

**United States National Residue Program
Residue Quarterly Report
3rd Quarter, FY 2014
(Apr-June, 2014)**

**Science Staff
Office of Public Health Science (OPHS)
Food Safety and Inspection Service
U.S. Department of Agriculture**

**Contact:
Naser Abdelmajid
naser.abdelmajid@fsis.usda.gov
(202) 690-6492**

TABLE OF CONTENTS

Introduction	3
• Background.....	3
• Purpose.....	5
Tables.....	6
• Table 1: NRP Domestic Scheduled Sampling Program Results by Month	
• Table 2: NRP Domestic Inspector-Generated (In-Plant) Screening Program (KIS™ Test) by Month, Carcass Class	
• Table 3: NRP Domestic Inspector-Generated (In-Plant) Screening Program (KIS™ Test) Results by Month	
• Table 4: Distribution of NRP Residue Violations Inspector-Generated (In-Plant) Screening Program (KIS™ Test) Results by Carcass Class and Month	
• Table 5: Distribution of NRP Residue Violations Inspector-Generated (In-Plant) Screening Program (KIS™ Test) Results by Carcass Class and Chemical Residue	
• Table 6: NRP Import Samples Analyzed by Country	
• Table 7: NRP Import Samples Analyzed by Species	
• Table 8: NRP Import Samples Analyzed by Chemical Residue	
• Table 9: NRP Import Samples Analyzed by Species and Chemical Residue	
• Table 10: NRP Import Samples Analyzed by Chemical Residue Results	
Appendix.....	18
Summary of NRP Domestic Sample Data (Scheduled and Inspector-Generated) from July 2013-March 2014	
• Figure A: Distribution of NRP Domestic Scheduled Samples by Month, Including FSIS Lab Chemical Analytes	
• Figure B: Distribution of NRP Inspector-Generated (In-plant) Screenings (KIS™ Test) & Residue Violative Percent by Month	
• Table 11: Distribution of NRP Inspector-Generated Program (In-plant) Screenings (KIS™ Test)–Residue Violative Samples	
• Figure C: Comparison of NRP Bob Veal and Dairy Cows Violations – Inspector-Generated Program (In-plant) Screenings (KIS™ Test)–Residue Violative Samples by Quarter	

Introduction

Background

The USDA Food Safety and Inspection Service (FSIS) administers the United States National Residue Program (hereafter, NRP) for meat, poultry, and egg products, an interagency program designed to identify, rank, and test for chemical residues in meat, poultry, and egg products.

The NRP is designed to: (1) provide a structured process for identifying and evaluating chemical compounds of concern in food animals; (2) analyze chemical compounds of concern; (3) report results; and (4) identify the need for regulatory follow-up subsequent to the identification of violative levels of chemical residues.

FSIS administers this regulatory program under the Federal Meat Inspection Act (FMIA) (21 U.S.C. 601 et seq.), the Poultry Products Inspection Act (PPIA) (21 U.S.C. 453 et seq.), and the Egg Products Inspection Act (EPIA) (21 U.S.C. 1031 et seq.). The NRP is designed to protect the health and welfare of consumers by regulating the meat, poultry, and egg products produced in federally inspected establishments and to prevent the distribution in commerce of any such products that are adulterated or misbranded.

FSIS has administered the NRP by collecting meat, poultry, and egg product samples and analyzing the samples for specific chemical compounds at FSIS laboratories. The program has analyzed meat and poultry samples since 1967. The program began sampling egg products in 1995.

A violation occurs when an FSIS laboratory detects a chemical compound in excess of an established tolerance or action level. When a violation is established, FSIS informs the establishment electronically and the producer via certified letter. Under best practices, the establishment should notify also the producer that an animal from that business had a violative chemical level. FSIS also shares the violation data with the Environmental Protection Agency (EPA) and the Food and Drug Administration (FDA), which establish violative levels for chemical residues. The FDA has on-farm jurisdiction, and working with cooperating State agencies, FDA can investigate producers linked to residue violations and can enforce legal action if conditions leading to the residue violations are not corrected.

The NRP sampling plans focus on chemical residues in domestic meat, poultry, and egg products. The domestic sampling plan includes scheduled sampling (headquarters-directed) and inspector-generated (targeted) sampling. Scheduled sampling plans involve random tissue sampling from food animals that have passed ante-mortem inspection.

Under the current scheduled sampling program, FSIS tests 11 production classes (beef cows, bob veal calves, dairy cows, steers, heifers, goats, sheep, market hogs, sows, young chickens, and young turkeys) representing 96 percent of domestic meat and poultry consumption.

Inspector-generated sampling is conducted by the Office of Field Operation's in-plant personnel (IPP), overseen by the Public Health Veterinarians (PHVs). Currently, IPP inspector-generated sampling targets individual suspect animals, suspect populations of animals, and special sampling for bob veal calves per CFR 310.21 c and d.

When an inspector-generated sample is collected, the carcass is held pending the results of laboratory testing. If a carcass is found to contain violative levels of residues, FSIS condemns the carcass.

Under the import reinspection plan, imported meat, poultry, and egg products are sampled through the Port-of-Entry Reinspection Program. This program is a chemical residue-monitoring program conducted to verify the equivalence of inspection systems in exporting countries.

All imported products are subject to reinspection and one or more types of inspection (TOI). These procedures ensure that every lot of product is inspected before it enters the United States. Chemical residue sampling is included in the reinspection of imported products.

In addition to publishing chemical residue results in a timely manner, this quarterly report compliments the weekly residue violative tables from the Residue Repeat Violator Lists (<http://www.fsis.usda.gov/wps/portal/fsis/topics/data-collection-and-reports/chemistry/residue-chemistry>).

Note: Some tables provide results as the number of unique violative carcasses, while other tables provide results as violative chemical. Multiple chemical residue violations in different tissues may be associated with the same carcasses.

Note: For FY2014, FSIS is not testing egg products under the scheduled sampling program (Tier 1).

Purpose

This Quarterly Report summarizes chemical residue results for the United States National Residue Program (NRP) for meat, poultry, and egg products. The results in this report cover the domestic (Scheduled and Inspector-generated) and import sampling programs respectively.

Beginning August 2012, FSIS implemented several new multi-residue chemical methods for both the Scheduled and Inspector-generated programs and discontinued the use of testing production classes for single chemical or chemical classes (“pairing”).

The new methods reflect the significant changes made to the NRP by the Agency. Individual samples are now analyzed for hundreds of chemicals. These changes are detailed in the July 6, 2012 Federal Register Notice (Federal Register Volume 77, Number 130, Pages 39895-39899).

Furthermore, FSIS has changed NRP reporting from a calendar year to a fiscal year reporting period to coincide with agency planning. This report contains data for the third quarter of fiscal year 2014: (**Apr-June, 2014**), and its purpose is to provide chemical residue testing results on FSIS inspected meat, poultry, and egg products in a more timely manner, and to, increase program transparency for all stakeholders. FSIS continues to publish National Residue Program Data (also known as the “Red Book”) on an annual basis, as the final analysis of NRP.

The report here is divided into tables and an appendix. The tables summarize the current quarter by month, whereas the appendix will include previous quarters’ results as well for a quick comparison. Figure C has been added as a means for FSIS to provide information on the most frequently identified antibiotics in bob veal and dairy cow samples reported out as violations.

As this is an attempt to provide chemical residue data in a timelier fashion, comments are welcome. Please submit your comment to Naser Abdelmajid at Naser.abdelmajid@fsis.usda.gov

Note: Results based on sample collection date

Data Source: FSIS Data Warehouse (DW)/ Public Health Information System (PHIS) as of **08/05/2014**

Table 1 ¹: NRP Domestic Scheduled Sampling Program Results by Month, Apr-June, 2014

During the third quarter of FY 2014, **1,503** samples were collected from beef cows, bob veal calves, dairy cows, steers, heifers, goats, sheep, market hogs, sows, young chickens, and young turkeys. Tissues analyzed include muscle, kidney, and liver. The program identified four chemical residues at violative level.

Sample Collection Month	Number of Samples / (FSIS Lab Chemical Analytes)	Number of Violative Carcasses/(Number of Lab Confirmed Violative Samples)	Violative Chemical Residues
April	502/ (46,732)	N/A	N/A
May	463 / (42,218)	1 / (1) Bob veal	Flunixin -1
June	538 / (49,884)	1 / (2) Beef Cows 1 / (1) Sheep	Sulfamethazine -2 Moxidectin - 1
Total	1,503 / (138,834)	3/ (4)	

¹ In the above table, column 2 lists the number of carcass samples tested, and in **parenthesis**, the number of analyses completed for these carcasses. Column 3 lists the number of samples tested and, in **parentheses**, the number of violative residues found in these samples. Column 4 lists the specific violative residues and, in parentheses, the number of violations for that residue. **Source: FSIS DW/PHIS as of 08/05/2014**

**Table 2 ²: NRP Domestic Inspector-Generated (In-plant) Screening Program (KIS™ Test)
By Month, Carcass Class—Apr-June, 2014**

Carcass Class	April	May	June	Total
Beef Cows	1,427 (19)	1,313 (24)	1,699 (22)	4,439 (65)
Boars/Stags	25 (0)	35 (0)	20 (1)	80 (1)
Bob Veal	2,785 (76)	3180 (67)	3202 (82)	9,167 (225)
Bulls	142 (6)	145 (4)	239 (1)	526 (11)
Dairy Cows	8,729 (206)	8,405 (173)	8,435 (235)	25,569 (614)
Formula Fed Veal	63 (0)	41 (2)	55 (2)	159 (4)
Goats	31 (0)	53 (0)	59 (0)	143 (0)
Heavy Calves	112 (5)	101 (6)	197 (11)	310 (22)

² In the above table, columns 2-4 list the number of in-plant screened samples screened at the establishments by month, and in **parentheses**, the number of these screens that were found positive at the establishments, and sent to FSIS labs for confirmations.

Source : FSIS DW/PHIS as of 08/05/2014

**Continued Table 2: NRP Domestic Inspector-Generated (In-plant) Screening Program (KIS™ Test)
By Month, Carcass Class—Apr-June, 2014**

Carcass Class	April	May	June	Total
Heifers	321 (4)	216 (6)	317 (3)	854 (13)
Lambs	47 (2)	88 (0)	129 (0)	264 (2)
Market Hogs	1,361 (8)	1,252 (3)	1,198 (10)	3,811 (21)
Mature Sheep	14 (1)	38 (1)	34 (0)	86 (2)
Non Formula Fed Veal	18 (0)	40 (3)	24 (2)	82 (5)
Roaster Pigs	125 (1)	91 (1)	158 (0)	374 (2)
Sows	1,153 (14)	1,032 (7)	1,023 (5)	3,208 (26)
Steers	808 (17)	803 (13)	709 (14)	2,320 (44)
TOTAL	17,161 (359)	16,833 (310)	17,398 (388)	51,392 (1,057)

Table 3 ³: NRP Domestic Inspector-Generated (In-plant) Screening Program (KIS™ Test). Results by Month, Apr-June, 2014

1,057 positive values were identified from over 50,000 in-plant tests. Of these positive samples, 362 were lab-confirmed violative samples. Several of the violative tissue samples were associated with the same carcass.

Sample Collection Month	Number of In-plant Screen Tests	Number of Positive In-plant Screens sent to labs	Number of Positive In-plant Screens Tested in FSIS labs / (FSIS Lab Chemical Analytes)	Number of Carcasses with Violative Samples	Number of Lab-confirmed Violative Samples	Three Most commonly reported chemical violations / (Number of Violative Samples for three most reported violations)	Total Number of violative chemical Residues
April	17,161	359	354 / (23,516)	109	119	Penicillin(43) Desfuroylceftiofur (24), Neomycin (12)	20
May	16,833	310	310 / (20,788)	104	119	Desfuroylceftiofur (22), Penicillin (18), Neomycin (18)	18
June	17,398	388	388 / (22,365)	117	124	Desfuroylceftiofur (29), Penicillin (29), Neomycin (22)	16
Total	51,392	1,057	1,052 / (66,669)	330	362	Penicillin (90), Desfuroylceftiofur (75), Neomycin (52)	25

³ In the above table, Column 2 lists the number of in-plant screens; Column 3 lists the number of these screens that were found positive at the establishments and sent to FSIS labs. **Note: Not all samples received met laboratory system requirements for analysis.** Column 4 lists the number of these screens that were found positive at the establishments and tested in FSIS labs, and in **parentheses**, the number of analyses completed for these screens. Column 5 lists the number of carcasses that had violations, and column 6 lists the number of violative samples confirmed from those violative carcasses. Column 7 shows the three most commonly reported violative chemical residues and, in parentheses, the number of violations found for each. The last column show **unique** numbers of violative chemical residue. **Source: FSIS DW/PHIS as of 08/05/2014**

Table 4 ⁴: Distribution of NRP Residue Violations Inspector-Generated (In-plant) Screening Program (KIS™ Test). Results by Carcass Class and Month, Apr-June, 2014

Violations reported for inspector-generated samples by production class. Samples include in-plant screened samples (KIS™ Test). The number of laboratory confirmed violations appear in **parentheses**. Results include multiple violative tissues associated with the same sample.

Carcass Class	April	May	June	Total
Beef Cows	4 (11)	7 (8)	7 (8)	18 (20)
Boars/Stags	--	--	--	--
Bob Veal	35 (37)	32 (51)	27 (27)	94 (99)
Bulls	1 (1)	4 (5)	0 (0)	5 (6)
Dairy Cows	51 (56)	46 (51)	76 (81)	173 (188)
Formula Fed Veal	--	--	--	--
Goats	--	--	--	--
Heavy Calves	3 (4)	3 (6)	1 (0)	7 (11)

⁴ Source: FSIS DW/PHIS as of **08/05/2014**

Continued Table 4: Distribution of NRP Residue Violations Inspector-Generated (In-plant) Screening Program (KIS™ Test). Results by Carcass Class and Month, April-Dec 2014

Violations reported for inspector-generated samples by production class. Samples include in-plant screened samples (KIS™ Test). The number of laboratory confirmed violations appear in **parentheses**. Results include multiple violative tissues associated with the same sample.

Carcass Class	April	May	June	Total
Heifers	2 (2)	3 (3)	0 (0)	5 (5)
Lambs	--	--	--	--
Market Hogs	--	--	--	--
Mature Sheep	--	--	--	--
Non Formula Fed Veal	0 (0)	3 (4)	0 (0)	3 (4)
Roaster Pigs	2 (3)	1 (1)	0 (0)	3 (4)
Sows	9 (10)	3 (3)	3 (4)	15 (17)
Steers	2 (2)	2 (3)	3 (3)	7 (8)
TOTAL	109 (119)	104 (119)	117 (124)	330 (362)

Table 5 ⁵: Distribution of NRP Residue Violations Inspector-Generated (In-plant) Screening Program (KIS™ Test). Results by Carcass Class and Chemical Residue, Apr-June, 2014

Violations reported for inspector-generated sampling for each production by specific chemical residue. The results include in-plant screened samples (KIS™ Test) sent to lab. Results include multiple violative tissues samples associated with the same carcass.

Note: Three most commonly reported chemical violations is highlighted in Yellow

Compound / (Number of violative Carcass classes)	Beef Cows	Bob Veal	Bulls	Dairy Cows	Heavy Calves	Heifers	Non Formula Fed Veal	Roasters Pigs	Sows	Steers	Total
Ampicillin / (2)	-	2	-	7	-	-	-	-	-	-	9
Cefazolin / (1)	-	-	-	1	-	-	-	-	-	-	1
Chloramphenicol / (1)	-	-	-	1	-	-	-	-	-	-	1
Ciprofloxacin / (4)	-	3	-	2	-	-	1	-	1	-	7
Desethylene ciprofloxacin / (1)	-	1	-	-	-	-	-	-	-	-	1
Desfuroylceftiofur / (6)	4	6	1	62	-	1	-	-	-	1	75
Dihydrostreptomycin / (1)	-	2	-	-	-	-	-	-	-	-	2
Enrofloxacin / (1)	-	2	-	-	-	-	-	-	-	-	2
Florfenicol / (7)	5	4	2	9	3	-	2	-	-	1	26
Flunixin / (5)	4	2	1	15	2	-	-	-	-	-	24
Gentamycin Sulfate / (3)	1	1	-	1	-	-	-	-	-	-	3
Lincomycin / (2)	-	1	-	1	-	-	-	-	-	-	2

⁵ A total of **362** violative samples were found in **330** samples/carcasses.

Source: FSIS DW/PHIS as of **08/05/2014**

Continued Table 5: Distribution of NRP Residue Violations Inspector-Generated (In-plant) Screening Program (KIS™ Test). Results by Carcass Class and Chemical Residue, Apr-June, 2014

Violations reported for inspector-generated sampling for each production by specific chemical residue. The results include in-plant screened positive samples (KIS™ Test) tested in FSIS labs. Results include multiple violative tissues samples associated with the same carcass.

Compound / (Number of violative Carcass classes)	Beef Cows	Bob Veal	Bulls	Dairy Cows	Heavy Calves	Heifers	Non Formula Fed Veal	Roasters Pigs	Sows	Steers	Total
Neomycin / (3)	-	46	-	5	-	-	-	-	-	1	52
Oxytetracycline / (3)	-	1	-	2	-	-	-	-	-	1	4
Penicillin / (10)	4	6	1	55	4	3	1	2	13	1	90
Ractopamine / (1)	-	-	-	-	-	-	-	-	-	1	1
Spectinomycin / (1)	-	-	-	-	-	-	-	1	-	-	1
Sulfadiazine / (1)	-	-	-	1	-	-	-	-	-	-	1
Sulfadimethoxine / (2)	-	-	-	11	-	-	-	-	-	2	13
Sulfadoxine / (1)	-	-	-	2	-	-	-	-	-	-	2
Sulfamethazine / (8)	1	9	1	9	2	1	-	1	2	-	26
Sulfamethoxazole / (1)	-	7	-	-	-	-	-	-	-	-	7
Tilmicosin / (3)	1	2	-	4	-	-	-	-	-	-	7
Tulathromycin / (1)	-	4	-	-	-	-	-	-	-	-	4
Zeranol / (1)	-	-	-	-	-	-	-	-	1	-	1
Total	20	99	6	188	11	5	4	4	17	8	362

Table 6 ⁶: NRP Import Samples Analyzed by Country, Apr-June, 2014

The following list of additional countries eligible to export meat and egg product to the United States: Argentina, Brazil, Chile, Denmark, Finland, Germany, Hungary, Israel, Netherlands, Nicaragua, Northern Ireland, Spain, United Kingdom, and Uruguay. **Five** violative import samples were found (**4** Ivermectin, and **1** Zilpaterol) See Table 10 for details .

Country	April	May	June	Total
Canada	82	58	29	169
Mexico	18	30	43	91
Poland	-	22	51	73
Australia	10	9	19	38
Italy	15	6	13	34
New Zealand	11	12	5	28
Other**	95	57	35	187
Total	231	194	195	620

Table 7 ⁷: NRP Import Samples Analyzed by Species, Apr-June, 2014

The number of samples analyzed under the import reinspection program by production class. The ‘Other’ category may include lamb, veal, mutton, and goat. **Note: Multiple import residue results may be associated with the same sample.**

Species	April	May	June	Total
Beef	187	141	177	505
Chicken	67	105	28	200
Pork	204	165	219	588
Turkey	95	8	29	132
Other*	41	84	85	210
Total	594	503	538	1,635

⁶ Source FSIS Import Sampling Program

⁷ Source FSIS Import Sampling Program

Table 8 ⁸: NRP Import Samples Analyzed by Chemical Residue, Apr-June, 2014

The number of samples collected during the import reinspection program tested for different chemical residues.

Note: Multiple import residue results may be associated with the same sample.

Chemical Residue	April	May	June	Total
Arsenic	72	68	81	221
Avermectins	56	54	68	178
Beta Agonists	87	70	74	231
Cadmium	1	0	0	1
Fluoroquinolones	87	71	74	232
Hormones	87	71	74	232
Ivermectin	0	1	3	4
Lead	1	0	3	4
Manganese	14	16	11	41
Molybdenum	2	4	3	9
Pesticides	51	38	32	121
Selenium	0	1	2	3
Sulfas	116	89	97	302
Trace Elements	20	19	16	55
Zilpaterol	0	1	0	1
Total	594	503	538	1,635

⁸ Source FSIS Import Sampling Program

Table 9 ⁹: NRP Import Samples Analyzed by Species and Chemical Residue, Apr-June, 2014

Number of import reinspection program arranged by product class tested for chemical residue. The 'Other' category may include lamb, veal, mutton, goat, and turkey. Note: Multiple import residue results may be associated with the same sample.

Chemical Residue	Beef	Chicken	Pork	Turkey	Other	Total
Arsenic	58	24	99	15	25	221
Avermectins	54	-	99	-	25	178
Beta Agonists	76	36	63	23	33	231
Cadmium	1	-	-	-	-	1
Fluoroquinolones	77	36	63	23	33	232
Hormones	77	36	63	23	33	232
Ivermectin	4	-	-	-	-	4
Lead	2	-	2	-	-	4
Manganese	15	3	19	4	-	41
Molybdenum	4	1	2	2	-	9
Pesticides	35	18	29	13	26	121
Selenium	2	-	1	-	-	3
Sulfas	94	36	111	28	33	302
Trace Elements	5	10	37	1	2	55
Zilpaterol	1	-	-	-	-	1
Total	505	200	588	132	210	1,635

⁹ Source FSIS Import Sampling Program

Table 10 ¹⁰: NRP Import Samples Analyzed by Chemical Residue Results, Apr-June, 2014

Number of import reinspection program arranged by results of chemical residue. Multiple import residue results may be associated with the same sample. **Note: Import sampling chemical violations are highlighted in Yellow.**

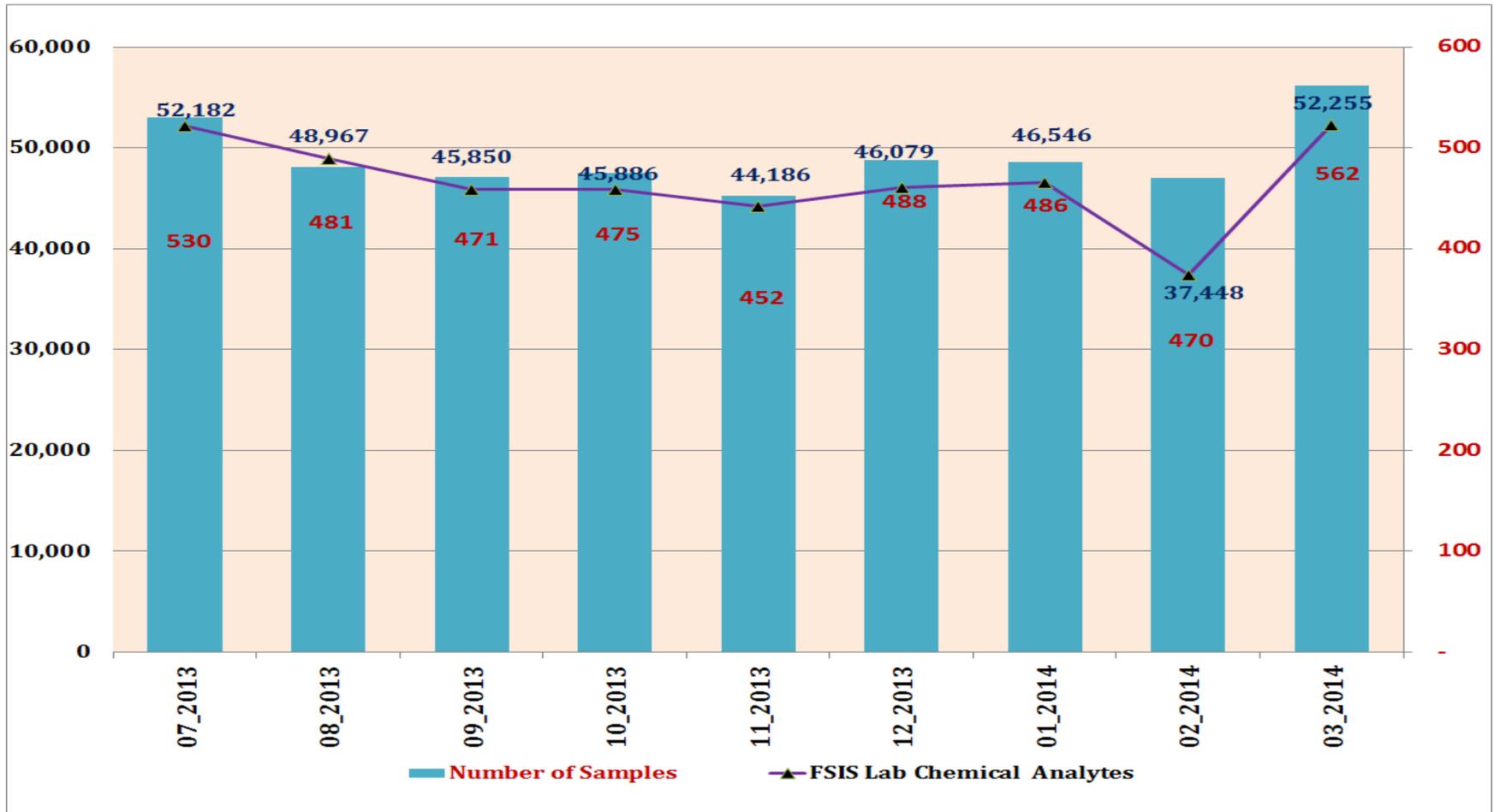
Chemical Residue	Residue Not Detected	Residue Detected - violative	Non-regulatory result	Total
Arsenic	221	-	-	221
Avermectins	178	-	-	178
Beta Agonists	231	-	-	231
Cadmium	-	-	1	1
Fluoroquinolones	232	-	-	232
Hormones	232	-	-	232
Ivermectin	-	4	-	4
Lead	-	-	4	4
Manganese	-	-	41	41
Molybdenum	-	-	9	9
Pesticides	121	-	-	121
Selenium	-	-	3	3
Sulfas	302	-	-	302
Trace Elements	-	-	55	55
Zilpaterol	-	1	-	1
Total	1,517	5	113	1,635

¹⁰ Source FSIS Import Sampling Program

Appendix

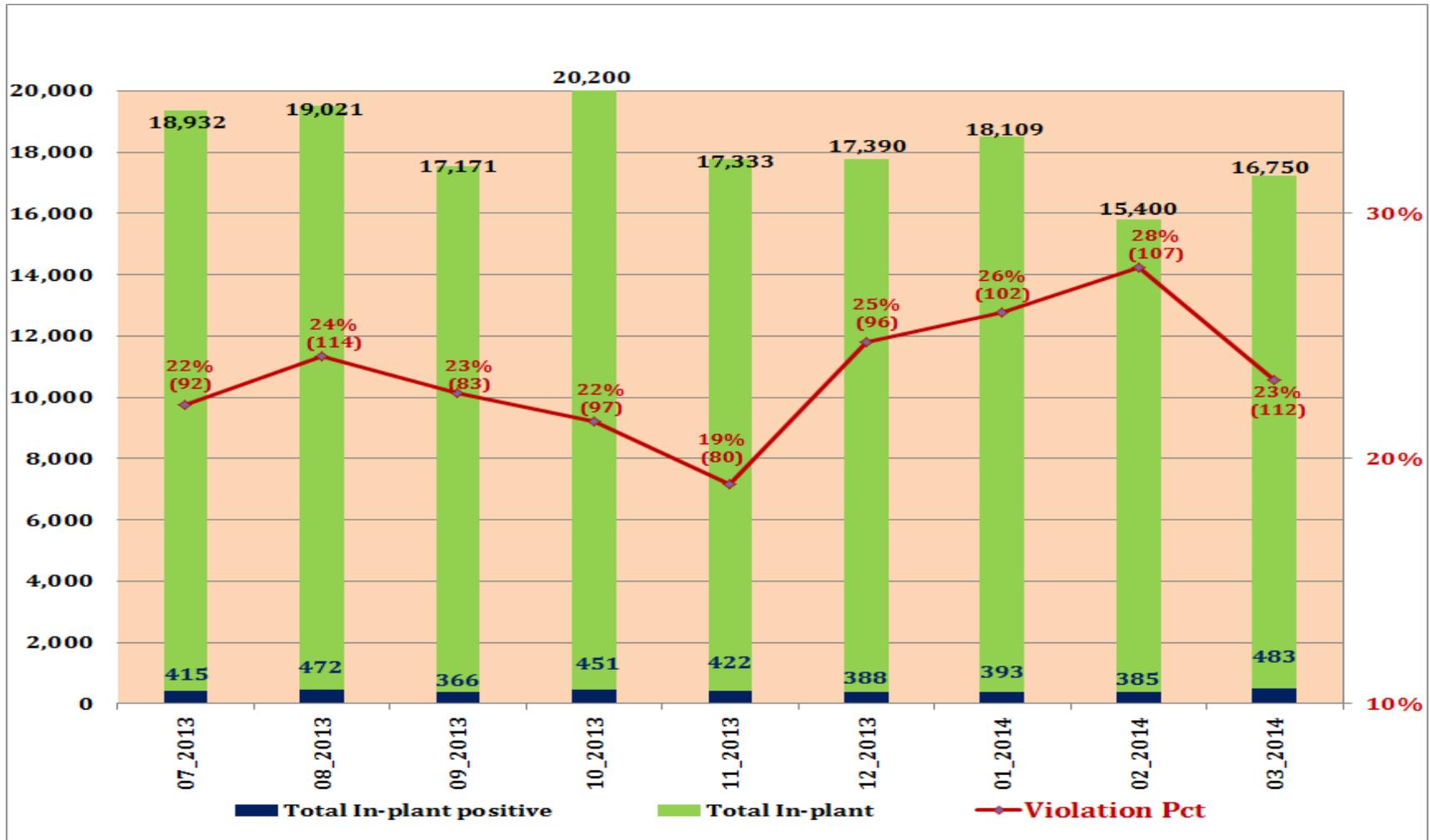
**Summary of NRP Domestic Sample Data
(Scheduled and Inspector-Generated)
From **

Figure A: ¹¹ Distribution of NRP Domestic Scheduled Samples by Month, Including FSIS Lab Chemical Analytes By Month, July 2013- Mar 2014



¹¹ Number of residue domestic scheduled sample in RED

Figure B ¹²: Distribution of NRP Inspector-Generated (In-plant) Screenings (KIS™ Test) & Residue Violative Percent By Month, **July 2013- Mar 2014**



¹² Violation Percent and Number of violative carcasses (in parenthesis).
 Violation percent : Ratio of (Violative carcasses samples) to (Total in-plant positive tested in the labs)

Table 11: Distribution of NRP Inspector-Generated Program (In-plant) Screenings (KIS™ Test)-Residue Violative Samples, July 2013- Mar 2014. Note: Multiple violations may be associated with one carcass.

Residue Name	July 2013	Aug 2013	Sep 2013	Oct 2013	Nov 2013	Dec 2013	Jan 2014	Feb 2014	Mar 2014	Total
Amikacin	-	-	-	-	-	2	-	-	-	2
Ampicillin	3	2	1	1	1	-	2	1	-	11
Cefazolin	-	2	-	-	2	-	2	2	-	8
Ciprofloxacin	1	-	2	1	-	2	2	2	1	11
Desfuroylceftiofur	32	45	34	34	28	33	34	35	36	311
Dihydrostreptomycin	1	4	-	2	2	1	2	-	1	13
Doramectin	1	-	-	-	-	-	-	-	-	1
Enrofloxacin	1	-	1	-	-	-	1	-	1	4
Florfenicol	3	5	4	2	-	9	5	3	4	35
Flunixin	5	4	6	17	5	11	7	9	12	76
Gamithromycin	-	-	-	1	-	-	-	-	-	1
Gentamycin Sulfate	2	1	3	4	2	-	3	4	2	21
Lincomycin	1	-	-	1	-	-	1	-	-	3
Neomycin	16	12	8	11	8	17	13	18	17	120
Oxyphenylbutazone	-	1	-	-	-	-	-	-	-	1

Continued Table 11: Distribution of NRP Inspector-Generated Program (In-plant) Screenings (KIS™ Test) - Residue Violative Samples, July 2013- Mar 2014. Note: Multiple violations may be associated with one carcass.

Residue Name	July 2013	Aug 2013	Sep 2013	Oct 2013	Nov 2013	Dec 2013	Jan 2014	Feb 2014	Mar 2014	Total
Oxytetracycline	2	-	1	-	2	4	-	2	2	13
Penicillin	23	36	23	23	24	19	30	23	28	229
Phenylbutazone	1	-	-	-	-	-	-	-	-	1
Salbutamol	-	-	1	-	-	-	-	-	-	1
Sulfadiazine	-	-	-	-	-	1	-	-	-	1
Sulfadimethoxine	5	5	4	12	3	5	7	3	7	51
Sulfadoxine	-	1	-	-	-	-	-	-	1	2
Sulfamethazine	7	2	2	8	7	11	8	16	8	69
Sulfamethoxazole	2	-	1	1	2	-	1	2	5	14
Tetracycline	2	1	2	-	3	1	-	-	3	12
Tilmicosin	1	5	5	3	5	6	7	7	4	43
Tulathromycin	1	1	-	2	1	-	2	1	3	11
Zeranol	-	-	2	-	-	-	-	-	-	2
Total	110	127	100	123	95	122	127	128	135	1,067

Figure C: Comparison of NRP Bob Veal and Dairy Cows Violations in the top 4 types of antibiotic identified – Inspector-Generated Program (In-plant) Screenings (KIS™ Test)–Residue Violative Samples by Quarter – July 2013- Mar 2014.

Note: Multiple violations may be associated with one carcass.

