluriformes - Ictaluridae (Catfish)	Nitrofurazone	*	*	*	Not Approved ¹
The People's Republic of China	Siluriformes - Ictaluridae (Catfish)	Nitrofurazone	*	*	*	Not Approved ¹
The People's Republic of China	Siluriformes - Ictaluridae (Catfish)	Nitrofurazone	*	*	*	Not Approved ¹
The People's Republic of China	Siluriformes - Ictaluridae (Catfish)	Nitrofurazone	*	*	*	Not Approved ¹
The People's Republic of China	Siluriformes - Ictaluridae (Catfish)	Nitrofurazone	*	*	*	Not Approved ¹
The People's Republic of China	Siluriformes - Ictaluridae (Catfish)	Nitrofurazone	*	*	*	Not Approved ¹
The People's Republic of China	Siluriformes - Ictaluridae (Catfish)	Nitrofurazone	*	*	*	Not Approved ¹
The People's Republic of China	Siluriformes - Ictaluridae (Catfish)	Nitrofurazone	*	*	*	Not Approved ¹
The People's Republic of China	Siluriformes - Ictaluridae (Catfish)	Nitrofurazone	*	*	*	Not Approved ¹
The People's Republic of China	Siluriformes - Ictaluridae (Catfish)	Atrazine and Metabolites	*	*	*	Not Approved ¹

The People's Republic of China	Siluriformes - Ictaluridae (Catfish)	Nitrofurazone	*	*	*	Not Approved ¹
The People's Republic of China	Siluriformes - Ictaluridae (Catfish)	Nitrofurazone	*	*	*	Not Approved ¹
Vietnam	Siluriformes - Other	Ivermectin	73.8	PPB		21 CFR 556.344

* Violative residue results were detected but not quantified.

¹Not Approved: the residue detected is not approved for the animal class.

PPB – parts per billion (µg/kg)

CFR – Code of Federal Regulations

DDT - dichlorodiphenyltrichloroethane

4. Whole Genome Sequencing (WGS) Initiatives

WGS-related projects align with the goals and objectives of the FSIS Strategic Plan and other policies. FSIS engages with Federal partners to establish, advance, and apply whole genome sequencing (WGS) data to ensure and strengthen regulatory functions. FSIS laboratories perform WGS on all positive sample isolates for all pathogens from FSIS-regulated products. In FY 2021, this equated to 13,569 bacterial isolate sequences uploaded to the [National Center for Biotechnology Information](#) (NCBI).

5. National Antimicrobial Resistance Monitoring System (NARMS)

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 FSIS historically focused on two sampling points: samples collected from intestinal (cecal) content; and carcass, food commodity or product samples. Antimicrobial Susceptibility Tests (AST) are routinely conducted on all NARMS isolates, and WGS is conducted on a selected number of isolates. AST information provides the phenotypic resistance information, which is determined using epidemiological cut-off values or clinical breakpoints to interpret data. WGS information provides the genotypic resistance information, which is the presence of acquired genes and mutations known to enable a bacterium to grow in the presence of higher antimicrobial concentrations. These data may be accessed at the [FDA NARMS Integrated Data Dashboards](#).

Table 20. Summary of FY 2021 NARMS Sampling Program

FY 2021 NARMS samples analyzed, isolates recovered, and further characterized.

Sampling Code	Samples Scheduled	Samples Analyzed	Total Isolates Retrieved	Isolates Characterized			
				<i>Salmonella</i>	<i>Campylobacter</i>	<i>E. coli</i>	<i>Enterococcus</i>
Cecal Sampling							
NARMS_YC Young Chicken	721	696	999	AST: 244	AST: 250	AST: 224	AST: 224
				WGS: 232	WGS: 239	WGS: 141	WGS: 81
NARMS_YT Young Turkey	454	434	636	AST: 49	AST: 134	AST: 207	AST: 202
				WGS: 49	WGS: 126	WGS: 159	WGS: 88
NARMS_DC Dairy Cow	977	922	850	AST: 198	AST: 209	AST: 208	AST: 194
				WGS: 193	WGS: 202	WGS: 102	WGS: 36
NARMS_BC Bull/Stag	485	451	255	AST: 38	AST: 58	AST: 72	AST: 79
				WGS: 37	WGS: 58	WGS: 38	WGS: 16
NARMS_ST Steer	1,436	1,369	418	AST: 118	AST: 169	AST: 55	AST: 53
				WGS: 113	WGS: 160	WGS: 28	WGS: 8
NARMS_HF Heifer	473	453	321	AST: 49	AST: 83	AST: 87	AST: 87
				WGS: 49	WGS: 80	WGS: 53	WGS: 9

NARMS_MS Market Swine	884	847	844	AST: 217 WGS: 214	AST: 133 WGS: 125	AST: 220 WGS: 151	AST: 196 WGS: 65
NARMS_SW Sow	431	392	756	AST: 218 WGS: 212	AST: 63 WGS: 61	AST: 207 WGS: 139	AST: 192 WGS: 69
NARMS_BV Bob Veal	262	246	236	AST: 91 WGS: 88	AST: 11 WGS: 10	AST: 61 WGS: 42	AST: 64 WGS: 30
NARMS_FFV Formula-Fed Veal	94	85	57	AST: 3 WGS: 3	AST: 2 WGS: 2	AST: 26 WGS: 23	AST: 24 WGS: 13
NARMS_NFFV Non-Formula-Fed Veal	108	105	83	AST: 15 WGS: 14	AST: 15 WGS: 15	AST: 26 WGS: 13	AST: 23 WGS: 7
NARMS_GO Goat	110	108	63	AST: 11 WGS: 11	AST: 13 WGS: 13	AST: 19 WGS: 8	AST: 18 WGS: 7
NARMS_LB Lamb	106	103	88	AST: 23 WGS: 23	AST: 19 WGS: 18	AST: 21 WGS: 10	AST: 20 WGS: 11
NARMS_SH Sheep	101	95	86	AST: 33 WGS: 32	AST: 18 WGS: 18	AST: 13 WGS: 7	AST: 15 WGS: 7
Non-Cecal Sampling							
Siluriformes ¹	N/A	1,378	221	AST: 18 WGS: 17	AST: N/A WGS: N/A	AST: 101 WGS: 49	AST: 101 WGS: 48
Cattle Lymph Nodes	302	298	43	AST: 42 WGS: 40	AST: N/A WGS: N/A	AST: N/A WGS: N/A	AST: N/A WGS: N/A

N/A – not applicable

¹Siluriformes NARMS samples are sourced from the Siluriformes microbiology sampling project, EXP_FI_MIC01, and not scheduled independently. See Table 5 for more information.

6. Other Sampling

FSIS conducts other sampling programs and special projects in response to investigations or other rapidly evolving events to protect consumers and ensure food safety, on an as-needed basis (**Table 21**). Flexibility within FSIS laboratories provides the Agency with the ability to adapt and rapidly respond to emerging issues. These projects may include for-cause and inspector-generated sampling, such as:

- advanced meat recovery (AMR) sampling to verify that industry is preventing beef spinal cord material from entering the food supply and being misrepresented as meat;
- sampling in support of foodborne disease outbreaks or natural disaster investigations;
- animal species identification sampling to verify species claims of meat, poultry, and egg products;
- food chemistry sampling to identify economic fraud or other chemical residues;
- compliance testing to evaluate products in commerce that are suspected to be adulterated or misbranded;
- pathology testing to identify diseases, parasites, and related conditions in response to in-plant public health veterinarian findings from meat and poultry carcasses and parts; and
- abnormal container testing when inspection program personnel observe an abnormal container being used for thermally processed products.

These projects also include routine sampling to verify that labels are accurate.

Table 21. Summary of FY 2021 Other Sampling

Project Name and Project Code	Samples Collected
Advanced Meat Recovery Product AMR01	79
Investigative Sampling COMPLIAN	153
Label Verification of Antibiotic Free EXP_LV_ABX	251
Label Verification of Hormone Free EXP_LV_HORM	6
Label Verification of Sodium and Fat Content EXP_LV_NUTR	64
Label Verification of Soy Free EXP_LV_SOY	4
Follow-up Sampling to Advanced Meat Recovery Positive FAMR01	8
Collector-Generated Food Chemistry Samples FOODCHEM	1
Import – Abnormal Container IMPABNCONT / ABNCONT	2
Import – Species Identification IMPSPECIESID	216
Foodborne Illness and Outbreak Sampling OUTBREAK	725
Pathology – Collector Generated PATHOLOGY	3,727

Conclusion

In FY 2021, FSIS conducted meat, poultry, and egg products sampling verification to ensure that the food produced is safe, wholesome, and properly labeled to protect the public from foodborne hazards. As a science-based agency, FSIS uses data to inform decision making and drive continuous improvement of processes. FSIS evaluates these sampling data and shares the data, including analyses, on the [FSIS website](#). Data sharing and transparency are critical steps to ensure public awareness of the food safety measures implemented.