

**United States National Residue Program
Residue Quarterly Report
3rd Quarter, FY 2013
(April-June)**

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Introduction

Background

The USDA Food Safety and Inspection Service (FSIS) administers the United States National Residue Program for meat, poultry, and egg products (hereafter, NRP), 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) collect, analyze and 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.). 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 via certified letter. Under best practices, the establishment should notify 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, which establish violative levels for chemical residues. Additionally, Food and Drug Administration (FDA) has on-farm jurisdiction. The FDA and cooperating State agencies investigate producers linked to residue violations and can enforce legal action if conditions leading to the residue violations are not corrected.

The NRP Residue 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 nine production classes (beef cows, bob veal, dairy cows, steers, heifers, market hogs, sows, young chickens, and young turkeys) representing 95 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, and suspect populations of animals, and special sampling for bob veal 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 on 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#Residue List>). The NRP Red Book will continue to provide more thorough analyses of the data presented in these quarterly reports.

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

Note: For FY2013, FSIS did not test egg products under the scheduled sampling program (Tier 1).

Purpose

This Quarterly Report summarizes chemical residue results for the United States National Residue Program 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 two 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 5 July 2013 Federal Register Notice.

Furthermore, FSIS has changed NRP reporting from a calendar to a fiscal reporting period to coincide with Agency planning. This report contains data for the third quarter of fiscal year 2013: (April to June 2013), 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; The U.S. NRP residue data (Red Book) which FSIS will continue to publish on an annual basis as the final analysis of NRP.

The report 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.

As this is a first 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)

Table 1¹: NRP Domestic Scheduled Sampling Program Results by Month, April-June 2013

During the third quarter of FY 2013, 1,470 samples were conducted on beef cows, bob veal, dairy cows, steers, heifers, market hogs, sows, young chickens, and young turkeys. Sample tissues analyzed include muscle, kidney, and liver. The program identified one chemical residue at violative levels.

Sample Collection Month	Number of Samples / (FSIS Lab Chemical Analytes)	Number of Violative Animals/Number of Lab Confirmed Violative Samples	Violative Chemical Residues
April	507 / (48,340)	1 / (1) -Bob veal	Sulfadimethoxine (1)
May	512 / (50,810)	2/ (2) -Bob veal	Piperonyl Butoxide (2)
June	451 / (44,996)	2 / (3) - Bob veal 1 / (1) - Dairy Cows	Flunixin (1) Piperonyl Butoxide (1) Sulfadimethoxine (2)
Total	1,470 / (144,146)	6/ (7)	

¹ In the above table, column 2 lists the number of animal samples tested, and in **parenthesis**, the number of analysis completed for these animals. 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

Table 2²: NRP Domestic Inspector-Generated (include KIS™ test) In-plant Screening Sampling By Month, Animal Class— April-June 2013

Slaughter Class	April	May	June	Total
Beef Cows	1,537 (45)	1,617 (38)	1,296 (32)	4,450 (115)
Boars/Stags	15 (0)	11 (1)	11 (0)	37 (1)
Bob Veal	3,633 (111)	4,740 (113)	7,792 (119)	16,165 (343)
Bulls	191 (7)	218 (10)	219 (19)	628 (36)
Dairy Cows	7,654 (213)	8,444 (184)	6,846 (179)	22,944 (576)
Formula Fed Veal	51 (2)	77 (3)	50 (2)	178 (7)
Goats	43 (2)	67 (2)	30 (0)	140 (4)
Heavy Calves	127 (12)	118 (25)	93 (7)	338 (44)

² In the above table, column 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 : FSIS DW/PHIS

**Continued Table 2: NRP Domestic Inspector-Generated (include KIS™ test) In-plant Screening Sampling
By Month, Animal Class - April-June 2013**

Slaughter Class	April	May	June	Total
Heifers	344 (8)	316 (8)	281 (14)	941 (30)
Lambs	55 (0)	136 (1)	71 (1)	262 (2)
Market Hogs	1,951 (17)	1,700 (13)	1,460 (13)	5,111 (43)
Non Formula Fed Veal	33 (1)	25 (1)	23 (3)	81 (5)
Roaster Pigs	122 (0)	175 (0)	142 (1)	439 (1)
Sheep	64 (0)	39 (0)	43 (0)	146 (0)
Sows	1,276 (41)	1,131 (24)	951 (28)	3,358 (93)
Steers	1,057 (17)	1,149 (27)	1,045 (30)	3,251 (74)
TOTAL	18,153 (476)	19,963 (450)	20,353 (448)	58,469 (1,374)

Table 3³: NRP Domestic Inspector-Generated (include KIS™ test) Sampling Program Results By Month, April-June 2013

1,374 positive values were identified from over 58,000 in-plant tests. Of these samples, 464 were lab-confirmed violations. Several of the violative tissue samples were associated with the same sample.

Sample Collection Month	Number of In-plant Screen Tests	Number of Positive In-plant Screens tested / (FSIS Lab Chemical Analytes)	Number of Animals with Violative Samples	Number of Lab-confirmed Violative Samples	Three Most commonly reported chemical violations (Number of Violative Samples per three most reported violations)	Total Number of violative chemical Residues
April	18,153	476 / (31,295)	140	172	DCCD (44), Penicillin (40), Neomycin (19)	21
May	19,963	450 / (29,003)	119	139	Penicillin (39), DCCD (27), Neomycin (27)	14
June	20,353	448 / (30,376)	126	153	Neomycin (37), DCCD (34), Penicillin (29)	11
Total	58,469	1,374 / (90,684)	385	464		

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 tested and, in **parentheses**, the number of analyses completed for these screens. Column 4 lists the number of animals that had violations, and column 5 lists the number of violative samples confirmed from those violative animals. Column 6 shows the three most commonly reported violative chemical residues and, in parentheses, the number of violations found for each. The last column show total numbers of violative chemical residue Note: **DCCD: Desfuoylceftiofur Cystine Disulfide**. Source: FSIS DW/PHIS

Table 4 ⁴: Distribution of NRP Residue Violations Inspector-Generated (include KIS™ test) Sampling Program Results By Slaughter Class and Month, April-June 2013

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

Slaughter Class	April	May	June	Total
Beef Cows	13 (16)	6 (6)	5 (6)	24 (28)
Boars/Stags	--	--	--	--
Bob Veal	44 (56)	46 (53)	46 (50)	136 (159)
Bulls	1 (1)	1 (1)	3 (4)	5 (6)
Dairy Cows	54 (62)	45 (52)	49 (62)	148 (176)
Formula Fed Veal	--	--	--	--
Goats	1 (1)	--	--	1 (1)
Heavy Calves	3 (6)	1 (2)	1 (1)	5 (9)

⁴ Source: FSIS DW/PHIS

Continued **Table 4: Distribution of NRP Residue Violations Inspector-Generated (include KIS™ test) Sampling Program Results By Slaughter Class and Month, April-June 2013**

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

Slaughter Class	April	May	June	Total
Heifers	2 (3)	2 (3)	1 (1)	5 (7)
Lambs	--	--	--	--
Market Hogs	2 (3)	--	1 (1)	3 (4)
Non Formula Fed Veal	1 (1)	--	--	1 (1)
Roaster Pigs	--	--	--	--
Sheep	--	--	--	--
Sows	15 (19)	13 (14)	13 (16)	41 (49)
Steers	4 (4)	5 (8)	7 (12)	16 (24)
TOTAL	140 (172)	119 (139)	126 (153)	385 (464)

Table 5 ⁵: Distribution of NRP Residue Violations Inspector-Generated (include KIS™ test) Sampling Program Results by Slaughter class and Chemical Residue, April-June 2013

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

Animal Class (Total Number of violative chemical Residue)	Ampicillin	Cefazolin	Ciprofloxacin	Desfuoylceftiofur Cystine Disulfide	Dihydrostreptomycin	Enrofloxacin	Florfenicol	Flunixin	Gamithromycin	Gentamycin Sulfate	Neomycin	Oxytetracycline	Penicillin	Sulfadiazine	Sulfadimethoxine	Sulfadoxine	Sulfamethazine	Sulfamethoxazole	Tetracycline	Tilmicosin	Tulathromycin	Total
Beef Cows (8)	-	-	-	4	-	-	5	-	-	2	-	1	6	-	2	-	2	-	-	6	-	28
Bob Veal (17)	-	-	1	25	5	1	-	8	2	2	81	1	4	1	1	-	9	5	3	5	5	159
Bulls (4)	-	-	-	-	-	-	-	3	-	-	-	-	1	-	-	-	1	-	-	1	-	6
Dairy Cows (15)	3	1	1	69	3	-	2	16	-	4	1	-	43	1	18	1	7	-	-	6	-	176
Goats (1)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	1
Heavy Calves (6)	-	-	1	1	-	-	1	1	-	-	-	-	-	-	-	-	3	-	-	2	-	9
Heifers (5)	-	-	-	-	-	-	-	1	-	-	1	-	2	-	2	-	-	-	-	1	-	7
Market hogs (2)	-	-	-	-	-	-	-	-	-	-	-	-	3	-	-	-	1	-	-	-	-	4
Non Formula-fed Veal (1)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	1
Sows (3)	-	-	-	-	-	-	-	-	-	1	-	-	45	-	-	-	3	-	-	-	-	49
Steers (7)	-	-	-	6	-	-	4	4	-	1	-	-	4	-	-	-	2	-	-	3	-	24
Total	3	1	3	105	8	1	12	33	2	10	83	2	108	2	24	1	29	5	3	24	5	464

⁵ A total of **464** violative samples were found in **385** samples/animals.
Source: FSIS DW/PHIS

Table 6 ⁶: NRP Import Samples Analyzed by Country, April-June 2013

Samples analyzed by ranked total numbers of samples submitted by foreign countries under the import reinspection program. 'Other' includes the following list of additional countries eligible to export meat and egg product to the United States: Argentina, Brazil, Australia, Croatia, Denmark, Finland, Hungary, Ireland, Israel, Japan, Mexico, Netherlands, Northern Ireland, Poland, San Marino, Spain, and Uruguay.

Country	April	May	June	Total
Canada	55	44	26	125
Costa Rica	31	1	16	48
Chile	11	13	23	47
Australia	8	6	27	41
New Zealand	10	5	17	32
Nicaragua	9	4	12	25
Other**	79	24	37	140
Total	203	100	155	458

Table 7 ⁷: NRP Import Samples Analyzed by Species, April-June 2013

The number of samples analyzed under the import reinspection program by production class. The 'Other*' category may include lamb, veal, mutton, goat, and turkey.

Species	April	May	June	Total
Beef	107	46	84	237
Pork	46	10	20	76
Poultry	19	22	29	70
Other*	31	22	22	75
Total	203	100	155	458

⁶ Source Office of International Affairs (OIA) - Import Sampling Program

⁷ Source OIA - Import Sampling Program

Table 8 ⁸: NRP Import Samples Analyzed by Chemical Residue, April-June 2013

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

Chemical Residue	April	May	June	Total
Aminoglycosides	28	12	27	67
Arsenic	10	8	4	22
Avermectins	44	20	23	87
<i>beta</i> Agonists	63	32	57	152
Multi-residue methods (mrm)	47	20	36	103
Pesticides	9	7	6	22
Sulfonamides	2	1	2	5
Total	203	100	155	458

Table 9 ⁹: NRP Import Samples Analyzed by Species and Chemical Residue April-June 2013

Number of import reinspection program arranged by product class tested for chemical residues. The Other* category may include lamb, veal, mutton, goat, and turkey.

Species	Aminoglycosides	Arsenic	Avermectins	<i>beta</i> Agonists	Multi-residue Methods (MRM)	Pesticides	Sulfonamides	Total
Beef	28	--	70	70	45	22	2	237
Pork	12	12	--	34	16	--	2	76
Poultry	19	6	--	18	27	--	--	70
Other*	8	4	17	30	15	--	1	75
Total	67	22	87	152	103	22	5	458

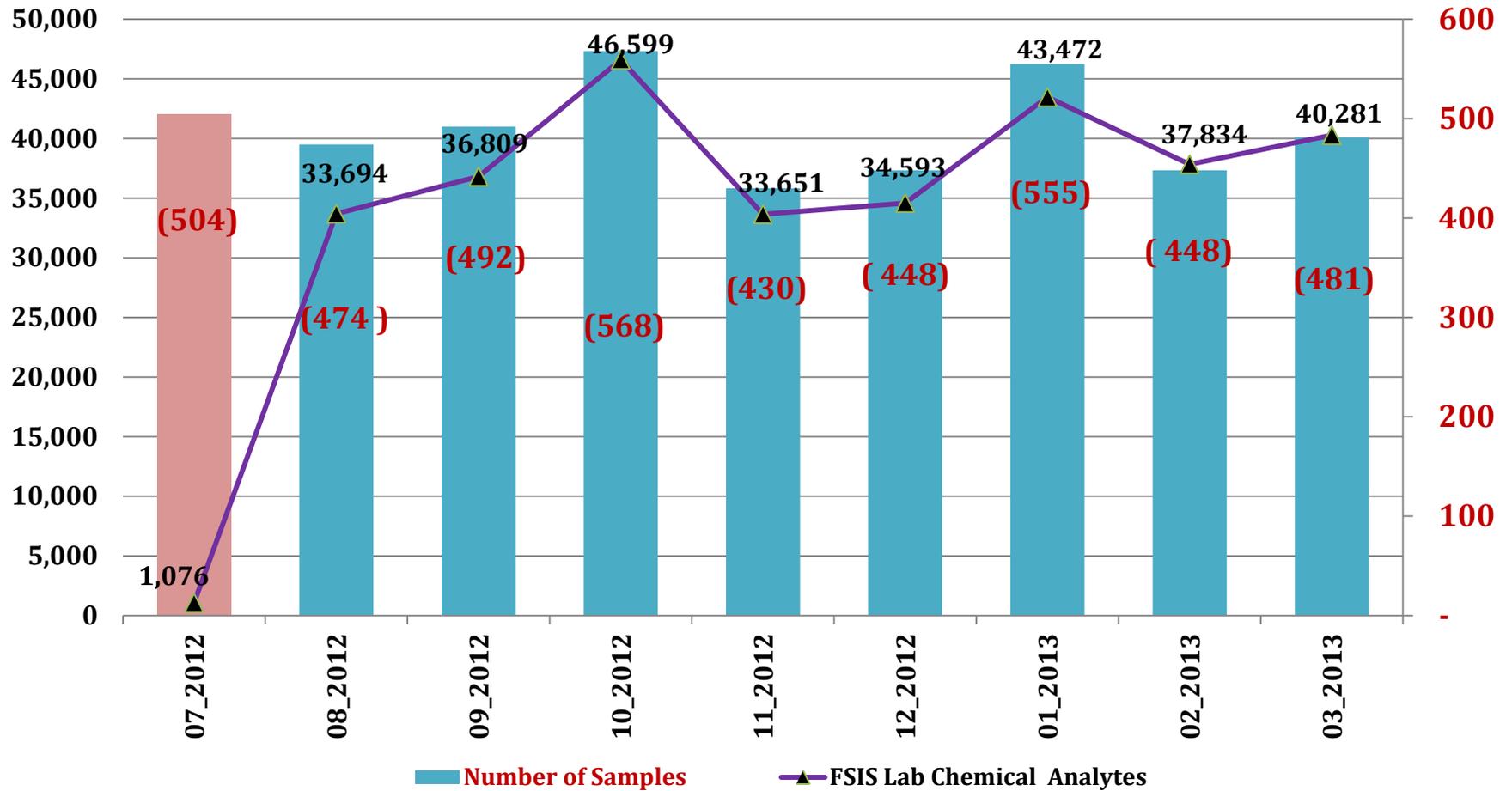
⁸ Source OIA – Import Sampling Program

⁹ Source OIA – Import Sampling Program

Appendix

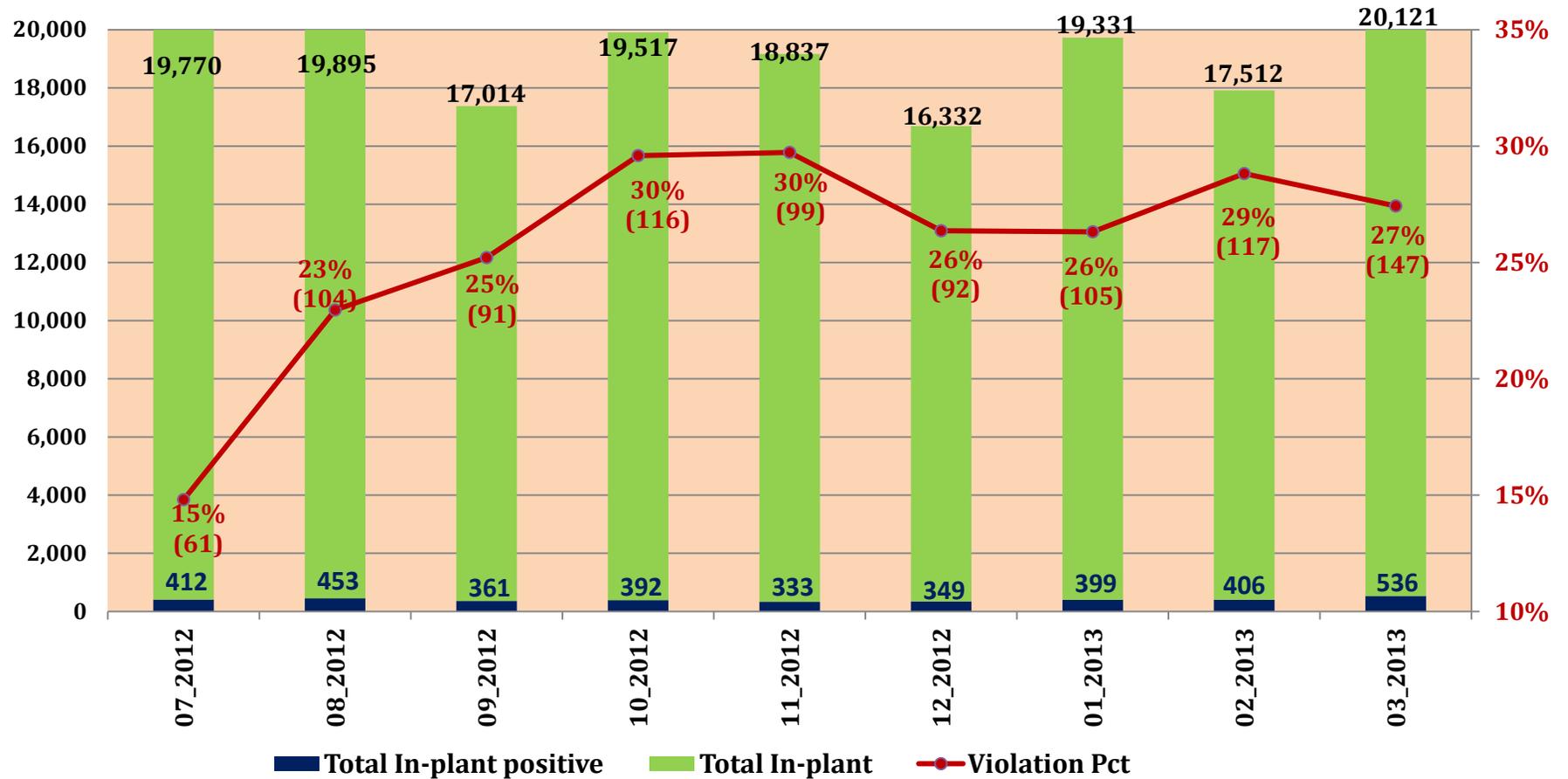
**Summary of NRP Domestic Sample Data
(Scheduled and Inspector-Generated)
From July 2012 to March 2013**

Figure 1: ¹⁰ Distribution of NRP Domestic Scheduled samples by Month, Include Residues lab chemical analytes July 2012- March 2013.



¹⁰ Number of residue domestic scheduled sample in (parenthesis)

Figure 2 ¹¹: Distribution of NRP Inspector Generated (In-plant screens samples) & Residue Violative Animals) by Month – July 2012- March 2013



¹¹ Violation Percent and Number of violative animals in (parenthesis). Violation percent : Ratio of (Violative animals) to (Total in-plant positive tested in the labs)

Table 10 ¹²: Distribution of NRP Inspector Generated Program -Residue Violative Samples July 2012- March 2013 - Note: Multiple violations may be associated with one Animal.

Residue Name	July 2012	Aug 2012	Sep 2012	Oct 2012	Nov 2012	Dec 2012	Jan 2013	Feb 2013	Mar 2013	Total
Amikacin	-	1	-	-	-	-	-	-	-	1
Ampicillin	2	-	-	1	-	2	2	1	2	10
Cefazolin	-	-	-	-	-	-	-	2	2	4
Ciprofloxacin	-	1	-	1	2	-	-	3	2	9
Desethylene Ciprofloxacin	-	-	-	1	-	-	-	-	-	1
Desfuroylceftiofur Cystine Disulfide	1	30	24	32	21	28	33	32	36	237
Dexamethasone	-	-	1	1	-	-	-	-	-	2
Dihydro Streptomycin	-	1	1	1	2	-	-	-	-	5
Dihydrostreptomycin	4	-	-	-	-	-	-	2	2	8
Enrofloxacin	-	-	-	1	1	-	-	-	1	3
Florfenicol	-	3	6	-	1	4	4	6	11	35
Flunixin	6	5	6	6	7	12	7	10	11	70
Gamithromycin	-	-	-	1	2	-	-	-	-	3
Gentamycin Sulfate	2	6	3	2	1	2	4	8	7	35

¹² Note: Multiple violations may be associated with one animal.

**Continued Table 10 : Distribution of NRP Inspector Generated Program -Residue Violative Samples
July 2012- March 2013 - Note: Multiple violations may be associated with one Animal**

Residue Name	July 2012	Aug 2012	Sep 2012	Oct 2012	Nov 2012	Dec 2012	Jan 2013	Feb 2013	Mar 2013	Total
Lincomycin	-	-	-	1	-	-	-	-	1	2
Neomycin	11	19	21	27	24	19	28	37	30	216
Oxytetracycline	-	7	2	9	3	3	2	-	-	26
Penicillin	23	32	30	30	36	21	26	20	41	259
Sulfadiazine	-	-	-	-	-	1	2	2	1	6
Sulfadimethoxine	14	6	4	9	6	9	4	2	5	59
Sulfadoxine	-	-	1	1	-	-	-	-	-	2
Sulfamethazine	9	4	7	14	7	14	5	6	7	73
Sulfamethoxazole	6	-	2	1	2	1	6	2	3	23
Tetracycline	-	-	-	-	1	2	-	-	-	3
Tilmicosin	4	7	1	4	6	1	10	4	11	48
Tulathromycin	-	-	-	-	-	-	-	-	3	3
Tylosin	-	-	-	-	1	-	1	-	-	2
Zeralanol (Zeranol)	-	-	-	-	-	-	-	1	-	1
Total	82	122	109	143	123	119	134	138	176	1,146