

National Bovine Brucellosis and Tuberculosis Updates

Q1 (October-December 2020) Monthly Report

Fiscal Year 2021

U.S. Department of Agriculture

Animal and Plant Health Inspection Service

Veterinary Services

Strategy and Policy, Ruminant Health Center

Cattle Health Center

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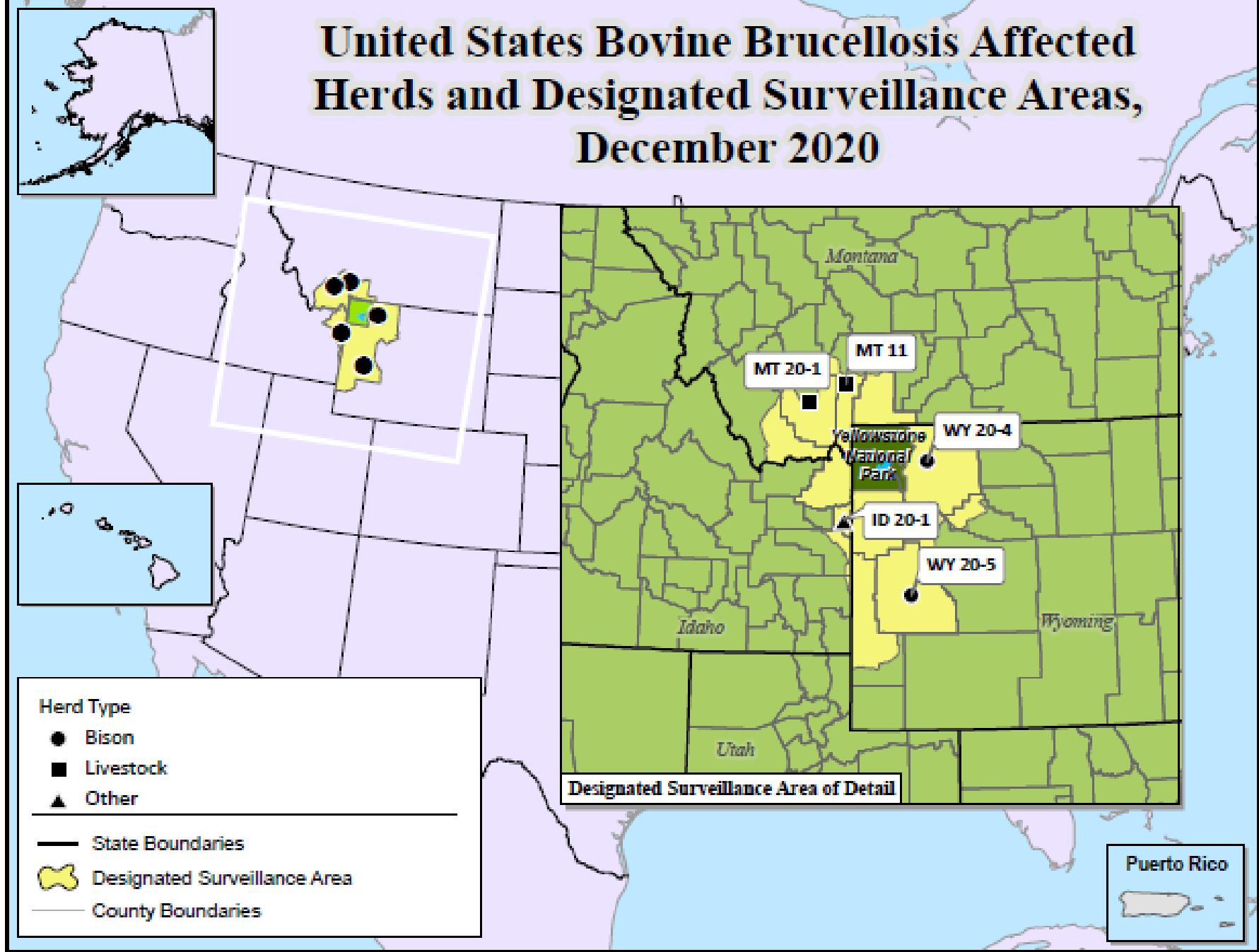
Brucellosis (*B abortus*)
Q1 (Oct-Dec 2020) updates

Brucellosis affected herds under quarantine in Q1 (Oct-Dec 2020)

Herd ₁	Date Detected	Method of Detection	Herd Type ₂	Herd Management Status	Next Test Tentative Start Date
WY 20-5	September 2020	Diagnostic Testing	Bison	Test-and-Remove	December 2020
ID 20-1	January 2020	DSA Surveillance Testing	Elk/Beef	Test-and-Remove	December 2020
WY 20-4	January 2020	DSA Surveillance Testing	Bison	Test-and-Remove	TBD
MT 20-1	December 2019	DSA Surveillance Testing	Livestock	Test-and-Remove	Fall 2021
MT 11	November 2010	DSA Surveillance Testing	Livestock	Test-and-Remove	October 2020

1. Herds are named with the last 2 digits of the fiscal year and in order of occurrence within a state.
2. Current Montana state statute prevents public disclosure of herd type.

United States Bovine Brucellosis Affected Herds and Designated Surveillance Areas, December 2020

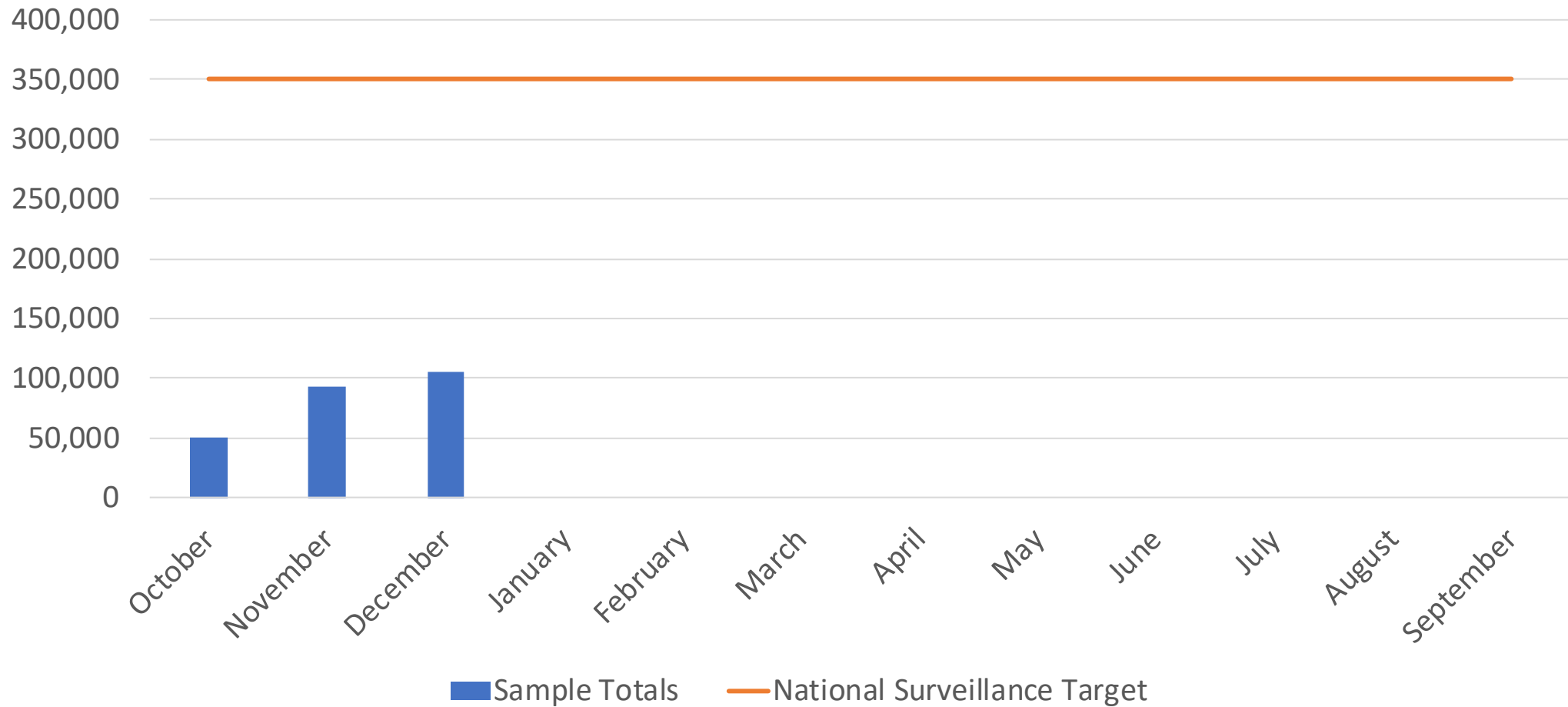


Affected herds are mapped to the center of their county.

Q1 (Oct-Dec 2020) Brucellosis Updates

- MT 20-1
 - Completed a negative whole herd test in October.
- MT 11
 - Completed the majority of its annual testing in November and December 2020, revealing a reactor and some suspects.
- ID 20-1
 - Completed a whole herd test with 1 reactor bull and 1 suspect cow.
- WY 20-5
 - NVSL confirmed *B. abortus* in a reactor bull detected in the October whole herd test.
 - Completed a negative whole herd test in December.
- WY 20-4
 - Completed its 3rd and final whole herd test with all negative results. Anticipate quarantine release in January 2021.

FY2021 Cumulative National Brucellosis Slaughter Surveillance Samples



- The orange line represents our annual 350,000 surveillance sample target to detect disease with 95% confidence at a 0.001 percent or higher prevalence.
- One plant stopped sampling due to COVID restrictions in December.

Tuberculosis (*M. bovis*)

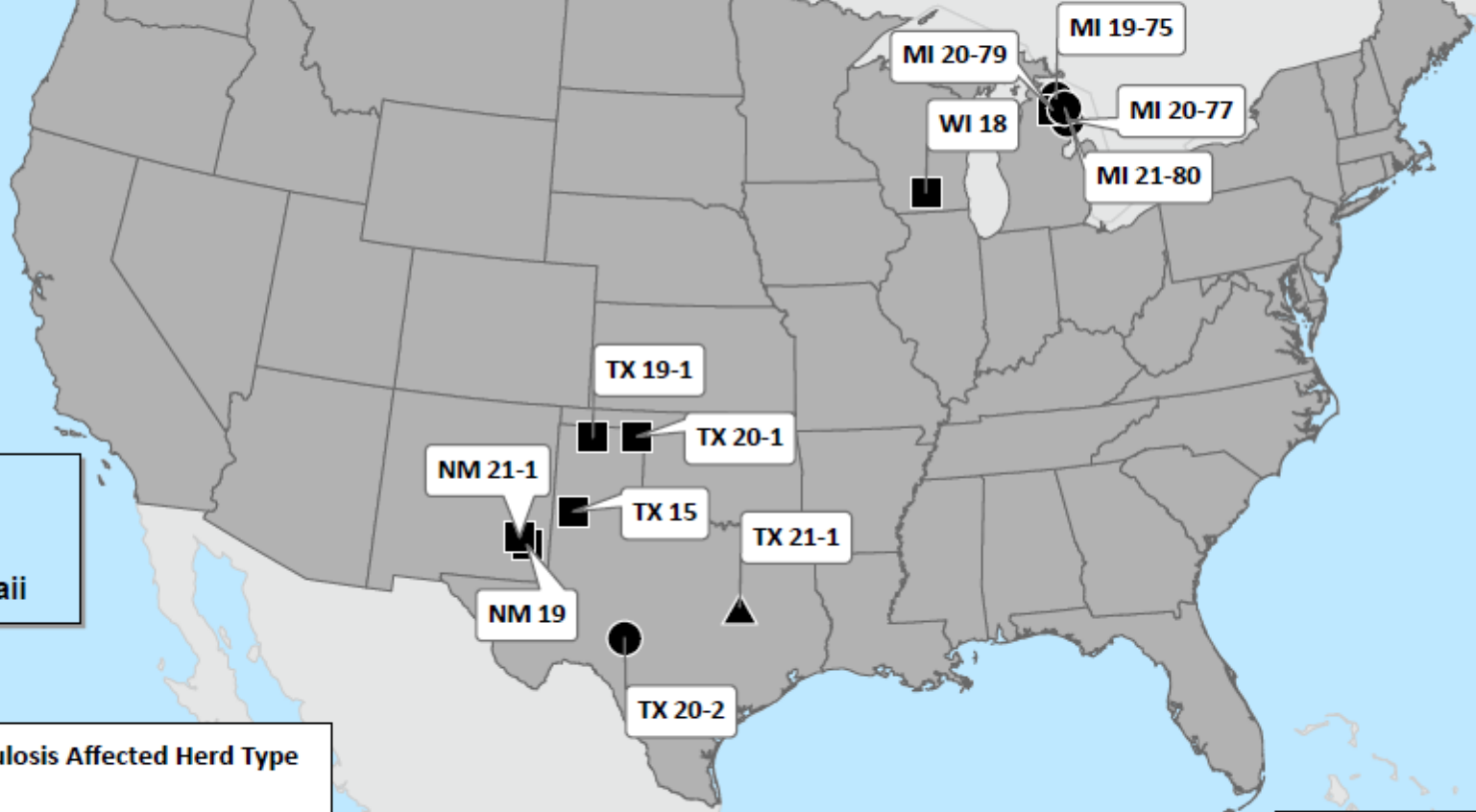
Q1 (Oct-Dec 2020) updates

United States Bovine Tuberculosis Affected Herds, December 2020



Bovine Tuberculosis Affected Herd Type

- Beef
- Dairy
- ▲ Other



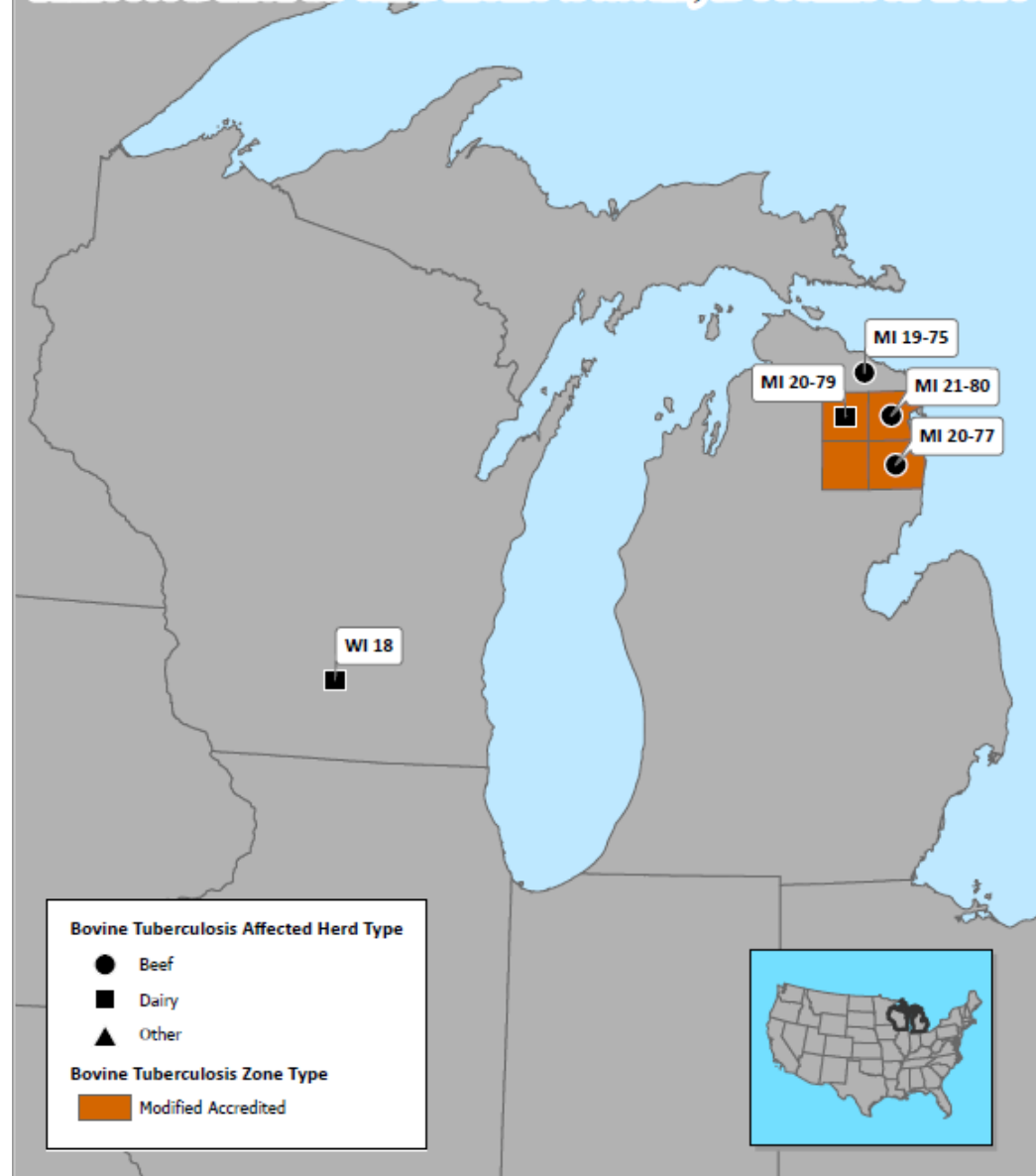
Affected herds are mapped to the center of their county.

TB affected herds under quarantine in Q1 (Oct-Dec 2020), MI, WI

Location ¹	Date Detected	Method of Detection	Herd Type	Herd Management Status	Next Test Tentative Start Date
MI 21-80	November 2020	Movement Test	Beef	Test-and-Remove Phase	February 2021
MI 20-79	July 2020	Area Surveillance	Dairy	Test-and-Remove Phase	January 2021
MI 20-77	January 2020	Area Surveillance	Beef	Test-and-Remove Phase	February 2021
MI 19-75	April 2019	Area Surveillance	Beef	Depopulated	NA
WI 18	October 2018	Slaughter Trace	Dairy	Test-and-Remove Phase	January 2021

1. Herds are named with the last 2 digits of the fiscal year and in order of occurrence within a state during that fiscal year, with Michigan's numbers being cumulative across years.

Michigan and Wisconsin Bovine Tuberculosis Affected Herds and Zone Status, December 2020



Affected herds are mapped to the center of their county.

Q1 (Oct-Dec 2020) TB Updates (MI, WI)

- MI 21-80

- Identified from a single CCT reactor on movement testing in October that was PCR positive.
- Initial Assessment test in December yielded 1 animal for indemnity; removal and results pending.

- MI 20-79

- Whole genome sequencing (WGS) from 1 animal identified in 1st removal test was related to a 2017 strain in elk from the same county.
- Completed a negative whole herd test in October.

- MI 20-77

- Culture and WGS from the 3rd herd removal test are pending.
- NVSL cultured *M. bovis* in November from samples in cattle removed during the depopulation of the breeding herd.
- 4th removal test yielded 2 animals for indemnity; removal and results pending.

- WI 18

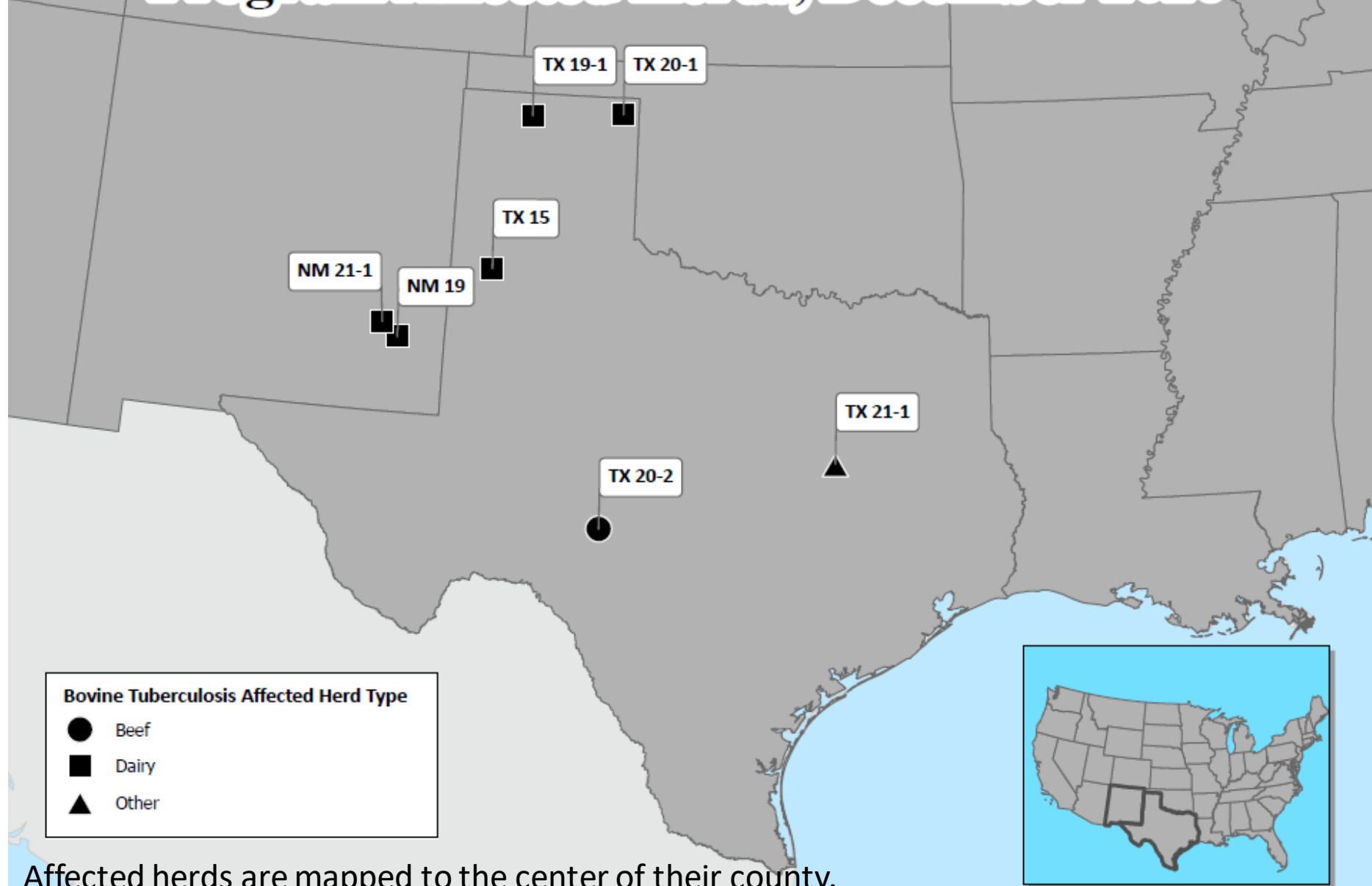
- No histocompatible animals identified from the October removal test and cultures were negative.

TB affected herds under quarantine in Q1 (Oct-Dec 2020), TX, NM

Location ₁	Date Detected	Method of Detection	Herd Type	Herd Management Status	Next Test Tentative Start Date
NM 21-1	October 2020	Assurance Test	Dairy	TBD	TBD
TX 21-1	October 2020	Slaughter Trace	Exhibition	Hold order with testing	TBD
TX 20-2	September 2020	Slaughter Trace	Beef	TBD	TBD
TX 20-1	January 2020	Slaughter Trace	Dairy	Test-and-Remove - Assurance Phase	December 2021
NM 19	May 2019	Slaughter Trace	Dairy	Test-and-Remove Phase	February 2021
TX 19-2	February 2019	Epi Investigation	Calf Raiser	Quarantine removed in October	NA
TX 19-1	February 2019	Epi Investigation	Dairy	Test-and-Remove Phase	January 2021
TX 15	June 2015	Slaughter Trace	Dairy	Test-and-Remove - Assurance Phase	November 2021

1. Herds are named with the last 2 digits of the fiscal year and in order of occurrence within a state during that fiscal year, with Michigan's numbers being cumulative across years.

New Mexico and Texas Bovine Tuberculosis Program Affected Herds, December 2020



Affected herds are mapped to the center of their county.

Q1 (Oct-Dec 2020) TB Updates (TX, NM)

- TX 21-1

- Identified in October through tracing activities from 2 positive slaughter granulomas. Herd of exhibition animals is under hold order and herd management plan for exposed animals is in development. Epidemiologic investigation is ongoing.
- Follow-up test in December yielded two CFT responders; necropsies pending.

- TX 20-1

- 2nd herd test completed in October without any histocompatible lesions and cultures are pending. Testing of epidemiologically linked Oklahoma herd is complete with culture results pending.
- Quarantines were released in December for this herd and an epidemiologically linked Oklahoma herd after follow up testing was completed without any evidence of TB.

- TX 19-2

- No evidence of TB on final test of exposed animals; hold order removed in October.

Q1 (Oct-Dec 2020) TB Updates continued (TX, NM)

- TX 19-1
 - 1 histocompatible animal was identified during the 4th removal test in October; cultures pending.
 - Quarantine release for exposed animals in an epidemiologically linked Colorado herd is pending retest of one CCT suspect animal.
- TX 15
 - Quarantine was released in December after the verification test was completed without any evidence of TB.
- NM 21-1
 - First Assurance test revealed 1 TB-infected animal and the herd was quarantined in October.
 - WGS results in November revealed the current strain's genotype differs from the previous outbreak strain. Herd management plan is pending.
- NM 19
 - Culture results are pending from the 5th removal test in October; one non-histocompatible animal was culture positive with WGS similar to the herd strain.
 - One animal from the 6th removal test completed in November had histocompatible lesions; additional results are pending.

Bovine TB cases found through routine slaughter FY2021 Q1 (Oct-Dec)

Slaughter Type	Month/Date	Slaughter Plant State	Slaughter Origin State	Outcome/current status

No bovine TB cases found through routine slaughter from Oct – Dec 2020

Tuberculosis (*M. bovis*)

Terms and Definitions

Designation of Herds as “Quarantined”

- Affected herds are considered “quarantined” due to a formal quarantine order of the entire herd or informal hold order for subgroups of exposed animals.
- Herds under quarantine due to tracing investigations are generally excluded from this report due to the temporary nature of their restrictions.
- Quarantined herds are removed from this report once the quarantine or hold order is removed, typically after verification testing.

Methods of Detection of TB-Affected Herds

- **Area surveillance:** Surveillance in a defined area such as counties in or bordering the modified accredited zone in Michigan.
- **Assurance test:** Herds identified during the assurance testing phase of a test and remove herd plan.
- **Epi investigation:** Herds identified as part of epidemiologic investigations associated with TB-affected animals or TB-affected herds.
- **Movement test:** Herds identified through testing of animals for routine movements, e.g., export and interstate commerce.
- **Slaughter trace:** Herds identified as the source of animals with suspicious lesions during routine slaughter surveillance. Also called “6-35 traces”

Definitions and Acronyms

- **6-35 Trace:** Tracing of the source of a suspected or confirmed case of TB that was identified during slaughter surveillance and reported on a VS 6-35 form; known otherwise as a “slaughter trace.”
- ***M. bovis*:** *Mycobacterium bovis*, known as bovine or zoonotic tuberculosis
- **NGL:** No gross lesions on postmortem examination
- **NVSL:** National Veterinary Services Laboratories
- **PCR:** Polymerase Chain Reaction; A molecular biology method of assessing for presence of segments of generic material, i.e., DNA and RNA
- **WGS:** Whole Genome Sequencing of TB bacterial DNA; used to assess relatedness among TB bacterial strains