



Quarterly Progress Report on *Salmonella* and *Campylobacter* Testing of Selected Raw Meat and Poultry Products: Preliminary Results, January 2015 to March 2015

Executive Summary

- There were 1664 samples collected and analyzed for *Salmonella* or *Campylobacter* in the PR/HACCP verification program.
- From the previous quarter, the percentage of slaughter plants in Category 3 for carcass sampling:
 - Decreased for young chicken slaughter establishments (2.9% to 2.8%; from 5 out of 175 plants to 5 out of 177 plants)
 - Remained the same for young turkey slaughter establishments (0%; 0 out of 32 plants to 0 of 33 plants)
- There were 1566 carcass samples also analyzed for *Campylobacter*, with the following percent positive results:
 - Young Chickens – 3.4% (1327 samples analyzed)
 - Young Turkeys – 0.8% (239 samples analyzed)
- 87.1% of young chicken and young turkey slaughter establishments are in Category 1, while 2.4% are in Category 3. The remaining establishments are either Category 2 or 2T.
- Not Ready-To-Eat (NRTE) Comminuted Poultry Sampling Project cumulative results for ground, other comminuted, and mechanically separated poultry samples from January 1, 2015 through March 31, 2015 are:
 - *Salmonella* positive– 48.5% (526 out of 1084 samples), 65.5% of NRTE comminuted chicken (451 out of 689 samples), and 19.0% of NRTE comminuted turkey (75 out of 395 samples).
 - *Campylobacter* positive – 8.4% (91 out of 1084 samples), 12.8% of NRTE comminuted chicken (88 out of 689 samples), and 0.8% of NRTE comminuted turkey (3 out of 395 samples).
- Small production volume beef establishments which were sampled under the MT43S program are now being analyzed under the MT43 (raw ground beef) sampling program for both *E. coli* O157:H7 and *Salmonella*.¹ A total of 2983 samples were analyzed in the raw ground beef sampling program. Of those, 27 (0.9%) were positive for *Salmonella*.
- Out of 1493 samples analyzed in the eight other domestic MT sampling projects, 46 samples (3.1%) were *Salmonella* positive, while in imported raw beef products tested, only one sample of 186 was *Salmonella* positive (0.5%).

¹ Raw beef samples, including import MT08 and MT51 samples, collected for *E. coli* O157:H7 and/or non-O157 STEC analyses are also analyzed for *Salmonella* by [FSIS Federal Register Notice FSIS-2012-0038](#), which was implemented on July 1, 2014.

This report discusses the *Salmonella* and *Campylobacter* verification sampling results for the First Quarter CY2015 as presented in Tables 1-7, Chart 1, and Figures 1-6.² It also includes sampling results from the NRTE Comminuted Poultry Sampling Project as presented in Tables 5a and 5b.³

Tables 1a and 1b

Table 1a describes the *Salmonella* performance standards/guidance for three product classes and allowed positives for categories 1, 2T, 2 and 3. Table 1b describes the *Campylobacter* performance standards/guidance for two product classes and allowed positives for categories 1, 2T, 2 and 3.

Tables 2a and 2b

Table 2a summarizes *Salmonella* verification samples including *Salmonella* positive results, based on sample collection date, from January through March 2015 for both product classes. Table 2b summarizes **quantitative (1 ml—regulatory)** results for *Campylobacter* verification samples including *Campylobacter* positive results, based on sample collection date, from January through March 2015 for young chicken and young turkey carcass samples.

Tables 3 and 4

Tables 3 and 4 report the proportion of young chicken and young turkey slaughter establishments by category that have completed at least two recent *Salmonella* verification-sampling sets. New establishments are not identified in any category until FSIS has documented the results from two sets. An establishment with its last set $\leq 50\%$ of the performance standard or guidance and the prior set at $> 50\%$ of the performance standard or guidance is sub-categorized as 2T, with T standing for transitioning to Category 1. Young chicken and young turkey set results are classified using the performance standards that were in place at the time the set was initiated.

Tables 5a and 5b

Table 5a summarizes *Salmonella* positive results from January 2015 through March 2015 for the NRTE Comminuted Poultry Exploratory Sampling Project. Table 5b summarizes *Campylobacter* positive results from January 2015 through March 2015 for chicken and turkey comminuted products for the NRTE Comminuted Poultry Exploratory Sampling Project. Both tables also display the quartile distributions of percent positives among the sampled establishments for each type of product.

² This data is presented in the format discussed in the *Salmonella* second quarterly report CY2008 which can be accessed on the FSIS website at http://www.fsis.usda.gov/wps/portal/fsis/topics/data-collection-and-reports/microbiology/quarterly-reports-salmonella/q2-2008/ct_index.

³ The NRTE Comminuted Poultry Sampling Project was initiated by Federal Register Notice FSIS–2012–0007: <http://www.fsis.usda.gov/wps/wcm/connect/Odffacbe-45e8-43ea-8b65-3b7100e19acb/2012-0007.pdf?MOD=AJPERES>.

Tables 6 and 7

Table 6 summarizes the *Salmonella* samples analyzed from all nine domestic raw beef projects, while Table 7 includes the samples taken from all raw beef products imported from other countries.¹

A total of 4476 samples were analyzed from nine MT projects for *Salmonella* in the first quarter of CY2015, from which 73 samples were positive. A total of 2,983 samples were collected and analyzed for *Salmonella* in raw ground beef sampling program MT43, of which 27 (0.9%) were positive. In imported raw beef products from all other countries, FSIS found one sample positive out of 186 analyzed for *Salmonella*.

Chart 1

This chart represents the total percentage of establishments within product classes classified by category and sub-category for young chicken and young turkey. This chart indicates that as of March 31, 2015, 87.1% of establishments are in Category 1, 4.8% are in Category 2T, 5.7% are in Category 2, and 2.4% are in Category 3.

Figures 1 through 3

Figures 1 through 3 summarize *Salmonella* positive results by product class for the most recent five quarters. Past reports included figures with ground beef, ground turkey and ground chicken sampling results. The last samples for these products under these programs were taken in October 2013. Therefore, those figures are not included in this report. These products are now sampled in the Not-Ready-To-Eat (NRTE) Comminuted Turkey and Not-Ready-To-Eat Comminuted Chicken Exploratory Sampling programs. The data from these newer programs are shown in Tables 5a and 5b.

Figures 4 and 5

Figures 4 and 5 summarize *Campylobacter* positive results by product classes for the most recent five quarters.

Figure 6

Figure 6 summarizes *Salmonella* positive results by project code in this quarter for the nine domestic raw beef (MT) projects.

NOTE: While earlier quarterly reports included individual sample results from "A" sets only, the current report format summarizes data from all sets. This change was discussed in the 2006-second quarterly report, which can be accessed on the FSIS website: http://www.fsis.usda.gov/wps/portal/fsis/topics/data-collection-and-reports/microbiology/quarterly-reports-salmonella/q2-cy-2006/ct_index.

Additional information regarding this report

In order to handle sample scheduling more efficiently and to update information on actively producing establishments, the Agency continues to automate the sampling algorithm process. Therefore, the total number of active operating establishments can change from quarter to quarter as establishments exit or enter the industry. This change does not apply to intermittently-producing establishments. The Agency will continue to categorize these establishments because they are considered to be operating at some level.

Given the revised sampling strategy, the percentage of positive samples is no longer useful as an indicator of trends. As described above, FSIS has implemented placing establishments into Category 1, 2T, 2, or 3 as an alternative trend indicator for the *Salmonella* verification sampling program. While the Agency does not expect the category trend indicator to vary greatly on a quarterly basis, it should facilitate tracking of overall industry performance when examined over multiple years. Other trend indicators continue to be considered.

Beginning March 28, 2008, FSIS posted completed *Salmonella* sample set results from Young Chicken slaughter establishments with variable (Category 2) and highly variable (Category 3) process control. Currently only Category 3 Young Chicken slaughter establishments are posted on the FSIS website. In January, February and March 2015, there were seven (7) establishments in Category 3. FSIS continues to update this information on or about the 15th of each month. The current posting can be accessed at: <http://www.fsis.usda.gov/wps/portal/fsis/topics/data-collection-and-reports/microbiology/salmonella-verification-testing-program/salmonella-verification-testing-program>.

As announced in the January 2008 Federal Register Notice: *Salmonella* Verification Sampling Program: Response to Comments and New Agency Policies (<http://www.fsis.usda.gov/wps/wcm/connect/dab45316-44b2-4d75-a91e-a70f83b0cf7d/2006-0034.pdf?MOD=AJPERES>), young turkey establishments in Categories 2 and 3 were eligible for posting to the FSIS website beginning May 15, 2008. The Agency is still considering publishing category results for establishments in additional product classes. Annual reports summarizing results for calendar years are available on the FSIS web site as well as previous quarterly reports. The restructuring of *Salmonella* set scheduling, however, means that it is inappropriate to compare results from 2006 onward to previous years. Similarly, the changes to the *Salmonella* verification sampling program prevent valid comparisons of testing results over time (e.g., quarter-to-quarter or year-to-year trends).

Table 1a: *Salmonella* Product Classes, Performance Standards/Guidance, and Allowed Positives for Categories 1, 2T, 2 and 3.

Product class	Performance standard (percent positive for <i>Salmonella</i>) (%)	Number of samples tested	Maximum number of positives to achieve standard \diamond	Category 1 [§]	Category 2T (T for Transitioning) [§]	Category 2 [§]	Category 3 [§]
Young Chicken*	7.5	51	5	recent two set results ≤ 2	last set ≤ 2 prior set NOT ≤ 2	Last set >2 w/o failing	last set ≥ 6
Young Turkey*	1.7	56	4	most recent two set results set ≤ 2	last set ≤ 2 prior set NOT ≤ 2	Last set >2 w/o failing	last set ≥ 5

\diamond Maximum number of positives is set at the number which would provide 80% likelihood of an establishment passing the sample set, if it were operating at exactly the performance standard (e.g. there is an 80% chance that a Young Chicken slaughter establishment that has *Salmonella* in exactly 7.5% of its product getting 5 or fewer positive samples out of a set of 51).

*New performance standards for young chicken and young turkey carcass samples were implemented July 1, 2011

§Establishment category, which is based on the most recent two sets completed.

Table 1b: *Campylobacter* Product Classes, Performance Standards/Guidance, and Allowed Positives for Categories 1, 2T, 2 and 3.

Product class	Performance standard (percent positive for <i>Campylobacter</i>) (%)	Number of samples tested	Maximum number of positives to achieve standard	Category 1	Category 2T (letter T standing for transitioning)	Category 2	Category 3
Young Chicken	10.4	51	8	T.B.D.	T.B.D.	T.B.D.	T.B.D.
Young Turkey	0.79	56	3	T.B.D.	T.B.D.	T.B.D.	T.B.D.

Categories for *Campylobacter* To Be Determined (T.B.D.)

Table 2a: Percent Positive *Salmonella* Carcass Tests (All Samples) in the PR/HACCP Verification Testing Program (HC projects) by Product Class and Establishment Size - First Quarter CY2015 (January 1, 2015 through March 31, 2015).

All Sets	Establishment Size											
	Large			Small			Very Small			All Sizes		
Product ID	Samples	Positive	Percent Positive	Samples	Positive	Percent Positive	Samples	Positive	Percent Positive	Samples	Positive	Percent Positive
Young Chicken	913	12	1.3%	322	24	7.5%	92	10	10.9%	1327	46	3.5%
Young Turkey	151	2	1.3%	88	3	3.4%	0	0		239	5	2.1%

Table 2b: Percent Positive Quantitative (1 ml—regulatory) *Campylobacter* Carcass Tests (All Samples) in the PR/HACCP Verification Testing Program by Product Class and Establishment Size - First Quarter CY2015 (January 1, 2015 through March 31, 2015).

All Sets	Establishment Size											
	Large			Small			Very Small			All Sizes		
Product ID	Samples	Positive	Percent Positive	Samples	Positive	Percent Positive	Samples	Positive	Percent Positive	Samples	Positive	Percent Positive
Young Chicken	913	6	0.7%	322	11	3.4%	92	28	30.4%	1327	45	3.4%
Young Turkey	151	0	0.0%	88	2	2.3%	0	0		239	2	0.8%

Table 3: Young Chicken Slaughter Establishments by *Salmonella* Category, 1st Quarter CY2015

Young Chicken Slaughter Establishments, by Category, Quarter 1 CY2015		
Category	Quarter 1	Percent of TOTAL
1	153	86.4%
2T	8	4.5%
2	11	6.2%
3	5	2.8%
TOTAL *	177	100.0%

*Total Number of Establishments Currently Operating And Subject To Sampling That Have At Least Two Completed Sets

Table 4: Young Turkey Slaughter Establishments by *Salmonella* Category, 1st Quarter CY2015

Young Turkey Slaughter Establishments, by Category, Quarter 1 CY2015		
Category	Quarter 1	Percent of TOTAL
1	30	90.9%
2T	2	6.1%
2	1	3.0%
3	0	0
TOTAL *	33	100.0%

*Total Number Of Establishments Currently Operating And Subject To Sampling That Have At Least Two Completed Sets.

Table 5a: Percent Positive *Salmonella* Tests (All Samples) in the NRTE Comminuted Poultry Exploratory Sampling Project by reported Finished Product Category – All Samples (January 1, 2015 through March 31, 2015) **

Product Group	Finished Product	Overall Samples			Establishment Data		Establishment Percent Positive Distribution		
		Number Analyzed	Number Positive	Percent Positive	Plants Sampled	Avg. Samples per Plant	Q1	Median	Q3
Chicken	Ground/Other Comminuted Chicken	358	158	44.13%	50	7.16	16.67%	36.67%	55.56%
	Mechanically Separated Chicken	331	293	88.52%	35	9.46	81.82%	100.00%	100.00%
	Chicken Subtotal	689	451	65.46%	84	8.20	28.57%	66.82%	95.83%
Turkey	Ground/Other Comminuted Turkey	359	56	15.60%	47	7.64	0.00%	7.69%	33.33%
	Mechanically Separated Turkey	36	19	52.78%	9	4.00	0.00%	50.00%	75.00%
	Turkey Subtotal	395	75	18.99%	48	8.23	0.00%	13.89%	38.18%
Salmonella Grand Total		1084	526	48.52%	121	8.96	16.67%	41.67%	83.33%

**NOTE:

The finished product information is obtained here through inspection personnel responses on the sampling forms and is subject to further review by the Agency for future analyses.

Table 5b: Percent Positive *Campylobacter* Tests (All Samples) in the NRTE Comminuted Poultry Exploratory Sampling Project by reported Finished Product Category - All Samples (January 1, 2015 through March 31, 2015) **

Product Group	Finished Product	Overall Samples			Establishment Data		Establishment Percent Positive Distribution		
		Number Analyzed	Number Positive	Percent Positive	Plants Sampled	Avg. Samples per Plant	Q1	Median	Q3
Chicken	Ground Chicken / Other Comminuted Chicken	358	9	2.51%	50	7.16	0.00%	0.00%	0.00%
	Mechanically Separated Chicken	331	79	23.87%	35	9.46	0.00%	25.00%	40.00%
	Chicken Subtotal	689	88	12.77%	84	8.20	0.00%	0.00%	20.00%
Turkey	Ground Turkey / Other Comminuted Turkey	359	3	0.84%	47	7.64	0.00%	0.00%	0.00%
	Mechanically Separated Turkey	36	0	0.00%	9	4.00	0.00%	0.00%	0.00%
	Turkey Subtotal	395	3	0.76%	48	8.23	0.00%	0.00%	0.00%
<i>Campylobacter</i> Grand Total		1084	91	8.39%	121	8.96	0.00%	0.00%	8.33%

**NOTE:

The finished product information is obtained here through inspection personnel responses on the sampling forms and is subject to further review by the Agency for future analyses.

Table 6: Percent Positive *Salmonella* Tests (All Samples) in Domestic Raw Beef (MT) Sampling Projects – All Samples (January 1, 2015 through March 31, 2015)

Project	Project Name	Total Samples Analyzed	Total Samples Positive	Percent Positive
MT05	Raw Ground Beef – Retail	125	3	2.40%
MT43	Risk-based Sampling for Raw Ground Beef	2983	27	0.90%
MT44	Raw Ground Beef – Follow-up testing to a raw ground beef positive*	26	0	0.00%
MT44T	Raw Ground Beef – Trace back	2	0	0.00%
MT52	Follow-up testing at supplier establishments following MT43, MT44, or MT55 positive*	33	0	0.00%
MT53	Follow-up testing to an MT60, MT54, MT55, or MT52 positive*	208	17	8.20%
MT54	Raw ground beef components other than trim	132	13	9.80%
MT55	Bench Trim	344	5	1.50%
MT60	Beef manufacturing trim	623	8	1.30%
Total	Domestic Raw Beef Sampling Projects	4476	73	1.63%

* Dependent on positive findings from other *E. coli* O157:H7 or non-O157 (STEC) sampling projects.

Table 7: Percent Positive *Salmonella* Tests (All Samples) in Imported Raw Beef (MT) Products Sampling Projects – All Samples (January 1, 2015 through March 31, 2015)

Product	Total Sample Analyzed	Total Sample Positive	Percent Positive
Imported raw ground beef and imported trim/other raw ground beef components (MT08 + MT51)	186	1	0.50%

Chart 1: Establishment Categories for Young Chicken and Young Turkey Carcass Classes from January 2015 to March 2015

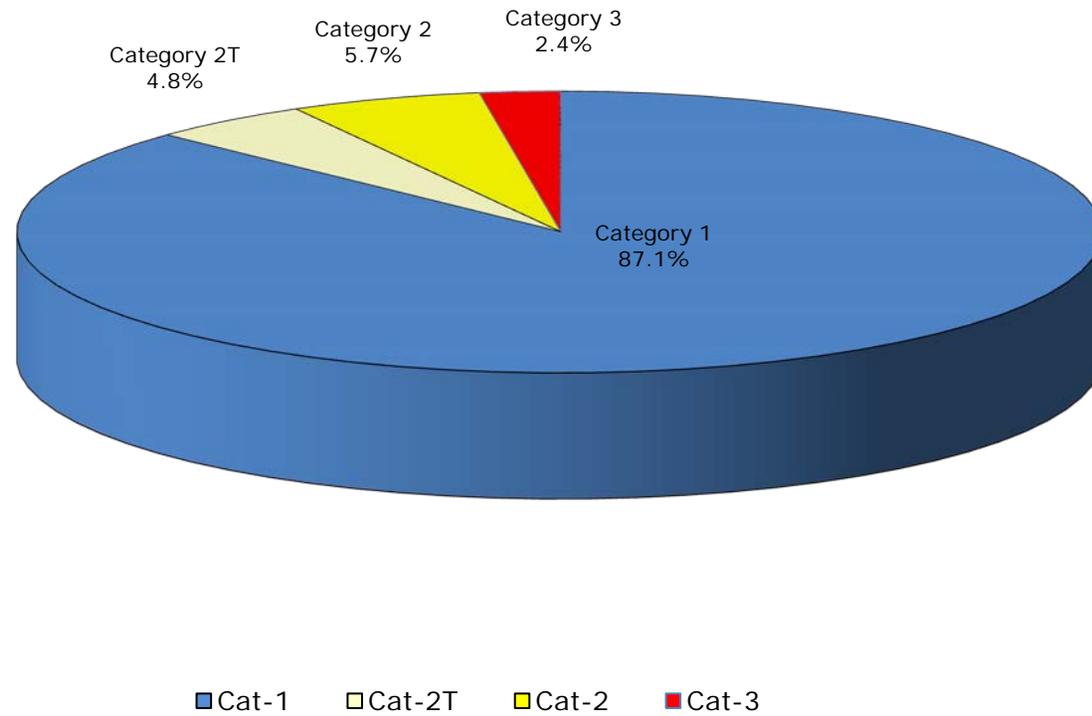


Figure 1
Microbiological Results of Young Chicken Carcasses (All Samples) Analyzed for *Salmonella* in the PR/HACCP Verification Testing Program Summarized by Quarter from January 2014 to March 2015

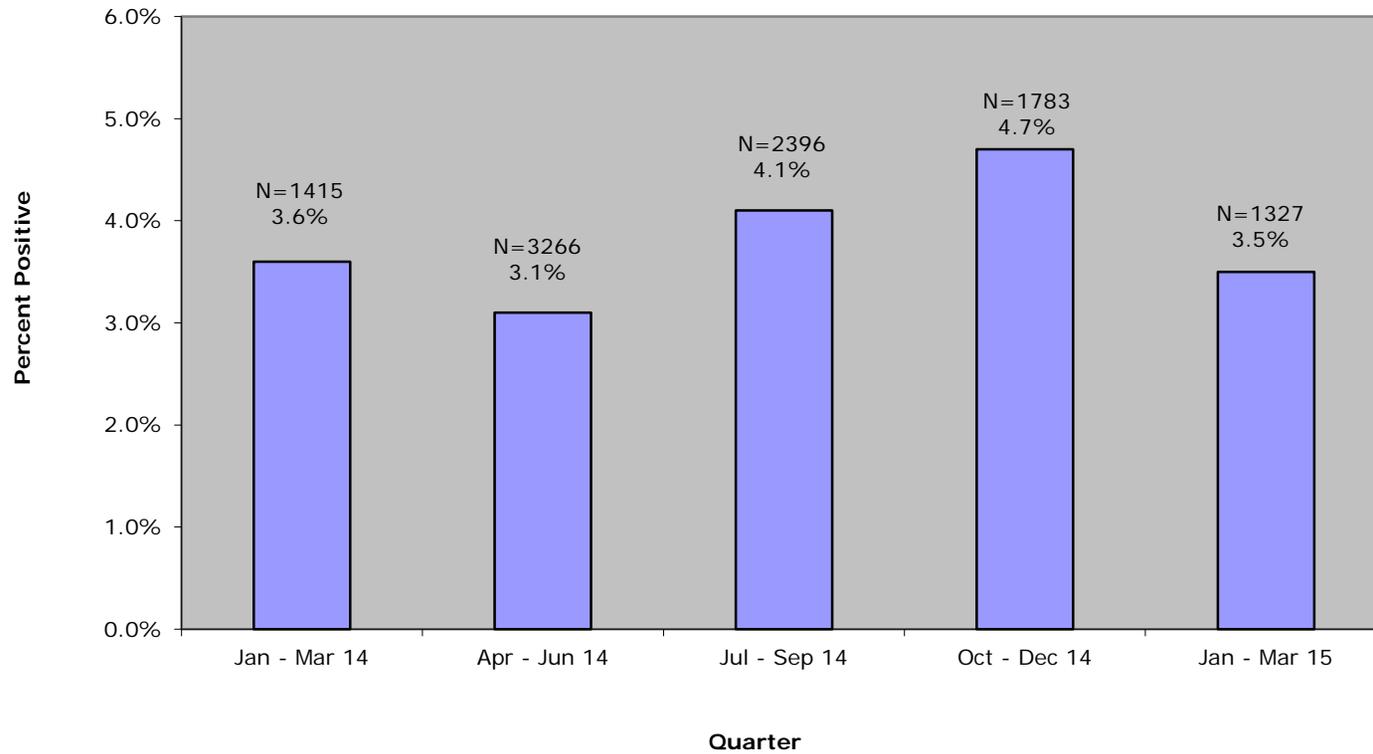


Figure 2
Microbiological Results of Domestic Ground Beef (All Samples) Analyzed for *Salmonella* in the PR/HACCP Verification Testing Program Summarized by Quarter from January 2014 to March 2015

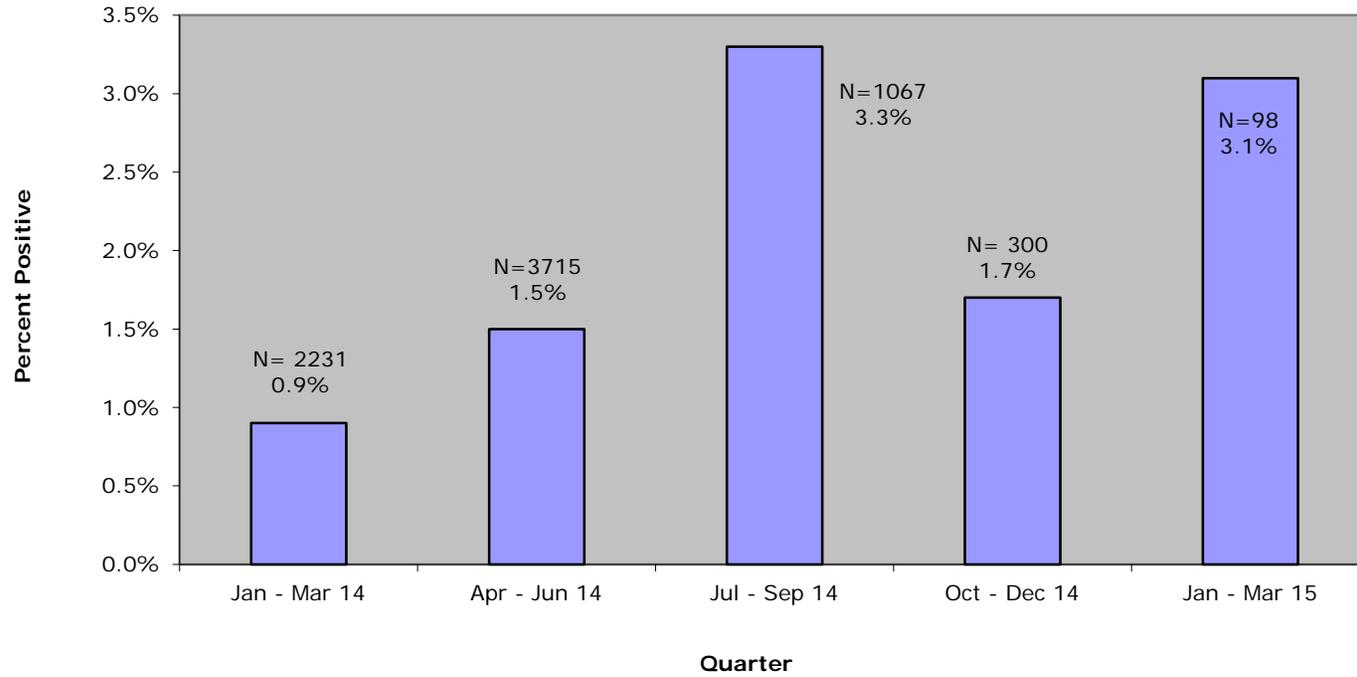


Figure 3
Microbiological Results of Young Turkey Carcasses (All Samples) Analyzed for *Salmonella* in the PR/HACCP Verification Testing Program Summarized by Quarter from January 2014 to March 2015

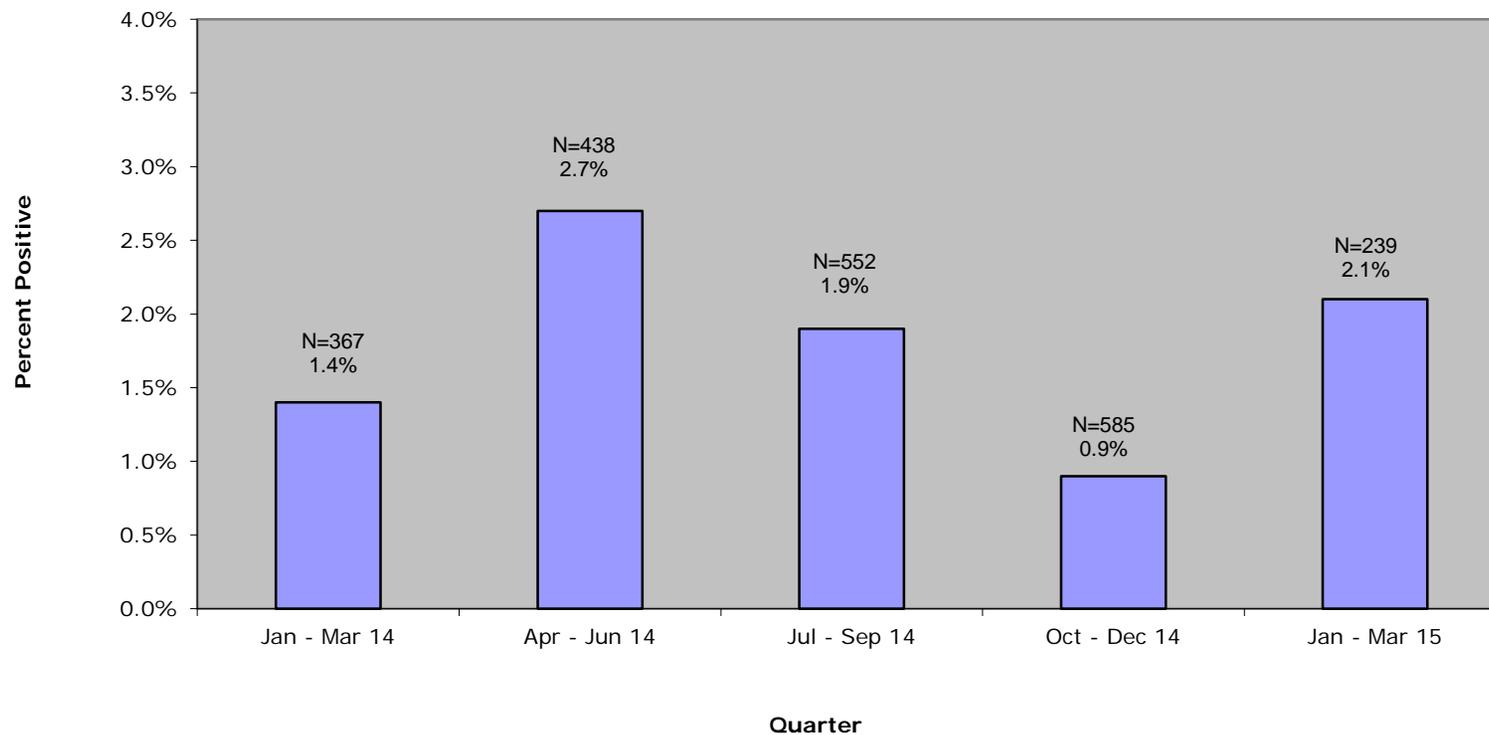


Figure 4
Microbiological Results of Young Chicken Carcasses (All Samples) Analyzed for *Campylobacter* in the PR/HACCP Verification Testing Program Summarized by Quarter from January 2014 to March 2015

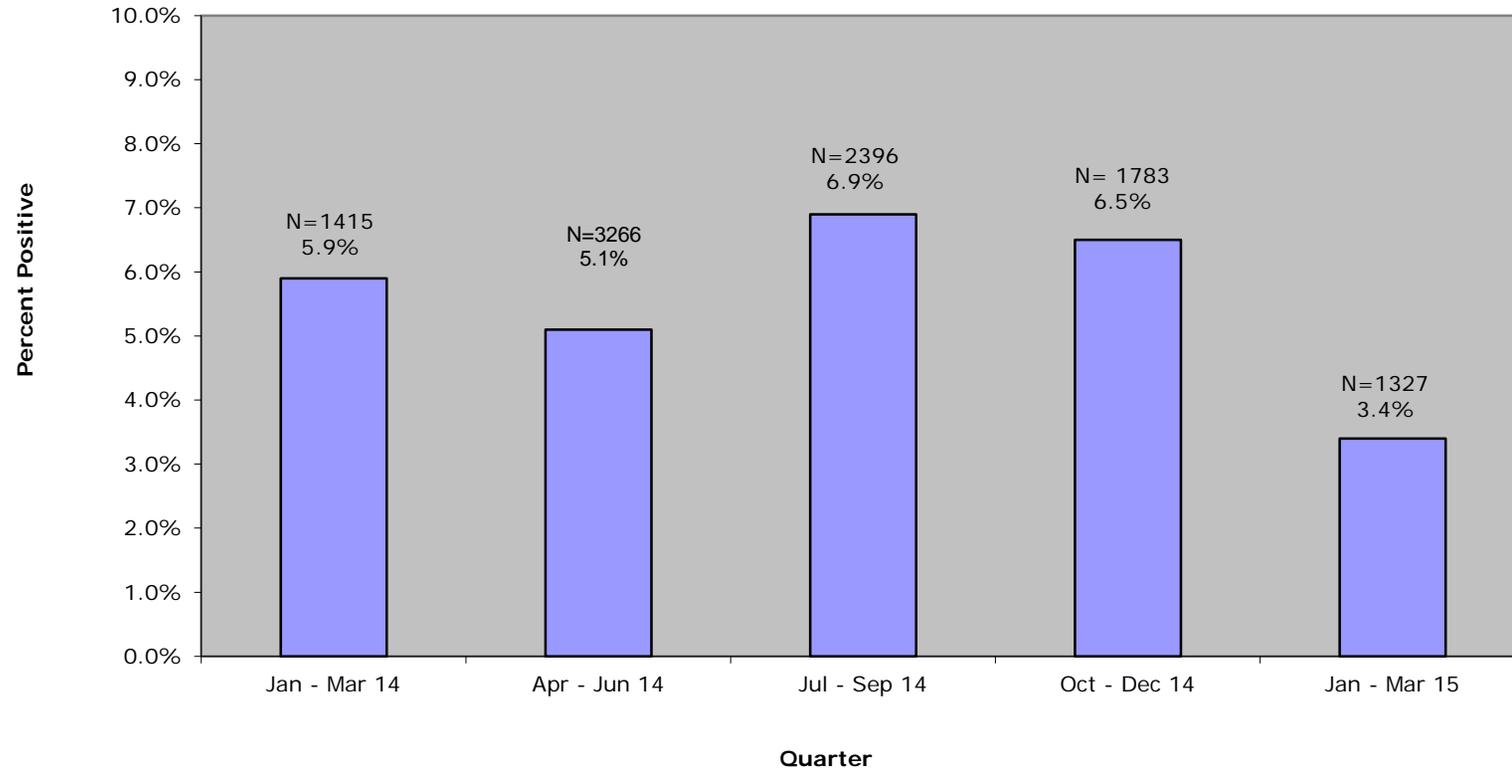


Figure 5
Microbiological Results of Young Turkey Carcasses (All Samples) Analyzed for *Campylobacter*
in the PR/HACCP Verification Testing Program Summarized
by Quarter from January 2014 to March 2015

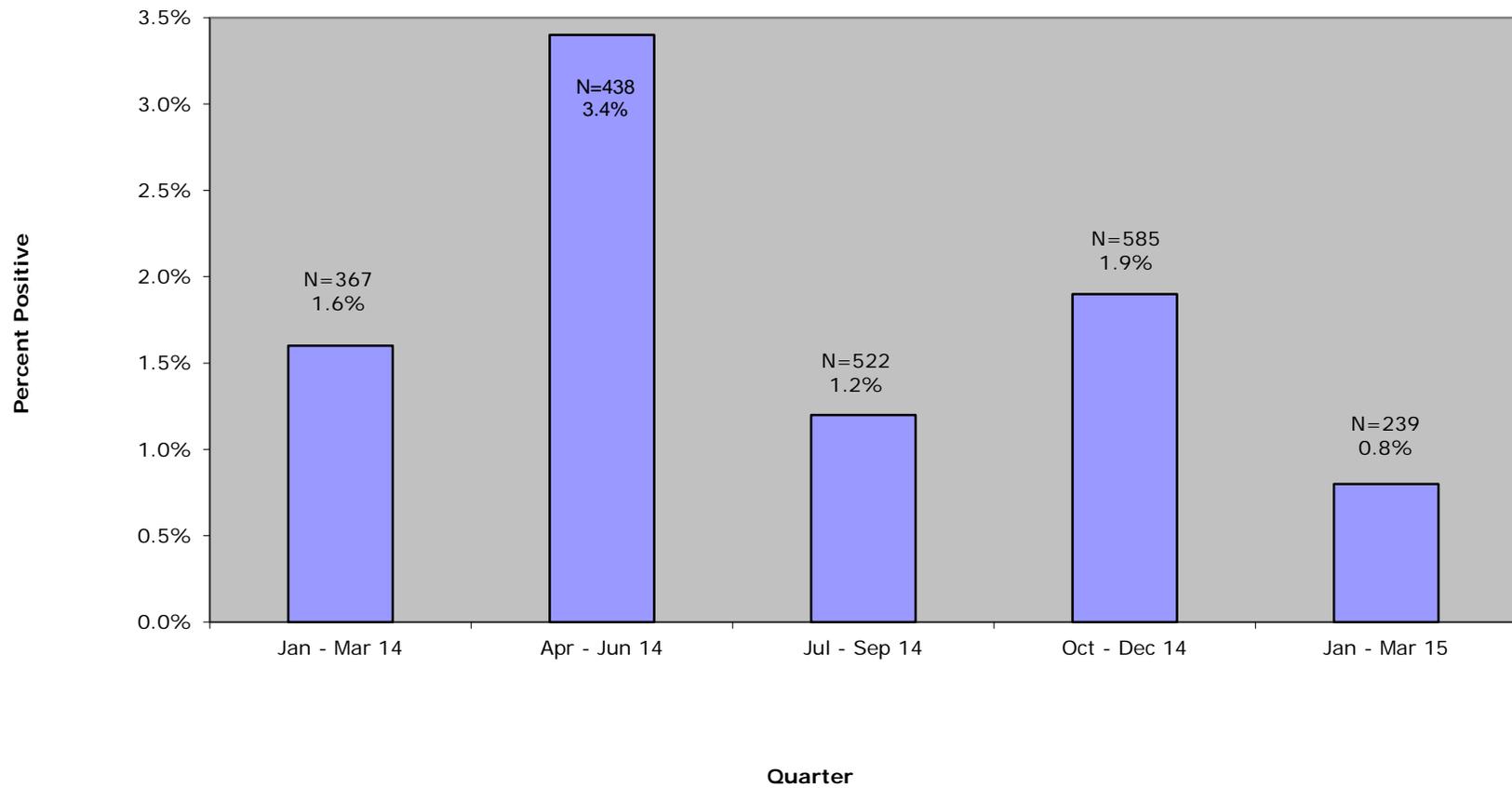


Figure 6
Microbiological Results of Domestic Raw Beef Projects (All Samples) Analyzed for *Salmonella*
in MT Monitoring Testing Program Summarized for the First Quarter of CY2015
(from January 2015 to March 2015)

