NATIONAL MILK DRUG RESIDUE DATA BASE FISCAL YEAR 2014 ANNUAL REPORT October 1, 2013 - September 30, 2014

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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 99% 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 drug 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 are 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. The Charm SL-6 test (code 92) was discontinued near the beginning of FY 2014. During the transition period, efforts were made to monitor for this test code and assure that data reporters provided an appropriate replacement test code.

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/. Fifty (50) data reporters utilized the web-based software to submit all or part of their data for the FY 2014 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/. 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 2014 (October 1, 2013 to September 30, 2014). Fifty (50) States and Puerto Rico submitted data for this report. We appreciate all the data providers' cooperation for this fiscal year's report.

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, require 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 **3,680,185** samples were analyzed for animal drug residues. Of these samples **703** were positive for a drug residue. A total of **4,008,662** tests were reported on the samples for nine (9) different groups of families or individual drugs. Twenty-five (25) testing methods were used to analyze the samples for drug residues. Details are presented in the Tables in this report.

SAMPLE RESULTS

A <u>SAMPLE</u> is defined as representing a load or lot of milk sampled and analyzed, e.g. a bulk milk pickup tanker, producer, milk transport tankers, a silo, etc.

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

Data are reported by four SOURCES OF SAMPLES:

- 1. <u>Bulk Milk Pickup Tanker</u> bulk raw milk from a dairy farm.
- 2. <u>Pasteurized Fluid Milk and Milk Products</u> 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. <u>Producer</u> 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 milk from milk plant tank/silos, milk transport tankers, etc.

A <u>POSITIVE</u> 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 <u>DISPOSITION per PMO</u> 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.

TABLE 1 Sample Results October 1, 2013 to September 30, 2014							
Source of Sample	Total Samples	Number Positive	Percent Positive	Disposition per PMO (Pounds)			
Bulk Milk Pickup Tanker	3,147,302	429	0.014%	17,754,000			
Pasteurized Fluid Milk and Milk Products	37,707	0	0.000%	0			
Producer	445,223	266	0.060%	240,000			
Other	49,953	8	0.016%	99,000			
TOTALS	3,680,185	703	*	18,093,000			

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. <u>Bulk Milk Pickup Tanker Samples</u> -- samples are taken on receipt of every tanker load at a milk receiving facility;
- 2. <u>Pasteurized Fluid Milk and Milk Products</u> -- 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. <u>Producer</u> -- 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. <u>Other</u> -- samples are conducted on a random basis.

Table 2 presents these results in greater detail and indicates 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, 2013 to September 30, 2014

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)
GRADE A								
Bulk Milk Pickup Tanker	3,024,337	411	7,036	1	3,031,373	412	0.014%	17,105,000
Pasteurized Fluid Milk and Milk Products	3,097	0	32,860	0	35,957	0	0.000%	0
Producer	321,644	196	101,608	51	423,252	247	0.058%	240,000
Other	36,659	3	8,278	5	44,937	8	0.018%	99,000
NON-GRADE A								
Bulk Milk Pickup Tanker ¹	115,889	17	40	0	115,929	17	0.015%	649,000
Pasteurized Fluid Milk and Milk Products	1,580	0	170	0	1,750	0	0.000%	0
Producer	21,929	19	42	0	21,971	19	0.086%	0
Other	4,988	0	28	0	5,016	0	0.000%	0
TOTALS	3,530,123	646	150,062	57	3,680,185	703	*	18,093,000 ²

¹ It is a common practice in some States, including two large milk production States, that bulk milk pickup 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".

² Note that this represents 0.01% of the total milk supply of the United States with an annual production of 204.3 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 (4,008,662) is greater than the number of samples (3,680,185). 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, 2013 to September 30, 2014. 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 by FDA in accordance with the standards established for the evaluation of these types of tests and found acceptable by the NCIMS in accordance with Appendix N of the PMO. 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.

TABLE 3 Tests Conducted October 1, 2013 to September 30, 2014							
Source of Sample	Total Tests	Number of Positive Tests	Percent Positive				
Bulk Milk Pickup Tanker	3,471,170	429	0.012%				
Pasteurized Fluid Milk and Milk Products	37,724	0	0.000%				
Producer	449,777	266	0.059%				
Other	49,991	8	0.016%				
TOTALS	4,008,662	703	*				

^{*} See Table 1 for explanation

TABLE 3A Validated Tests Conducted October 1, 2013 to September 30, 2014							
Source of Sample	Total Tests	Number of Positive Tests	Percent Positive				
Bulk Milk Pickup Tanker	3,135,194	416	0.013%				
Pasteurized Fluid Milk and Milk Products	37,695	0	0.000%				
Producer	448,243	265	0.059%				
Other	47,433	8	0.017%				
TOTALS	3,668,565	689	*				

^{*} See Table 1 for explanation

TABLE 3B Non-Validated Tests Conducted October 1, 2013 to September 30, 2014							
Source of Sample	Total Tests						
Bulk Milk Pickup Tanker	335,976	13	0.004%				
Pasteurized Fluid Milk and Milk Products	29	0	0.000%				
Producer	1,534	1	0.065%				
Other	2,558	0	0.000%				
TOTALS	340,097	14	*				

^{*} 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.

TABLE 4 Tests Conducted by Industry and Regulatory Agencies October 1, 2013 to September 30, 2014							
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
GRADE A							
Bulk Milk Pickup Tanker	3,339,742	411	15,489	1	3,355,231	412	0.012%
Pasteurized Fluid Milk and Milk Products	3,097	0	32,877	0	35,974	0	0.000%
Producer	325,988	196	101,798	51	427,786	247	0.058%
Other	36,692	3	8,283	5	44,975	8	0.018%
NON-GRADE A							
Bulk Milk Pickup Tanker ¹	115,899	17	40	0	115,939	17	0.015%
Pasteurized Fluid Milk and Milk Products	1,580	0	170	0	1,750	0	0.000%
Producer	21,949	19	42	0	21,991	19	0.086%
Other	4,988	0	28	0	5,016	0	0.000%
TOTALS	3,849,935	646	158,727	57	4,008,662	703	*

¹ It is a common practice in some States, including two large milk production States, that bulk milk pickup 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, 2013 to September 30, 2014							
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
GRADE A							
Bulk Milk Pickup Tanker	3,003,792	398	15,463	1	3,019,255	399	0.013%
Pasteurized Fluid Milk and Milk Products	3,097	0	32,848	0	35,945	0	0.000%
Producer	325,883	196	100,369	50	426,252	246	0.058%
Other	34,134	3	8,283	5	42,417	8	0.019%
NON-GRADE A							
Bulk Milk Pickup Tanker ¹	115,899	17	40	0	115,939	17	0.015%
Pasteurized Fluid Milk and Milk Products	1,580	0	170	0	1,750	0	0.000%
Producer	21,949	19	42	0	21,991	19	0.086%
Other	4,988	0	28	0	5,016	0	0.000%
TOTALS	3,511,322	633	157,243	56	3,668,565	689	*

¹ It is a common practice in some States, including two large milk production States, that bulk milk pickup 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, 2013 to September 30, 2014							
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
GRADE A							
Bulk Milk Pickup Tanker	335,950	13	26	0	335,976	13	0.004%
Pasteurized Fluid Milk and Milk Products	0	0	29	0	29	0	0.000%
Producer	105	0	1,429	1	1,534	1	0.065%
Other	2,558	0	0	0	2,558	0	0.000%
NON-GRADE A							
Bulk Milk Pickup Tanker ¹	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	0	0	0	0	0	0	0.000%
TOTALS	338,613	13	1,484	1	340,097	14	*

¹ It is a common practice in some States, including two large milk production States, that bulk milk pickup 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.

TABLE 5 Number of Tests Conducted by Family/Drug October 1, 2013 to September 30, 2014						
Family/Drug	Total Tests	Total Positive				
AMINOGLYCOSIDES	36	0				
BETA lactams	3,652,160	684				
CLOXACILLIN	100	0				
ENROFLOXACIN	11,239	1				
MACROLIDES	148	0				
SULFONAMIDES	173,602	16				
SULFAMETHAZINE	341	0				
TETRACYCLINES	154,196	2				
TETRACYCLINE	16,840	0				
TOTALS	4,008,662	703				

TABLE 5A Number of Validated Tests Conducted by Family/Drug October 1, 2013 to September 30, 2014						
Family/Drug Total Tests Total Positive						
BETA lactams	3,652,160	684				
CLOXACILLIN	100	0				
SULFONAMIDES	2,996	5				
TETRACYCLINES	36	0				
TETRACYCLINE	13,273	0				
TOTALS	3,668,565	689				

TABLE 5B -- Number of Non-Validated Tests Conducted by Family/Drug October 1, 2013 to September 30, 2014

Family/Drug	Total Tests	Total Positive
AMINOGLYCOSIDES	36	0
ENROFLOXACIN	11,239	1
MACROLIDES	148	0
SULFONAMIDES	170,606	11
SULFAMETHAZINE	341	0
TETRACYCLINES	154,160	2
TETRACYCLINE	3,567	0
TOTALS	340,097	14

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 2.2 million times, Charm 3 SL-3, which was used more than 607 thousand times, Delvotest P 5 Pack - Beta lactams, which was used more than 431 thousand times, and IDEXX New SNAP, which was used for more than 210 thousand tests. Table 6A shows a comparison of tests conducted using Validated and Non-Validated test methods for Sulfonamides and Tetracyclines.

TABLE 6 Number of Tests by Method by Family/Drug October 1, 2013 to September 30, 2014									
Tests Used by Family/Drug	Number of Tests	Number Positive	Percent Positive						
AMINOGLYCOSIDES									
Charm II Tablet Competitive Aminoglycosides**	36	0	0.000%						
BETA lactams									
Charm 3 SL-3	607,071	65	0.011%						
Charm BSDA Tablet - Beta lactams ⁺⁺	34,704	21	0.061%						
Charm II Tablet Competitive	54,784	17	0.031%						
Charm II Tablet Quantitative	38	0	0.000%						
Charm II Tablet Sequential	69,646	5	0.007%						
Charm SL Beta lactams	2,213,621	289	0.013%						
Charm SL-6	3,270	0	0.000%						
Delvotest P 5 Pack - Beta lactams ⁺⁺	431,375	251	0.058%						
Delvotest P/Delvotest P Mini ⁺⁺	24,474	1	0.004%						
Delvotest SP/Delvotest SP Mini ⁺⁺	2,473	0	0.000%						
IDEXX New SNAP	210,433	35	0.017%						
Neogen BetaStar	271	0	0.000%						
CLOXACILLIN									
Charm II Test for Cloxacillin in Milk	100	0	0.000%						
ENROFLOXACIN									
Charm SL-Floroquinlone**	11,239	1	0.009%						
MACROLIDES									
Charm II Tablet Sequential - Macrolides**	148	0	0.000%						
SULFONAMIDES									
Agri-Screen for Sulfonamides** & ***	1,912	1	0.052%						
Charm II Tablet Competitive	2,888	5	0.173%						

TABLE 6 -- Number of Tests by Method by Family/Drug October 1, 2013 to September 30, 2014

Tests Used by Family/Drug	Number of Tests	Number Positive	Percent Positive
Charm SL Sulfa Test**	168,694	10	0.006%
TLC Sulfonamide	108	0	0.000%
SULFAMETHAZINE			
IDEXX SNAP SULFA (SMZ)**	341	0	0.000%
TETRACYCLINES			
Charm II Tablet Competitive	36	0	0.000%
Charm SL - Tetracyclines**	154,160	2	0.001%
TETRACYCLINE			
HPLC Tetracyclines - Tetracycline	13,273	0	0.000%
SNAP - Tetracycline**	3,567	0	0.000%
TOTALS	4,008,662	703	*

¹ It is a common practice in some States, including two large milk production States, that bulk milk pickup 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".

^{**} Non-Validated Test Method

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

FDA evaluated these tests and they do not perform as labeled-see M-1-49-4

++ NCIMS evaluated these kits for detection of beta lactams; however, unless the kits are used with beta lactamase, they do not specifically identify the presence of beta lactams. The reporting of these tests does not make it possible to separate the use/nonuse of beta lactamase. A finding of "Not Found" would indicate the test did not detect any inhibitor for which it is sensitive, including, but not limited to, antibiotics or non-specific inhibitors such as sanitizers. See technical bulletin on the contractor's website at: www.kandc-sbcc.com/nmdrd/.

TABLE 6A -- Comparison of Validated and Non-Validated Tests for Sulfonamides and Tetracyclines October 1, 2013 to September 30, 2014

Tests By Method by Family/Drug	Number of Tests	Number Positive	Percent Positive
VALIDATED FOR SULFONAMIDES			
Charm II Tablet Competitive	2,888	5	0.173%
TLC Sulfonamide	108	0	0.000%
NON-VALIDATED FOR SULFONAMIDES			
Agri-Screen for Sulfonamides** & ***	1,912	1	0.052%
Charm SL Sulfa Test**	168,694	10	0.006%
NON-VALIDATED FOR SULFAMETHAZINE			
IDEXX SNAP SULFA (SMZ)**	341	0	0.000%
VALIDATED FOR TETRACYCLINES			
Charm II Tablet Competitive	36	0	0.000%
VALIDATED FOR TETRACYCLINE			
HPLC Tetracyclines - Tetracycline	13,273	0	0.000%
NON-VALIDATED FOR TETRACYCLINES			
Charm SL - Tetracyclines**	154,160	2	0.001%
NON-VALIDATED FOR TETRACYCLINE			
SNAP - Tetracycline**	3,567	0	0.000%
TOTALS	344,979	18	*

¹ It is a common practice in some States, including two large milk production States, that bulk milk pickup 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".

^{**} 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.

TABLE 7-1 – Grade A Bulk Milk Pickup Tanker Testing October 1, 2013 to September 30, 2014										
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				
AMINOGLYCOSIDES	36	0	0	0	36	0				
BETA lactams	3,000,884	393	15,392	1	3,016,276	394				
Cloxacillin	0	0	71	0	71	0				
ENROFLOXACIN	11,239	1	0	0	11,239	1				
MACROLIDES	148	0	0	0	148	0				
SULFONAMIDES	170,079	15	0	0	170,079	15				
SULFAMETHAZINE	108	0	0	0	108	0				
TETRACYCLINES	154,196	2	0	0	154,196	2				
Tetracycline	3,052	0	26	0	3,078	0				
TOTALS	3,339,742	411	15,489	1	3,355,231	412				

TABLE 7-2 Grade A Pasteurized Fluid Milk and Milk Products Testing October 1, 2013 to September 30, 2014								
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	3,079	0	32,806	0	35,885	0		
SULFONAMIDES	18	0	71	0	89	0		
TOTALS	3,097	0	32,877	0	35,974	0		

TABLE 7-3 Grade A Producer Testing October 1, 2013 to September 30, 2014									
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	313,623	196	100,288	50	413,911	246			
SULFONAMIDES	225	0	1,510	1	1,735	1			
TETRACYCLINES									
Tetracycline	12,140	0	0	0	12,140	0			
TOTALS	325,988	196	101,798	51	427,786	247			

TABLE 7-4 Grade A Other Testing (Milk from milk plant tanks/silos, milk transport tankers, etc.) October 1, 2013 to September 30, 2014									
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	33,145	3	8,247	5	41,392	8			
Cloxacillin	0	0	29	0	29	0			
SULFONAMIDES	1,692	0	7	0	1,699	0			
SULFAMETHAZINE	233	0	0	0	233	0			
TETRACYCLINES									
Tetracycline	1,622	0	0	0	1,622	0			
TOTALS	36,692	3	8,283	5	44,975	8			

TABLE 7-5 Non-Grade A Bulk Milk Pickup Tanker Testing October 1, 2013 to September 30, 2014							
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	115,899	17	40	0	115,939	17	
TOTALS	115,899	17	40	0	115,939	17	

TABLE 7-6 Non-Grade A Pasteurized Fluid Milk and Milk Products Testing October 1, 2013 to September 30, 2014							
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	1,580	0	170	0	1,750	0	
TOTALS	1,580	0	170	0	1,750	0	

TABLE 7-7 Non-Grade A Producer Testing October 1, 2013 to September 30, 2014							
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	21,949	19	42	0	21,991	19	
TOTALS	21,949	19	42	0	21,991	19	

TABLE 7-8 Non-Grade A Other Testing (Milk from milk plant tanks/silos, milk transport tankers, etc.) October 1, 2013 to September 30, 2014								
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	4,988	0	28	0	5,016	0		
TOTALS	4,988	0	28	0	5,016	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 <u>test</u> within each <u>family/drug</u> and present results in terms of sample type and Grade "A" and Non-Grade "A" testing.

Table 8-1 Number of Tests by Method by Family/Drug Grade A Bulk Milk Pickup Tanker October 1, 2013 to September 30, 2014												
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					
AMINOGLYCOSIDES												
Charm II Tablet Competitive Aminoglycosides**	36	0	0	0	36	0	0.000%					
BETA lactams												
Charm 3 SL-3	584,126	60	3	0	584,129	60	0.010%					
Charm BSDA Tablet - Beta lactams ⁺⁺	19,121	8	0	0	19,121	8	0.042%					
Charm II Tablet Competitive	53,851	17	11	0	53,862	17	0.032%					
Charm II Tablet Quantitative	0	0	38	0	38	0	0.000%					
Charm II Tablet Sequential	68,787	5	209	0	68,996	5	0.007%					
Charm SL Beta lactams	2,067,980	266	10,144	0	2,078,124	266	0.013%					
Charm SL-6	3,268	0	0	0	3,268	0	0.000%					
Delvotest P 5 Pack - Beta lactams ⁺⁺	9,222	4	4,664	0	13,886	4	0.029%					
Delvotest P/Delvotest P Mini ⁺⁺	3,326	0	162	0	3,488	0	0.000%					
Delvotest SP/Delvotest SP Mini ⁺⁺	2,193	0	0	0	2,193	0	0.000%					
IDEXX New SNAP	188,739	33	161	1	188,900	34	0.018%					
Neogen BetaStar	271	0	0	0	271	0	0.000%					
Cloxacillin												
Charm II Test for Cloxacillin in Milk	0	0	71	0	71	0	0.000%					

Table 8-1 -- Number of Tests by Method by Family/Drug Grade A Bulk Milk Pickup Tanker October 1, 2013 to September 30, 2014

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
Enrofloxacin							
Charm SL- Floroquinlone**	11,239	1	0	0	11,239	1	0.009%
Macrolides							
Charm II Tablet Sequential - Macrolides**	148	0	0	0	148	0	0.000%
Sulfonamides							
Agri-Screen for Sulfonamides** & ***	349	0	0	0	349	0	0.000%
Charm II Tablet Competitive	2,726	5	0	0	2,726	5	0.183%
Charm SL Sulfa Test ^{**}	167,004	10	0	0	167,004	10	0.006%
SULFAMETHAZINE							
IDEXX SNAP SULFA (SMZ)**	108	0	0	0	108	0	0.000%
Tetracyclines							
Charm II Tablet Competitive	36	0	0	0	36	0	0.000%
Charm SL - Tetracyclines**	154,160	2	0	0	154,160	2	0.001%
Tetracycline							
HPLC Tetracyclines - Tetracycline	146	0	0	0	146	0	0.000%
SNAP - Tetracycline**	2,906	0	26	0	2,932	0	0.000%
TOTALS	3,339,742	411	15,489	1	3,355,231	412	0.012%

^{**} Non-Validated Test Method

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

^{**} NCIMS evaluated these tests and they do not perform as accesses. ***IT**/>
**NCIMS evaluated these kits for detection of beta lactams; however, unless the kits are used with beta lactamase, they do not specifically identify the presence of beta lactams. The reporting of these tests does not make it possible to separate the use/nonuse of beta lactamase. A finding of "Not Found" would indicate the test did not detect any inhibitor for which it is sensitive, including, but not limited to, antibiotics or non-specific inhibitors such as sanitizers. See technical bulletin on the contractor's website at: www.kandc-sbcc.com/nmdrd/.

Table 8-2 -- Number of Tests by Method by Family/Drug **Grade A Pasteurized Fluid Milk and Milk Products** October 1, 2013 to September 30, 2014

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
BETA lactams							
Charm 3 SL-3	1,980	0	1,037	0	3,017	0	0.000%
Charm BSDA Tablet - Beta lactams ⁺⁺	0	0	1,734	0	1,734	0	0.000%
Charm II Tablet Competitive	0	0	10	0	10	0	0.000%
Charm II Tablet Sequential	0	0	127	0	127	0	0.000%
Charm SL Beta lactams	67	0	499	0	566	0	0.000%
Delvotest P 5 Pack - Beta lactams ⁺⁺	868	0	26,247	0	27,115	0	0.000%
Delvotest P/Delvotest P Mini ⁺⁺	164	0	2,600	0	2,764	0	0.000%
IDEXX New SNAP	0	0	552	0	552	0	0.000%
Sulfonamides							
Agri-Screen for Sulfonamides** & ***	0	0	29	0	29	0	0.000%
Charm II Tablet Competitive	18	0	0	0	18	0	0.000%
TLC Sulfonamide	0	0	42	0	42	0	0.000%
TOTALS	3,097	0	32,877	0	35,974	0	0.000%

^{**} Non-Validated Test Method
*** FDA evaluated these tests and they do not perform as labeled-see M-I -99-4

^{**} NCIMS evaluated these casts and taky to find periodic as a factorise with the presence of beta lactams. The reporting of these tests does not make it possible to separate the use/nonuse of beta lactamase. A finding of "Not Found" would indicate the test did not detect any inhibitor for which it is sensitive, including, but not limited to, antibiotics or non-specific inhibitors such as sanitizers. See technical bulletin on the contractor's website at: www.kande-sbcc.com/nmdrd/.

Table 8-3 -- Number of Tests by Method by Family/Drug **Grade A Producer** October 1, 2013 to September 30, 2014

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
BETA lactams							
Charm 3 SL-3	5,816	3	1,492	0	7,308	3	0.041%
Charm BSDA Tablet - Beta lactams ⁺⁺	9,905	12	1,911	0	11,816	12	0.102%
Charm II Tablet Competitive	502	0	52	0	554	0	0.000%
Charm II Tablet Sequential	0	0	471	0	471	0	0.000%
Charm SL Beta lactams	4,624	2	3,054	2	7,678	4	0.052%
Charm SL-6	1	0	0	0	1	0	0.000%
Delvotest P 5 Pack - Beta lactams ⁺⁺	271,690	179	81,182	47	352,872	226	0.064%
Delvotest P/Delvotest P Mini ⁺⁺	5,130	0	11,459	1	16,589	1	0.006%
Delvotest SP/Delvotest SP Mini ⁺⁺	90	0	181	0	271	0	0.000%
IDEXX New SNAP	15,865	0	486	0	16,351	0	0.000%
Sulfonamides							
Agri-Screen for Sulfonamides** & ***	105	0	1,429	1	1,534	1	0.065%
Charm II Tablet Competitive	120	0	22	0	142	0	0.000%
TLC Sulfonamide	0	0	59	0	59	0	0.000%
Tetracycline							
HPLC Tetracyclines - Tetracycline	12,140	0	0	0	12,140	0	0.000%
TOTALS	325,988	196	101,798	51	427,786	247	0.058%

^{**} Non-Validated Test Method
*** FDA evaluated these tests and they do not perform as labeled-see M-I-99-4

^{**}NCIMS evaluated these kits for detection of beta lactams; however, unless the kits are used with beta lactamase, they do not specifically identify the presence of beta lactams. The reporting of these tests does not make it possible to separate the use/nonuse of beta lactamase. A finding of "Not Found" would indicate the test did not detect any inhibitor for which it is sensitive, including, but not limited to, antibiotics or non-specific inhibitors such as sanitizers. See technical bulletin on the contractor's website at: www.kandc-sbcc.com/nmdrd/.

Table 8-4 -- Number of Tests by Method by Family/Drug Grade A Other (Milk from milk plant tanks/silos, milk transport tankers, etc.) October 1, 2013 to September 30, 2014

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
BETA lactams							
Charm 3 SL-3	6,191	0	296	0	6,487	0	0.000%
Charm BSDA Tablet - Beta lactams ⁺⁺	992	0	173	0	1,165	0	0.000%
Charm II Tablet Competitive	356	0	2	0	358	0	0.000%
Charm II Tablet Sequential	23	0	29	0	52	0	0.000%
Charm SL Beta lactams	24,763	3	1,495	2	26,258	5	0.019%
Delvotest P 5 Pack - Beta lactams ⁺⁺	339	0	4,818	2	5,157	2	0.039%
Delvotest P/Delvotest P Mini ⁺⁺	136	0	1,323	0	1,459	0	0.000%
IDEXX New SNAP	345	0	111	1	456	1	0.219%
Cloxacillin							
Charm II Test for Cloxacillin in Milk	0	0	29	0	29	0	0.000%
Sulfonamides							
Charm II Tablet Competitive	2	0	0	0	2	0	0.000%
Charm SL Sulfa Test ^{**}	1,690	0	0	0	1,690	0	0.000%
TLC Sulfonamide	0	0	7	0	7	0	0.000%
SULFAMETHAZINE							
IDEXX SNAP SULFA (SMZ)**	233	0	0	0	233	0	0.000%
Tetracycline							
HPLC Tetracyclines - Tetracycline	987	0	0	0	987	0	0.000%
SNAP - Tetracycline**	635	0	0	0	635	0	0.000%
TOTALS	36,692	3	8,283	5	44,975	8	0.018%

^{**} Non-Validated Test Method

[&]quot;*NCIMS evaluated these kits for detection of beta lactams; however, unless the kits are used with beta lactamase, they do not specifically identify the presence of beta lactams. The reporting of these tests does not make it possible to separate the use/nonuse of beta lactamase. A finding of "Not Found" would indicate the test did not detect any inhibitor for which it is sensitive, including, but not limited to, antibiotics or non-specific inhibitors such as sanitizers. See technical bulletin on the contractor's website at: www.kandc-sbcc.com/nmdrd/.

Table 8-5 -- Number of Tests by Method by Family/Drug Non-Grade A Bulk Milk Pickup Tanker October 1, 2013 to September 30, 2014

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
BETA lactams							
Charm 3 SL-3	6,129	2	0	0	6,129	2	0.033%
Charm SL Beta lactams	98,544	14	20	0	98,564	14	0.014%
Charm SL-6	1	0	0	0	1	0	0.000%
Delvotest P 5 Pack - Beta lactams ⁺⁺	7,124	1	0	0	7,124	1	0.014%
Delvotest P/Delvotest P Mini ⁺⁺	0	0	11	0	11	0	0.000%
Delvotest SP/Delvotest SP Mini ⁺⁺	0	0	9	0	9	0	0.000%
IDEXX New SNAP	4,101	0	0	0	4,101	0	0.000%
TOTALS	115,899	17	40	0	115,939	17	0.015%

⁺⁺ NCIMS evaluated these kits for detection of beta lactams; however, unless the kits are used with beta lactamase, they do not specifically identify the presence of beta lactamas. The reporting of these tests does not make it possible to separate the use/nonuse of beta lactamase. A finding of "Not Found" would indicate the test did not detect any inhibitor for which it is sensitive, including, but not limited to, antibiotics or non-specific inhibitors such as sanitizers. See technical bulletin on the contractor's website at: www.kandc-sbcc.com/nmdrd/.

Table 8-6 -- Number of Tests by Method by Family/Drug Non-Grade A Pasteurized Fluid Milk and Milk Products October 1, 2013 to September 30, 2014

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
BETA lactams							
Charm SL Beta lactams	190	0	0	0	190	0	0.000%
Delvotest P 5 Pack - Beta lactams ⁺⁺	1,354	0	97	0	1,451	0	0.000%
Delvotest P/Delvotest P Mini ⁺⁺	36	0	0	0	36	0	0.000%
IDEXX New SNAP	0	0	73	0	73	0	0.000%
TOTALS	1,580	0	170	0	1,750	0	0.000%

⁺⁺ NCIMS evaluated these kits for detection of beta lactams; however, unless the kits are used with beta lactamase, they do not specifically identify the presence of beta lactams. The reporting of these tests does not make it possible to separate the use/nonuse of beta lactamase. A finding of "Not Found" would indicate the test did not detect any inhibitor for which it is sensitive, including, but not limited to, antibiotics or non-specific inhibitors such as sanitizers. See technical bulletin on the contractor's website at: www.kande-sbcc.com/nmdrd/.

Table 8-7 -- Number of Tests by Method by Family/Drug Non-Grade A Producer October 1, 2013 to September 30, 2014

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
BETA lactams							
Charm BSDA Tablet - Beta lactams ⁺⁺	868	1	0	0	868	1	0.115%
Delvotest P 5 Pack - Beta lactams ⁺⁺	20,997	18	31	0	21,028	18	0.086%
Delvotest P/Delvotest P Mini ⁺⁺	84	0	11	0	95	0	0.000%
TOTALS	21,949	19	42	0	21,991	19	0.086%

⁺⁺ NCIMS evaluated these kits for detection of beta lactams; however, unless the kits are used with beta lactamase, they do not specifically identify the presence of beta lactams. The reporting of these tests does not make it possible to separate the use/nonuse of beta lactamase. A finding of "Not Found" would indicate the test did not detect any inhibitor for which it is sensitive, including, but not limited to, antibiotics or non-specific inhibitors such as sanitizers. See technical bulletin on the contractor's website at: www.kandc-sbcc.com/nmdrd/.

Table 8-8 -- Number of Tests by Method by Family/Drug Non-Grade A Other (Milk from milk plant tanks/silos, milk transport tankers, etc.) October 1, 2013 to September 30, 2014

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
BETA lactams							
Charm 3 SL-3	1	0	0	0	1	0	0.000%
Charm SL Beta lactams	2,241	0	0	0	2,241	0	0.000%
Delvotest P 5 Pack - Beta lactams ⁺⁺	2,714	0	28	0	2,742	0	0.000%
Delvotest P/Delvotest P Mini ⁺⁺	32	0	0	0	32	0	0.000%
TOTALS	4,988	0	28	0	5,016	0	0.000%

⁺⁺ NCIMS evaluated these kits for detection of beta lactams; however, unless the kits are used with beta lactamase, they do not specifically identify the presence of beta lactams. The reporting of these tests does not make it possible to separate the use/nonuse of beta lactamase. A finding of "Not Found" would indicate the test did not detect any inhibitor for which it is sensitive, including, but not limited to, antibiotics or non-specific inhibitors such as sanitizers. See technical bulletin on the contractor's website at: www.kande-sbcc.com/nmdrd/.