National Bovine Brucellosis and Tuberculosis Updates

Q2 (January-March 2022) Report
Fiscal Year 2022

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*)

FY22 Q2 (Jan.-March 2022) updates
<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>November 2022</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 2022</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>November 2022</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>Post-Calving June 2022</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 June &amp; Fall 2022</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.
Affected herds are mapped to the center of their county.
Brucellosis Affected Herd Updates

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

• ID 20A → Identified on DSA Surveillance Testing
  • Last WHT negative
  • Next WHT late November 2022
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
  • 2nd WHT completed Feb. 2022
  • Post-calving test planned for June 2022

• 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
  • Assurance testing planned for June 2022 and Fall 2022
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*)

FY22 Q2 (Jan.-March 2022) updates
United States Bovine Tuberculosis Affected Herds, March 2022

Affected herds are mapped to the center of their county.
### TB Affected Herd Updates FY 22 Q2 (Jan.-March 2022)

<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>MT 21A</td>
<td>October 2021</td>
<td>Slaughter Trace</td>
<td>Beef</td>
<td>Depopulation</td>
<td>N/A- Depop. completed</td>
</tr>
<tr>
<td>SD 21A</td>
<td>March 2021</td>
<td>Slaughter Trace</td>
<td>Beef</td>
<td>Test-and-Remove Phase</td>
<td>Assurance Test Jan 2023 Q released</td>
</tr>
<tr>
<td>MI 21-81</td>
<td>March 2021</td>
<td>Area Surveillance</td>
<td>Beef</td>
<td>Test-and-Remove Phase</td>
<td>Verification Test Completed Q released</td>
</tr>
<tr>
<td>MI 21-80</td>
<td>November 2020</td>
<td>Movement Test</td>
<td>Beef</td>
<td>Test-and-Remove Phase</td>
<td>Verification Test Completed</td>
</tr>
<tr>
<td>MI 20-77</td>
<td>January 2020</td>
<td>Area Surveillance</td>
<td>Beef</td>
<td>Test-and-Remove Phase</td>
<td>Verification Test Completed</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, with Michigan’s numbers being cumulative across years.
# TB Affected Herd Updates FY22 Q2 (Jan.-March 2022)

<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 21A</td>
<td>July 2021</td>
<td>Movement Test</td>
<td>Beef</td>
<td>Depopulation Completed</td>
<td>N/A</td>
</tr>
<tr>
<td>HI 21B</td>
<td>August 2021</td>
<td>Epi Investigation</td>
<td>Beef</td>
<td>Depopulation Completed</td>
<td>N/A</td>
</tr>
<tr>
<td>HI 21C</td>
<td>November 2021</td>
<td>Slaughter Trace</td>
<td>Mixed*²</td>
<td>Depopulation Completed</td>
<td>N/A</td>
</tr>
<tr>
<td>HI 21D</td>
<td>December 2021</td>
<td>Movement Test</td>
<td>Beef</td>
<td>Depopulation in Progress</td>
<td>N/A</td>
</tr>
<tr>
<td>HI 22A</td>
<td>January 2022</td>
<td>Epi Investigation</td>
<td>Beef</td>
<td>Pending</td>
<td>Awaiting Herd Plan Decision</td>
</tr>
</tbody>
</table>

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2. *Mixed species include; beef, sheep, and swine
### TB Affected Herd Updates FY22 Q2 (Jan.-March 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>2&lt;sup&gt;nd&lt;/sup&gt; WHT May 2022</td>
</tr>
<tr>
<td>HI 22B</td>
<td>March 2022</td>
<td>Epi Investigation</td>
<td>Beef</td>
<td>Depopulation</td>
<td>Depopulation in progress</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.
Michigan, and South Dakota Bovine Tuberculosis Affected Herds and Zone Status, March 2022

Bovine Tuberculosis Affected Herd Type
- Black: Beef
- Orange: Dairy
- Orange Triangle: Other

Bovine Tuberculosis Zone Type
- Brown: Modified Accredited
Tuberculosis Affected Herd Updates (HI, MI)

- HI 21C ➔ Identified from an infected pig on the premises at slaughter
  - Cattle classified as exposed and depopulated
  - Whole genome sequence related to the feral swine strain on the island.
  - Trace swine approved for indemnity and in progress of being depopulated

- HI 21D ➔ Identified from Whole Herd Testing
  - Cattle herd adjacent to HI 21C
  - Depopulation approved and in progress
Tuberculosis Affected Herd Updates (HI, MI)

- **HI 22A** → Identified from epidemiologic investigation
  - Owners would prefer depopulation
  - Test-and-Remove Model completed by CEAH
  - Herd Management Plan TBD

- **MI 22-82** → Identified on annual MAZ surveillance
  - 1\textsuperscript{st} removal test completed with one cow NGL
  - 2\textsuperscript{nd} removal test planned for May 2022

- **HI 22B** → Identified from epidemiologic investigation
  - Depopulation approved and in progress
## TB affected herds under quarantine in FY22 Q2 (Jan.-March 2022) TX, NM

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<tr>
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<th>Next Test Tentative Start Date</th>
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</thead>
<tbody>
<tr>
<td>NM 20A</td>
<td>October 2020</td>
<td>Assurance Test</td>
<td>Dairy</td>
<td>Test-and-Remove Phase</td>
<td>May 2022</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>June 2022</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>May 2022</td>
</tr>
<tr>
<td>TX 19A</td>
<td>February 2019</td>
<td>Epi Investigation</td>
<td>Dairy</td>
<td>Test-and-Remove Phase</td>
<td>July 2022</td>
</tr>
</tbody>
</table>

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Tuberculosis Affected Herd Updates (TX,NM)

- **NM 20A**: Verification test scheduled for May 2022
  - 5\textsuperscript{th} removal test completed Oct. 2021 with all negative

- **TX 20B**: Next herd test June 2022; Q release if herd plan met

- **NM 19**: Removal test (12\textsuperscript{th}) scheduled for May 2022
  - 1 positive (+culture) cow identified on Oct. 2021 herd test

- **TX 19A**: 8\textsuperscript{th} WHT completed; NGL
  - Next test planned July 2022
Affected herds are mapped to the center of their county.
Bovine TB Cases Identified through Routine Slaughter FY2022 Q2 (Jan.-March 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>Adult Cull</td>
<td>Oct. 2021</td>
<td>MN</td>
<td>MT</td>
<td>Depopulation Completed</td>
</tr>
<tr>
<td>Swine** Cull</td>
<td>November 2021</td>
<td>HI</td>
<td>HI</td>
<td>Depopulation in Process (HI 21C)</td>
</tr>
</tbody>
</table>

**Cattle commingling with swine were also PCR positive
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.
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
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