National Bovine Brucellosis and Tuberculosis Updates

Q1 (October- December 2022) Report
Fiscal Year 2023

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*)

FY23 Q1 (Oct.- Dec. 2022) Updates
Affected herds are mapped to the center of their county.
### Brucellosis Affected Herds Under Quarantine in Q1 (Oct.-Dec. 2022)

<table>
<thead>
<tr>
<th>Herd</th>
<th>Date Detected</th>
<th>Method of Detection</th>
<th>Herd Type</th>
<th>Herd Management Status</th>
<th>Next Test Tentative Start Date</th>
</tr>
</thead>
<tbody>
<tr>
<td>MT 10</td>
<td>November 2010</td>
<td>DSA Surveillance Testing</td>
<td>Livestock</td>
<td>Test and Remove</td>
<td>Fall 2023</td>
</tr>
<tr>
<td>MT 19</td>
<td>December 2019</td>
<td>DSA Surveillance Testing</td>
<td>Livestock</td>
<td>Test and Remove</td>
<td>Fall 2023</td>
</tr>
<tr>
<td>ID 20A</td>
<td>January 2020</td>
<td>DSA Surveillance Testing</td>
<td>Elk/Beef</td>
<td>Test and Remove</td>
<td>January 2023</td>
</tr>
<tr>
<td>MT 21A</td>
<td>November 2021</td>
<td>DSA Surveillance Testing</td>
<td>Livestock</td>
<td>Test and Remove</td>
<td>Assurance Test Winter 2023</td>
</tr>
<tr>
<td>MT 22A</td>
<td>January 2022</td>
<td>DSA Surveillance Testing</td>
<td>Livestock</td>
<td>Test and Remove</td>
<td>Assurance Test Winter 2023</td>
</tr>
</tbody>
</table>

1. Herds are named with the last 2 digits of the calendar year and in order of occurrence within a state during that year.
2. Current Montana state statute prevents public disclosure of herd type.
Brucellosis Affected Herd Updates

• Montana 19 → Identified on DSA Surveillance Testing
  • Culture positive identified during Fall 2021 WHT
  • WHT planned for Fall 2023

• ID 20A → Identified on DSA Surveillance Testing
  • WHT planned for January 2023
Brucellosis Affected Herd Updates

• Montana 21A → Livestock herd identified on routine herd testing.
  • Identified November 2021
  • Test and remove management plan
  • All adjacent/contact herds have tested negative
  • Post-calving testing completed
  • Assurance test winter (early) 2023

• Montana 22A → Livestock herd identified on routine herd testing.
  • Identified January 2022
  • Test and remove management plan
  • All adjacent/contact herds have tested negative
  • Final WHT completed March 2022
  • Quarantine released April 2022
  • No suspects on assurance testing conducted Fall 2022
  • Assurance test winter (early) 2023
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.
Tuberculosis (*M. bovis*)

FY23 Q1 (Oct.- Dec. 2022) Updates
Affected herds are mapped to the center of their county.
<table>
<thead>
<tr>
<th>Location</th>
<th>Date Detected</th>
<th>Method of Detection</th>
<th>Herd Type</th>
<th>Herd Management Status</th>
<th>Next Test Tentative Start Date</th>
</tr>
</thead>
<tbody>
<tr>
<td>HI 22A</td>
<td>January 2022</td>
<td>Epi Investigation</td>
<td>Beef</td>
<td>Depopulation Completed</td>
<td>N/A</td>
</tr>
</tbody>
</table>

1. Herds are named with the last 2 digits of the calendar year and in order of occurrence within a state during that year, with Michigan’s numbers being cumulative across years.
Tuberculosis Affected Herd Updates FY 23 Q1- Hawaii

- HI 22A ➔ Identified from epidemiologic investigation
  - Test-and-Remove Model completed
  - Depopulation completed Dec. 2022
Affected herds are mapped to the center of their county.
# TB Affected Herd Updates FY23 Q1 (Oct.-Dec. 2022)

<table>
<thead>
<tr>
<th>Location¹</th>
<th>Date Detected</th>
<th>Method of Detection</th>
<th>Herd Type</th>
<th>Herd Management Status</th>
<th>Next Test Tentative Start Date</th>
</tr>
</thead>
<tbody>
<tr>
<td>MI 22-82</td>
<td>January 2022</td>
<td>Surveillance</td>
<td>Dairy</td>
<td>Test and Remove Phase</td>
<td>Verification Test Jan. 2023</td>
</tr>
</tbody>
</table>

1. Herds are named with the last 2 digits of the calendar year and in order of occurrence within a state during that year, with Michigan’s numbers being cumulative across years.
Tuberculosis Affected Herd Updates FY 23 Q1- Michigan

- MI 22-82 → Identified on annual Modified Accredited Zone (MAZ) surveillance
  - 1\textsuperscript{st} removal test completed with one cow NGL
  - 2\textsuperscript{nd} removal test completed May 2022
  - 3\textsuperscript{rd} removal test completed July 2022
  - Verification test planned for January 2023
Affected herds are mapped to the center of their county.
### TB Affected Herd Updates FY23 Q1 (Oct.-Dec.2022)- TX, NM

<table>
<thead>
<tr>
<th>Location</th>
<th>Date Detected</th>
<th>Method of Detection</th>
<th>Herd Type</th>
<th>Herd Management Status</th>
<th>Next Test Tentative Start Date</th>
</tr>
</thead>
<tbody>
<tr>
<td>TX 19A</td>
<td>February 2019</td>
<td>Epi Investigation</td>
<td>Dairy</td>
<td>Test and Remove Phase</td>
<td>Pending</td>
</tr>
<tr>
<td>NM 19</td>
<td>May 2019</td>
<td>Slaughter Trace</td>
<td>Dairy</td>
<td>Test and Remove Phase</td>
<td>Pending</td>
</tr>
<tr>
<td>TX 20B</td>
<td>Sept. 2020</td>
<td>Slaughter Trace</td>
<td>Beef</td>
<td>Test and Remove Phase</td>
<td>Assurance Test July 2023</td>
</tr>
<tr>
<td>NM 20A</td>
<td>October 2020</td>
<td>Assurance Test</td>
<td>Dairy</td>
<td>Test and Remove Phase</td>
<td>Assurance Test August 2023</td>
</tr>
<tr>
<td>NM 22B</td>
<td>July 2022</td>
<td></td>
<td>Dairy</td>
<td>Test and Remove Phase</td>
<td>March 2023</td>
</tr>
<tr>
<td>TX 22A</td>
<td>July 2022</td>
<td></td>
<td>Dairy</td>
<td>Test and Remove Phase</td>
<td>March 2023</td>
</tr>
</tbody>
</table>

1. Herds are named with the last 2 digits of the calendar year and in order of occurrence within a state during that year.
Tuberculosis Affected Herd Updates FY 23 Q1- TX, NM

- TX 19A → Removal test (9th) completed July 2022
  - Next removal test pending IFG results

- NM 19 → Removal test (14th) conducted October 2022
  - 1 positive (+culture) cow identified on Oct. 2021 herd test
  - Next removal test pending IFG results

- TX 20B → Herd test completed in June 2022 with no suspects
  - Q released July 2022
  - Assurance test scheduled for July 2023

- NM 20A → Culture from verification test negative; quarantine released August 2022
  - 5th removal test completed Oct. 2021 with all negative
  - Assurance test scheduled for August 2023
Tuberculosis Affected Herd Updates (TX,NM)

- **NM 22B** ➔ still conducting WHTs of herds within complex
  - Confirmed July 2022
  - Test-and-Remove Model completed by CEAH
  - Next removal test (3rd) March 2023

- **TX 22A** ➔ Still conducting WHTs of herds within complex
  - Confirmed July 2022
  - Test-and-Remove Model completed by CEAH
  - Epidemiologically linked to NM 22B
  - Next removal test (2nd) March 2023
**Bovine TB Cases Identified through Routine Slaughter FY23 Q1 (Oct.-Dec.2022)**

<table>
<thead>
<tr>
<th>Slaughter Type</th>
<th>Month confirmed</th>
<th>Slaughter Plant State</th>
<th>Slaughter Origin State</th>
<th>Outcome/current status</th>
</tr>
</thead>
<tbody>
<tr>
<td>Beef</td>
<td>December 2022</td>
<td>MI</td>
<td>MI</td>
<td>Assessment Testing</td>
</tr>
</tbody>
</table>
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.”

• DSA: Designated Surveillance Area

• IFG: Interferon gamma

• 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
Definitions and Acronyms

- **WHT**: Whole herd test
- **Q Released**: Quarantine released
Questions?

• Please contact the Cattle Health Center at: vs.sp.chc.all@usda.gov