Animal Disease Testing

PROGRAM MANAGER: Gina DeWitt| 517-284-0507 | dewittg@michigan.gov

The Animal Disease Testing program provides testing in support of MDARD's efforts to monito and eradicate livestock disease so that Michigan Animals can be moved and sold throughout the U.S. and internationally.

The Animal Disease Testing program provides Equine Infectious Anemia testing to certify equines traveling in Michigan and throughout the U.S. are free of Equine Infectious Anemia and controlling the spread of the disease.

IMPACT FOR MICHIGAN:

This program helps protect the livestock industry from economic losses due to animal disease transmission.
This program ensures Michigan livestock are free of specific diseases before entering the food chain to protect people, the food supply and animals.
Ensuring animals are free of disease facilitates the free and legal import and export of livestock in Michigan.
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ACCOMPLISHMENTS:

- Met 100% of all sample analysis turnaround times. The timely analysis allows for the early detection of animal diseases affecting livestock and public health.
- Certified four new analysts for animal disease testing. This cross training of staff increased program productivity and reduction of costs by leveraging internal talent.
- Program analysts achieved 100% recertification rate for disease testing, this supports MDARD's key goal of protecting human and animal health by ensuring livestock are free of disease before entering the food chain.
- Disease free status maintained for Brucellosis, Pseudorabies and Johne's which is critical for agricultural livestock business growth.

MEASURING SUCCESS:

Metric	2017	2018
Equine Infectious Anemia Testing	16981	16547
Other Animal Disease Testing	1981	3545
Proficiency Tests	100%	100%
Turn Around Time Met or Exceeded	100%	100%

PROGRAM GOALS:

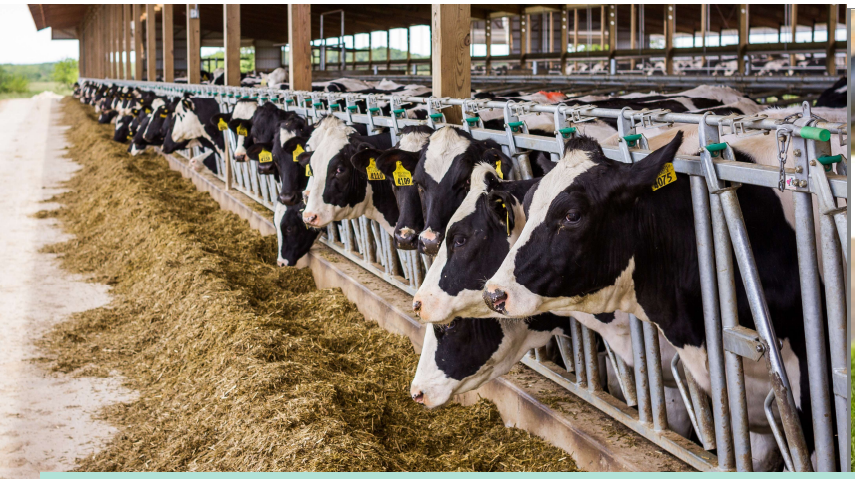
- Two new staff trained and certified by NVSL for EIA testing and training of other staff.
- 100% recertification for current analysts
- Meeting 100% of sample turnaround times
- Achieving membership into the National Animal Health Laboratory Network

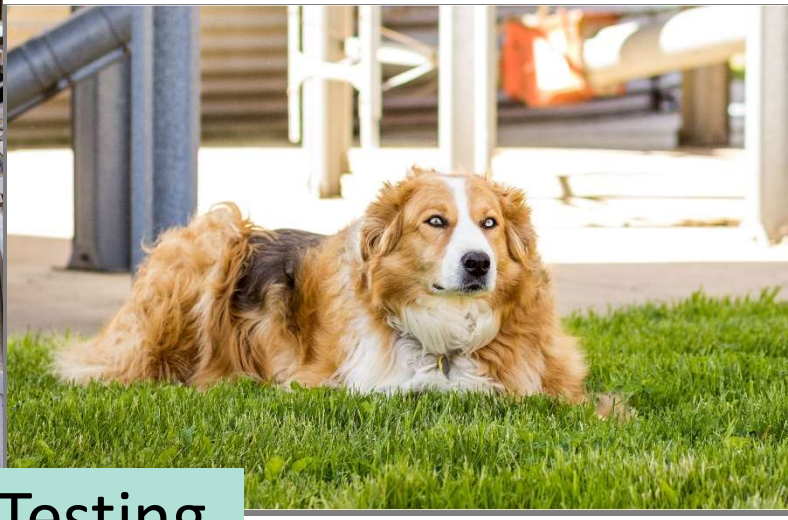
KEY STAKEHOLDERS

- Michigan Citizens.
- MDARD Animal Industry Division
- Private Veterinarians
- USDA
- VDL

LEGAL AUTHORITY:

- Public Heath Code, Public Act 368 of 1978
- Part 124, as amended





Food, Feed, and Fertilizer Testing

PROGRAM MANAGER: Gina DeWitt| 517-284-0507 | dewittg@michigan.gov

The Food, Feed, and Fertilizer Safety program supports animal and human food safety/security and consumer protection by providing analytical data and technical expertise to document the safety, legality, authenticity, identity and quality of human food, animal feed, fertilizers, alcoholic and non-alcoholic beverages offered for sale in the State of Michigan.
This program also provides analytical data to the Michigan Liquor Control Commission (MLCC) for enforcement of under-age drinking laws and detection of adulteration of distilled liquor

IMPACT FOR MICHIGAN:

Drugs and other additives when misapplied can negatively impact animal and human health, livestock animal productivity and marketability of food products by businesses.
The data generated assists MDARD, FDA and the MLCC monitoring and enforcement activities related to food and feed safety.
Laboratory test data is required to establish and maintain an integrated food safety system.
Consumer, livestock and pet health are directly impacted by the safety of the food supply.
The food supply is vulnerable to intentional tampering and adulteration and testing can identify those issues to minimize impacts and provide evidence..

ACCOMPLISHMENTS:

- Increased samples analyzed by over 50% while meeting 100% of contractual turnaround times. This allows for prompt regulatory action to be taken and unsafe products removed from commerce.
- Reinstituted fertilizer testing program, meeting 100% of contractual turnaround times. This testing provides protection for consumers and identifies process issues for manufacturers.
- Enhanced the scope of accreditation for ISO/IEC 17025:2005 accredited methods from fourteen to eighteen.

MEASURING SUCCESS:

Metric	2017	2018
Samples Tested	809	1252
Number of Tests performed	2020	2857
% of Proficiency Tests completed successfully	99%	100%
# of Analytes Tested	7506	9876

PROGRAM GOALS:

- Obtain 100% on all proficiency tests
- Further enhance our scope of accreditation by adding more methods
- Add fish speciation methodology to food testing scope

KEY STAKEHOLDERS

- Michigan Consumers
- MDARD Food and Dairy Division
- MDARD Pesticide and Plant Pest Management Division

Motor Fuel Quality Testing

PROGRAM MANAGER: Gina DeWitt| 517-284-0507 | dewittg@michigan.gov

The Motor Fuels Quality Testing program tests gasoline to ensure product description accuracy and adherence to quality standards. The laboratory verifies the vapor pressure, distillation properties, ethanol and sulfur content as well as the anti-knock index of gasoline. Along with gasoline testing the lab examines diesel fuel and kerosene for water and flash-point and

IMPACT FOR MICHIGAN:

The Motor Fuels Quality Testing program monitors and verifies the standards that all gasoline must meet to protect businesses and consumers from economic harm caused by costly engine repairs from substandard gasoline. Testing gasoline reduces health risks caused by the inhalation of gasoline vapors and pollutants. Monitoring vapor pressure levels in high population/automobile use areas helps prevent over 28 tons of pollutants per day from being released into the atmosphere.

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ACCOMPLISHMENTS:

- Increased both capacity and efficiency in MDARD's Motor Fuels testing lab by analyzing more samples than ever before while also improving upon how quickly they were tested – Meeting 100% of sample turnaround goal
- Updated test equipment and software to provide improved analysis, customer service, and most importantly ensuring consumers safety and that they're receiving what they pay for

MEASURING SUCCESS:

Metric	2017	2018
Gasoline Samples Tested	3660	4436
Diesel & Kerosene & E-85 Samples Tested	389	633
Proficiency Test	100%	100%
Turn Around Time met or exceeded	98%	100%

PROGRAM GOALS:

- To become the first State Lab to obtain ISO 17025 Accreditation for the Motor Fuel Quality Testing Program.
- Achieve 100% compliance on proficiency check samples
- 100% of samples completed in the stated contractual turnaround time
- Cross train new back-up for Octane Engines
- Increase sample numbers to 5000/year

KEY STAKEHOLDERS

- Michigan Citizens.
- Michigan Fuel Business
- MDARD Consumer Protection Program

LEGAL AUTHORITY:

- Public Act 44 of 1984, as amended, Michigan Motor Fuels Quality Act

PESTICIDE DATA PROGRAM

PROGRAM MANAGER: **Jessica Pruett 517-284-0475 | pruettj@michigan.gov**

The Pesticide Data Program (PDP) collects high-quality, statistically based, pesticide residue data from a variety of food products destined for grocery store shelves throughout the United States. The data provides EPA with information to help determine which pesticides may be registered for use on food products and to set tolerance levels of these pesticides. Findings of tolerance violations are reported to FDA to aid them in making programmatic plans for future years of testing imported products. The data produced by PDP are available to the general public in a web-based database and in an annual summary.

IMPACT FOR MICHIGAN:

The PDP provides reliable data to help assure consumers that food they feed their families is safe. The data published each year provide regulators, scientists, registrants, farmers, processors and consumers with important insights into the actual pesticide residue levels in a variety of widely consumed foods. PDP data have been helpful in identifying crops where alternative pest management practices are needed to increase yield and quality of the produce. PDP data are also useful in promoting export of U.S. commodities in a competitive global market and addressing food safety issues helping Michigan farmers market their products world-wide.

ACCOMPLISHMENTS:

- Validated extraction and analysis methodology on canned peaches to replace canned pineapple as a new commodity. Validation proves effectiveness for providing accurate data that helps assure consumers that the food they feed their families is safe.
- Aided State program in analyzing some misuse samples against large pesticide screens used for PDP, which ultimately assists in timely investigation closure and reduces the harmful impact to consumers
- Maintenance of accreditation to ISO/IEC 17025:2017 which ensures results are viable and defendable.

MEASURING SUCCESS:

Metric	2017	2018
Number of samples	1058	1057
Average turnaround	66	79
Satisfactory proficiency testing	100%	100%

PROGRAM GOALS:

- Increase pesticide screens by adding requested commodity specific compounds during validation
- Validate next assigned commodity (mustard greens)
- Cross-training of newer staff to improve turnaround times

KEY STAKEHOLDERS

- USDA
- US EPA
- US FDA
- Agriculture industry
- Consumers of agricultural products

LEGAL AUTHORITY:

- Agricultural Marketing Act of 1946
- US Food Quality Protection Act of 1996

PESTICIDE & ENVIRONMENT

PROGRAM MANAGER: **Jessica Pruett 517-284-0475| pruettj@michigan.gov**

MDARD has the responsibility of regulating the safe use of pesticides. This responsibility is supported by the Laboratory's Pesticide and Environment program through both residue and formulations testing. Formulations testing verifies label claims on commercial pesticide products to prevent consumer fraud and/or misuse of pesticides. Residue testing includes testing of soil, foliage, water and swab wipes for evidence of the misuse of pesticides in samples collected while investigating citizen complaints. This program is also called upon for testing of food products and animal feeds for pesticides and other toxins in conjunction with investigations into human and animal illnesses or deaths.

IMPACT FOR MICHIGAN:

Pesticides are needed by the agricultural industry for higher yield of crops that are healthier and more desirable to the consumer and to control pests in structures that can carry disease or do extensive damage to the structure. Misuse of pesticides poses a health risk to citizens and animals and can cause environmental damage.

ACCOMPLISHMENTS:

- Met turnaround goals in 100% of samples ensuring inspectors have timely data needed to complete thorough and efficient misuse investigations.
- Installation and verification of two GC/MS/MS upgrades, doubling the compound capabilities, and providing improved analysis and timely identification of noncompliant samples assists in timely investigation closure reducing the harmful impact to consumers. The two instruments also serve as backup for each other, reducing downtime, ensuring turnaround goals are met, and provides a better service to customers.
- Maintenance of accreditation to ISO/IEC 17025:2017 which ensures results are viable and defendable.

MEASURING SUCCESS:

Metric	2017	2018
Number of misuse samples received	393	390
Average turnaround for misuse samples	28	36
% Misuse samples reported on time (60 days)	100%	100%
Number of formulation samples received	12	12
% Satisfactory proficiency testing	100%	100%

PROGRAM GOALS:

- Improve turnaround times for samples
- Gain program perspective and improve communications by partnering with inspectors for ride-along project and inviting them into the lab to observe sample processing
- Add newer methods to accreditation scope

KEY STAKEHOLDERS

- Michigan citizens
- Agriculture industry
- US EPA
- Consumers of agricultural products
- MDNR
- MDEQ

LEGAL AUTHORITY:

- Federal Insecticide, Fungicide and Rodenticide Act, 7 U.S.C s/s 136 et seq (1996)
- Natural Resources and Environmental Protection Act, Public Act 451 of 1994, Part 83



FOOD and DAIRY MICROBIOLOGY

PROGRAM MANAGER: **Ted Gatesy| 517-284-0502 | gatesyt@michigan.gov**

The Microbiology Section tests Grade "A" Dairy Products, Manufactured Dairy Products and Glycol Waters to provide analytical data to the Food and Dairy Division to enforce the Michigan Grade A Milk Law of 2001 and Manufacturing Milk Law of 2001. This provides documentation to the dairies as to the safety and cleanliness of their products and processes. The Grade A Pasteurized Milk Ordinance, 2017 revision, is designed to protect and improve the nation's milk supply through continued monitoring from production through distribution, including laboratory testing for bacterial counts, somatic cell counts, phosphatase enzyme production and inhibitory substances, i.e., antibiotics. Food Pathogen Programs, including testing for pathogens in Ready to Eat foods, fresh produce through Michigan's Food Assurance Program and environmental samples from production and retail facilities provide analytical data to the Food and Dairy Division in support of its enforcement of the Michigan Food Law.

IMPACT FOR MICHIGAN:

Food safety and economic interests of the people of the State of Michigan are two of the top MDARD missions. Detection of pathogens in food is an important step in removal of contaminated products from commerce and consequently eliminates sources of potential illnesses. These programs help to insure production of safe food and dairy products by Michigan manufacturers and will insure continued sales of Michigan agricultural products within the state, across the nation and through exports.

ACCOMPLISHMENTS:

- Food and dairy testing conducted at the cutting edge laboratory resulted in the identification of foodborne pathogens in processed foods, cheeses and environmental samples, numerous product recalls, and several high profile investigations. This removal of contaminated foods and pet foods from retail shelves across Michigan reduced human illnesses both locally and nationally.
- Increased the number of food samples analyzed by 18% and dairy samples by 9%. This helps ensure production of safe food and dairy products by Michigan manufacturers and continued sales of Michigan agricultural products within the state, across the nation and through exports.

Michigan Department of AGRICULTURE & Rural Development

MEASURING SUCCESS:

Metric	FY 2017	FY 2018
Number of food related samples tested for pathogens	2304	2835
Number of dairy tests	11,496	12,626
Average turnaround time	4 days	4 days
Proficiency test results	100%	100%

PROGRAM GOALS:

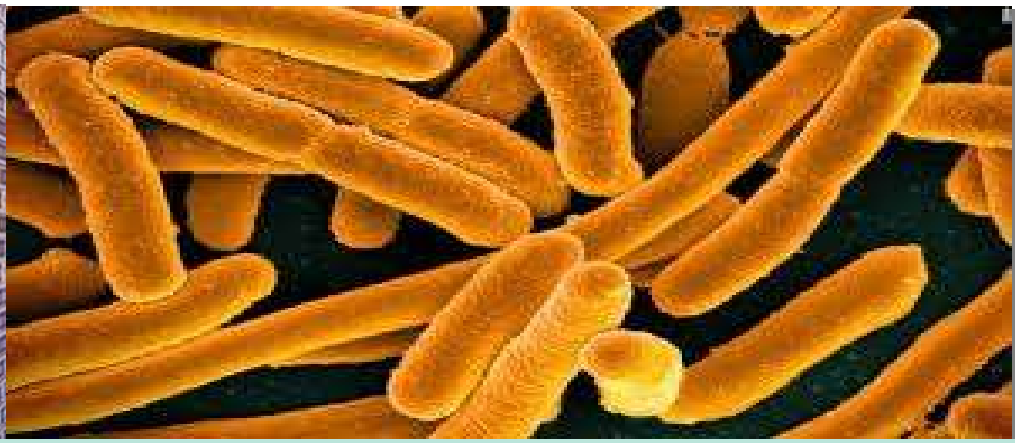
- Working jointly with the MDHHS Laboratory to hire a bioinformatician to interpret the whole genome sequence data and provide faster reporting of results to epidemiologists and public health specialists.
- Provide percent fat testing for the Food and Dairy Division to ensure various milk fats are accurate at retail locations throughout Michigan.
- Develop in-house methods for Cyclospora and Campylobacter testing that will provide rapid results during parasitic Cyclospora or Campylobacter foodborne outbreaks.

KEY STAKEHOLDERS

- Dairy and food farmers and growers, producers, manufacturers, distributors and retail food and dairy establishments.
- Citizens of and visitors to the State of Michigan.
- FDA and USDA FSIS
- MDARD's Food and Dairy Division and Plant and Plant Pest Management Division

LEGAL AUTHORITY:

- PA 92 of 2000, as Amended, Michigan Food Law
- PA 266 of 2000, as Amended, Grade "A" Milk Law of 2001 and the Michigan Manufacturing Milk Law of 2001



FEDERAL GRANTS and COOPERATIVE AGREEMENTS

PROGRAM MANAGER: **Ted Gatesy | 517-284-0502 | gatesyt@michigan.gov**

The FDA and USDA FSIS Food Emergency Response Network (FERN) is supported by a collaboration of federal, state and local regulatory laboratories. This program expands and improves lab capacity for surveillance and outbreak investigations of foodborne pathogen and threat agent testing. The MDARD and MDHHS microbiology laboratories have partnered to provide this capability to the State of Michigan. Through a Food and Dairy Division contract with FDA, MDARD's microbiology laboratory provides pathogen testing for environmental samples from food production facilities. The MDARD microbiology laboratory is in the first bridge year of the FDA ISO17025 grant which is provided to maintain accreditation and enhance and expand our scope of accreditation.

IMPACT FOR MICHIGAN:

Food safety and economic interests of the people of the State of Michigan are two of the top MDARD missions. Detection of pathogens in food is an important step in removal of contaminated products from commerce and eliminates sources of potential illnesses. These programs help to insure production of safe food and dairy products by Michigan manufacturers and will ensure continued sales of Michigan agricultural products within the state, across the nation and through exports. Accreditation of laboratories helps to ensure proper test methods are performed by qualified, trained personnel, producing accurate and timely results.

ACCOMPLISHMENTS:

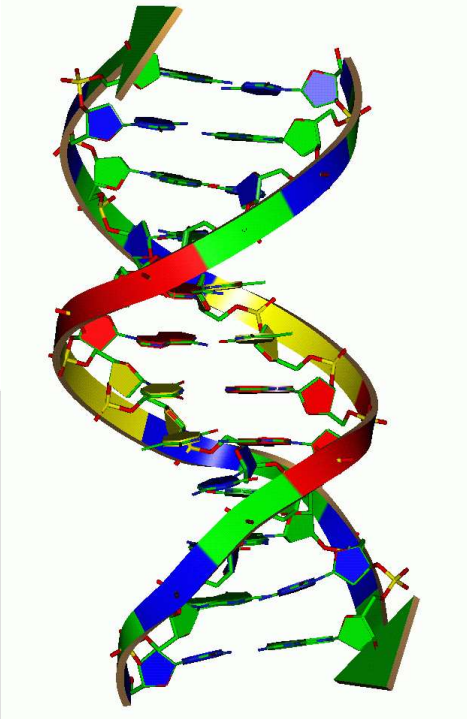
- Nearly 450 foodborne related pathogen isolates were sequenced via Whole Genome Sequencing, including those recovered from surveillance and environmental samples. This provides location specificity for outbreak investigations, helps identify sources of contaminated food, and assists in the reduction of foodborne illnesses across the State.
- Through FDA FERN surveillance samples, the microbiology section recovered *Salmonella* from multiple raw pet food samples. This provided an early means of detecting threat agents implicating both human and animal health and safety.

MEASURING SUCCESS:

Metric	FY 2017	FY 2018
FDA FERN Proficiency Test (PT) Results	100%	100%
FDA Import and Environmental samples related PT results	100%	100%
Average Turnaround Time	6 days	6 days
FDA FERN Surveillance samples/environmental samples tested	0 / 730	143 / 811

PROGRAM GOALS:

- To sequence a minimum of 400 food related isolates for the FDA Genome Trakr program through the FDA WGS grant. This provides location specificity for outbreak investigations, helps identify sources of contaminated food, and assists in the reduction of foodborne illnesses across the State.
- Maintain and enhance ISO 17025 accreditation through the new ISO 17025 grant with the addition of both Whole Genome Sequencing and Percent Fat in milk testing to Geagley Lab's scope of accreditation. This improves data defensibility and customer confidence in safeguarding public health.
- Sample and analyze 120 nut butters and tahini samples and 200 fresh spinach samples as foodborne pathogen surveillance projects for FDA FERN. This surveillance sampling provides for an early means of detecting threat agents in the American food supply.



KEY STAKEHOLDERS

- Citizens of and visitors to the State of Michigan.
- FDA and USDA FSIS
- MDARD's Food and Dairy Division

LEGAL AUTHORITY:

- PA 92 of 2000, as Amended, Michigan Food Law
- PA 266 of 2000, as Amended, Grade "A" Milk Law