

**NATIONAL MILK DRUG RESIDUE DATA BASE**

**FISCAL YEAR 2010 ANNUAL REPORT**

**October 1, 2009 - September 30, 2010**

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# **NATIONAL MILK DRUG RESIDUE DATA BASE FISCAL YEAR 2010 ANNUAL REPORT**

**October 1, 2009 - September 30, 2010**

## **INTRODUCTION**

The National Milk Drug Residue Data Base (NMDRD) is a voluntary industry reporting program. Mandatory reporting is required by State Regulatory Agencies under the National Conference on Interstate Milk Shipments (NCIMS). Data are reported on the extent of the national testing activities, the analytical methods used, the kind and extent of the animal drug residues identified, and the amount of contaminated milk that was removed from the human food supply. The system includes all milk, Grade "A" and non-Grade "A", commonly known as manufacturing grade. Grade "A" milk represents approximately 95% of the milk supply in the United States and is regulated through the NCIMS by the State Regulatory Agencies. Manufacturing grade milk is under the direction of the Regulatory Agencies in the States where it is produced and may be subject to the standards recommended by the United States Department of Agriculture (USDA). Data reported to the NMDRD are for educational and analytical purposes and are not intended or suitable for regulatory action or follow-up.

## **BACKGROUND**

The NCIMS is a voluntary organization directed and controlled by member States to promote the availability of a high quality milk supply. The Food and Drug Administration (FDA) and the NCIMS through their collaborative efforts have developed a cooperative, federal-state program (the Grade "A" Interstate Milk Shippers program) to ensure the sanitary quality of Grade "A" milk and milk products shipped in interstate commerce. During the 1991 meeting of the NCIMS, the Conference authorized a national program to compile the results of milk residue testing by industry and State Regulatory Agencies.

Subsequently, FDA awarded a contract to develop a NMDRD. The data base is operated by an independent third party, under contract to the FDA. The data base design was developed in consultation with a project advisory group with members from the FDA and a NCIMS committee representing dairy producers, dairy processors, USDA, State Regulatory Agencies, and academia. The data base was designed to promote maximum participation by the dairy industry to report on a voluntary basis all of their testing results, without compromising any confidential data. Information regarding individual firm's data is not submitted to the data base contractor.

It is important to recognize that the samples and tests reported do not necessarily represent one hundred percent (100%) of the milk supply from every State. However, as State and industry participation in the data base increased, reporting of the number of samples and tests similarly increased.

Continuing efforts are being made to ensure that there is uniform reporting among all the States and the industry and to ensure that the drugs and test methods reported are correct.

During FY 2006, a web-based version of the reporting software was developed, field evaluated, and then made available to all data reporters on September 1, 2006. Instructions for registering and using the software are posted on the contractor's web site at: [www.kandc-sbcc.com/nmdrd/](http://www.kandc-sbcc.com/nmdrd/). Forty-four (44) data reporters utilized the web-based software to submit all or part of their data for the FY 2010 Annual Report.

At the request of one of the attendees at a meeting of the NCIMS, the contractor converted all of the tabular information from previous Annual Reports into Microsoft Excel format and posted them on the contractor's web site at: [www.kandc-sbcc.com/nmdrd/](http://www.kandc-sbcc.com/nmdrd/). All of the Annual Reports are now available in Portable document file (pdf), Microsoft Excel and Open Document Spreadsheet (ods) formats.

## **SUMMARY**

This report presents summary data on samples and tests conducted during Fiscal Year 2010 (October 1, 2009 to September 30, 2010). All fifty (50) States and Puerto Rico submitted data for this report. We appreciate all the data provider's cooperation for this fiscal year's report. It is the first reporting year since FY 2004 in which all providers submitted data.

The Grade "A" Pasteurized Milk Ordinance (PMO), the regulations, which govern the State Regulatory Agencies in the implementation and enforcement of their Grade "A" milk safety program, requires that all bulk milk tankers be sampled and analyzed for animal drug residues before the milk is processed. Any bulk milk tanker found positive is rejected for human consumption.

During this period **3,881,478** samples were analyzed for animal drug residues. Of these samples **1,245** were positive for a residue. A total of **3,892,196** tests were reported on the samples for **ten** (10) different groups of families or individual drugs. **Thirty** (30) testing methods were used to analyze the samples for drug residues. Details are presented in the Tables in this report.

## **SAMPLE RESULTS**

A SAMPLE is defined as representing a load or lot of milk sampled and analyzed, e.g. a bulk milk pick-up tanker, producer, milk transport tanker, a silo, etc.

Table 1 shows the results of the samples tested by source.

Data are reported by four SOURCES OF SAMPLES:

1. Bulk Milk Pick-Up Tanker - bulk raw milk from a dairy farm.
2. Pasteurized Fluid Milk and Milk Products - after pasteurization; finished product in package form or bulk. This term includes milk products such as milk, cream, condensed and dry milk and milk products, and condensed and dry whey and whey products.
3. Producer - raw milk obtained from the bulk tank/silo from a dairy farm. Samples are reported by the permitting State, rather than by the analyzing State.

4. Other - raw milk from milk plant silos, milk transport tankers, etc.

A POSITIVE result, as used in this report, means that the sample was found to be positive for a drug residue by a test acceptable for taking regulatory action in a certified laboratory by a certified analyst or the milk was rejected on the basis of an initial screening test by the milk processor.

The DISPOSITION per PMO column represents the amount of milk contained in the tank or lot found to be positive and disposed of in accordance with the PMO and/or applicable State regulations.

<b>TABLE 1 -- Sample Results October 1, 2009 to September 30, 2010</b>				
<b>Source of Sample</b>	<b>Total Samples</b>	<b>Number Positive</b>	<b>Percent Positive</b>	<b>Disposition per PMO (Pounds)</b>
Bulk Milk Pick-Up Tanker	3,204,371	802	0.025%	33,457,000
Pasteurized Fluid Milk and Milk Products	44,777	1	0.002%	49,000
Producer	545,148	431	0.079%	1,491,000
Other	87,182	11	0.013%	437,000
<b>TOTALS</b>	<b>3,881,478</b>	<b>1,245</b>	<b>*</b>	<b>35,434,000</b>

The asterisk (\*) notes that a summary of the percent positive cannot be provided because there is no uniformity in terms of sampling in the four categories. For example, the PMO sets forth specific sampling requirements for Beta lactams testing as follows:

1. Bulk Milk Pick-Up Tanker Samples -- samples are taken on receipt of every tanker load;
2. Pasteurized Fluid Milk and Milk Products -- a minimum of four samples in at least four separate months, except when three months show a month containing two sampling dates separated by at least twenty days, must be tested for each finished milk or milk product from each plant during any consecutive six months;
3. Producer -- each producer must be tested at least four times in at least four separate months, except when three months show a month containing two sampling dates separated by at least twenty days, during any consecutive six months; and
4. Other -- samples are conducted on a random basis.

Table 2 presents these results in greater detail and shows the number of samples conducted by industry and by State Regulatory Agencies. Industry samples are taken by processing facilities, receiving and transfer stations, and marketing groups or cooperatives. Industry sampling and testing may be conducted to meet the industry requirements of Appendix N of the PMO, which sets forth testing and reporting requirements for animal drug residues or for quality control purposes. Regulatory samples are taken by State and Local Regulatory Agencies.

**TABLE 2 -- Industry and Regulatory Samples**  
**October 1, 2009 to September 30, 2010**

Source of Sample	Number of Industry Samples	Number of Positive Industry Samples	Number of Regulatory Samples	Number of Positive Regulatory Samples	Total Samples	Total Positive Samples	Total Percent Positive	Disposition Per PMO (Pounds)
<b>GRADE A</b>								
Bulk Milk Pick-Up Tanker	2,958,902	728	9,155	2	2,968,057	730	0.025%	30,933,000
Pasteurized Fluid Milk and Milk Products	4,757	0	38,455	1	43,212	1	0.002%	49,000
Producer	394,293	334	120,514	63	514,807	397	0.077%	1,491,000
Other	67,793	9	10,866	2	78,659	11	0.014%	437,000
<b>NON-GRADE A</b>								
Bulk Milk Pick-Up Tanker <sup>1</sup>	235,984	72	330	0	236,314	72	0.030%	2,524,000
Pasteurized Fluid Milk and Milk Products	1,487	0	78	0	1,565	0	0.000%	0,000
Producer	29,736	34	605	0	30,341	34	0.112%	0,000
Other	8,350	0	173	0	8,523	0	0.000%	0,000
<b>TOTALS</b>	<b>3,701,302</b>	<b>1,177</b>	<b>180,176</b>	<b>68</b>	<b>3,881,478</b>	<b>1,245</b>	<b>*</b>	<b>35,434,000<sup>2</sup></b>

<sup>1</sup>It is a common practice in some States, including two large milk production States, that bulk milk pick-up tankers pickup milk from both Grade "A" and non-Grade "A" milk producers on the same tanker. Then, these loads are delivered to non-Grade "A" processing facilities. Because of this commingling of the two grades of milk, all data related to these loads are reported under non-Grade "A".

<sup>2</sup>Note that this represents 0.019% of the total milk supply of the United States with an annual production of 191.4 billion pounds.

\*See Table 1 for explanation

## TESTS CONDUCTED

An objective of the NMDRD is to record every test run on each sample analyzed. Since some samples are analyzed for more than one drug residue, the number of tests conducted (3,892,196) is greater than the number of samples (3,881,478). To avoid duplicate reporting of samples, the number of samples analyzed is reported separately from the number of tests run in the data base.

Table 3 presents summary results of the number of tests which were conducted during October 1, 2009 to September 30, 2010. The term, validated test, as used in this report, is a test used for the screening of raw milk for drug residue, which has been evaluated in accordance with Appendix N of the PMO and found acceptable by FDA in accordance with the standards established for the evaluation of these types of tests. In addition, FDA validated drug residue detection procedures for screening and quantization of drug residues in milk may be used. Table 3A presents summary results using validated tests and Table 3B presents summary results using non-validated tests.

<b>TABLE 3 -- Tests Conducted October 1, 2009 to September 30, 2010</b>			
<b>Source of Sample</b>	<b>Total Tests</b>	<b>Number of Tests Positive</b>	<b>Percent Positive</b>
Bulk Milk Pick-Up Tanker	3,213,465	803	0.025
Pasteurized Fluid Milk and Milk Products	44,814	1	0.002
Producer	546,721	431	0.079
Other	87,196	11	0.013
<b>TOTALS</b>	<b>3,892,196</b>	<b>1,246</b>	<b>*</b>

\*See Table 1 for explanation

<b>TABLE 3A – Validated Tests Conducted October 1, 2009 to September 30, 2010</b>			
<b>Source of Sample</b>	<b>Total Tests</b>	<b>Number of Tests Positive</b>	<b>Percent Positive</b>
Bulk Milk Pick-Up Tanker	3,159,401	774	0.024
Pasteurized Fluid Milk and Milk Products	44,649	1	0.002
Producer	546,719	431	0.079
Other	83,660	11	0.013
<b>TOTALS</b>	<b>3,834,429</b>	<b>1,217</b>	<b>*</b>

\*See Table 1 for explanation

<b>TABLE 3B -- Non-Validated Tests Conducted October 1, 2009 to September 30, 2010</b>			
<b>Source of Sample</b>	<b>Total Tests</b>	<b>Number of Tests Positive</b>	<b>Percent Positive</b>
Bulk Milk Pick-Up Tanker	54,064	29	0.054
Pasteurized Fluid Milk and Milk Products	165	0	0.000
Producer	2	0	0.000
Other	3,536	0	0.000
<b>TOTALS</b>	<b>57,767</b>	<b>29</b>	<b>*</b>

\*See Table 1 for explanation

Table 4 presents additional details in terms of the tests conducted by industry and by State Regulatory Agencies. Tables 4A and 4B present these data by validated and non-validated tests.

<b>TABLE 4 -- Tests Conducted by Industry and Regulatory Agencies</b>							
<b>October 1, 2009 to September 30, 2010</b>							
<b>Source of Sample</b>	<b>Number of Industry Tests</b>	<b>Number of Positive Industry Tests</b>	<b>Number of Regulatory Tests</b>	<b>Number of Positive Regulatory Tests</b>	<b>Total Tests</b>	<b>Total Positive Tests</b>	<b>Total Percent Positive</b>
<b>GRADE A</b>							
Bulk Milk Pick-Up Tanker	2,967,866	729	9,285	2	2,977,151	731	0.025%
Pasteurized Fluid Milk and Milk Products	4,757	0	38,491	1	43,248	1	0.002%
Producer	395,763	334	120,617	63	516,380	397	0.077%
Other	67,794	9	10,879	2	78,673	11	0.014%
<b>NON-GRADE A</b>							
Bulk Milk Pick-Up Tanker <sup>1</sup>	235,984	72	330	0	236,314	72	0.030%
Pasteurized Fluid Milk and Milk Products	1,488	0	78	0	1,566	0	0.000%
Producer	29,736	34	605	0	30,341	34	0.112%
Other	8,350	0	173	0	8,523	0	0.000%
<b>TOTALS</b>	<b>3,711,738</b>	<b>1,178</b>	<b>180,458</b>	<b>68</b>	<b>3,892,196</b>	<b>1,246</b>	<b>*</b>

<sup>1</sup>It is a common practice in some States, including two large milk production States, that bulk milk pick-up tankers pickup milk from both Grade “A” and non-Grade “A” milk producers on the same tanker. Then, these loads are delivered to non-Grade “A” processing facilities. Because of this commingling of the two grades of milk, all data related to these loads are reported under non-Grade “A”.

\*See Table 1 for explanation

**TABLE 4A -- Validated Tests Conducted by Industry and Regulatory Agencies**  
**October 1, 2009 to September 30, 2010**

Source of Sample	Number of Industry Tests	Number of Positive Industry Tests	Number of Regulatory Tests	Number of Positive Regulatory Tests	Total Tests	Total Positive Tests	Total Percent Positive
<b>GRADE A</b>							
Bulk Milk Pick-Up Tanker	2,914,963	700	8,124	2	2,923,087	702	0.024%
Pasteurized Fluid Milk and Milk Products	4,681	0	38,402	1	43,083	1	0.002%
Producer	395,763	334	120,615	63	516,378	397	0.077%
Other	64,735	9	10,808	2	75,543	11	0.015%
<b>NON-GRADE A</b>							
Bulk Milk Pick-Up Tanker <sup>1</sup>	235,984	72	330	0	236,314	72	0.030%
Pasteurized Fluid Milk and Milk Products	1,488	0	78	0	1,566	0	0.000%
Producer	29,736	34	605	0	30,341	34	0.112%
Other	7,944	0	173	0	8,117	0	0.000%
<b>TOTALS</b>	<b>3,655,294</b>	<b>1,149</b>	<b>179,135</b>	<b>68</b>	<b>3,834,429</b>	<b>1,217</b>	<b>*</b>

<sup>1</sup>It is a common practice in some States, including two large milk production States, that bulk milk pick-up tankers pickup milk from both Grade "A" and non-Grade "A" milk producers on the same tanker. Then, these loads are delivered to non-Grade "A" processing facilities. Because of this commingling of the two grades of milk, all data related to these loads are reported under non-Grade "A".

\*See Table 1 for explanation

**TABLE 4B -- Non-Validated Tests Conducted by Industry and Regulatory Agencies**  
**October 1, 2009 to September 30, 2010**

Source of Sample	Number of Industry Tests	Number of Positive Industry Tests	Number of Regulatory Tests	Number of Positive Regulatory Tests	Total Tests	Total Positive Tests	Total Percent Positive
<b>GRADE A</b>							
Bulk Milk Pick-Up Tanker	52,903	29	1,161	0	54,064	29	0.054%
Pasteurized Fluid Milk and Milk Products	76	0	89	0	165	0	0.000%
Producer	0	0	2	0	2	0	0.000%
Other	3,059	0	71	0	3,130	0	0.000%
<b>NON-GRADE A</b>							
Bulk Milk Pick-Up Tanker <sup>1</sup>	0	0	0	0	0	0	0.000%
Pasteurized Fluid Milk and Milk Products	0	0	0	0	0	0	0.000%
Producer	0	0	0	0	0	0	0.000%
Other	406	0	0	0	406	0	0.000%
<b>TOTALS</b>	<b>56,444</b>	<b>29</b>	<b>1,323</b>	<b>0</b>	<b>57,767</b>	<b>29</b>	<b>*</b>

<sup>1</sup>It is a common practice in some States, including two large milk production States, that bulk milk pick-up tankers pickup milk from both Grade "A" and non-Grade "A" milk producers on the same tanker. Then, these loads are delivered to non-Grade "A" processing facilities. Because of this commingling of the two grades of milk, all data related to these loads are reported under non-Grade "A".

\*See Table 1 for explanation

Table 5 shows the number of tests conducted by the family of drugs and by individual drug. Tables 5A and 5B present these data by validated and non-validated tests.

<b>TABLE 5 -- Number of Tests Conducted by Family/Drug October 1, 2009 to September 30, 2010</b>		
<b>Family/Drug</b>	<b>Total Tests</b>	<b>Total Positive</b>
<b>AMINOGLYCOSIDES</b>	268	0
<b>AMPHENICOLS</b>	2	0
<b>BETA lactams</b>	3,812,457	1,213
Cloxacillin	94	0
<b>ENROFLOXACIN</b>	1,917	0
<b>MACROLIDES</b>	222	0
<b>SULFONAMIDES</b>	24,157	3
Sulfadimethoxine	1,932	1
Sulfamethazine	27,425	5
<b>TETRACYCLINES</b>	23,722	24
<b>TOTALS</b>	<b>3,892,196</b>	<b>1,246</b>

**TABLE 5A -- Number of Validated Tests Conducted by Family/Drug  
October 1, 2009 to September 30, 2010**

Family/Drug	Total Tests	Total Positive
<b>AMPHENICOLS</b>	2	0
<b>BETA lactams</b>	3,812,457	1,213
Cloxacillin	94	0
<b>SULFONAMIDES</b>	19,908	3
Sulfadimethoxine	1,932	1
<b>TETRACYCLINES</b>	36	0
<b>TOTALS</b>	3,834,429	1,217

**TABLE 5B -- Number of Non-Validated Tests Conducted by  
Family/Drug  
October 1, 2009 to September 30, 2010**

Family/Drug	Total Tests	Total Positive
<b>AMINOGLYCOSIDES</b>	268	0
<b>ENROFLOXACIN</b>	1,917	0
<b>MACROLIDES</b>	222	0
<b>SULFONAMIDES</b>	4,249	0
Sulfamethazine	27,425	5
<b>TETRACYCLINES</b>	23,686	24
<b>TOTALS</b>	57,767	29

Table 6 presents details on the tests used. The data in this table are comparable to Table 5, but the data are arranged by tests within each family/drug. Therefore, the Totals are the same in both tables. The testing methods with the largest use were: Charm SL - Beta lactams, which was used more than 2.4 million times, Delvotest P 5 Pack - Beta lactams which was used more than 540 thousand times, Idexx New Snap which was used more than 210 thousand times and Charm II Tablet Competitive - Beta lactams which was used for more than 169 thousand tests. Table 6A shows a comparison of tests conducted using Validated and Non-Validated test methods for Sulfonamides and Tetracyclines

<b>TABLE 6 -- Number of Tests by Method by Family/Drug October 1, 2009 to September 30, 2010</b>			
<b>Tests Used by Family/Drug</b>	<b>Number of Tests</b>	<b>Number Positive</b>	<b>Percent Positive</b>
<b>AMINOGLYCOSIDES</b>			
Charm II Tablet Competitive**	268	0	0.000%
<b>AMPHENICOLS</b>			
GC Chloramphenicol - FDA Method	2	0	0.000%
<b>BETA lactams</b>			
Charm BSDA Tablet - Beta lactams	40,520	34	0.084%
Charm II Tablet Competitive	169,670	49	0.029%
Charm II Tablet Quantitative	57	0	0.000%
Charm II Tablet Sequential	100,450	29	0.029%
Charm SL Beta lactams	2,440,993	525	0.022%
Charm SL-3	86,867	22	0.025%
Charm SL-6	162,103	58	0.036%
Delvotest P 5 Pack - Beta lactams	540,868	392	0.072%
Delvotest P/Delvotest P Mini	53,941	21	0.039%
Delvotest SP/Delvotest SP Mini	201	0	0.000%
Green Book Micro - Beta lactams	295	0	0.000%
Idexx New Snap	210,571	82	0.039%
Lak Tek - Beta lactams	5,409	0	0.000%
Neogen BetaStar	512	1	0.195%
<b>CLOXACILLIN</b>			
Charm II Test for Cloxacillin in Milk	94	0	0.000%
<b>ENROFLOXACIN</b>			
Charm SL-Floroquinolone**	1,917	0	0.000%

**TABLE 6 -- Number of Tests by Method by Family/Drug  
October 1, 2009 to September 30, 2010**

Tests Used by Family/Drug	Number of Tests	Number Positive	Percent Positive
<b>MACROLIDES</b>			
Charm II Tablet Competitive - Macrolides**	145	0	0.000%
Charm II Tablet Sequential - Macrolides**	77	0	0.000%
<b>SULFONAMIDES</b>			
Agri-Screen for Sulfonamides** & ***	109	0	0.000%
Charm II Tablet Competitive	19,862	3	0.015%
Charm II Tablet Sequential**	1,819	0	0.000%
Parallux Sulfa Trio (Reader)**	2,321	0	0.000%
TLC Sulfonamide	46	0	0.000%
<b>SULFADIMETHOXINE</b>			
HPLC 8 Sulfonamides - Sulfadimethoxine	1,932	1	0.052%
<b>SULFAMETHAZINE</b>			
Charm SL - Sulfamethazine**	27,425	5	0.018%
<b>TETRACYCLINES</b>			
Charm II Tablet Competitive	36	0	0.000%
Charm SL - Tetracyclines**	12,425	11	0.089%
Snap - Tetracyclines**	11,261	13	0.115%
<b>TOTALS</b>	<b>3,892,196</b>	<b>1,246</b>	<b>*</b>

\* See Table 1 for explanation

\*\* Non-Validated Test Method

\*\*\* FDA evaluated these tests and they do not perform as labeled-see M-I -99-4

**TABLE 6A -- Comparison of Validated and Non-Validated  
Tests for Sulfonamides and Tetracyclines  
October 1, 2009 to September 30, 2010**

<b>Tests By Method by Family/Drug</b>	<b>Number of Tests</b>	<b>Number Positive</b>	<b>Percent Positive</b>
<b>VALIDATED FOR SULFONAMIDES</b>			
Charm II Tablet Competitive	19,862	3	0.015%
TLC Sulfonamide	46	0	0.000%
<b>VALIDATED FOR SULFADIMETHOXINE</b>			
HPLC 8 Sulfonamides - Sulfadimethoxine	1,932	1	0.052%
<b>NON-VALIDATED FOR SULFONAMIDES</b>			
Agri-Screen for Sulfonamides** & ***	109	0	0.000%
Charm II Tablet Sequential**	1,819	0	0.000%
Parallux Sulfa Trio (Reader)**	2,321	0	0.000%
<b>NON-VALIDATED FOR SULFAMETHAZINE</b>			
Charm SL - Sulfamethazine**	27,425	5	0.018%
<b>VALIDATED FOR TETRACYCLINES</b>			
Charm II Tablet Competitive	36	0	0.000%
<b>NON-VALIDATED FOR TETRACYCLINES</b>			
Charm SL - Tetracyclines**	12,425	11	0.089%
Snap - Tetracyclines**	11,261	13	0.115%
<b>TOTALS</b>	<b>77,236</b>	<b>33</b>	<b>*</b>

\* See Table 1 for explanation

\*\* Non-Validated Test Method

\*\*\* FDA evaluated these tests and they do not perform as labeled-see M-I -99-4

Tables 7-1 to 7-8 present additional details of the testing conducted. These Tables show the testing by the family of drugs and by individual drugs and present results in terms of Grade “A” and Non-Grade “A” testing. Data on individual drugs listed in these Tables, e.g., Cloxacillin, Sulfamethazine, etc., are not included in the Totals for the family of drugs, e.g, Beta lactams, Sulfonamides, etc

<b>TABLE 7-1 -- Grade A Bulk Milk Pick-Up Tanker Testing October 1, 2009 to September 30, 2010</b>						
<b>Family/Drug</b>	<b>Number of Industry Tests</b>	<b>Number of Positive Industry Tests</b>	<b>Number of Regulatory Tests</b>	<b>Number of Positive Regulatory Tests</b>	<b>Total Tests</b>	<b>Total Positive Tests</b>
<b>AMINOGLYCOSIDES</b>	268	0	0	0	268	0
<b>AMPHENICOLS</b>	0	0	2	0	2	0
<b>BETA lactams</b>	2,894,076	696	8,034	2	2,902,110	698
Cloxacillin	0	0	70	0	70	0
<b>ENROFLOXACIN</b>	1,917	0	0	0	1,917	0
<b>MACROLIDES</b>	193	0	0	0	193	0
<b>SULFONAMIDES</b>	22,570	3	18	0	22,588	3
Sulfadimethoxine	1,932	1	0	0	1,932	1
Sulfamethazine	26,743	5	0	0	26,743	5
<b>TETRACYCLINES</b>	20,167	24	1,161	0	21,328	24
<b>TOTALS</b>	2,967,866	729	9,285	2	2,977,151	731

<b>TABLE 7-2 -- Grade A Pasteurized Fluid Milk and Milk Products Testing October 1, 2009 to September 30, 2010</b>						
<b>Family/Drug</b>	<b>Number of Industry Tests</b>	<b>Number of Positive Industry Tests</b>	<b>Number of Regulatory Tests</b>	<b>Number of Positive Regulatory Tests</b>	<b>Total Tests</b>	<b>Total Positive Tests</b>
<b>BETA lactams</b>	4,555	0	38,402	1	42,957	1
<b>SULFONAMIDES</b>	126	0	0	0	126	0
Sulfamethazine	76	0	0	0	76	0
<b>TETRACYCLINES</b>	0	0	89	0	89	0
<b>TOTALS</b>	4,757	0	38,491	1	43,248	1

**TABLE 7-3 -- Grade A Producer Testing  
October 1, 2009 to September 30, 2010**

Family/Drug	Number of Industry Tests	Number of Positive Industry Tests	Number of Regulatory Tests	Number of Positive Regulatory Tests	Total Tests	Total Positive Tests
<b>BETA lactams</b>	395,183	334	120,548	63	515,731	397
Cloxacillin	0	0	1	0	1	0
<b>MACROLIDES</b>	0	0	2	0	2	0
<b>SULFONAMIDES</b>	580	0	66	0	646	0
<b>TOTALS</b>	395,763	334	120,617	63	516,380	397

**TABLE 7-4 -- Grade A Other Testing (milk from silos, milk transport tankers, etc.)  
October 1, 2009 to September 30, 2010**

Family/Drug	Number of Industry Tests	Number of Positive Industry Tests	Number of Regulatory Tests	Number of Positive Regulatory Tests	Total Tests	Total Positive Tests
<b>BETA lactams</b>	64,705	9	10,616	2	75,321	11
Cloxacillin	0	0	23	0	23	0
<b>MACROLIDES</b>	27	0	0	0	27	0
<b>SULFONAMIDES</b>	222	0	169	0	391	0
Sulfamethazine	535	0	71	0	606	0
<b>TETRACYCLINES</b>	2,305	0	0	0	2,305	0
<b>TOTALS</b>	67,794	9	10,879	2	78,673	11

**TABLE 7-5 -- Non-Grade A Bulk Milk Pick-Up Tanker Testing  
October 1, 2009 to September 30, 2010**

Family/Drug	Number of Industry Tests	Number of Positive Industry Tests	Number of Regulatory Tests	Number of Positive Regulatory Tests	Total Tests	Total Positive Tests
<b>BETA lactams</b>	235,984	72	330	0	236,314	72
<b>TOTALS</b>	235,984	72	330	0	236,314	72

**TABLE 7-6 -- Non-Grade A Pasteurized Fluid Milk and Milk Products Testing  
October 1, 2009 to September 30, 2010**

Family/Drug	Number of Industry Tests	Number of Positive Industry Tests	Number of Regulatory Tests	Number of Positive Regulatory Tests	Total Tests	Total Positive Tests
BETA lactams	1,488	0	78	0	1,566	0
<b>TOTALS</b>	1,488	0	78	0	1,566	0

**TABLE 7-7 -- Non-Grade A Producer Testing  
October 1, 2009 to September 30, 2010**

Family/Drug	Number of Industry Tests	Number of Positive Industry Tests	Number of Regulatory Tests	Number of Positive Regulatory Tests	Total Tests	Total Positive Tests
BETA lactams	29,736	34	605	0	30,341	34
<b>TOTALS</b>	29,736	34	605	0	30,341	34

**TABLE 7-8 -- Non-Grade A Other Testing (milk from silos, milk transport tankers, etc.)  
October 1, 2009 to September 30, 2010**

Family/Drug	Number of Industry Tests	Number of Positive Industry Tests	Number of Regulatory Tests	Number of Positive Regulatory Tests	Total Tests	Total Positive Tests
BETA lactams	7,944	0	173	0	8,117	0
SULFONAMIDES	406	0	0	0	406	0
<b>TOTALS</b>	8,350	0	173	0	8,523	0

Tables 8-1 to 8-8 present details on the number of tests conducted by industry and by State Regulatory Agencies. The data are arranged by test within each family/drug and present results in terms of sample type and Grade “A” and Non-Grade “A” testing.

<b>Table 8-1 -- Number of Tests by Method by Family/Drug</b> <b>Grade A Bulk Milk Pick-Up Tanker</b> <b>October 1, 2009 to September 30, 2010</b>							
Tests Used by Family/Drug	Number of Industry Tests	Number of Positive Industry Tests	Number of Regulatory Tests	Number of Positive Regulatory Tests	Total Tests	Total Positive Tests	Percent Positive
<b>AMINOGLYCOSIDES</b>							
Charm II Tablet Competitive**	268	0	0	0	268	0	0.000%
<b>AMPHENICOLS</b>							
GC Chloramphenicol - FDA Method	0	0	2	0	2	0	0.000%
<b>BETA lactams</b>							
Charm BSDA Tablet - Beta lactams	21,961	11	0	0	21,961	11	0.050%
Charm II Tablet Competitive	165,554	49	3	0	165,557	49	0.030%
Charm II Tablet Quantitative	0	0	57	0	57	0	0.000%
Charm II Tablet Sequential	95,297	28	112	0	95,409	28	0.029%
Charm SL Beta lactams	2,172,175	449	1,110	2	2,173,285	451	0.021%
Charm SL-3	79,943	20	4	0	79,947	20	0.025%
Charm SL-6	150,992	52	13	0	151,005	52	0.034%
Delvotest P 5 Pack - Beta lactams	9,709	12	4,083	0	13,792	12	0.087%
Delvotest P/Delvotest P Mini	3,291	0	2,558	0	5,849	0	0.000%
Green Book Micro - Beta lactams	295	0	0	0	295	0	0.000%
Idexx New Snap	188,963	74	94	0	189,057	74	0.039%
Lak Tek - Beta lactams	5,409	0	0	0	5,409	0	0.000%
Neogen BetaStar	487	1	0	0	487	1	0.205%

**Table 8-1 -- Number of Tests by Method by Family/Drug  
Grade A Bulk Milk Pick-Up Tanker  
October 1, 2009 to September 30, 2010**

Tests Used by Family/Drug	Number of Industry Tests	Number of Positive Industry Tests	Number of Regulatory Tests	Number of Positive Regulatory Tests	Total Tests	Total Positive Tests	Percent Positive
<b>CLOXACILLIN</b>							
Charm II Test for Cloxacillin in Milk	0	0	70	0	70	0	0.000%
<b>ENROFLOXACIN</b>							
Charm SL-Floroquinolone**	1,917	0	0	0	1,917	0	0.000%
<b>MACROLIDES</b>							
Charm II Tablet Competitive - Macrolides**	145	0	0	0	145	0	0.000%
Charm II Tablet Sequential - Macrolides**	48	0	0	0	48	0	0.000%
<b>SULFONAMIDES</b>							
Agri-Screen for Sulfonamides ** & ***	109	0	0	0	109	0	0.000%
Charm II Tablet Competitive	18,919	3	18	0	18,937	3	0.016%
Charm II Tablet Sequential**	1,221	0	0	0	1,221	0	0.000%
Parallux Sulfa Trio (Reader)**	2,321	0	0	0	2,321	0	0.000%
<b>SULFADIMETHOXINE</b>							
HPLC 8 Sulfonamides - Sulfadimethoxine	1,932	1	0	0	1,932	1	0.052%
<b>SULFAMETHAZINE</b>							
Charm SL - Sulfamethazine**	26,743	5	0	0	26,743	5	0.019%
<b>TETRACYCLINES</b>							
Charm II Tablet Competitive	36	0	0	0	36	0	0.000%
Charm SL - Tetracyclines**	12,182	11	0	0	12,182	11	0.090%

**Table 8-1 -- Number of Tests by Method by Family/Drug  
Grade A Bulk Milk Pick-Up Tanker  
October 1, 2009 to September 30, 2010**

Tests Used by Family/Drug	Number of Industry Tests	Number of Positive Industry Tests	Number of Regulatory Tests	Number of Positive Regulatory Tests	Total Tests	Total Positive Tests	Percent Positive
Snap - Tetracyclines**	7,949	13	1,161	0	9,110	13	0.143%
<b>TOTALS</b>	2,967,866	729	9,285	2	2,977,151	731	0.025%

\*\* Non-Validated Test Method

\*\*\* FDA evaluated these tests and they do not perform as labeled-see M-I -99-4

**Table 8-2 -- Number of Tests by Method by Family/Drug  
Grade A Pasteurized Fluid Milk and Milk Products  
October 1, 2009 to September 30, 2010**

Tests Used by Family/Drug	Number of Industry Tests	Number of Positive Industry Tests	Number of Regulatory Tests	Number of Positive Regulatory Tests	Total Tests	Total Positive Tests	Percent Positive
<b>BETA lactams</b>							
Charm BSDA Tablet - Beta lactams	1,565	0	1,293	0	2,858	0	0.000%
Charm II Tablet Sequential	0	0	482	0	482	0	0.000%
Charm SL Beta lactams	53	0	794	0	847	0	0.000%
Charm SL-6	1,280	0	0	0	1,280	0	0.000%
Delvotest P 5 Pack - Beta lactams	1,657	0	29,785	0	31,442	0	0.000%
Delvotest P/Delvotest P Mini	0	0	5,235	1	5,235	1	0.019%
Idexx New Snap	0	0	813	0	813	0	0.000%
<b>SULFONAMIDES</b>							
Charm II Tablet Competitive	126	0	0	0	126	0	0.000%
<b>SULFAMETHAZINE</b>							
Charm SL - Sulfamethazine**	76	0	0	0	76	0	0.000%

Tests Used by Family/Drug	Number of Industry Tests	Number of Positive Industry Tests	Number of Regulatory Tests	Number of Positive Regulatory Tests	Total Tests	Total Positive Tests	Percent Positive
<b>TETRACYCLINES</b>							
Snap - Tetracyclines**	0	0	89	0	89	0	0.000%
<b>TOTALS</b>	4,757	0	38,491	1	43,248	1	0.002%

\*\* Non-Validated Test Method

\*\*\* FDA evaluated these tests and they do not perform as labeled-see M-I -99-4

**Table 8-3 -- Number of Tests by Method by Family/Drug  
Grade A Producer  
October 1, 2009 to September 30, 2010**

Tests Used by Family/Drug	Number of Industry Tests	Number of Positive Industry Tests	Number of Regulatory Tests	Number of Positive Regulatory Tests	Total Tests	Total Positive Tests	Percent Positive
<b>BETA lactams</b>							
Charm BSDA Tablet - Beta lactams	9,504	17	1,882	2	11,386	19	0.167%
Charm II Tablet Competitive	1,001	0	0	0	1,001	0	0.000%
Charm II Tablet Sequential	0	0	1,830	0	1,830	0	0.000%
Charm SL Beta lactams	11,823	9	1,375	0	13,198	9	0.068%
Charm SL-6	6,250	6	2	0	6,252	6	0.096%
Delvotest P 5 Pack - Beta lactams	350,618	287	87,572	55	438,190	342	0.078%
Delvotest P/Delvotest P Mini	12,221	14	27,738	6	39,959	20	0.050%
Delvotest SP/Delvotest SP Mini	0	0	126	0	126	0	0.000%
Idexx New Snap	3,766	1	23	0	3,789	1	0.026%
<b>CLOXACILLIN</b>							
Charm II Test for Cloxacillin in Milk	0	0	1	0	1	0	0.000%
<b>MACROLIDES</b>							
Charm II Tablet Sequential - Macrolides**	0	0	2	0	2	0	0.000%
<b>SULFONAMIDES</b>							

**Table 8-3 -- Number of Tests by Method by Family/Drug  
Grade A Producer  
October 1, 2009 to September 30, 2010**

Tests Used by Family/Drug	Number of Industry Tests	Number of Positive Industry Tests	Number of Regulatory Tests	Number of Positive Regulatory Tests	Total Tests	Total Positive Tests	Percent Positive
Charm II Tablet Competitive	540	0	66	0	606	0	0.000%
TLC Sulfonamide	40	0	0	0	40	0	0.000%
<b>TOTALS</b>	395,763	334	120,617	63	516,380	397	0.077%

\*\* Non-Validated Test Method

**Table 8-4 -- Number of Tests by Method by Family/Drug  
Grade A Other (milk from silos, milk transport tankers, etc.)  
October 1, 2009 to September 30, 2010**

Tests Used by Family/Drug	Number of Industry Tests	Number of Positive Industry Tests	Number of Regulatory Tests	Number of Positive Regulatory Tests	Total Tests	Total Positive Tests	Percent Positive
<b>BETA lactams</b>							
Charm BSDA Tablet - Beta lactams	2,640	0	485	0	3,125	0	0.000%
Charm II Tablet Competitive	3,112	0	0	0	3,112	0	0.000%
Charm II Tablet Sequential	2,627	1	59	0	2,686	1	0.037%
Charm SL Beta lactams	40,895	6	901	0	41,796	6	0.014%
Charm SL-3	34	0	0	0	34	0	0.000%
Charm SL-6	3,558	0	1	0	3,559	0	0.000%
Delvotest P 5 Pack - Beta lactams	1,060	0	7,216	2	8,276	2	0.024%
Delvotest P/Delvotest P Mini	399	0	1,733	0	2,132	0	0.000%
Delvotest SP/Delvotest SP Mini	0	0	61	0	61	0	0.000%
Idexx New Snap	10,355	2	160	0	10,515	2	0.019%
Neogen BetaStar	25	0	0	0	25	0	0.000%

**Table 8-4 -- Number of Tests by Method by Family/Drug  
Grade A Other (milk from silos, milk transport tankers, etc.)  
October 1, 2009 to September 30, 2010**

Tests Used by Family/Drug	Number of Industry Tests	Number of Positive Industry Tests	Number of Regulatory Tests	Number of Positive Regulatory Tests	Total Tests	Total Positive Tests	Percent Positive
<b>CLOXACILLIN</b>							
Charm II Test for Cloxacillin in Milk	0	0	23	0	23	0	0.000%
<b>MACROLIDES</b>							
Charm II Tablet Sequential - Macrolides**	27	0	0	0	27	0	0.000%
<b>SULFONAMIDES</b>							
Charm II Tablet Competitive	30	0	163	0	193	0	0.000%
Charm II Tablet Sequential**	192	0	0	0	192	0	0.000%
TLC Sulfonamide	0	0	6	0	6	0	0.000%
<b>SULFAMETHAZINE</b>							
Charm SL - Sulfamethazine**	535	0	71	0	606	0	0.000%
<b>TETRACYCLINES</b>							
Charm SL - Tetracyclines**	243	0	0	0	243	0	0.000%
Snap - Tetracyclines**	2,062	0	0	0	2,062	0	0.000%
<b>TOTALS</b>	67,794	9	10,879	2	78,673	11	0.014%

\*\* Non-Validated Test Method

**Table 8-5 -- Number of Tests by Method by Family/Drug  
Non-Grade A Bulk Milk Pick-Up Tanker  
October 1, 2009 to September 30, 2010**

Tests Used by Family/Drug	Number of Industry Tests	Number of Positive Industry Tests	Number of Regulatory Tests	Number of Positive Regulatory Tests	Total Tests	Total Positive Tests	Percent Positive
<b>BETA lactams</b>							
Charm SL Beta lactams	206,030	59	244	0	206,274	59	0.029%
Charm SL-3	6,886	2	0	0	6,886	2	0.029%
Delvotest P 5 Pack - Beta lactams	16,638	6	86	0	16,724	6	0.036%
Delvotest P/Delvotest P Mini	33	0	0	0	33	0	0.000%
Idexx New Snap	6,397	5	0	0	6,397	5	0.078%
<b>TOTALS</b>	<b>235,984</b>	<b>72</b>	<b>330</b>	<b>0</b>	<b>236,314</b>	<b>72</b>	<b>0.030%</b>

**Table 8-6 -- Number of Tests by Method by Family/Drug  
Non-Grade A Pasteurized Fluid Milk and Milk Products  
October 1, 2009 to September 30, 2010**

Tests Used by Family/Drug	Number of Industry Tests	Number of Positive Industry Tests	Number of Regulatory Tests	Number of Positive Regulatory Tests	Total Tests	Total Positive Tests	Percent Positive
<b>BETA lactams</b>							
Delvotest P 5 Pack - Beta lactams	1,488	0	78	0	1,566	0	0.000%
<b>TOTALS</b>	<b>1,488</b>	<b>0</b>	<b>78</b>	<b>0</b>	<b>1,566</b>	<b>0</b>	<b>0.000%</b>

**Table 8-7 -- Number of Tests by Method by Family/Drug  
Non-Grade A Producer  
October 1, 2009 to September 30, 2010**

Tests Used by Family/Drug	Number of Industry Tests	Number of Positive Industry Tests	Number of Regulatory Tests	Number of Positive Regulatory Tests	Total Tests	Total Positive Tests	Percent Positive
<b>BETA lactams</b>							
Charm BSDA Tablet - Beta lactams	1,190	4	0	0	1,190	4	0.336%
Charm SL Beta lactams	260	0	0	0	260	0	0.000%
Delvotest P 5 Pack - Beta lactams	27,741	30	605	0	28,346	30	0.106%
Delvotest P/Delvotest P Mini	545	0	0	0	545	0	0.000%
<b>TOTALS</b>	<b>29,736</b>	<b>34</b>	<b>605</b>	<b>0</b>	<b>30,341</b>	<b>34</b>	<b>0.112%</b>

**Table 8-8 -- Number of Tests by Method by Family/Drug  
Non-Grade A Other (milk from silos, milk transport tankers, etc.)  
October 1, 2009 to September 30, 2010**

Tests Used by Family/Drug	Number of Industry Tests	Number of Positive Industry Tests	Number of Regulatory Tests	Number of Positive Regulatory Tests	Total Tests	Total Positive Tests	Percent Positive
<b>BETA lactams</b>							
Charm II Tablet Sequential	43	0	0	0	43	0	0.000%
Charm SL Beta lactams	5,308	0	25	0	5,333	0	0.000%
Charm SL-6	7	0	0	0	7	0	0.000%
Delvotest P 5 Pack - Beta lactams	2,384	0	148	0	2,532	0	0.000%
Delvotest P/Delvotest P Mini	188	0	0	0	188	0	0.000%
Delvotest SP/Delvotest SP Mini	14	0	0	0	14	0	0.000%
<b>SULFONAMIDES</b>							

**Table 8-8 -- Number of Tests by Method by Family/Drug  
 Non-Grade A Other (milk from silos, milk transport tankers, etc.)  
 October 1, 2009 to September 30, 2010**

<b>Tests Used by Family/Drug</b>	<b>Number of Industry Tests</b>	<b>Number of Positive Industry Tests</b>	<b>Number of Regulatory Tests</b>	<b>Number of Positive Regulatory Tests</b>	<b>Total Tests</b>	<b>Total Positive Tests</b>	<b>Percent Positive</b>
Charm II Tablet Sequential**	406	0	0	0	406	0	0.000%
<b>TOTALS</b>	8,350	0	173	0	8,523	0	0.000%

\*\* Non-Validated Test Method