

Quarterly Progress Report on *Salmonella* Testing of Selected Raw Meat and Poultry Products: Preliminary Results, January - March 2008

In February 2006, FSIS [announced several changes](#) | [PDF](#) to the *Salmonella* Verification Testing Program in order to implement a risk-based approach for verification sampling. Briefly, these changes included increasing the testing frequency in establishments that exhibit highly variable or variable process control, testing of turkey carcasses, and posting quarterly results to the FSIS web site. In addition, the Agency began classifying establishments into three process control categories (Category 1, 2 and 3) according to their performance in completed sample sets relative to the regulatory performance standard or guidance for their product class.

A Category 1 establishment shows consistent process control by having two consecutive sets at less than or equal to 50% of the performance standard or guidance for its product class. A Category 2 establishment has one or both consecutive *Salmonella* sets at greater than 50% of the performance standard or guidance for its product class without exceeding it, or has completed only one set (without exceeding the performance standard or guidance) and is considered to have variable process control. An establishment that fails a set demonstrates highly variable process control and is placed automatically in Category 3. This would also include an establishment that has completed only one set and has failed to meet the existing performance standard or guidance in that one set.

NOTE: These protocols for categorizing establishments have been consistently used for the quarterly and annual summaries published since the February 2006 Federal Register Notice. See the quarterly report for January – March 2007 for information clarifying both the (1) footnotes that have accompanied the previous summaries, and (2) criteria for counting and categorizing establishments.

It has been two years since the implementation of this new program, and it continues to accomplish most of the initiatives described in the Federal Register Notice (FRN). In January 2008, FSIS issued another FRN, *Salmonella* Verification Sampling Program: Response to comments and new Agency policy outlining additional policies. <http://www.fsis.usda.gov/OPPDE/rdad/FRPubs/2006-0034.pdf>

Two of the policies outlined in the 2008 FRN have been implemented as of the end of this first quarter. These include:

- 1) Posting of completed *Salmonella* sample set results from young chicken slaughter establishments with variable (Category 2) and highly variable (Category 3) process control. This posting began on March 28, 2008 and FSIS intends to update this information on or about the 15th of each month. Furthermore, the Agency is considering publishing category results for establishments in other product classes. The current posting can be accessed at: http://www.fsis.usda.gov/Science/Salmonella_Verification_Testing_Program/index.asp

Note: The criteria applied for publication of individual young chicken establishments differ from those for publication of this report, and the two reports should not be used for comparisons.

- 2) Testing the raw ground beef samples collected for *E. coli* O157:H7 analysis from the low volume (< 1,000 pounds) ground beef establishments for *Salmonella* as well. Approximately 1,000 ground beef establishments have been removed from the traditional set-based PR/HACCP *Salmonella* verification sampling program and

beginning in the second quarter CY2008, will be tested for *Salmonella* under this new project. The Agency plans to run this testing protocol for approximately one year with each establishment sampled approximately once a quarter. Positive *Salmonella* isolates will be enumerated when sufficient sample is available and results will be reported to the establishments. No regulatory action will be taken on positive *Salmonella* results. After a year, this program will be assessed, results will be posted, and the Agency will decide on whether to modify or continue it.

As additional initiatives announced in the 2008 FRN are implemented, they will be discussed in the quarterly reports.

In this current report, data are presented in three formats:

- Percent positive *Salmonella* tests by product class and establishment size. Table 1 summarizes 2008 first quarter samples in the same format used in past quarterly and annual reports.
- Proportion of establishments in each of the three categories for quarter 1 CY2008 identified in the 2006 February Federal Register Notice (Tables 2-9).
- *Salmonella* results summarized by product class for the most recent five quarters. NOTE: While earlier quarterly reports included individual sample results from "A" sets only, this report and future reports will summarize 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/science/Q3_2006_Salmonella_Testing/index.asp.

In this revised format the results for each product class are shown in a graph (PDF Only) depicting the number of samples and the percentage of positive samples by quarter for the last five quarters.

Additional information regarding this report

- Given the revised sampling strategy, the percentage of positive samples is no longer useful as an indicator of trends. Therefore, FSIS has implemented as an alternative trend indicator for the *Salmonella* verification program placing establishments into Category 1, 2, or 3.
- Previous reports had establishments by category information for broilers, market hog, turkey, and cow/bull. Beginning CY2008, quarterly and annual reports will include also ground beef, ground chicken, ground turkey, and steer/heifer (Tables 2-9).
- 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.
- In order to handle sample scheduling more efficiently and to update information on actively producing establishments, the Agency has recently automated the sampling algorithm process. Therefore, the total number of active operating establishments can change quarter to quarter as plants exit or enter the industry. This change does not apply to intermittent producing establishments. The Agency will continue to categorize them because they are considered to be operating at some level.

[Annual reports](#) summarizing results for calendar years will continue to be available on the FSIS Web site. However, the restructuring of *Salmonella* set scheduling means that comparison of results from 2006 onwards to previous years will be inappropriate. Similarly, the changes to the verification program will prevent valid comparisons of testing results over time (e.g., quarter-to-quarter or year-to-year trends). For such comparisons, the results of upcoming nationwide baseline studies can be used to provide valid estimates of the prevalence of certain pathogens of public health concern and permit valid statistical comparisons to be made over time. A 12-month Young Chicken (Broiler) Baseline Study is currently in progress, and additional baseline studies are under development.

Table 1. Percent Positive *Salmonella* Tests (All Samples) in the PR/HACCP Verification Testing Program by Product Class and Establishment Size – First Quarter CY 2008 (01/01/2008 – 03/31/2008)*

All sets

ProductID	Large			Small			Very Small		
	Samples	Positives	Pct Pos	Samples	Positives	Pct Pos	Samples	Positives	Pct Pos
Broilers	1,089	99	9.1%	265	33	12.5%	47	5	10.6%
Market Hogs	70	4	5.7%	378	19	5.0%	436	7	1.6%
Cows/Bulls	14	0	0.0%	204	1	0.5%	137	0	0.0%
Steers/Heifers	310	0	0.0%	325	0	0.0%	355	1	0.3%
Ground Beef	141	1	0.7%	1,991	43	2.2%	1,061	19	1.8%
Ground Chicken	89	33	37.1%	42	5	11.9%	11	7	63.6%
Ground Turkey	305	51	16.7%	1	0	0.0%	13	0	0.0%
Turkeys	46	2	4.3%	48	5	10.4%	0	0	

ProductID	All Sizes		
	Samples	Positives	Pct Pos
Broilers	1,401	137	9.8%
Market Hogs	884	30	3.4%
Cows/Bulls	355	1	0.3%
Steers/Heifers	990	1	0.1%
Ground Beef	3,193	63	2.0%
Ground Chicken	142	45	31.7%
Ground Turkey	319	51	16.0%
Turkeys	94	7	7.4%

Table 2. Broiler Establishments, by Category, Quarter 1 CY2008

Broiler Establishments By Category 2008		
Category	Quarter 1	Percent of TOTAL
1	142	77%
2	41	22%
3	2	1%
TOTAL *	185	100%

* Total Number of Establishments Currently Operating and Subject to Sampling That Have at Least One Completed Set.

Table 3. Market Hog Establishments, by Category, Quarter 1 CY2008

Market Hog Establishments By Category 2008		
Category	Quarter 1	Percent of TOTAL
1	171	72%
2	58	25%
3	8	3%
TOTAL *	237	100%

* Total Number of Establishments Currently Operating and Subject to Sampling That Have at Least One Completed Set.

Table 4. Turkey Establishments, by Category, Quarter 1 CY2008

Turkey Establishments By Category 2008		
Category	Quarter 1	Percent of TOTAL
1	35	92%
2	3	8%
3	0	0%
TOTAL *	38	100%

* Total Number of Establishments Currently Operating and Subject to Sampling That Have at Least One Completed Set.

Table 5. Cow/Bull Establishments, by Category, Quarter 1 CY2008

Cow/Bull Establishments By Category 2008		
Category	Quarter 1	Percent of TOTAL
1	69	68%
2	31	30%
3	2	2%
TOTAL *	102	100%

* Total Number of Establishments Currently Operating and Subject to Sampling That Have at Least One Completed Set.

Table 6. Ground Beef Establishments, by Category, Quarter 1 CY2008

Ground Beef Establishments By Category 2008		
Category	Quarter 1	Percent of TOTAL
1	690	81%
2	148	18%
3	12	1%
TOTAL *	850	100%

* Total Number of Establishments Currently Operating and Subject to Sampling That Have at Least One Completed Set.

Table 7. Ground Chicken Establishments, by Category, Quarter 1 CY2008

Ground Chicken Establishments By Category 2008		
Category	Quarter 1	Percent of TOTAL
1	4	29%
2	8	57%
3	2	14%
TOTAL *	14	100%

* Total Number of Establishments Currently Operating and Subject to Sampling That Have at Least One Completed Set.

Table 8. Ground Turkey Establishments, by Category, Quarter 1 CY2008

Ground Turkey Establishments By Category 2008		
Category	Quarter 1	Percent of TOTAL
1	17	71%
2	7	29%
3	0	0%
TOTAL *	24	100%

* Total Number of Establishments Currently Operating and Subject to Sampling That Have at Least One Completed Set.

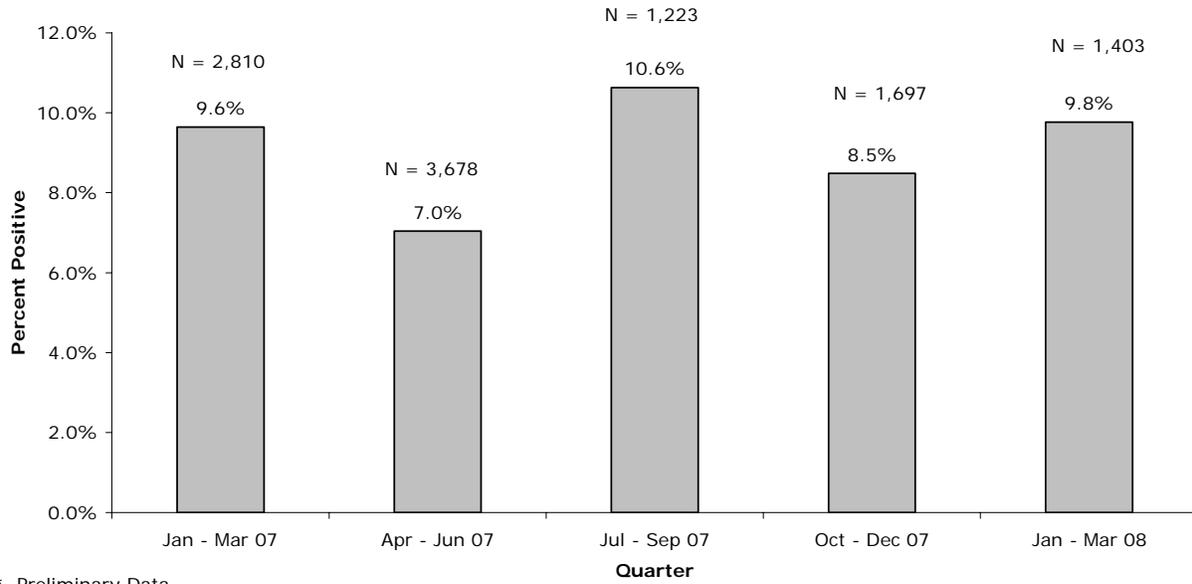
Table 9. Steer/Heifer Establishments, by Category, Quarter 1 CY2008

Steer/Heifer Establishments By Category 2008		
Category	Quarter 1	Percent of TOTAL
1	67	58%
2	46	40%
3	2	2%
TOTAL *	120	100%

* Total Number of Establishments Currently Operating and Subject to Sampling That Have at Least One Completed Set.

Figure 1

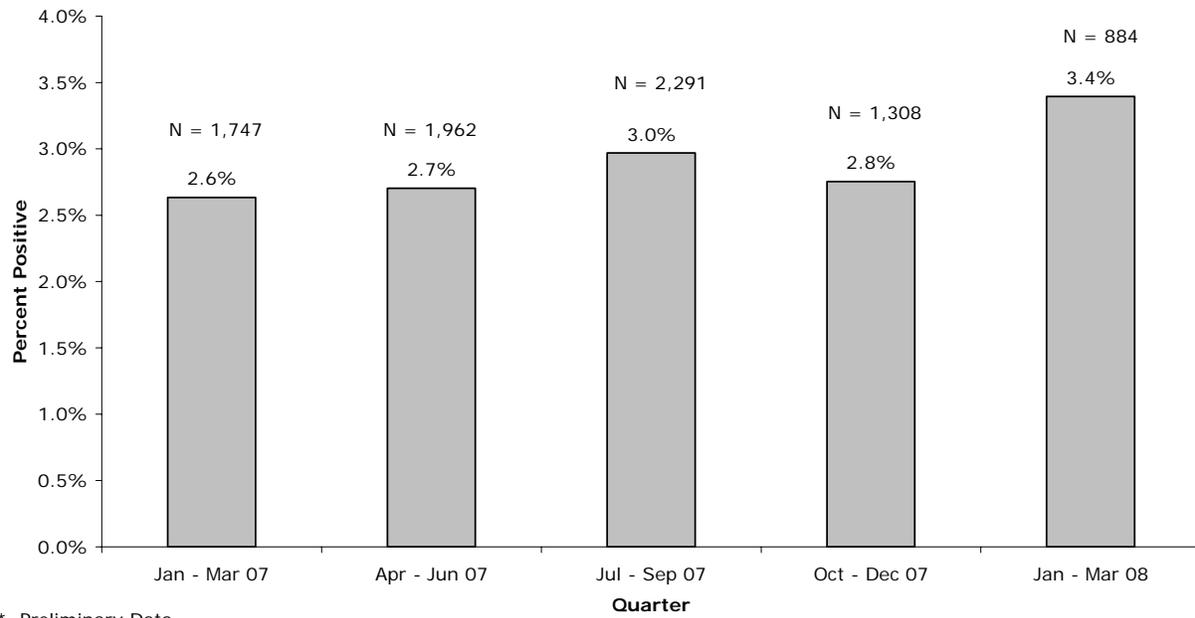
Microbiological Results of Broiler (Young Chicken) Carcasses (All Samples)
Analyzed for *Salmonella* in the PR/HACCP Verification Testing Program
Summarized by Quarter from January 2007 to March 2008*



* Preliminary Data

Figure 2

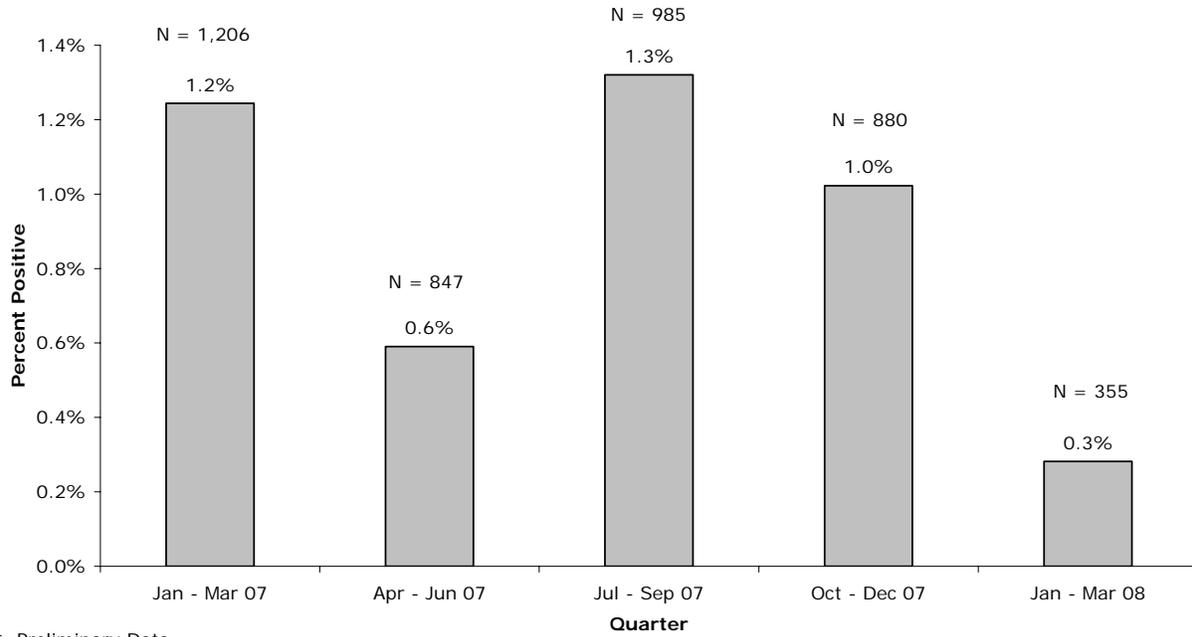
Microbiological Results of Market Hog Carcasses (All Samples) Analyzed for *Salmonella* in the PR/HACCP Verification Testing Program Summarized by Quarter from January 2007 to March 2008*



* Preliminary Data

Figure 3

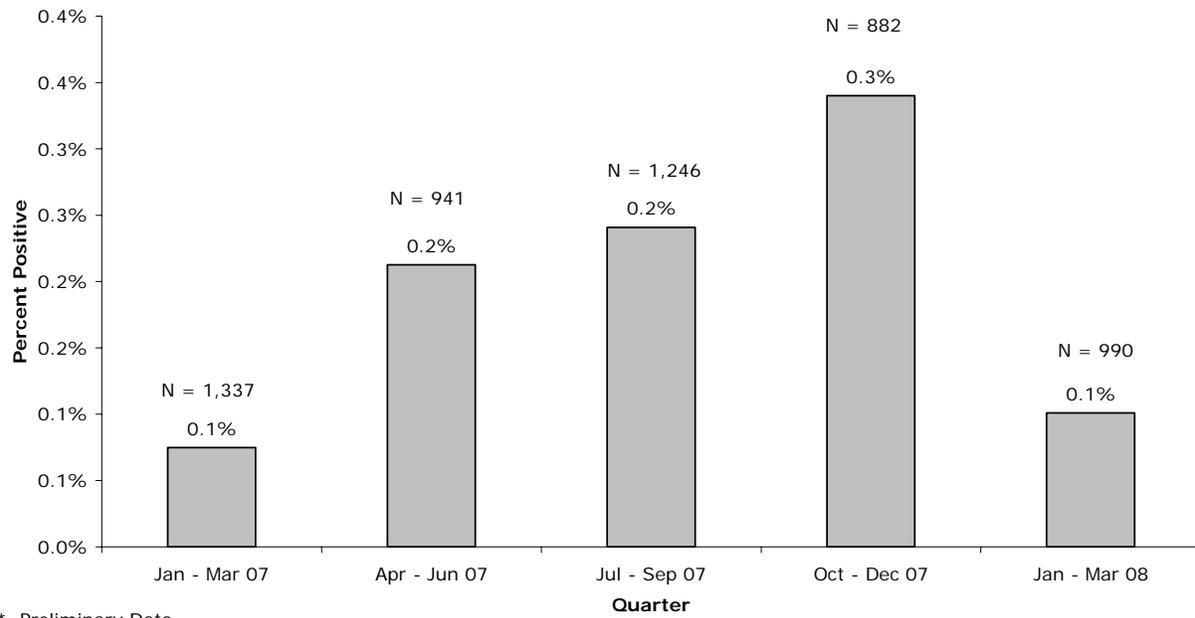
Microbiological Results of Cow and Bull Carcasses (All Samples) Analyzed for *Salmonella* in the PR/HACCP Verification Testing Program Summarized by Quarter from January 2007 to March 2008*



* Preliminary Data

Figure 4

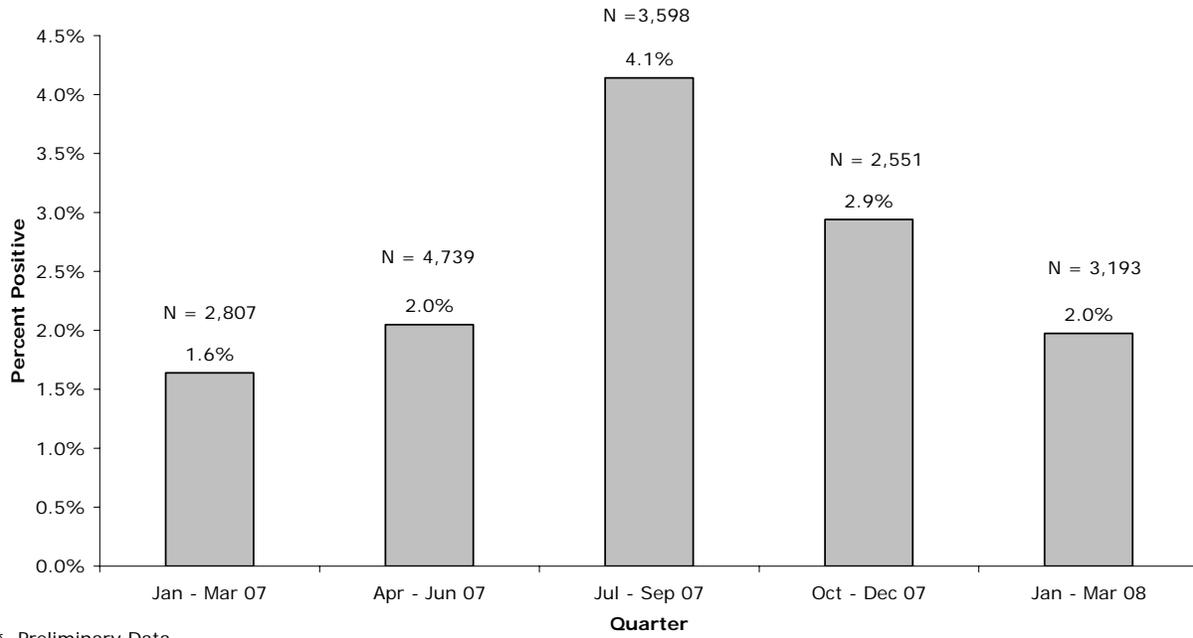
Microbiological Results of Steer and Heifer Carcasses (All Samples) Analyzed For *Salmonella* in the PR/HACCP Verification Testing Program Summarized by Quarter from January 2007 to March 2008*



* Preliminary Data

Figure 5

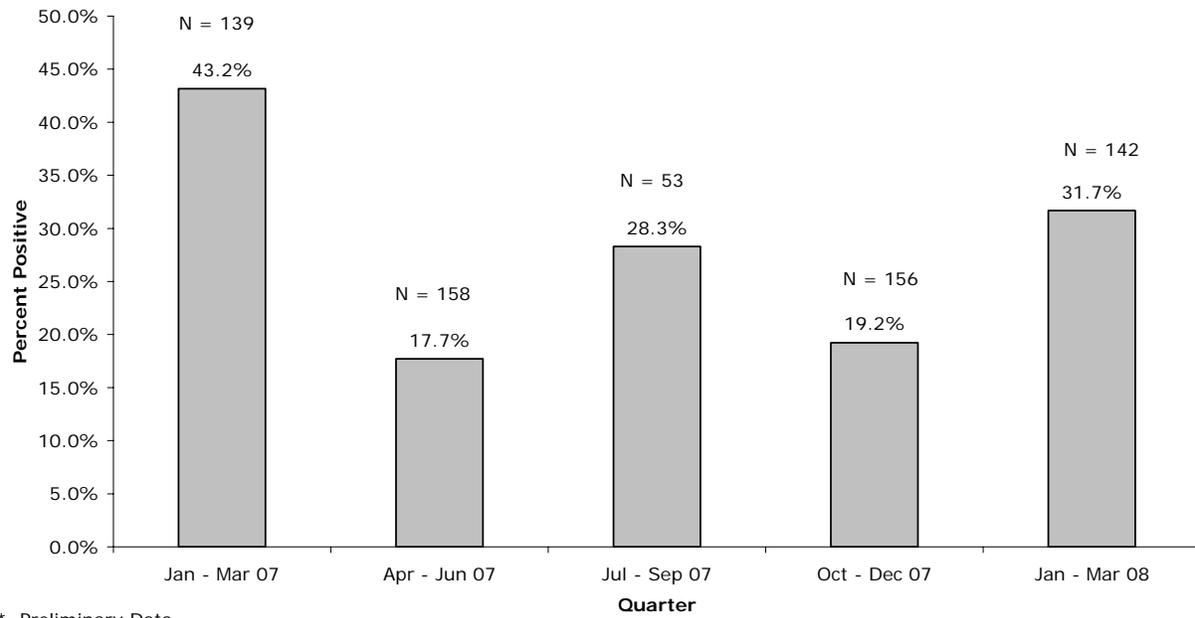
**Microbiological Results of Ground Beef (All Samples) Analyzed For *Salmonella*
in the PR/HACCP Verification Testing Program
Summarized by Quarter from January 2007 to March 2008***



* Preliminary Data

Figure 6

Microbiological Results of Ground Chicken (All Samples) Analyzed For *Salmonella* in the PR/HACCP Verification Testing Program Summarized by Quarter from January 2007 to March 2008*



* Preliminary Data

Figure 7

Microbiological Results of Ground Turkey (All Samples) Analyzed For *Salmonella* in the PR/HACCP Verification Testing Program Summarized by Quarter from January 2007 to March 2008*

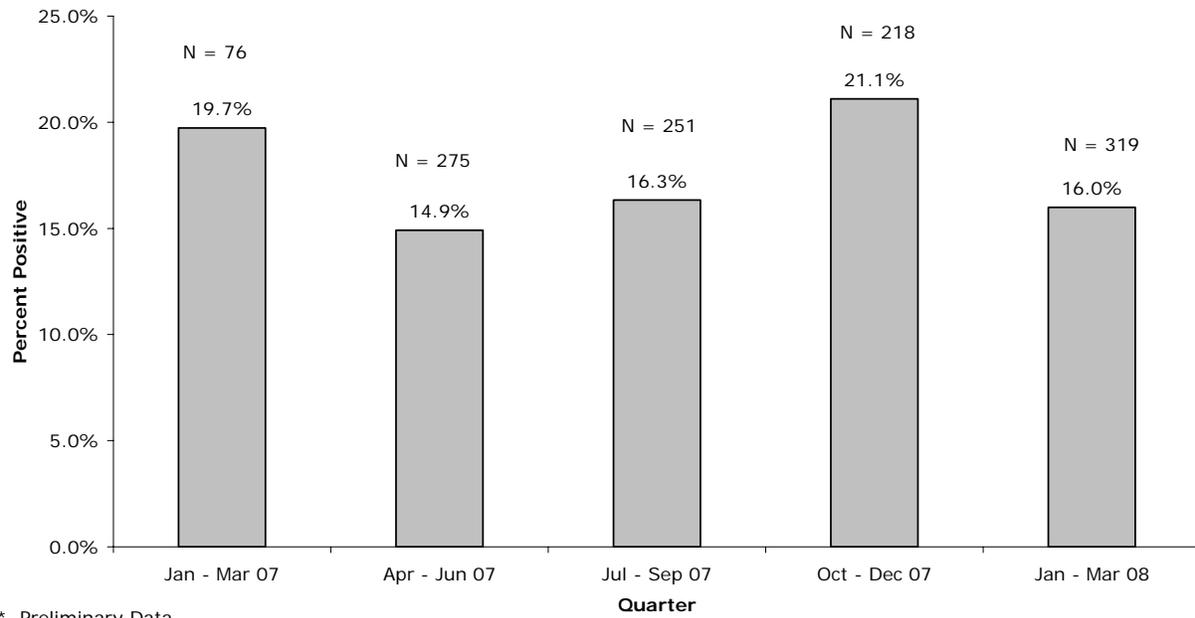
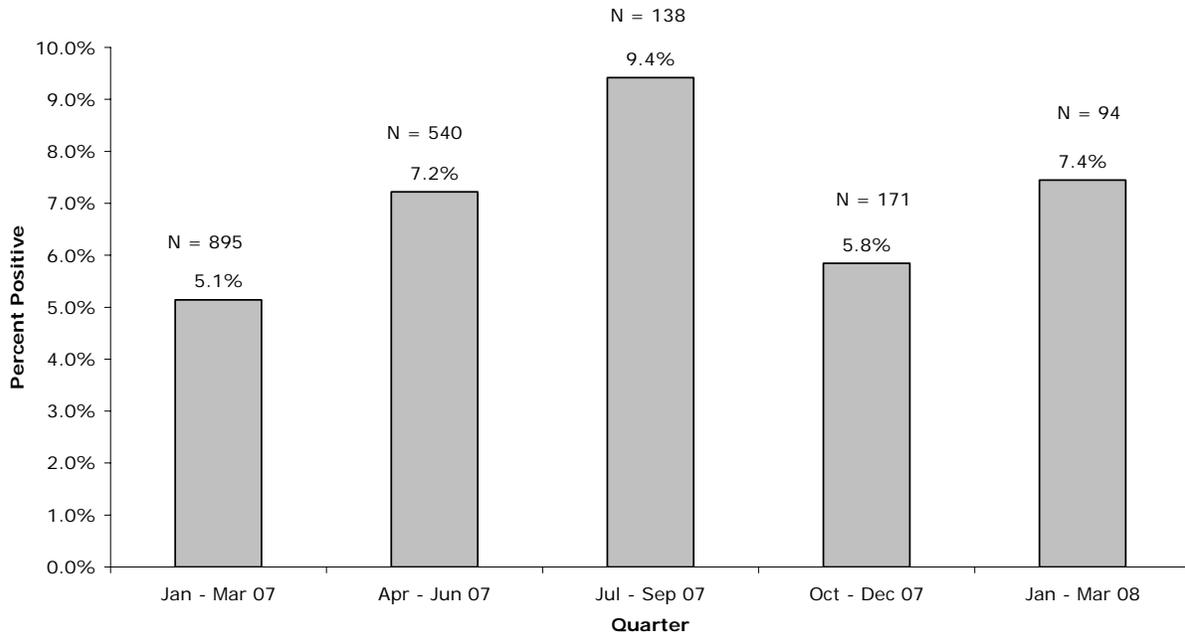


Figure 8

Microbiological Results of Turkey Carcasses (All Samples) Analyzed for *Salmonella* in the PR/HACCP Verification Testing Program Summarized by Quarter from January 2007 to March 2008*



* Preliminary Data