National Bovine Brucellosis and Tuberculosis Updates

Q2 (January- March 2023) 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 Q2 (Jan.-March 2023) Updates
Affected herds are mapped to the center of their county.
Brucellosis Affected Herds Under Quarantine in Q2 (Jan.-March 2023)

<table>
<thead>
<tr>
<th>Herd¹</th>
<th>Date Detected</th>
<th>Method of Detection</th>
<th>Herd Type²</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>Spring 2025</td>
</tr>
<tr>
<td>WY 22A</td>
<td>December 2022</td>
<td>DSA Surveillance Testing</td>
<td>Beef</td>
<td>Test and Remove</td>
<td>Fall 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 Herds Under Quarantine Updates

- **Montana 10** → Identified on DSA Surveillance Testing
  - WHT completed winter 2023
  - Assurance testing planned for Fall 2023
- **Montana 19** → Identified on DSA Surveillance Testing
  - Culture positive identified during Fall 2021 WHT
  - WHT completed winter 2023
  - Assurance testing planned for Fall 2023
- **ID 20A** → Identified on DSA Surveillance Testing
  - WHT planned for January 2023
- **WY 22A** → Identified on DSA Surveillance Testing
  - First WHT in December revealed a suspect heifer which was removed
  - Second WHT was negative
  - Next WHT is planned for Fall 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 Q2 (Jan.-March 2023) Updates
Affected herds are mapped to the center of their county.
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</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>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>
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1. Herds are named with the last 2 digits of the calendar year and in order of occurrence within a state during that year.
Tb Affected Herd Updates for Herds Under Quarantine Q2 (Jan.- March 2023)

• 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
Tb Affected Herds Under Quarantine Q2 (Jan.-March 2023)

- NM 22B → still conducting WHTs of herds within complex
  - Confirmed July 2022
  - Test-and-Remove Model completed by CEAH
  - 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
  - Removal test (3rd) March 2023
Slaughter Type | Month confirmed | Slaughter Plant State | Slaughter Origin State | Outcome/current status
--- | --- | --- | --- | ---
Beef | December 2022 | MI | MI | Confirmed/ Undergoing Herd Testing
Beef | February 2023 | NE | CAN | CAN Officials conducting investigation
Tuberculosis (\textit{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.
TB Test-and-Removal Protocol – VS Memo 552.47

• Consist of 3 stages:
  1) Removal Testing
  2) Verification Testing
  3) Assurance Testing

• To release a herd from quarantine:
  • Two consecutive removal tests must be completed without evidence of M.bovis infection.
  • 2nd removal test must achieve a 95% or greater confidence level the herd is TB-free.
  • Verification test must be conducted and achieve a confidence level of 95% or greater that the herd is TB-free.
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