



United States Food Safety  
Department of and Inspection  
Agriculture Service

## **Progress Report on *Salmonella* Testing of Raw Meat and Poultry Products, 1998-2010<sup>1</sup>**

### **Executive Summary**

In calendar year 2010, FSIS analyzed 29,734 verification samples across eight meat and poultry product classes with the following percent positive rate of *Salmonella* per product class: broilers (6.7%), market hog (2.4%), cow/bull (0.5%), steer/heifer (0.1%), ground beef (2.2%), ground chicken (18.8%), ground turkey (10.2%) and turkey (4.6%). The Agency believes that the higher the percent positive rate, the greater the potential for the public to consume a product that can be attributed to foodborne illness. FSIS schedules approximately 75 sample sets monthly using a risk-based algorithm to target establishments demonstrating variable or poor process control (i.e, establishments with high percent positive rates). Previous *Salmonella* Annual Reports can be found on the FSIS web site.

Since 2006, FSIS has focused sampling on raw carcass product classes believing that improvement in process control in these product classes will result in improvement in process control in raw ground product classes. As of December 2010, 84% of establishments are in Category 1. Based on eight product classes, the following percentages of establishments are in Category 1: broilers (85%), market hog (86%) cow/bull (88%), steer/heifer (88%), ground beef (79%), ground chicken (90%), ground turkey (95%), and turkey (82%).

### **2010 Annual Report**

The Food Safety and Inspection Service (FSIS) uses data from its regulatory testing programs to monitor the effectiveness of its Pathogen Reduction; Hazard Analysis and Critical Control Point Systems; Final Rule and to assess process control in individual establishments. The U.S. Department of Health and Human Services has incorporated the target of 6.8 cases of salmonellosis/100,000 persons into the Healthy People 2010 objectives, which FSIS recognizes as appropriate guidance for the

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<sup>1</sup> All years listed are calendar years (CY)

Agency's strategic planning to strengthen public health protection.

In 1996, FSIS established PR/HACCP to verify that establishments demonstrate consistent process control for preventing, eliminating, or reducing the contamination of raw meat and poultry products with disease-causing bacteria, by setting *Salmonella* performance standards that slaughter establishments and establishments that produce raw ground products should meet. Raw products with established performance standards or guidance include: carcasses of cows/bulls, steers/heifers, market hogs, broilers, and turkeys. Processed products measured by performance standards include: ground beef, ground chicken, and ground turkey. The performance standards are based on the prevalence of *Salmonella* as determined from the Agency's nationwide microbiological baseline studies, which, except for the turkey carcass product class, were conducted prior to PR/HACCP implementation. The performance standards and guidance are expressed in terms of the maximum number of *Salmonella*-positive samples acceptable per sample set. The number of samples in a sample set varies by product, and the maximum number of positive samples acceptable in a set provides an 80% probability of an establishment passing when it is operating at the standard.

Prior to 2006, there were two phases of the FSIS regulatory program for *Salmonella* in raw products: non-targeted and targeted testing. Non-targeted or "A" set tests were collected at establishments randomly selected from the population of eligible establishments, with a goal of scheduling every eligible establishment at least once a year. Other codes (such as "B", "C", and "D") represented sample sets collected from establishments targeted for follow-up testing following a failed set. Beginning with the third 2006 quarterly report, reports have data summarized from all sets collected. (Note: Earlier reports have not been retrospectively changed). Consequently, under [Table A1](#), the annual reports from 2005 and earlier reflect results from only the "A" set samples.

In February 2006, FSIS issued a [federal register notice](#): "*Salmonella* Verification Sample Result Reporting: Agency Policy and use in Public Health Protection" announcing how FSIS would report and use results from its *Salmonella* verification sampling program for meat and poultry establishments. In this Notice, the Agency announced its intention to redirect its *Salmonella* verification sampling program and announced 11 new initiatives to encourage establishments to reassess their food safety systems to achieve and maintain consistent process control. As one of these new initiatives, FSIS increased testing frequency in establishments with variable or highly variable process control compared to those showing consistent process control.

Since June 2006, establishments have been scheduled based on [risk-based criteria](#) designed to focus FSIS resources on establishments with the most samples positive for *Salmonella* and the greatest number of samples with [serotypes most frequently associated with human salmonellosis](#), (relative to each product class) as defined by CDC.<sup>2</sup>

Furthermore, establishments are grouped into one of three categories. Category 1 includes establishments whose two most recent *Salmonella* set results are equal to or less than 50% of the performance standard or guidance. The Agency considers

these establishments to demonstrate consistent process control. Category 2 includes establishments where at least one of their two most recent set results was greater than 50% of the performance standards or guidance without exceeding it, or they have passed their most recent set but failed the one prior to that one. These establishments are considered to have variable process control. An additional subcategory 2T was created in 2008 under Category 2 (reported in 2008 second quarterly report and onwards). An establishment with its last set  $\leq$  50% of the performance standard or guidance and the prior set at  $>$  50% of the performance standard will now be sub-categorized as 2T, with T standing for transitioning to Category 1. Category 3 includes establishments whose most recent *Salmonella* set result has exceeded the performance standard for its product class. The Agency considers these establishments to display highly variable process control.

## Results

This report presents percent positive *Salmonella* sample results and percent sample sets meeting the *Salmonella* performance standards listed by product class and PR/HACCP establishment size for 2010 and previous years ([Table A1](#) and [A2](#)). Data is presented in aggregate form for the periods 1998-2003 and 1998-2010.

Individual sample results ([Table A1](#)) are counted in the year the sample is collected. Sample sets ([Table A2](#)) are counted in the year they are completed. For example, samples from a broiler set collected in 2009 are counted in the 2009 results ([Table A1](#)). However if the sample set was completed in 2010, the set was counted in 2010 ([Table A2](#)). In [Table 3](#), establishments are listed by product classes and percentage within categories 1, 2T, 2, and 3 for each product class.

[Figure A1](#) compares *Salmonella* percent positive results from 1998 to 2010 with baseline prevalence by product class and year. Percentages of sample sets meeting *Salmonella* performance standards by product class from 1998 to 2010 are presented in [Figure A2](#).

## Broilers

FSIS continues to direct resources toward testing broiler establishments. In 2010 ([Table A1](#)), 6,829 *Salmonella* samples were analyzed from broiler establishments. The total percentage of positive samples was 6.7% in 2010, down from 7.2% 7.3%, 8.5%, and 11.4% in 2009, 2008, 2007, and 2006, respectively. In addition, of the 134 sets completed in 2010 at broiler establishments, 94.8% met the *Salmonella* performance standard compared to 95.7% (140 sets completed) in 2009, 97.3% (149 sets completed) in 2008 and 97.2% (215 sets completed) in 2007 ([Table A2](#)).

By the end of 2010, 147 broiler establishments eligible for federal testing were in Category 1, comprising 85% of all broiler establishments ([Table A3](#)) which was up from 82% in 2009. Furthermore in 2010, eight broiler establishments (5%) were in Category 2T. Twelve broiler establishments were in Category 2 (7%). Five broiler establishments were in Category 3, making

up 3% of all broiler establishments. In 2009, 82% of broiler establishments eligible for *Salmonella* sampling were in Category 1.

### **Market Hog**

In 2010, 4,224 samples were analyzed. The total percent of *Salmonella* positive sample tests was 2.4% and was up from 2.3% in 2009 ([Table A1](#)). Of the 86 sets completed in 2010, 96.5% met the *Salmonella* performance standard for this product class.

Eighty-six percent of market hog establishments were in Category 1, representing 162 establishments. Eight percent of the establishments (16) were in 2T. Five percent of the establishments were in Category 2, representing 10 establishments. One establishment exceeded the performance standard (Category 3). In 2009, 85% of all market hog establishments eligible for *Salmonella* testing were in Category 1.

### **Cows/Bulls**

In 2010, 1,764 samples were analyzed at eligible establishments with 0.5% of the samples positive for *Salmonella*. This compared to 2,036 samples analyzed in 2009 (0.6% positive), 2,301 samples analyzed in 2008, (0.5% positive) and 3,969 samples analyzed (1.1% positive) in 2007. Thirty-two sets were completed in 2010 with 93.8% meeting the *Salmonella* performance standard for this product class.

Eighty-eight percent of cow bull establishments (64 establishments) were in Category 1, 8% (6 establishments) were in Category 2T, 3% (2 establishments) in Category 2, and 1% (1 establishment) was in Category 3. In 2009, 89% of cow/bull establishments eligible for *Salmonella* testing were in Category 1.

### **Steers/Heifers**

During 2010, 4,918 samples were analyzed with 0.1% positive for *Salmonella*. In 2009 4,939 samples were analyzed (0.1% positive), in 2008, 4,965 samples were analyzed (0.2% positive) and in 2007, 4,355 samples were analyzed (0.2% positive). In 2010, 62 sets were completed, with 95.2% of these meeting the performance standard. This compares to 2009, when 68 *Salmonella* sets were completed and 97.1% met the performance standard, and to 2008, when 64 *Salmonella* sets were completed and 92.2% met the performance standard.

Eighty-eight percent (87 establishments) were in Category 1 at the end of 2010, 5% (5 establishments) were in Category 2T, with 6% (6 establishments) in Category 2 and 1% (1 establishment) in Category 3. In 2009, 85% of steer/heifer establishments eligible for *Salmonella* testing were in Category 1.

### **Ground Beef**

In 2010, 9,256 ground beef samples were analyzed and 2.2% tested positive for *Salmonella*. This compares to 2009, when 8,541 samples were analyzed (1.9% positive), and to 2008 when 16,763 samples were analyzed (2.4% positive). One hundred

seventy five sets were completed, 96.6% meeting the performance standard, compared to 2009 when 195 sets were completed (95.9% met the performance standard), and 2008 when 363 sets were completed (87.3% met the performance standard).

Seventy-nine percent (238 establishments) were in Category 1, 8% percent (25 establishments) were in Category 2T, 11% (32 establishments) in Category 2, and 3% (8 establishments) in Category 3. In 2009, 76% of ground beef establishments eligible for *Salmonella* testing were in Category 1.

### **Ground Chicken**

In 2010, 426 samples were analyzed, with a total of 18.8% percent positive. The total percent of sample sets meeting the performance standard was 100% with two sets completed.

Ninety percent (9 establishments) of ground chicken establishments were in Category 1 at the end of 2010, with 10% (1 establishment) in Category 2, and no establishments in Category 2T or Category 3. In 2009, 67% of ground chicken establishments eligible for *Salmonella* sampling were in Category 1.

### **Ground Turkey**

In 2010, 873 samples were analyzed with a total percent positive at 10.2%, compared to 10.7% in 2009 (608 samples) and 15.4% in 2008 (876 samples). Nine sets were completed and all 9 passed for 2010, similar to 2009, when all 14 sets completed passed and to 2008 when all 18 sets completed passed.

Ninety-five percent (20 establishments) of ground turkey establishments were in Category 1, 5% (1 establishment) were in Category 2T, with no establishments in either Category 2 or Category 3. In 2009, 91% of ground turkey establishments eligible for *Salmonella* sampling were in Category 1.

**NOTE:** The sampling frames for ground chicken and turkey are being re-examined. FSIS is considering redefining ground poultry product eligible for testing as all raw comminuted chicken, turkey, or chicken/turkey/beef/lamb/pork mix including mechanically separated poultry produced at federally-regulated establishments that is not further processed into RTE product.

### **Turkeys**

In 2010, 1,444 turkey samples were analyzed, with a total percent positive at 4.6%, up from 3.8% positive in 2009. Of the 30 sets completed in 2010, all sets (i.e. 100% of establishments) met the *Salmonella* performance standard.

Eighty two percent (27 establishments) were in Category 1, with 3 establishments (9%) in Category 2T, 2 establishments (6%) in Category 2, and 1 establishment (3%) in Category 3. In 2009, 91% of turkey establishments eligible for *Salmonella* testing

were in Category 1.

This report reflects data collected during 2010. The Agency has reviewed the progress made since 2006 and will issue a report this year.

<sup>2</sup>Note:

Restructuring how *Salmonella* sets are scheduled means that comparison of results from 2006 onwards to previous years would not be appropriate. For such comparisons, the results of upcoming nationwide baseline studies can provide valid estimates of the prevalence of certain pathogens of public health concern and will permit valid statistical comparisons to be made over time.

**Table A1**  
**Percent Positive *Salmonella* Tests in the PR/HACCP Verification Testing Program**  
**by Product Class and Calendar Year, 1998 – 2010**

**All Samples**

<b>CY 2010</b>											
<b>Product</b>	<b>Baseline Prevalence (%)</b>	<b>Large</b>		<b>Small</b>		<b>Very Small</b>		<b>Unknown</b>		<b>All Sizes</b>	
		<b># Samp</b>	<b>% Pos</b>	<b># Samp</b>	<b>% Pos</b>	<b># Samp</b>	<b>% Pos</b>	<b># Samp</b>	<b>% Pos</b>	<b># Samp</b>	<b>% Pos</b>
Broilers	20.0	4,753	4.3%	1,956	11.5%	120	25.8%	0		6,829	6.7%
Market Hogs	8.7	1,290	1.7%	1,506	2.6%	1,428	2.8%	0		4,224	2.4%
Cows/Bulls	2.7	243	0.4%	1,366	0.4%	155	1.3%	0		1,764	0.5%
Steers/Heifers	1.0	1,623	0.0%	1,721	0.2%	1,574	0.2%	0		4,918	0.1%
Ground Beef	7.5	1,048	2.2%	6,786	2.1%	1,422	2.5%	0		9,256	2.2%
Ground Chicken	44.6	89	22.5%	312	16.3%	25	36.0%	0		426	18.8%
Ground Turkey	49.9	658	11.6%	154	7.8%	61	1.6%	0		873	10.2%
Turkeys	19.6	1,049	4.9%	395	3.8%	0		0		1,444	4.6%

**NOTE:** The calendar year total for samples analyzed is not always the simple addition of the totals from all 4 quarters. On occasion, appealed sample results are removed from the totals for verification results. Baseline prevalence refers to studies conducted prior to 2008 and used for establishing original performance standards.

<b>CY 2009</b>											
<b>Product</b>	<b>Baseline Prevalence (%)</b>	<b>Large</b>		<b>Small</b>		<b>Very Small</b>		<b>Unknown</b>		<b>All Sizes</b>	
		<b># Samp</b>	<b>% Pos</b>	<b># Samp</b>	<b>% Pos</b>	<b># Samp</b>	<b>% Pos</b>	<b># Samp</b>	<b>% Pos</b>	<b># Samp</b>	<b>% Pos</b>
Broilers	20.0	4,605	5.0%	1,653	11.7%	181	21.0%	0		6,439	7.2%
Market Hogs	8.7	972	1.0%	1,780	2.5%	1,995	2.7%	0		4,747	2.3%
Cows/Bulls	2.7	406	0.2%	1,238	0.6%	392	0.8%	0		2,036	0.6%
Steers/Heifers	1.0	1,683	0.1%	1,484	0.4%	1,772	0.2%	0		4,939	0.2%
Ground Beef	7.5	902	3.0%	6,004	2.1%	1,635	0.7%	0		8,541	1.9%
Ground Chicken	44.6	46	30.4%	276	11.6%	52	42.3%	0		374	18.2%
Ground Turkey	49.9	423	11.8%	128	9.4%	57	5.3%	0		608	10.7%
Turkeys	19.6	931	3.5%	501	4.2%	0		0		1,432	3.8%



<b>CY 2008</b>											
<b>Product</b>	<b>Baseline Prevalence (%)</b>	<b>Large</b>		<b>Small</b>		<b>Very Small</b>		<b>Unknown</b>		<b>All Sizes</b>	
		<b># Samp</b>	<b>% Pos</b>	<b># Samp</b>	<b>% Pos</b>	<b># Samp</b>	<b>% Pos</b>	<b># Samp</b>	<b>% Pos</b>	<b># Samp</b>	<b>% Pos</b>
Broilers	20.0	4,694	5.9%	1,644	10.0%	125	21.6%	51	7.8%	6,514	7.3%
Market Hogs	8.7	538	1.5%	1,686	3.8%	2,020	1.8%	0		4,244	2.6%
Cows/Bulls	2.7	33	0.0%	1,628	0.4%	640	0.9%	0		2,301	0.5%
Steers/Heifers	1.0	1,151	0.0%	1,504	0.1%	2,228	0.3%	82	0.0%	4,965	0.2%
Ground Beef	7.5	1,261	4.0%	10,673	2.2%	4,720	2.6%	109	0.0%	16,763	2.4%
Ground Chicken	44.6	145	32.4%	213	19.2%	53	32.1%	0		411	25.5%
Ground Turkey	49.9	764	16.9%	84	7.1%	28	0.0%	0		876	15.4%
Turkeys	19.6	77	3.9%	52	9.6%	0		0		129	6.2%

<b>CY 2007</b>											
<b>Product</b>	<b>Baseline Prevalence (%)</b>	<b>Large</b>		<b>Small</b>		<b>Very Small</b>		<b>Unknown</b>		<b>All Sizes</b>	
		<b># Samp</b>	<b>% Pos</b>	<b># Samp</b>	<b>% Pos</b>	<b># Samp</b>	<b>% Pos</b>	<b># Samp</b>	<b>% Pos</b>	<b># Samp</b>	<b>% Pos</b>
Broilers	20.0	6,306	7.6%	2,657	9.6%	445	15.3%	0		9,408	8.5%
Market Hogs	8.7	1,614	1.2%	2,435	3.9%	3,259	2.8%	0		7,308	2.8%
Cows/Bulls	2.7	460	0.0%	2,214	1.4%	1,295	0.8%	0		3,969	1.1%
Steers/Heifers	1.0	1,755	0.0%	1,395	0.2%	1,205	0.5%	0		4,355	0.2%
Ground Beef	7.5	883	4.8%	7,659	3.1%	5,153	1.6%	0		13,695	2.7%
Ground Chicken	44.6	67	61.2%	373	19.6%	66	28.8%	0		506	26.3%
Ground Turkey	49.9	631	18.4%	153	17.0%	36	2.8%	0		820	17.4%
Turkeys	19.6	1,334	7.2%	410	2.9%	0		0		1,744	6.2%

<b>CY 2006</b>											
<b>Product</b>	<b>Baseline Prevalence (%)</b>	<b>Large</b>		<b>Small</b>		<b>Very Small</b>		<b>Unknown</b>		<b>All Sizes</b>	
		<b># Samp</b>	<b>% Pos</b>	<b># Samp</b>	<b>% Pos</b>	<b># Samp</b>	<b>% Pos</b>	<b># Samp</b>	<b>% Pos</b>	<b># Samp</b>	<b>% Pos</b>
Broilers	20.0	6,856	10.4%	2,962	12.7%	388	19.8%	0		10,206	11.4%
Market Hogs	8.7	895	1.3%	2,091	4.9%	4,256	4.2%	0		7,242	4.0%
Cows/Bulls	2.7	235	0.0%	1,338	0.9%	673	1.0%	0		2,246	0.8%
Steers/Heifers	1.0	1,142	0.1%	1,277	0.6%	1,255	0.1%	0		3,674	0.3%
Ground Beef	7.5	605	3.3%	9,584	2.3%	7,660	1.4%	0		17,849	2.0%
Ground Chicken	44.6	89	60.7%	101	41.6%	32	12.5%	0		222	45.0%
Ground Turkey	49.9	296	19.9%	145	21.4%	3	0.0%	0		444	20.3%
Turkeys	19.6	2,024	7.7%	761	5.5%	0		0		2,785	7.1%

## “A” Set Samples

<b>CY 2005</b>											
<b>Product</b>	<b>Baseline Prevalence (%)</b>	<b>Large</b>		<b>Small</b>		<b>Very Small</b>		<b>Unknown</b>		<b>All Sizes</b>	
		<b># Samp</b>	<b>% Pos</b>	<b># Samp</b>	<b>% Pos</b>	<b># Samp</b>	<b>% Pos</b>	<b># Samp</b>	<b>% Pos</b>	<b># Samp</b>	<b>% Pos</b>
Broilers	20.0	6,853	14.7%	2,458	18.6%	280	32.9%	1	0.0%	9,592	16.3%
Market Hogs	8.7	1,410	2.2%	1,750	5.2%	3,488	3.6%	0		6,648	3.7%
Cows/Bulls	2.7	229	0.0%	975	1.5%	745	1.5%	0		1,949	1.3%
Steers/Heifers	1.0	788	0.0%	552	0.9%	750	0.9%	0		2,090	0.6%
Ground Beef	7.5	544	2.2%	9,070	1.4%	9,751	0.8%	0		19,365	1.1%
Ground Chicken	44.6	0		133	33.1%	12	25.0%	0		145	32.4%
Ground Turkey	49.9	799	24.8%	86	14.0%	40	12.5%	0		925	23.2%

<b>CY 2004</b>											
<b>Product</b>	<b>Baseline Prevalence (%)</b>	<b>Large</b>		<b>Small</b>		<b>Very Small</b>		<b>Unknown</b>		<b>All Sizes</b>	
		<b># Samp</b>	<b>% Pos</b>	<b># Samp</b>	<b>% Pos</b>	<b># Samp</b>	<b>% Pos</b>	<b># Samp</b>	<b>% Pos</b>	<b># Samp</b>	<b>% Pos</b>
Broilers	20.0	5,023	11.7%	1,871	18.2%	178	17.4%	0		7,072	13.5%
Market Hogs	8.7	1,274	2.2%	1,989	4.8%	4,597	2.7%	0		7,860	3.1%
Cows/Bulls	2.7	522	0.0%	1,801	0.6%	852	1.5%	0		3,175	0.8%
Steers/Heifers	1.0	1,471	0.0%	1,287	0.3%	1,469	0.5%	0		4,227	0.3%
Ground Beef	7.5	840	2.4%	15,336	2.0%	14,808	1.2%	0		30,984	1.6%
Ground Chicken	44.6	53	5.7%	254	29.1%	81	27.2%	0		388	25.5%
Ground Turkey	49.9	835	20.7%	177	19.2%	32	3.1%	0		1,044	19.9%

<b>CY 1998-2003</b>											
<b>Product</b>	<b>Baseline Prevalence (%)</b>	<b>Large</b>		<b>Small</b>		<b>Very Small</b>		<b>Unknown</b>		<b>All Sizes</b>	
		<b># Samp</b>	<b>% Pos</b>	<b># Samp</b>	<b>% Pos</b>	<b># Samp</b>	<b>% Pos</b>	<b># Samp</b>	<b>% Pos</b>	<b># Samp</b>	<b>% Pos</b>
Broilers	20.0	34,206	9.9%	12,102	13.7%	782	24.3%	0		47,090	11.2%
Market Hogs	8.7	8,763	3.2%	7,382	6.8%	13,723	3.7%	108	0.9%	29,976	4.3%
Cows/Bulls	2.7	1,276	0.4%	8,038	1.7%	3,570	2.9%	0		12,884	1.9%
Steers/Heifers	1.0	3,648	0.2%	3,995	0.6%	5,175	0.4%	17	0.0%	12,835	0.4%
Ground Beef	7.5	5,800	4.4%	79,251	3.3%	49,624	1.9%	113	7.1%	134,788	2.8%
Ground Chicken	44.6	567	16.2%	1,065	26.3%	90	16.7%	0		1,722	22.5%
Ground Turkey	49.9	4,367	28.0%	1,225	22.4%	199	17.1%	0		5,791	26.4%

<b>All Years 1998 - 2010</b>											
<b>Product</b>	<b>Large</b>		<b>Small</b>		<b>Very Small</b>		<b>Unknown</b>		<b>All Sizes</b>		
	<b># Samp</b>	<b>% Pos</b>	<b># Samp</b>	<b>% Pos</b>	<b># Samp</b>	<b>% Pos</b>	<b># Samp</b>	<b>% Pos</b>	<b># Samp</b>	<b>% Pos</b>	
Broilers	73,296	9.4%	27,303	13.4%	2,499	22.2%	52	7.7%	103,150	10.8%	
Market Hogs	16,756	2.4%	20,619	5.0%	34,766	3.3%	108	0.9%	72,249	3.6%	
Cows/Bulls	3,404	0.2%	18,598	1.2%	8,322	1.9%	0		30,324	1.3%	
Steers/Heifers	13,261	0.1%	13,215	0.4%	15,428	0.4%	99	0.0%	42,003	0.3%	
Ground Beef	11,883	3.8%	144,363	2.8%	94,773	1.6%	222	3.6%	251,241	2.4%	
Ground Chicken	1,056	25.7%	2,727	23.4%	411	27.0%	0		4,194	24.3%	
Ground Turkey	8,773	23.1%	2,152	18.9%	456	9.9%	0		11,381	21.7%	
Turkeys	5,415	6.3%	2,119	4.5%	0		0		7,534	5.8%	

**Table A2**

**Percent of Sample Sets Meeting the *Salmonella* Performance Standards \*  
by Product Class and Calendar Year, 1998 – 2010**

**All Sets**

<b>CY 2010</b>										
<b>Product</b>	<b>Large</b>		<b>Small</b>		<b>Very Small</b>		<b>Unknown</b>		<b>All Sizes</b>	
	<b># Sets</b>	<b>% Pass</b>	<b># Sets</b>	<b>% Pass</b>	<b># Sets</b>	<b>% Pass</b>	<b># Sets</b>	<b>% Pass</b>	<b># Sets</b>	<b>% Pass</b>
Broilers	94	98.9%	38	86.8%	2	50.0%	0		134	94.8%
Market Hogs	24	95.8%	30	96.7%	32	96.9%	0		86	96.5%
Cows/Bulls	4	100.0%	25	96.0%	3	66.7%	0		32	93.8%
Steers/Heifers	18	100.0%	23	91.3%	21	95.2%	0		62	95.2%
Ground Beef	23	100.0%	124	96.0%	28	96.4%	0		175	96.6%
Ground Chicken	2	100.0%	8	100.0%	1	100.0%	0		11	100.0%
Ground Turkey	9	100.0%	4	100.0%	1	100.0%	0		14	100.0%
Turkeys	22	95.5%	8	87.5%	0		0		30	93.3%

**NOTE:** The calendar year total for samples analyzed is not always the simple addition of the totals from all 4 quarters. On occasion, appealed sample results are removed from the totals for verification results.

<b>CY 2009</b>										
<b>Product</b>	<b>Large</b>		<b>Small</b>		<b>Very Small</b>		<b>Unknown</b>		<b>All Sizes</b>	
	<b># Sets</b>	<b>% Pass</b>	<b># Sets</b>	<b>% Pass</b>	<b># Sets</b>	<b>% Pass</b>	<b># Sets</b>	<b>% Pass</b>	<b># Sets</b>	<b>% Pass</b>
Broilers	102	99.0%	35	88.6%	3	66.7%	0		140	95.7%
Market Hogs	21	100.0%	33	97.0%	40	95.0%	0		94	96.8%
Cows/Bulls	7	100.0%	26	96.2%	9	88.9%	0		42	95.2%
Steers/Heifers	23	100.0%	17	88.2%	28	100.0%	0		68	97.1%
Ground Beef	20	95.0%	130	96.2%	45	95.6%	0		195	95.9%
Ground Chicken	2	50.0%	3	100.0%	1	100.0%	0		6	83.3%
Ground Turkey	9	100.0%	4	100.0%	1	100.0%	0		14	100.0%
Turkeys	15	100.0%	9	100.0%	0		0		24	100.0%

<b>CY 2008</b>										
<b>Product</b>	<b>Large</b>		<b>Small</b>		<b>Very Small</b>		<b>Unknown</b>		<b>All Sizes</b>	
	<b># Sets</b>	<b>% Pass</b>	<b># Sets</b>	<b>% Pass</b>	<b># Sets</b>	<b>% Pass</b>	<b># Sets</b>	<b>% Pass</b>	<b># Sets</b>	<b>% Pass</b>
Broilers	105	99.0%	37	94.6%	6	83.3%	1	100.0%	149	97.3%
Market Hogs	12	66.7%	35	97.1%	43	97.7%	0		90	93.3%
Cows/Bulls	2	100.0%	32	96.9%	12	100.0%	2	100.0%	48	97.9%
Steers/Heifers	15	100.0%	24	91.7%	25	88.0%	0		64	92.2%
Ground Beef	26	92.3%	225	90.7%	109	78.9%	3	100.0%	363	87.3%
Ground Chicken	3	66.7%	5	100.0%	1	100.0%	0		9	88.9%
Ground Turkey	16	100.0%	1	100.0%	1	100.0%	0		18	100.0%
Turkeys	3	100.0%	2	100.0%	0		0		5	100.0%

<b>CY 2007</b>										
<b>Product</b>	<b>Large</b>		<b>Small</b>		<b>Very Small</b>		<b>Unknown</b>		<b>All Sizes</b>	
	<b># Sets</b>	<b>% Pass</b>	<b># Sets</b>	<b>% Pass</b>	<b># Sets</b>	<b>% Pass</b>	<b># Sets</b>	<b>% Pass</b>	<b># Sets</b>	<b>% Pass</b>
Broilers	147	98.0%	63	96.8%	5	80.0%	0		215	97.2%
Market Hogs	29	100.0%	46	97.8%	72	95.8%	0		147	97.3%
Cows/Bulls	7	100.0%	34	94.1%	22	95.5%	0		63	95.2%
Steers/Heifers	24	100.0%	16	87.5%	17	94.1%	0		57	94.7%
Ground Beef	16	93.8%	144	95.1%	93	97.8%	0		253	96.0%
Ground Chicken	1	0.0%	7	100.0%	2	100.0%	0		10	90.0%
Ground Turkey	11	100.0%	4	100.0%	0		0		15	100.0%
Turkeys	35	100.0%	10	100.0%	0		0		45	100.0%

<b>CY 2006</b>										
<b>Product</b>	<b>Large</b>		<b>Small</b>		<b>Very Small</b>		<b>Unknown</b>		<b>All Sizes</b>	
	<b># Sets</b>	<b>% Pass</b>	<b># Sets</b>	<b>% Pass</b>	<b># Sets</b>	<b>% Pass</b>	<b># Sets</b>	<b>% Pass</b>	<b># Sets</b>	<b>% Pass</b>
Broilers	126	92.9%	52	82.7%	6	50.0%	0		184	88.6%
Market Hogs	26	100.0%	45	93.3%	74	93.2%	0		145	94.5%
Cows/Bulls	5	100.0%	20	95.0%	9	77.8%	0		34	91.2%
Steers/Heifers	11	100.0%	11	81.8%	11	100.0%	0		33	93.9%
Ground Beef	12	91.7%	186	96.8%	173	98.8%	0		371	97.6%
Ground Chicken	1	0.0%	1	100.0%	0		0		2	50.0%
Ground Turkey	9	100.0%	2	100.0%	1	100.0%	0		12	100.0%
Turkeys	23	95.7%	10	90.0%	0		0		33	93.9%

**“A” Sets**

<b>CY 2005</b>										
<b>Product</b>	<b>Large</b>		<b>Small</b>		<b>Very Small</b>		<b>Unknown</b>		<b>All Sizes</b>	
	<b># Sets</b>	<b>% Pass</b>	<b># Sets</b>	<b>% Pass</b>	<b># Sets</b>	<b>% Pass</b>	<b># Sets</b>	<b>% Pass</b>	<b># Sets</b>	<b>% Pass</b>
Broilers	121	86.0%	45	73.3%	5	40.0%	0		171	81.3%
Market Hogs	16	100.0%	24	83.3%	73	97.3%	0		113	94.7%
Cows/Bulls	3	100.0%	18	88.9%	17	100.0%	0		38	94.7%
Steers/Heifers	7	100.0%	8	87.5%	9	88.9%	0		24	91.7%
Ground Beef	11	100.0%	181	98.3%	199	98.5%	0		391	98.5%
Ground Chicken	0		5	80.0%	0		0		5	80.0%
Ground Turkey	12	100.0%	1	100.0%	0		0		13	100.0%

<b>CY 2004</b>										
<b>Product</b>	<b>Large</b>		<b>Small</b>		<b>Very Small</b>		<b>Unknown</b>		<b>All Sizes</b>	
	<b># Sets</b>	<b>% Pass</b>	<b># Sets</b>	<b>% Pass</b>	<b># Sets</b>	<b>% Pass</b>	<b># Sets</b>	<b>% Pass</b>	<b># Sets</b>	<b>% Pass</b>
Broilers	106	94.3%	36	77.8%	2	100.0%	0		144	90.3%
Market Hogs	25	96.0%	35	85.7%	70	92.9%	0		130	91.5%
Cows/Bulls	9	100.0%	36	97.2%	16	81.3%	0		61	93.4%
Steers/Heifers	24	100.0%	19	94.7%	29	96.6%	0		72	97.2%
Ground Beef	16	93.8%	287	97.6%	268	97.0%	0		571	97.2%
Ground Chicken	1	100.0%	3	100.0%	1	100.0%	0		5	100.0%
Ground Turkey	18	94.4%	3	100.0%	0		0		21	95.2%



<b>CY 1998-2003</b>										
<b>Product</b>	<b>Large</b>		<b>Small</b>		<b>Very Small</b>		<b>Unknown</b>		<b>All Sizes</b>	
	<b># Sets</b>	<b>% Pass</b>	<b># Sets</b>	<b>% Pass</b>	<b># Sets</b>	<b>% Pass</b>	<b># Sets</b>	<b>% Pass</b>	<b># Sets</b>	<b>% Pass</b>
Broilers	660	92.1%	229	84.7%	12	50.0%	0		901	89.7%
Market Hogs	156	94.9%	126	83.3%	202	91.1%	1	100.0%	485	90.3%
Cows/Bulls	22	95.5%	128	85.9%	49	77.6%	0		199	84.9%
Steers/Heifers	37	100.0%	40	95.0%	36	88.9%	0		113	94.7%
Ground Beef	105	88.6%	1,411	92.6%	813	97.3%	3	66.7%	2,332	94.0%
Ground Chicken	9	100.0%	18	88.9%	1	100.0%	0		28	92.9%
Ground Turkey	74	94.6%	20	90.0%	3	100.0%	0		97	93.8%

<b>All Years 1998 - 2010</b>										
<b>Product</b>	<b>Large</b>		<b>Small</b>		<b>Very Small</b>		<b>Unknown</b>		<b>All Sizes</b>	
	<b># Sets</b>	<b>% Pass</b>	<b># Sets</b>	<b>% Pass</b>	<b># Sets</b>	<b>% Pass</b>	<b># Sets</b>	<b>% Pass</b>	<b># Sets</b>	<b>% Pass</b>
Broilers	1,461	93.8%	535	85.6%	41	61.0%	1	100.0%	2,038	91.0%
Market Hogs	309	95.5%	374	90.1%	606	93.9%	1	100.0%	1,290	93.2%
Cows/Bulls	59	98.3%	319	91.5%	137	86.1%	2	100.0%	517	90.9%
Steers/Heifers	159	100.0%	158	91.1%	176	93.8%	0		493	94.9%
Ground Beef	229	92.1%	2,688	94.1%	1,728	96.4%	6	83.3%	4,651	94.8%
Ground Chicken	19	78.9%	50	94.0%	7	100.0%	0		76	90.8%
Ground Turkey	180	96.7%	47	93.6%	7	100.0%	0		234	96.2%
Turkeys	76	98.7%	31	96.8%	0		0		107	98.1%

\* Includes sample sets that completed during the indicated calendar year (sample sets may have started during an earlier year).

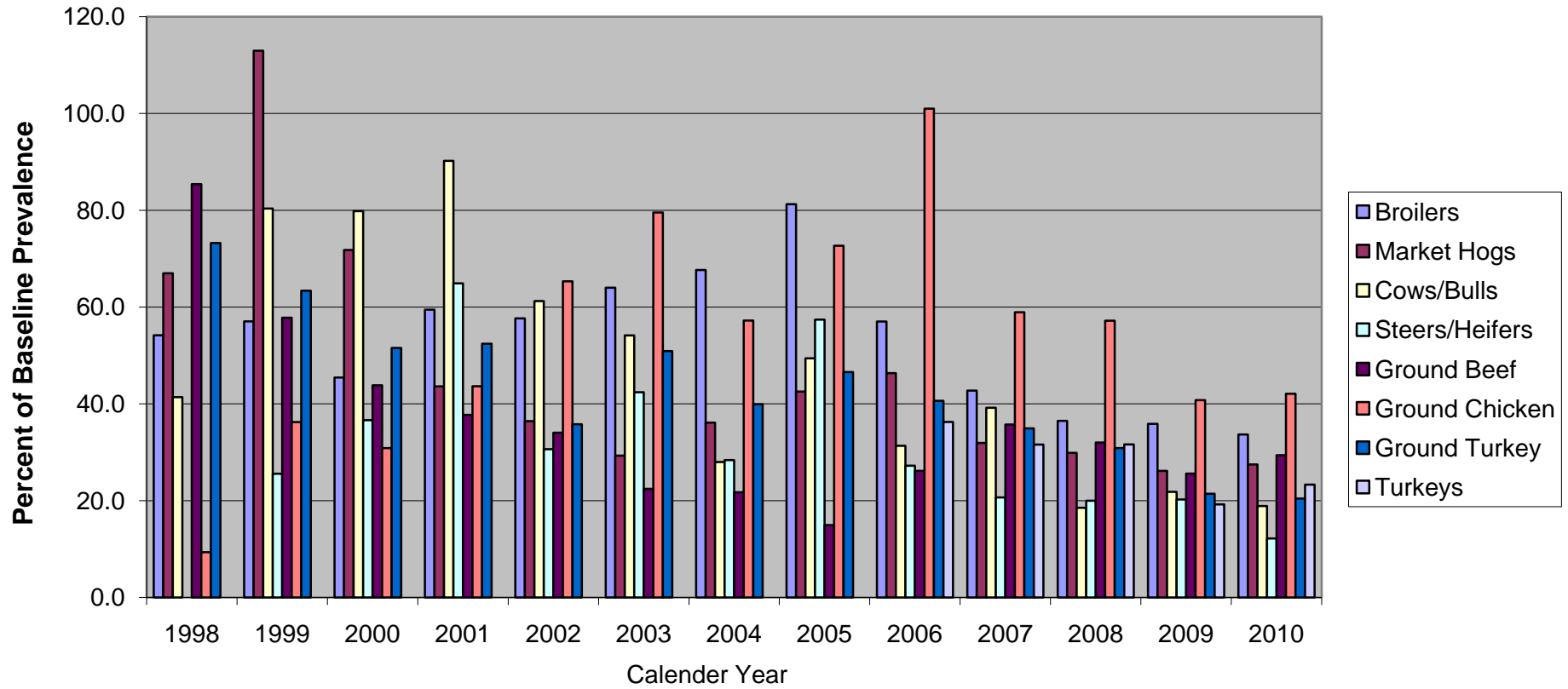
**Table A3**  
**Establishments listed by product class and by percentage per category, 2010**

<b>Category</b>	<b>Broilers (n)*</b>	<b>Cow/bull (n)</b>	<b>Ground Beef (n)</b>	<b>Ground Chicken (n)</b>	<b>Ground Turkey (n)</b>	<b>Market Hogs (n)</b>	<b>Steer/ Heifer (n)</b>	<b>Turkeys (n)</b>
1	85% (147)	88% (64)	79% (238)	90% (9)	95% (20)	86% (162)	88% (87)	82% (27)
2T	5% (8)	8% (6)	8% (25)	0% (0)	5% (1)	8% (16)	5% (5)	9% (3)
2	7% (12)	3% (2)	11% (32)	10% (1)	0% (0)	5% (10)	6% (6)	6% (2)
3	3% (5)	1% (1)	3% (8)	0% (0)	0% (0)	1% (1)	1% (1)	3% (1)
Total	172	73	303	10	21	189	99	33

Number of Establishment recently sampled for at least two sets.

*(Last Modified by Gurinder Saini on February 10, 2011)*

**Figure A1**  
**Comparison of Percent Positive *Salmonella* Tests in the PR/HACCP Verification Testing Program with Baseline Prevalence,**  
**by Calendar Year and Product Class, 1998 – 2010 \***  
**“A” Set Samples 1998 – 2005**  
**All Samples 2006 – 2010**



\* Bars represent percent positive *Salmonella* tests divided by product class-specific baseline *Salmonella* prevalence

**Figure A2**  
**Overall Percentages of Sample Sets Meeting *Salmonella* Performance Standards**  
**By Calendar Year and Product Class, 1998 – 2010 \***  
**“A” Sets 1998 – 2005**  
**All Sets 2006 – 2010**

\* Includes samples sets from establishments of all sizes that were completed during the indicated calendar year (sets may have started during an earlier year).

