

National Bovine Brucellosis and Tuberculosis Updates



Q4 (July- September 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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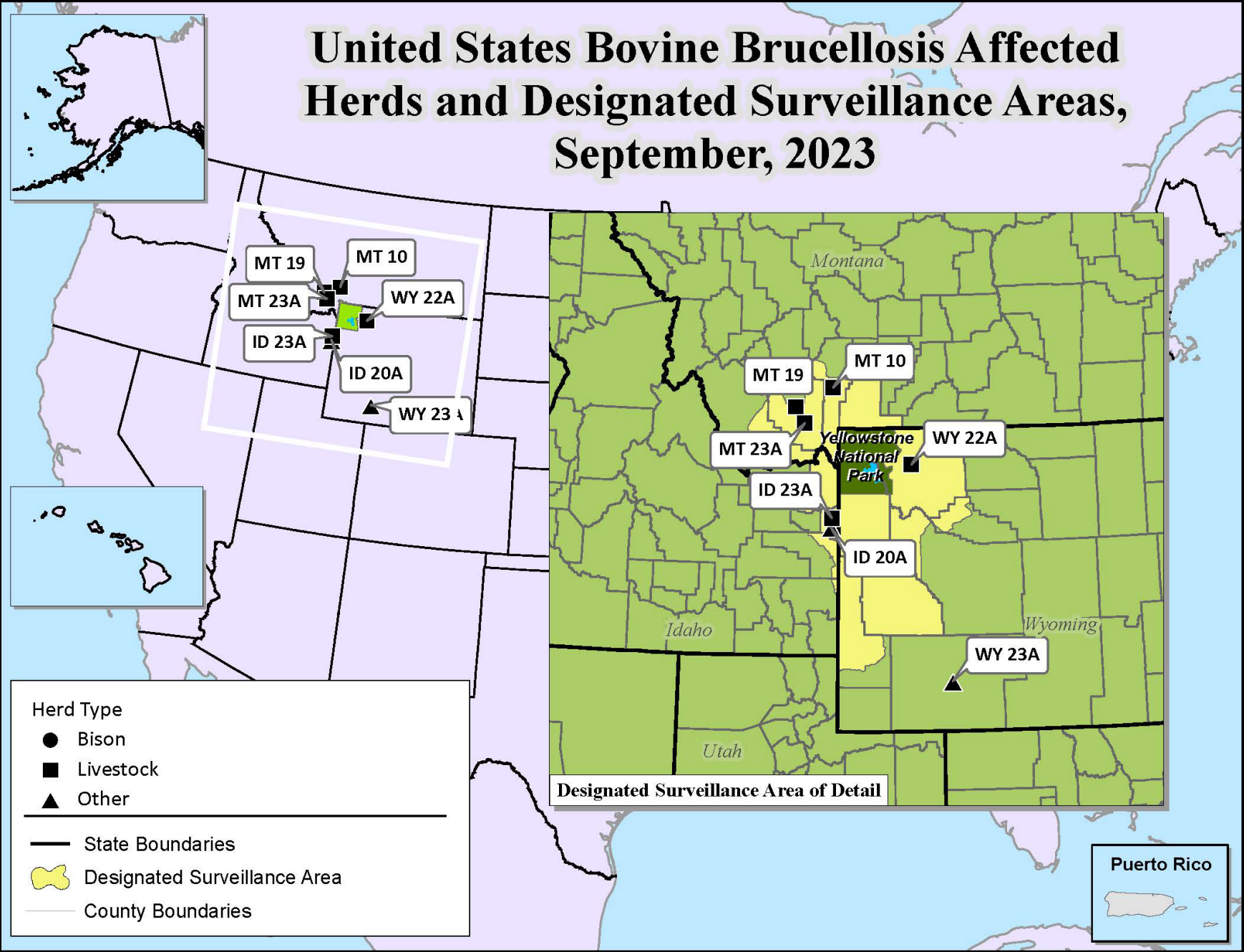
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Brucellosis (*B. abortus*)



FY23 Q4 (July-Sept. 2023) Updates

United States Bovine Brucellosis Affected Herds and Designated Surveillance Areas, September, 2023



Affected herds are mapped to the center of their county.

Brucellosis Affected Herds Under Quarantine Q4 (July- Sept.2023)

Herd ¹	Date Detected	Method of Detection	Herd Type ²	Herd Management Status	Next Test Tentative Start Date
MT 10	November 2010	DSA Surveillance Testing	Livestock	Test and Remove	Fall 2023
MT 19	December 2019	DSA Surveillance Testing	Livestock	Test and Remove	Fall 2023
ID 20A	January 2020	DSA Surveillance Testing	Elk	Test and Remove	Spring 2025
WY 22A	December 2022	DSA Surveillance Testing	Beef	Test and Remove	Fall 2023

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 Q4 (July- Sept.2023)

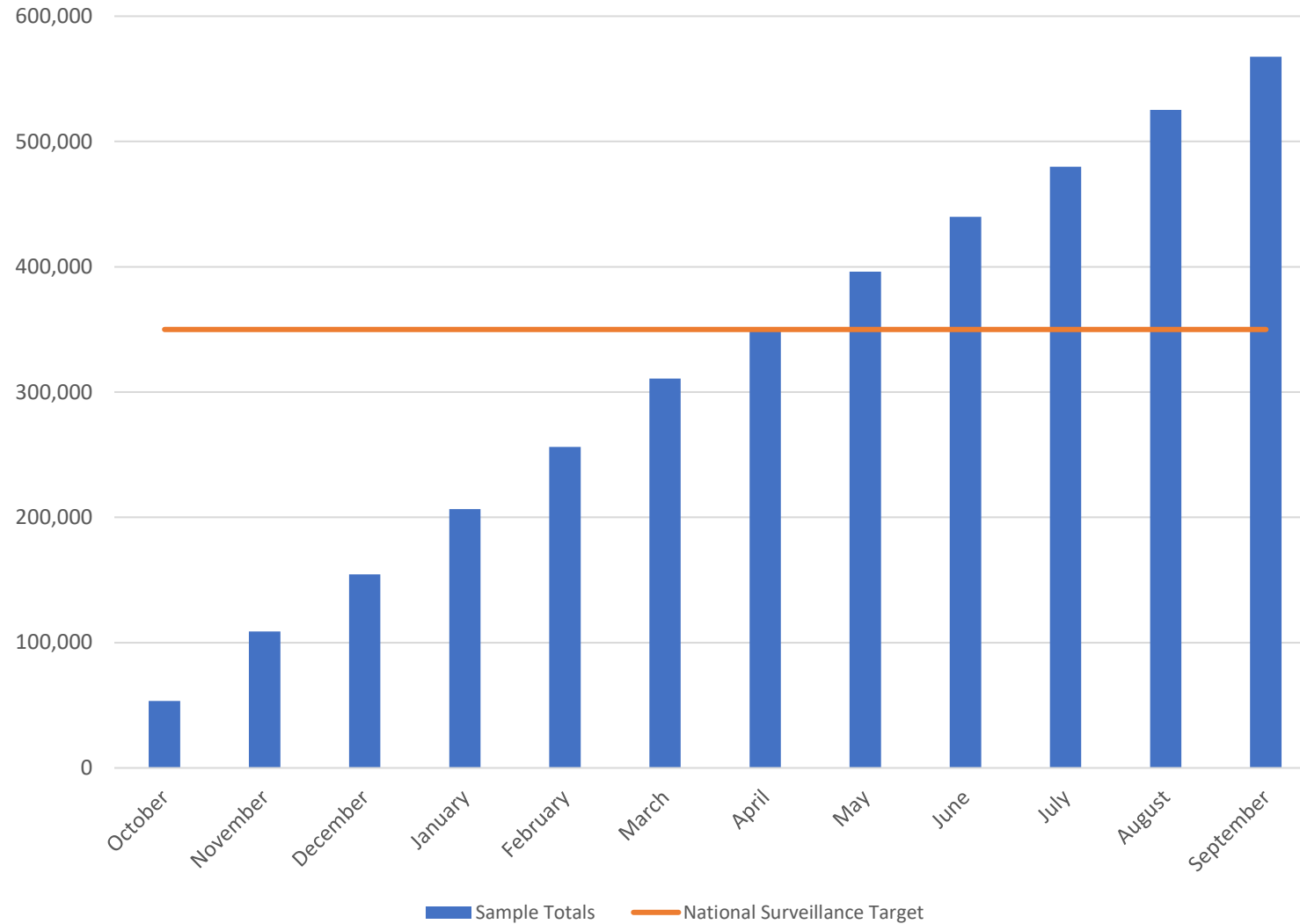
Herd ¹	Date Detected	Method of Detection	Herd Type ²	Herd Management Status	Next Test Tentative Start Date
MT 23A	May 2023	Livestock Market	Livestock	Test and Remove	Fall 2023
WY 23A	June 2023	Slaughter	Beef	Depopulation	N/A
ID 23A	September 2023	DSA Surveillance Testing	Beef	Test and Remove	Fall 2023

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 Q4 (July-Sept. 2023)

- WY 23A → Identified through routine slaughter surveillance
 - First WHT completed June 2023 and revealed 7 reactors **with 6 out of 7 being culture positive**
 - **Second WHT completed August 2023 and revealed 1 reactor**
 - **Herd elected to depopulate remaining intact cattle**
 - Herd is outside of the DSA and the epidemiologic investigation is ongoing
- ID 23A → Identified through market testing
 - **Reactor found through routine market testing was culture positive September 2023**
 - **Traced to a herd in the DSA and whole herd test is scheduled for Fall 2023**

FY2023 Cumulative National Brucellosis Slaughter Surveillance Samples



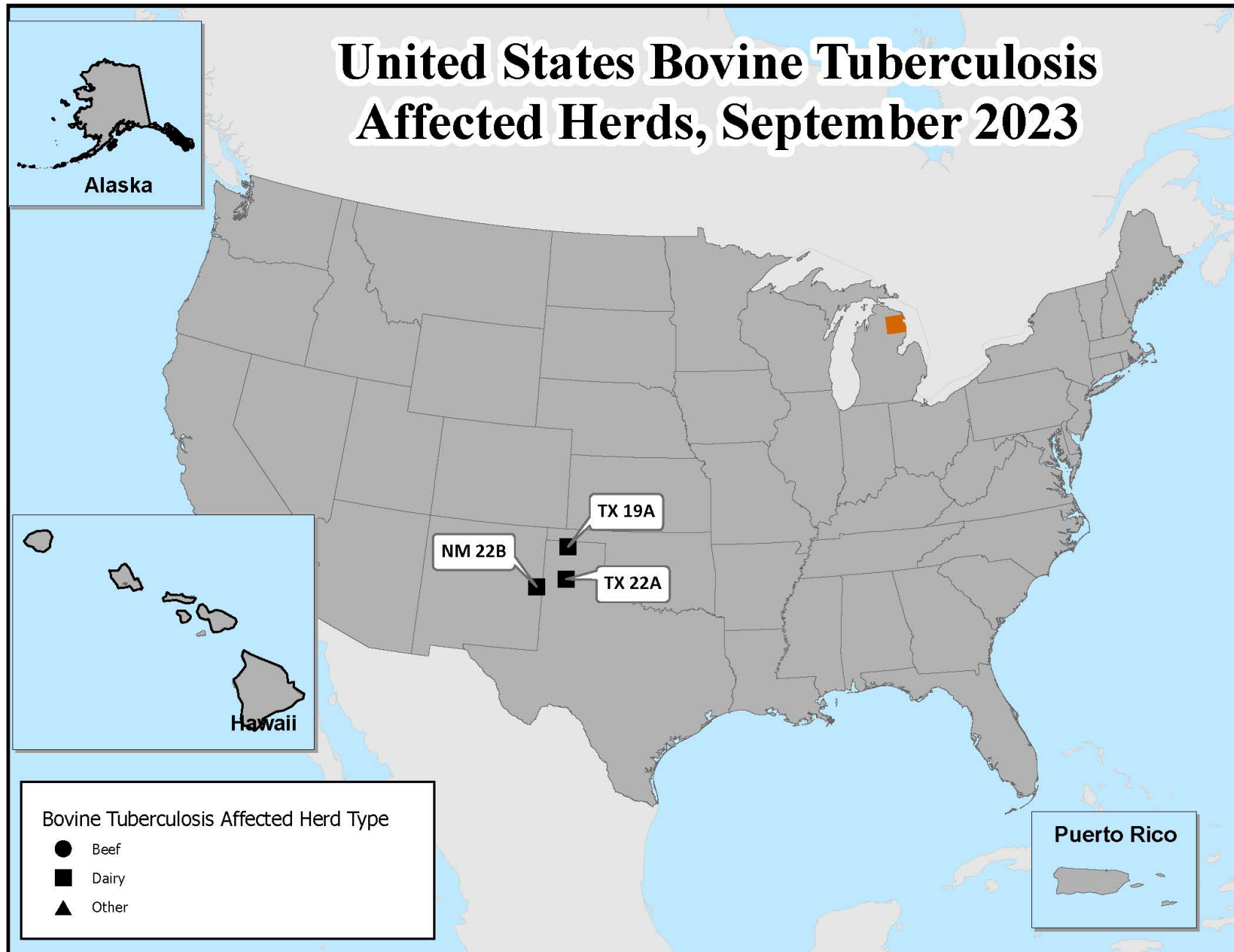
- The orange line represents our annual 350,000 surveillance sample target to detect disease with 95% confidence at a 0.001 percent or higher prevalence.

Tuberculosis (*M. bovis*)



FY23 Q4 (July-Sept.) Updates

United States Bovine Tuberculosis Affected Herds, September 2023



Affected herds are mapped to the center of their county.

TB Affected Herds Under Quarantine Q4 (July-Sept. 2023)

Location ¹	Date Detected	Method of Detection	Herd Type	Herd Management Status	Next Test Tentative Start Date
TX 19A	February 2019	Epi Investigation	Dairy	Test and Remove Phase	Pending
NM 22B*	July 2022	Epi Investigation	Dairy	Test and Remove Phase	Dec. 2023
TX 22A*	July 2022	Movement Testing	Dairy	Test and Remove Phase	Dec. 2023

1. Herds are named with the last 2 digits of the calendar year and in order of occurrence within a state during that year

* These herds are under the same ownership

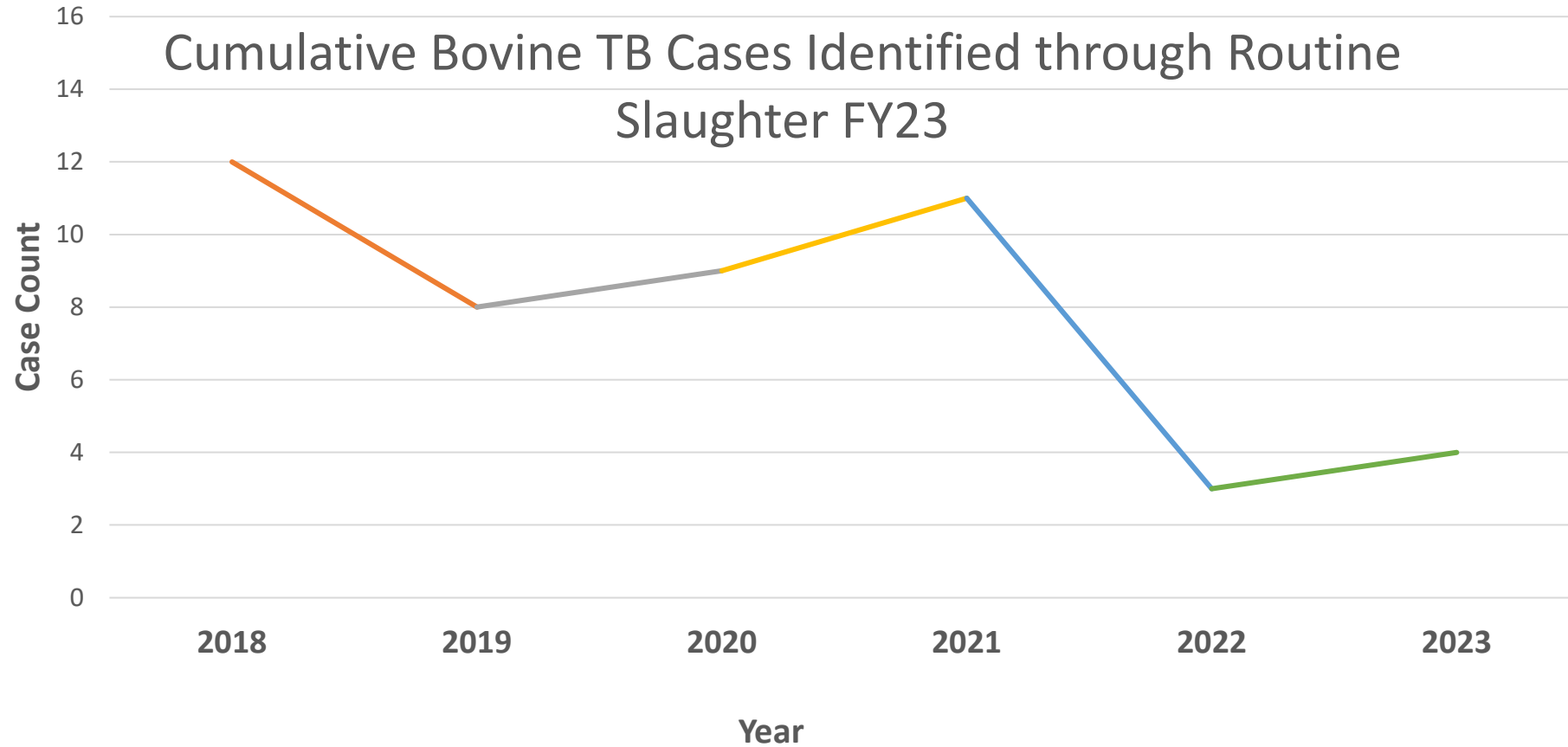
TB Affected Herds Under Quarantine Q4 (July-Sept. 2023)

- TX 19A → Removal test (11th) completed July 2023
 - Cultures pending
- NM 22B → still conducting WHTs of herds within complex
 - Confirmed July 2022
 - Test-and-Remove Model completed by CEAH
 - Removal test (5th) Sept. 2023
 - Removal test (6th) planned for Dec. 2023

TB Affected Herds Under Quarantine Q4 (July-Sept. 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 (5th) Sept. 2023**
 - **Removal test (6th) planned for Dec. 2023**

Cumulative Bovine TB Cases Identified through Routine Slaughter FY23



Year				
Slaughter Type	Month confirmed	Slaughter Plant State	Slaughter Origin State	Outcome/current status
Beef	December 2022	MI	MI	Trace Completed- WHT Fall 2023
Beef	February 2023	MI	MI	Trace completed
Beef	February 2023	NE	CAN	CAN Officials conducting investigation
Beef	July 2023	SD	SD	Verification Testing Fall 2023

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.

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