National Bovine Brucellosis and Tuberculosis Updates

Q2 (January-March 2021) 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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Q2 (Jan-Mar 2021) updates
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<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>WY 20-5</td>
<td>September 2020</td>
<td>Diagnostic Testing</td>
<td>Bison</td>
<td>Test-and-Remove</td>
<td>October 2021</td>
</tr>
<tr>
<td>ID 20-1</td>
<td>January 2020</td>
<td>DSA Surveillance Testing</td>
<td>Elk/Beef</td>
<td>Test-and-Remove</td>
<td>Fall 2021</td>
</tr>
<tr>
<td>MT 20-1</td>
<td>December 2019</td>
<td>DSA Surveillance Testing</td>
<td>Livestock</td>
<td>Test-and-Remove</td>
<td>Fall 2021</td>
</tr>
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<td>MT 11</td>
<td>November 2010</td>
<td>DSA Surveillance Testing</td>
<td>Livestock</td>
<td>Test-and-Remove</td>
<td>Fall 2021</td>
</tr>
</tbody>
</table>
Affected herds are mapped to the center of their county.
Q2 (Jan-Mar 2021) Brucellosis Updates

• **WY 20-4**
  • Quarantine was released in January 2021 following its third and final negative whole herd test.
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 and resumed sampling in February.
Tuberculosis (*M. bovis*)
Q2 (Jan-Mar 2021) 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>SD 21-1</td>
<td>March 2021</td>
<td>Slaughter Trace</td>
<td>Beef</td>
<td>Depopulation</td>
<td>TBD</td>
</tr>
<tr>
<td>MI 21-81</td>
<td>March 2021</td>
<td>Area Surveillance</td>
<td>Beef</td>
<td>TBD</td>
<td>TBD</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>April 2021</td>
</tr>
<tr>
<td>MI 20-79</td>
<td>July 2020</td>
<td>Area Surveillance</td>
<td>Dairy</td>
<td>Test-and-Remove Phase</td>
<td>July 2021</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>April 2021</td>
</tr>
<tr>
<td>MI 19-75</td>
<td>April 2019</td>
<td>Area Surveillance</td>
<td>Beef</td>
<td>Depopulated</td>
<td>NA</td>
</tr>
<tr>
<td>WI 18</td>
<td>October 2018</td>
<td>Slaughter Trace</td>
<td>Dairy</td>
<td>Test-and-Remove Phase</td>
<td>July/Aug 2021</td>
</tr>
</tbody>
</table>

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, South Dakota, and Wisconsin Bovine Tuberculosis Affected Herds and Zone Status, March 2021

Affected herds are mapped to the center of their county.
Q2 (Jan-Mar 2021) TB Updates (MI, WI, SD)

- **MI 21-81**
  - Identified from a single CCT suspect during routine surveillance testing in October that was necropsied and PCR positive in March.
  - A whole herd test is planned for April 2021.

- **MI 21-80**
  - Final culture returned in March with no isolation made for the one animal removed during the assessment test (Dec 2020).
  - First removal test was completed in February with no responders and no animals removed.
  - This herd has detected one infected animal to-date.

- **MI 20-77**
  - Final culture returned in March as *M. bovis* for the two animals removed during the fourth removal test (Dec 2020), bringing the total number of infected animals in this herd to 44.
  - Fifth removal test was completed in February with no responders and no animals removed.

- **MI 19-75**
  - This herd was released from quarantine in March following implementation of an approved herd plan.

- **SD 21-1**
  - Identified from a 6-35 slaughter trace from a TB affected animal found at a slaughter plant in Minnesota with PCR positive in February 2021.
  - Completed its first whole herd test in March 2021 with 2 histocompatible, PCR positive animals out of 11 CFT responders.
  - Herd management plan is pending.
<table>
<thead>
<tr>
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<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>NM 21-1</td>
<td>October 2020</td>
<td>Assurance Test</td>
<td>Dairy</td>
<td>Test-and-Remove Phase</td>
<td>April/May 2021</td>
</tr>
<tr>
<td>TX 21-1</td>
<td>October 2020</td>
<td>Slaughter Trace</td>
<td>Exhibition</td>
<td>Hold order with testing</td>
<td>TBD</td>
</tr>
<tr>
<td>TX 20-2</td>
<td>September 2020</td>
<td>Slaughter Trace</td>
<td>Beef</td>
<td>Test-and-Remove Phase</td>
<td>In progress</td>
</tr>
<tr>
<td>TX 20-1</td>
<td>January 2020</td>
<td>Slaughter Trace</td>
<td>Dairy</td>
<td>Test-and-Remove - Assurance Phase</td>
<td>December 2021</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>April/May 2021</td>
</tr>
<tr>
<td>TX 19-1</td>
<td>February 2019</td>
<td>Epi Investigation</td>
<td>Dairy</td>
<td>Test-and-Remove Phase</td>
<td>June 2021</td>
</tr>
<tr>
<td>TX 15</td>
<td>June 2015</td>
<td>Slaughter Trace</td>
<td>Dairy</td>
<td>Test-and-Remove - Assurance Phase</td>
<td>November 2021</td>
</tr>
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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.
Affected herds are mapped to the center of their county.
Q2 (Jan-Mar 2021) TB Updates (TX, NM)

- **NM 21-1**
  - First removal test completed January 2021 with no histo-compatible animals identified, cultures pending.

- **NM 19**
  - Completed its seventh removal test in February 2021 with CFT responders removed and 8 histocompatible animals identified from that group.
  - Next removal test scheduled for April-May 2021.
## Bovine TB cases found through routine slaughter FY2021 Q2 (Jan-Mar)

<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</td>
<td>February 2021</td>
<td>MN</td>
<td>SD</td>
<td>Traced to SD 21-1</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.”

• **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