



Legislative Report
October 13, 2021

Bovine Tuberculosis Eradication Program Quarterly Update
Provided by the Animal Industry Division
Michigan Department of Agriculture and Rural Development (MDARD)

Act No. 87, Public Acts of 2021, approved by the Governor September 29, 2021, EFFECTIVE DATE: September 30, 2021.

Sec. 457. (1) On or before October 15 of each year, the department shall provide the subcommittees, the fiscal agencies, and the state budget office a report on bovine TB status and department activities. (2) For each fiscal quarter following the report required in subsection (1), the department shall provide an update to the subcommittees, the fiscal agencies, and the state budget office. The quarterly update reports shall identify significant impacts to the program, including new incidents of bovine TB in this state, department activity associated with specific new incidence of bovine TB, any changes in USDA requirements or movement orders, and information and data on wildlife risk mitigation plan implementation in the Modified Accredited Zone; implementation of a movement certificate process; progress toward annual surveillance test requirements; efforts to work with slaughter facilities in this state, including those that slaughter a significant number of animals from this state; educational programs and information for this state's livestock community; and any other item the legislature should be aware of that will promote or hinder efforts to achieve bovine TB free status for this state.

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A. MDARD Bovine Tuberculosis Eradication Program Activities

Why We Do What We Do

Michigan's Bovine TB Eradication Program protects citizens from exposure to the zoonotic bovine tuberculosis (TB) organism. The Michigan Bovine TB Program was established under Public Act 466, of 1988, as amended, the Animal Industry Act, and is required by Federal Law for Michigan producers to participate in interstate commerce of animals (9CFR Part 77) and maintain a state status (9CFR Part 92). Bovine TB has economic and human health implications, and the program is of high visibility and interest to farmers, the 12,000 cattle producers and their 1.15 million cattle, hunters, and the federal government. The disease is also of high interest at the national level, and other states would close their markets to Michigan cattle, meat, and milk products if the program were reduced or eliminated. The Michigan bovine TB program works to prevent, detect, and respond to cases of bovine TB and provides access to national and international markets for Michigan producers. The 39 dairy producers located within the Modified Accredited Zone (MAZ) can sell Grade A milk because of the program we have in place and the herds in the remainder of the state (AFZ) can freely move milk because of our split-state status.

B. Special Surveillance Areas

Beginning April 1, 2020, surveillance is required in MAZ Buffer Counties: (Cheboygan, Crawford, Iosco, Ogemaw, Otsego, and Roscommon Counties)

MDARD's Memorandum of Understanding (MOU) with the Michigan Department of Natural Resources (MDNR) and the United State Department of Agriculture (USDA) signed in December 2019 and the current zoning order (effective April 1, 2020) require that 150 cattle herds be tested for TB annually for at least two years. Herds are selected for whole herd surveillance testing from the combined counties of Cheboygan, Crawford, Iosco, Ogemaw, Otsego, and Roscommon. 156 herds were tested between April 1, 2020, and March 31, 2021. One TB-positive animal was discovered in Cheboygan County during the 20-21 testing season and the affected herd was designated Herd #81. The second round of surveillance testing in these counties began on April 1, 2021, and will continue through March 31, 2022. Since April 1, 2021, 51 herds have been tested with no additional positive animals detected.

Beginning January 1, 2021, surveillance required in Presque Isle County:

MDARD's MOU with MDNR and USDA (signed in December 2019) and the current zoning order (effective April 1, 2020) requires all cattle herds, except Freezer Beef herds and approved feedlots, in Presque Isle County to meet the same requirements as those in the MAZ. This includes an annual whole herd TB test, double tagging with RFID and an approved supplemental tag, movement testing, and movement permits. All requirements are now in effect in Presque Isle County.

C. Bovine Tuberculosis Affected Herds

Infected Herd #77

A medium-sized beef herd in Alcona County was found to be infected with TB during an annual whole herd test in December 2019. Seven animals from that test went to MSU VDL in January with six of the animals having lesions consistent with bovine TB. Confirmation of infection was made by PCR at the USDA's National Veterinary Services Laboratory (NVSL) on January 13, 2020. Subsequent testing has led to a total of 44 animals in the herd found to be culture positive for *M. bovis*. The Whole Genome Sequence (WGS) of the bTB was consistent with an Alcona County bovine TB strain, indicating infection was likely due to exposure to TB-infected free-ranging deer. A test-and-removal program is ongoing, and a wildlife biosecurity plan has been implemented to protect this herd from re-infection in the future. This herd is eligible for a verification test in October 2021. If no additional infected animals are found, the herd will be released from quarantine after that test.

Infected Herd #79

A small-sized dairy herd in Montmorency County was found to be infected with TB during an annual whole herd test in July 2020. One animal from that test went to MSU VDL in June and had lesions consistent with bovine TB. Confirmation of infection was made by PCR at the USDA's National Veterinary Services Laboratory (NVSL) on July 1, 2020. This herd has been previously infected with TB. At this time, two positive animals have been found in the herd. Whole Genome Sequencing is most closely related to an elk harvested from Montmorency County in 2017. The owner of the herd has elected to no longer operate as a dairy herd and the milking animals have been moved to a federally inspected slaughter plant. No evidence of TB was seen in any of these animals. The calves and feeder cattle remaining in the herd are continuing a test-and-removal program. The wildlife protection program for this herd has been implemented. A verification test was completed in July 2021 with no positive animals found. The herd was then released from quarantine.

Infected Herd #80

A medium-sized beef herd in Alpena County, located in the Enhanced Wildlife Biosecurity (EWB) area of the MAZ, was found to be infected during a TB test performed for a movement permit on October 12, 2020. One animal from that test was sent to VDL for postmortem examination. Upon necropsy, conducted November 4, 2020, this animal had lesions consistent with bovine tuberculosis. On November 6, 2020, NVSL reported that the animal had microscopic lesions that were compatible with Mycobacteriosis and confirmed the animal as positive for bovine TB by PCR on November 10, 2020. The WGS from the infected animal shares a most recent common ancestor with a deer harvested in Alcona County in 2017. This herd is in the Enhanced Wildlife Biosecurity area (EWB), with full implementation of the enhanced biosecurity completed in June 2020. It is plausible that this herd became infected prior to full implementation of the biosecurity plan. A test-and-removal program is ongoing in this herd and the herd is eligible for a verification test in December 2021. If no additional infected animals are found, the herd will be released from quarantine after that test.

Infected Herd #81

A medium-sized beef herd in Cheboygan County was found to be infected on March 11, 2021. This herd was identified by the buffer county surveillance testing program that began last year. On October 16, 2020, one animal in the herd was a suspect on comparative cervical testing. The animal was sent to MSU VDL on March 2, 2021, for post-mortem examination. On this test, the animal was found to have lesions consistent with bovine TB. The lesions were then found to be histocompatible for bovine TB at USDA's National Veterinary Services Laboratory (NVSL) on March 8, 2021 and confirmed positive for Mycobacterium tuberculosis complex by PCR on March 11, 2021. A herd plan is in place for this herd. This is the first positive bovine TB herd found in Cheboygan County since the surveillance program began in 1998. The WGS for the infected animal was a match to free-ranging white-tailed deer harvested in Alcona County in 2017. A test-and-removal program has been completed and this herd will be eligible for a verification test in late February/early March 2022 and, if negative for bovine TB on that test, the herd will be released from quarantine. Since this herd is not in the MAZ where annual TB testing is required, this herd will have annual whole herd tests for five years after the release of quarantine. Epidemiologic trace investigations of animals sold from this herd for the past five years identified several exposed animals. Because this herd was a registered herd with important genetics, owners of the exposed animals were allowed by USDA to maintain exposed breeding animals through the breeding season under herd plans prior to removal to the lab, or to maintain the exposed animals under a test-and-removal program identical to the infected herd. No exposed animals from this herd have tested positive for bovine TB to this point.

D. Wildlife Risk Mitigation and Enhanced Wildlife Biosecurity

The Wildlife Risk Mitigation (WRM) Project began in 2008 with a goal to enroll all commercial cattle farms. Under this program, farmers implement measures that reduce the risk of cattle exposure to bovine tuberculosis (TB) from infected free-ranging white-tailed deer. The following steps help prevent disease transmission to cattle:

- Store feed behind a fence or in a building
- Feed cattle away from deer habitats
- Feed cattle daily so feed is not left over
- Provide water to cattle where it cannot be contaminated by deer
- Use Disease Control Permits from DNR to keep deer numbers down on cattle farms

Because of higher bovine TB prevalence in free-ranging white-tailed deer in the core area of the MAZ, the risk to cattle herds is greater than in other areas. Therefore, the TB Program, in conjunction with the TB Advisory Committee, developed an Enhanced Wildlife Biosecurity (EWB) Program to assist farmers with protection of their herds. Herd owners in the EWB Area work with specialized staff to evaluate their farm's specific risks and are provided a plan of action to mitigate the risk. Some risks may be addressed by changing the farm's management practices, while in other cases the pressure from wildlife necessitates an investment in physical improvements – primarily fencing. Producers in the EWB area were able to participate in a 90% State/10% Producer cost-share program to construct fences and protect feed storage facilities. Any commercial producer in the EWB area that is not verified under that program is limited to selling cattle direct to slaughter only.

Presently, 363 of the 483 active commercial farms (75%) in the present TB surveillance zone (MAZ and Presque Isle County) have a verified WRM or EWB plan in place.

New Cost-Share Projects Underway

Funding from the FY 2021 budget was moved into the cost-share program to continue to enhance the protection programs. The cost-share program is a 90% State/10% Producer payment to provide infrastructure needed on farms to protect them from TB in deer, such as fencing of feed storage areas. A Working Group of the TB Advisory Committee has recommended that this funding be prioritized to be used on high-risk farms in Presque Isle County. Nine herds in Presque Isle County have been evaluated during this reporting period. Four herds have declined participation, four herds are in the process of project design, and one herd is undecided. Seven herds in the MAZ have been evaluated and wish to participate in the program.

TB Advisory Committee WRM Working Group

The TB Advisory Committee created a Working Group to review and make additional recommendations on the herd protection programs in place to protect cattle herds from TB in wild deer. The Working Group discussed the EWB, and Targeted Deer Removal Programs present in the higher risk area of the MAZ, and the WRM program that is in place in the lower risk areas of the MAZ and in Presque Isle County. This group met multiple times from March through June 2021. Recommendations from the group include: the need to develop a higher level of consistency in implementing programs on and between farms and that protecting herds from TB in deer needs to be a high priority for MDARD and receive significant support in the overall TB program through dedicated resources and priority.

E. Movement Permits

Under the new Zoning Order, effective April 1, 2020, all movements of cattle from herds in the MAZ counties (Alcona, Alpena, Montmorency, and Oscoda) and from herds in the Accredited Free Zone (AFZ) County of Presque Isle require a movement permit. Below is the movement permitting data for these counties.

	Number of Movement Permits	Number of Animals Moved
MAZ (Alcona, Alpena, Montmorency, and Oscoda Counties) Permits issued July 1, 2021 – September 30, 2021	334	1196
TB Free Surveillance Zone (Presque Isle County) Permits issued July 1, 2021 – September 30, 2021	19	44

F. Communications/Outreach

Goals:

- To ensure that cattle producers, hunters, and Michigan's citizens have a high level of trust and understanding of the TB program in Michigan and are able to support our efforts.
- To consistently provide information to cattle producers, hunters, and community members about bovine tuberculosis program activities and initiatives.

MDARD has been working to keep the informational resources for producers and the public about the details of the bovine tuberculosis (TB) program accurate and up to date. Informational publications are routinely updated and distributed through mailings and at livestock markets. Also, MDARD is working together with the MDNR to finalize a fall issue of the *Herd and Hunter* newsletter. The content of the upcoming newsletter will not only provide its usual updates but also present the same type of information that would have ordinarily been discussed during a public meeting.

Beyond these efforts, MDARD and MDNR are working collaboratively to broaden, strengthen, and implement their communication efforts for the 2021 deer surveillance season. Agency staff and external stakeholders continue to partner together in a workgroup to further refine and plan communication objectives, strategies, and messages, which will help to meet the white-tailed deer surveillance goals this year. As an example of this additional messaging, MDARD and MDNR have partnered to develop a one-pager that will be distributed by MDARD field staff and help them to better answer producers' key questions about bovine TB surveillance in free-ranging deer and the submission of deer heads for testing.

MDARD and MDNR have also developed check stuffers to be distributed during the various feeder sales at the northern Michigan livestock markets and wrote an article for The Michigan Cattleman's magazine, which both encourage successful hunters to submit their deer heads for TB surveillance testing. The agencies are continuing to work together to plan additional articles and other methods of outreach - such as podcast episodes.

Additional strategies to meet deer surveillance goals includes MDNR's expansion of a program that began in 2020 to obtain additional samples for TB testing from deer processors and maintaining deer check stations at 2019 levels for the 2021 hunting season as well as adding unmanned deer head drop stations.

G. Michigan's Bovine TB Memorandum of Understanding and Zoning Order

A Memorandum of Understanding (MOU) between the Michigan Department of Agriculture and Rural Development (MDARD), the Michigan Department of Natural Resources (MDNR), and the United States Department of Agriculture (USDA) was signed on December 16, 2019. This MOU required MDARD to issue a Zoning Order, which became effective April 1, 2020, and can be found at: www.michigan.gov/emergingdiseases in the livestock information section under bovine TB. The current MOU would have expired in December 2021; however, USDA has granted an extension of this MOU until April 15, 2022. This extension allows for evaluation of the 2021 deer surveillance data and 2021/22 buffer surveillance testing data. Discussions with USDA for the next MOU are ongoing.

H. COVID-19 Impacts on Michigan's TB Program

Throughout the pandemic, MDARD field staff have been able to continue with TB testing while following precautions to limit the spread of COVID-19. MDARD office staff continue to work remotely until at least November 1, 2021. Despite the COVID-19 restrictions, MDARD staff have continued to meet the additional surveillance requirement goals outlined in the December 2019 MOU and maintain compliance with all other requirements of the MOU.