



Michigan Department of Agriculture

Food & Dairy Annual Report Fiscal Year 2005

October 1, 2004 - September 30, 2005

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Introduction

In spite of budgetary challenges, the Michigan Department of Agriculture's (MDA) Food and Dairy Division (FDD) continued to aggressively meet its objectives of protecting Michigan's food supply from the threats of both intentional and unintentional contamination in fiscal year (FY) 2005.

National estimates indicate **76 million** people became ill from microorganisms in food resulting in approximately **325,000** hospitalizations and **5,000** needless deaths every year. Many, if not most, of these illnesses are thought to be preventable.

The FDD sought to maximize effective use of available resources through a four-tier strategy:

- More clearly defining risks of foodborne contamination.
- Building increased accountability into regulatory programs.
- Increasing emergency management capacity within each program.
- Partnerships to more efficiently link both public and private sector resources with expertise and initiatives to protect the food supply.



FDD has continued to build its food protection and defense program by integrating it into the routine Food Safety Program. FDD inspectors and local health department sanitarians have, and will continue to, undergo Incident Command Training.

So whether it's an unintentional foodborne illness outbreak, a blackout or a terrorism incident, MDA's Food and Dairy staff are better prepared to respond. In 2005, staff training also focused on key components of the food and agriculture industry, ensuring that government and the private sector are able to work together effectively to protect Michigan citizens.



Section 1

Focus on Food Protection and Defense

The Food and Dairy Division led a variety of initiatives during FY05 to increase the capacity of both government and food industry managers to prevent food contamination events, and to prepare for foodborne emergencies that are not preventable. Highlights of these activities include:

Protecting Michigan's Food and Agricultural Infrastructure Through Public and Private Partnerships

Leaders from Michigan government agencies, food and agricultural industries, and universities gathered in January 2005 to identify collaborative initiatives and projects to enhance protection of Michigan's food and agricultural infrastructure. Multi-disciplinary working groups were formed to oversee implementation of these initiatives. They included: animal production, plant production, meat and poultry processing, retail food, grain and edible beans, and laboratory. Funding for the projects was provided by the Michigan Department of Community Health (MDCH) using Centers for Disease Control and Prevention (CDC) emergency preparedness grant dollars.

Foodborne Illness Response Strategy (F.I.R.S.T.) Training

Food and Dairy Division staff continued collaboration with colleagues from MDCH to provide outbreak investigation training for local public health investigators and other emergency responders. The training identifies how investigators can prevent human illnesses through early detection, improved investigation coordination, and prompt implementation of control measures.

Michigan 2005 Food and Agriculture Vulnerability Assessment

A limited assessment of the State of Michigan's agriculture and food supply chains was conducted as part of an effort to: 1) identify "critical nodes" in the supply chains vulnerable to acts of sabotage, and 2) appropriate security enhancements. Results will be used to help guide the prevention and preparedness efforts of industry, government, and university stakeholders.

Food Protection and Defense Seminars

MDA partnered with Michigan public health agencies, Michigan State University (MSU), Food and Drug Administration (FDA), United States Department of Agriculture (USDA), and a variety of food industry associations to launch a food protection and defense seminar series. The initial full day seminar, entitled "Food Defense Seminar for Management & Supervisory Personnel," was attended by approximately 175 people. Funding was provided by MDCH.



Section 2

Food Program

Michigan's grocery stores, convenience stores, food processors and food warehouses are regulated by the Food Section of the Food and Dairy Division. Approximately 46 food field staff conduct inspections to ensure a safe food supply and inform consumers of recalls and other illness outbreaks. The Food Section works with its corporate partners, regulatory partners, and consumer and academic partners to assure that the food produced, distributed and sold in Michigan is safe. By working closely with these partners, the Food Section has been able to identify and resolve public health issues relating to food safety in a timely manner. A sampling of FDD's efforts in FY05 include:

MSP/MDA Joint Action on Food Delivery Vehicles

In 2005, the Michigan State Police (MSP) Motor Carrier Division stopped more than two dozen food delivery vehicles transporting food in an unsanitary manner. MSP notified MDA of each incident, and MDA inspectors were sent to the scene.

MDA obtained criminal warrants in three incidents and seized more than 20,000 pounds of food. All but one vehicle originated in other states and exhibited problems such as temperature abuse and meat juices dripping on other foods. Some of the trucks were in the midst of day-long deliveries without refrigeration capability. MDA is working with FDA, USDA and local health departments to address practices at all points in the distribution channels.



Retail Flip Chart

MDA partnered with the Michigan Association of Local Public Health, Michigan Grocers Association, and MDCH to develop a highly visual and easy to use "Flip Chart of Emergency Procedures for Retail Food Establishments." The project targets independent grocery store owners and contains emergency plans for events such as:

- Interruption of Electrical Service
- Interruption of Water Service
- Contaminated Water Supply
- Sewage Back-up
- Fire
- Flood

This resource complements the previously developed "Emergency Action Plans" document. Approximately 2,000 copies of the flip charts have been printed and are being distributed through retail food associations and MDA food inspectors. Funding was provided by MDCH.

Progress Towards Adoption of FDA Voluntary Retail Food Program Standards

The overarching goal of Michigan's Food Safety Inspection Program and the Food Service Program is to reduce illness and death from the consumption of unsafe food products. One of the only ways Michigan consumers can remain confident in the safety of the food supply is to be assured there are strong food safety assurance programs in place. Continuous improvement is the cornerstone of ensuring these programs remain strong. This initiative involves the assessment and continuous improvement of Michigan's Food Safety Inspection Program by implementing a series of nine uniform regulatory program standards. These standards range from ensuring proper training for inspectors to investigating and responding to foodborne illness outbreaks. These standards are identified as the FDA's Voluntary National Retail Food Regulatory Program Standards. Michigan enrolled in the standards program in 2004. It represents a national, uniform model that is audited and tracked by FDA. By achieving these standards, MDA will be able to identify where it can have the greatest impact on food supply safety. In 2005, MDA completed its self-assessment and identified one standard as being met. Three other standards were identified to be worked on and action plans were formulated to address achieving those standards.

Recalls

In 2005, information on 89 recalls and recall expansions affecting Michigan was shared with food inspectors, local health officials and the general public. The following examples illustrate some key recall-associated issues:

Retail Deli Sandwiches

In late February 2005, routine MDA sampling of deli sandwiches collected from retail stores revealed the presence of *Listeria monocytogenes* (*Lm*) in products from a Michigan manufacturer. Staff collected follow-up food and environmental samples at the firm, and *Lm* contamination was found in both the product and the environment. Regional Lansing office staff and the FDA worked closely with the manufacturer to coordinate a recall of more than 50,000 sandwiches distributed in Michigan, Indiana and Ohio. The manufacturer voluntarily closed to work with MDA and a private consultant on process changes and sanitation plans, reopening only after MDA testing of product and environmental samples yielded no *Lm*.



Listeria monocytogenes is a microorganism that can cause serious and sometimes fatal infections in young children, frail or elderly people and others with weakened immune systems.

Unpasteurized Orange Juice

In May and June 2005, a multi-state outbreak of *Salmonella typhimurium* associated with consumption of unpasteurized



orange juice included 11 cases in Michigan, nine of which were children. Lansing office and regional staff documented 130 hours working on the investigation, including product traceback and recall audit checks. Regional inspectors provided vital information on tracing various brand names back to a single orange juice manufacturer in Florida. FDD staff provided federal investigators with information integral to implicating the Florida firm and removing the product from store shelves in more than 19 states.

Salmonella infections typically cause short-term symptoms, such as high fever, severe headache, vomiting, nausea, abdominal pain, and diarrhea. Persons with weakened immune symptoms can experience severe symptoms that can be life threatening.

Food Illness Outbreaks

In 2005, program staff investigated foodborne illness complaints and outbreaks and worked in coordination with state and local health departments. MDA is continually strengthening its partnerships with local, state and federal agencies, along with academia and industry to ensure consistent investigation, notification and follow-up of identified foodborne illness outbreaks and food emergencies. This close working relationship allows a timely response to problems and a quick removal of contaminated products from store shelves and restaurants. While MDA and all its counterparts are always improving their strategies and tactics against foodborne illnesses, they continue to be a significant cause of human illness in Michigan. FY05 activities included:

- **176** reported foodborne illness outbreaks involving **1,546** persons
- **89** Class I food recalls
- More than **2,500** enforcement actions taken to achieve compliance with food safety standards and applicable state laws

Norovirus Outbreaks

During FY05, *Norovirus* was the leading cause of laboratory-confirmed foodborne illness outbreaks. Of 25 laboratory-confirmed outbreaks, 18 (72 percent) were due to *Norovirus*. *Norovirus* is typically transmitted via food after an infected foodworker handles food in an unsanitary manner. In December 2004, a *Norovirus* outbreak at a small school in Kent County occurred after students and staff consumed cheeseburgers from a local fast food restaurant. At least 33 individuals became ill. The food handler who had prepared the meal had been ill with similar symptoms ten days prior to preparing the food. *Norovirus* can be transmitted for *at least* up to 14 days after symptoms have subsided (CDC). This was evident in a different outbreak in December 2004. One individual had a stool sample test positive for *Norovirus* 15 days after illness subsided.

Norovirus



In May 2005, another series of *Norovirus* outbreaks further highlighted the public health significance of an asymptomatic food service worker handling food while still shedding virus. Five *Norovirus* outbreaks involving at least 124 individuals occurred after a food handler, who was previously ill with *Norovirus*, prepared submarine sandwiches at a national submarine sandwich franchise. Local health department staff discussed the newly developed *Michigan Guidelines for Environmental Cleaning and Disinfection of Norovirus* with the food service establishment; the establishment implemented these guidelines. This series of outbreaks had high economic impact including: lost work time for ill individuals and the week long closure of the implicated sandwich franchise. Additionally, a lawsuit was filed against the franchise by a nationally known foodborne illness law firm.

Additional Case Examples

Bacillus cereus

An outbreak involving 27 ill people occurred in mid-August after a church fund-raiser in Grand Traverse County. It was found the taco meat contained *Bacillus cereus* toxins due to improper cooling after preparation.



Salmonella

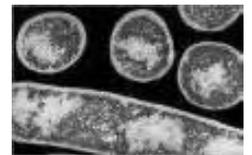
An outbreak of *Salmonella enteritidis* associated with consumption of éclairs and cream desserts occurred after an April concert reception held in Macomb County. Although the reconstituted cream filling was implicated, it was never determined how the contamination occurred.



A Lapeer County restaurant was closed temporarily after 20 people became ill over a period of time after eating different foods. *Salmonella enteritidis* had been isolated from six of the ill individuals. Investigators concluded the infection appeared to be associated with infected food workers handling multiple different food items.

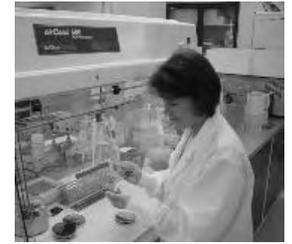
Botulism

An elderly Livingston County male died of *botulism* in January. *Botulism* is a severe intoxication caused by toxins produced by *Clostridium botulinum* bacteria.



Symptoms of foodborne botulism include blurred vision, difficulty swallowing and progressive paralysis. The patient had been hospitalized and placed on a respirator prior to his death. Because *botulism* is a Category A bioterrorism agent, single cases receive intense scrutiny. Evidence gathered to date by MDA, MDCH and local health department investigators does not suggest intentional contamination of food in this case.

FY05 Food Statistics



FREQUENCY OF ROUTINE FOOD INSPECTION ACTIVITIES

Inspections	18,499
Complaint Investigations	1,133
Illness-related:	81
Non-illness related:	1,052
Product Samples	550

NUMBER OF FOOD LICENSES (Manufacturing Plants, Retail, Warehouses)

Retail Food Establishment	12,796
Extended Retail Food Establishment	939
Wholesale Food Processor	529
Limited Wholesale Food Processor	754
Food Warehouse	1,004
Mobile Food Establishment	52
Mobile Food Establishment Commissary	42
State/County Fair Temporary	1,146
Special Transitory Food Unit	42
Temporary Food Establishment	19

FOOD ENFORCEMENT ACTIVITY

Enforcement Letters	345	
Compliance Reviews	61	
Consent Agreements/Administrative Fines	107	= \$32,030 in total fines
Prosecutions/Fines	17	= \$13,986 in total fines
Seizures	944	= \$1,398,758 in value of products

NUMBER OF FOOD SERVICE LICENSES (Restaurants, Cafeterias, etc.)

Food Service Establishment	31,168
Mobile Food Service Establishment	459
Temporary Food Service Establishment	11,575
Special Transitory Food Unit	645
Food Service Vending	5,015

MISCELLANEOUS

Certificates of Free Sale	1,215
Freedom of Information Act Requests	169
Bottled Water Registrations	1,345

Section 3

Food Service Sanitation Program

Food safety in Michigan’s restaurants is a partnership between MDA and Michigan’s 45 independent local health departments. MDA provides statewide program policy and direction as well as consultation and training services to local health department sanitarians. Local health department performance is evaluated every three years in conjunction with the “Michigan Local Public Health Accreditation Program.” The accreditation program helps to assure accountability for the nearly \$8.25 million allocated by the state to assist local health to conduct the food service sanitation program.

Special Projects

The following special projects were carried out by MDA’s Food Service Sanitation Section in 2005:

Risk Factor Reduction Initiative: MDA and Governor Granholm have set a goal to reduce the occurrence of the five behaviors and practices identified by CDC as being the most prevalent contributing factors of foodborne illness by 25 percent, by the year 2010. MDA issued a report titled “Baseline Survey on the Occurrence of Foodborne Illness Risk Factors in Michigan Food Establishments.” The report sets the baseline by which the goal of reducing foodborne illness risk factors will be measured. It highlights improper holding and poor personal hygiene as the top two foodborne illness risk factors needing improvement in Michigan. The risk reduction steering committee is working to develop strategies for minimizing the occurrence of these risk factors.

Emergency Action Plans (EAPs): In response to the “Blackout of 2003,” the City of Detroit, Macomb County Health Department, MDA, Michigan Restaurant Association, and Oakland County Health Department joined hands to help the government and the food industry prepare for and respond to emergencies. A baseline survey was completed identifying the emergency preparedness strengths and weaknesses of Michigan’s food establishments. Regulator and industry training was conducted and the distribution of 20,000 EAP booklets began in southeast Michigan. The document was also translated into three foreign languages. The EAPs are being used by the National Conference for Food Protection as the basis for consensus emergency management guidance for retail food establishments.



Dishwashing

Turned by Act No. 82 of P.A. 2006, Industry Food Safety Establishment Trust

- Pre-rinse** Scrape, or soak to remove large food particles.
- Wash** Wash in a clean, hot (110°F) detergent solution.
- Rinse** Rinse thoroughly in another compartment with warm, clear water
- Sanitize** Use a chemical sanitizer (Chlorine, Quaternary Ammonium or Iodine) mixed at the proper concentration per manufacturer's directions
- Air dry** Place on a clean drain board to air dry

Pre-rinse Wash Rinse Sanitize Air dry

Two Stage Cooling

Hot food must be cooled completely within 6 hours to avoid the growth of bacteria.

In the first 2 hours food must be cooled from 140°F to 70°F.

In the next 4 hours food must be cooled from 70°F to 41°F.

Foods must be moved quickly through the Danger Zone (41°F - 140°F)

Food Processing/Packaging Guidance Document: The document “Guidance for Food Processing / Packaging in Michigan Food Service Establishments” was provided to Michigan’s 45 local health departments and the Michigan Restaurant Association. The document is designed to assist both regulators and industry and contains general processing information conveying the most commonly processed foods.

Training

The Food Service Sanitation Section staff, standardized by FDA, conducted 17 training sessions. Seventeen sessions provided training to approximately 150 individuals. Training topics included: Food Code / Food Law, foodborne illness risk factor reduction, violation identification, plumbing, emergency action plan pilot project and general roundtable discussions. Certificates were issued to 12 local health department standardized trainers. The total number of standardized trainers increased from 62 in 2004 to 67 in 2005. The certificate expires after three years.

Accreditation of Local Health Departments

This week long evaluation of the local health department’s food service sanitation programs include both office and field components. There are 21 specific components used to judge if a local health department’s food service sanitation program meets minimum program requirements. Local health departments prepare corrective plans of actions for indicators that do not meet the standards. MDA conducts follow-up evaluations to make certain corrective plans of action are completed successfully. In FY05 17 local health departments were evaluated, 22 corrective plans were approved and 17 follow-up reviews were conducted.

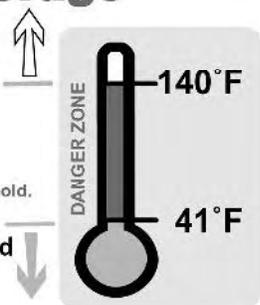
The four decals on these two pages were developed using industry education funds as a means to help food establishment employees focus on important safe food handling procedures. Improper cooling of food, improper temperature control of food, contaminated equipment and poor personal hygiene are among the top causes of foodborne illness. Approximately 40,000 decals were distributed to food establishments throughout the state during calendar years 2004 and 2005.

Safe Temperatures for Food Storage

Keep Hot Foods Hot (140°F and above)

In order to avoid the growth of bacteria, hot foods must be kept hot and cold foods must be kept cold.

Keep Cold Foods Cold (41°F and below)



Wash Your Hands

Always wash your hands before beginning work

How Warm running water at a designated handsink
Lather and rub hands together for 20 seconds
Clean under fingernails
Rinse thoroughly
Use sanitary drying device

When After:
Handling raw food
Changing gloves
Touching hair, body, or clothing
Eating, drinking, or smoking
Using restroom
Busing tables



Section 4

Dairy Program

Dairy inspectors in the Food and Dairy Division carry out a clear mission: ensure safe and wholesome dairy products for consumers. In addition to inspecting dairy farms, milk processing plants and performing pasteurization evaluations, enforcement is also a strong component of the Dairy Section's work. In FY05, Dairy Section staff worked extensively with partners in several areas to increase the safety and security of milk and dairy products. The "Be Aware, Be Prepared" campaign was launched with the goal of assisting producers in protecting their animals and the foods they produce. In addition, the Dairy Section, in cooperation with members of the dairy industry, participated in a Dairy Supply Chain Vulnerability Assessment. Additionally, Dairy Section staff partnered with MSU Extension to reach out to several of Michigan's major dairy counties to identify the agricultural awareness and needs of county Emergency Management Coordinators.

Dairy Industry Vulnerability Assessment

Dairy Section staff, along with representatives of the dairy industry, participated in a Dairy Supply Chain Vulnerability Assessment in June and July 2005. The dairy industry is the largest segment of Michigan's agriculture industry and ranks eighth in the nation for milk production. Michigan dairy farms produced 6.32 billion pounds of milk in 2004 for a cash farm sales value of \$1.02 billion. Any disruption of this industry would result in significant human health and economic impact to Michigan's citizens. The goal of the vulnerability assessment was to assist public and private sector decision-makers in better defining priorities for protective and preparedness efforts.

"Be Aware, Be Prepared" Campaign

Food and Dairy Division staff partnered with staff from the Animal Industry Division, animal production industry associations and MSU's Cooperative Extension Service to identify practical steps to better prepare farmers for a wide range of on-farm emergencies. This group launched an informational "Be Aware, Be Prepared" campaign to assist producers to better protect their crops, animals, the foods they produce, their economic livelihood and the food supply. An all-weather placard has been developed to communicate key information at a glance. The placard summarizes simple steps that can be taken to better protect farm operations, identify suspicious events farmers and farm employees should look for, and includes spaces to fill in emergency contact information. MDCH provided grant funding to print 7,000 copies on heavy duty materials so the placard can be prominently displayed in barns, milk houses and machine sheds as a ongoing reminder for farm employees.



County Emergency Management Coordinator Outreach

Dairy Section staff partnered with MSU Extension to reach out to several of Michigan's major dairy counties to identify the agricultural awareness and needs of county Emergency Management Coordinators. A questionnaire was developed and focus group interviews were conducted of County Emergency Management Coordinators and County Extension personnel in Allegan, Clinton, Huron, Kent, Ottawa and Sanilac counties. During the interviews, the need for more training of Emergency Management Coordinators in relating to farm emergencies such as an on-farm orientation for first responders, and training in animal handling and biosecurity, was identified. In addition, the County Emergency Management coordinators requested a tabletop exercise involving an agricultural emergency be developed so counties could practice their responses locally and integrate them at the state level.

2005 GPS Report

Over the past year, Dairy Section Staff has collected Global Positioning System (GPS) data on most of the existing dairy farms and dairy plants in the state. The field inspectors and some of the specialists used hand-held GPS units to collect the data during the course of their routine inspections. This data provides the geo-location for each establishment in latitude and longitude, making it easier to quickly locate farms and plants on a computer generated map in an emergency.

The Center for Geographic Information, located in Lansing, will add the data to their database where it can be used to generate maps with overlays with features such as population densities, sensitive environmental areas, waterways, roads or schools. Continuous updates to the database will occur as new facilities are licensed, or as existing facilities relocate or cease operation.

Funding to purchase the hand-held GPS units was obtained by MDA's Animal Industry Division through a Homeland Security grant.

Recalls

In FY05, there were two recalls resulting from MDA violations. The following examples illustrate some recall-associated issues:

Case #1

On May 11, 2005, a company was notified that a sample of their vanilla ice cream taken by MDA on April 26, 2005 had tested presumptive positive for *Listeria*. The sample was confirmed positive for *Listeria monocytogenes* on May 11, 2005. A total of 217 lbs. of vanilla ice cream was seized on May 11, 2005. The total value of the product seized was \$674.25. This product was destroyed on May 12, 2005. The company initiated a Class I recall, and a press release was issued on May 13, 2005. A total of 717 pints and 588 half gallons of product were produced under the affected code. Of this total, 468 pints and two half gallons were recovered at a total value of \$733.10. Extensive environmental samples were taken by MDA on May 16, 2005. *Listeria monocytogenes* was found in these samples. The plant discontinued production of ice cream while measures were taken to improve environmental cleaning and the environmental sampling process continued. *Listeria* continued to be found in samples through July. August environmental samples came back *Listeria*-free and ice cream production resumed.

Case #2

In August 2005, a company received a complaint that their butterscotch ice cream tasted like peanut butter. On the code date in question, butterscotch ice cream was run before peanut butter ice cream at the plant. The butterscotch ice cream package in question was time stamped for the time during which peanut butter ice cream was being run. Employees not following procedure in changing the packages between the two products were to blame for the product in the wrong container. On August 30, 2005, a recall of the butterscotch ice cream was issued and 432 cartons of butterscotch ice cream were returned to the plant and destroyed. A total of 929 cartons of the product were destroyed at the retail stores. The total retail value of product destroyed was \$2,690.98, and total wholesale value was \$1,798.16.



FY05 Dairy Statistics

Total number of dairy farms in state as of 10/1

No. of Grade A farms in state

No. of Manufacturing farms in state

2,586

2,303

283



Farm Inspections

Total number of farm inspections

Grade A farm inspections

Manufacturing farm inspections

7,198

6,505

693



Other Inspections

Bulk Hauler Sampler Inspections

Tanker Inspections

Receiver Sampler Inspections

Grade A Plant Inspections

Manufacturing Plant Inspections

Transfer Station Inspections

Single Service Plant Inspections

Grade A Surveys Performed

USDA Surveys Performed

USDA Butter Grading certificates issued

Right to Farm investigations

Pasteurization evaluations

310

373

79

148

81

23

13

73

15

530

29

412



Enforcement Actions

Administrative Fines (drug residue)

Total No. of Permit Suspensions

Permit Suspensions- due to drug residue violations

Permit Suspensions- due to failure to comply and health hazards

Permit Suspensions- due to bacteria count and cooling temp.

Permit Suspensions-due to somatic cell count

Warning Notices- Violative Milk

Recalls resulting from MDA violations

Seizures

Compliance Reviews

Informal Hearings

31 =\$10,250

209 =\$232,522*

72 =\$223,449*

15 =\$2,465*

32 =\$1,784*

90 =\$4,824*

412

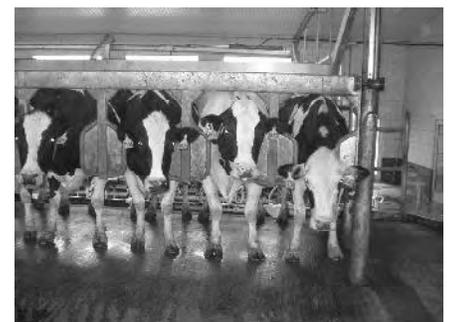
2 =\$4,098*

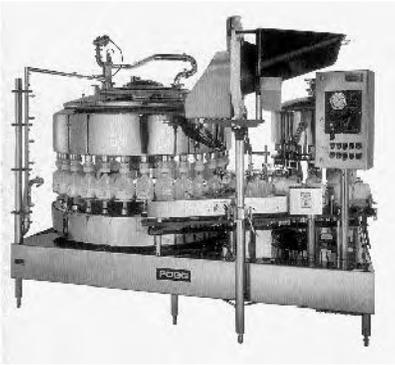
2 =\$85,640*

24

5

**value of products involved*





Dairy Processing Plant Samples

Shelf Life samples	126
Total milk & milk product samples taken	3,503
Total milk & milk product test determinations	13,603



Licenses Issued

Grade A Plants	30
Manufacturing Plants (includes cheese and ice cream)	42
Grade A Milk Distributors	13
Grade A Transfer Stations/Receiving Stations/Tank Truck Cleaning	12
Grade A Single Service	6
Milk Tank Trucks and Can Milk Trucks	512
Milk Transportation Companies	147
Milk Hauler/Samplers Currently Licensed	731
Certified Fieldpersons	28



Laboratory Evaluation

Certified Industry Laboratories	11
Approved Drug Residue Screening sites	32
Approved /Certified Industry Analysts	218



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