

# National Bovine Brucellosis and Tuberculosis Updates



## Q3 (April- June 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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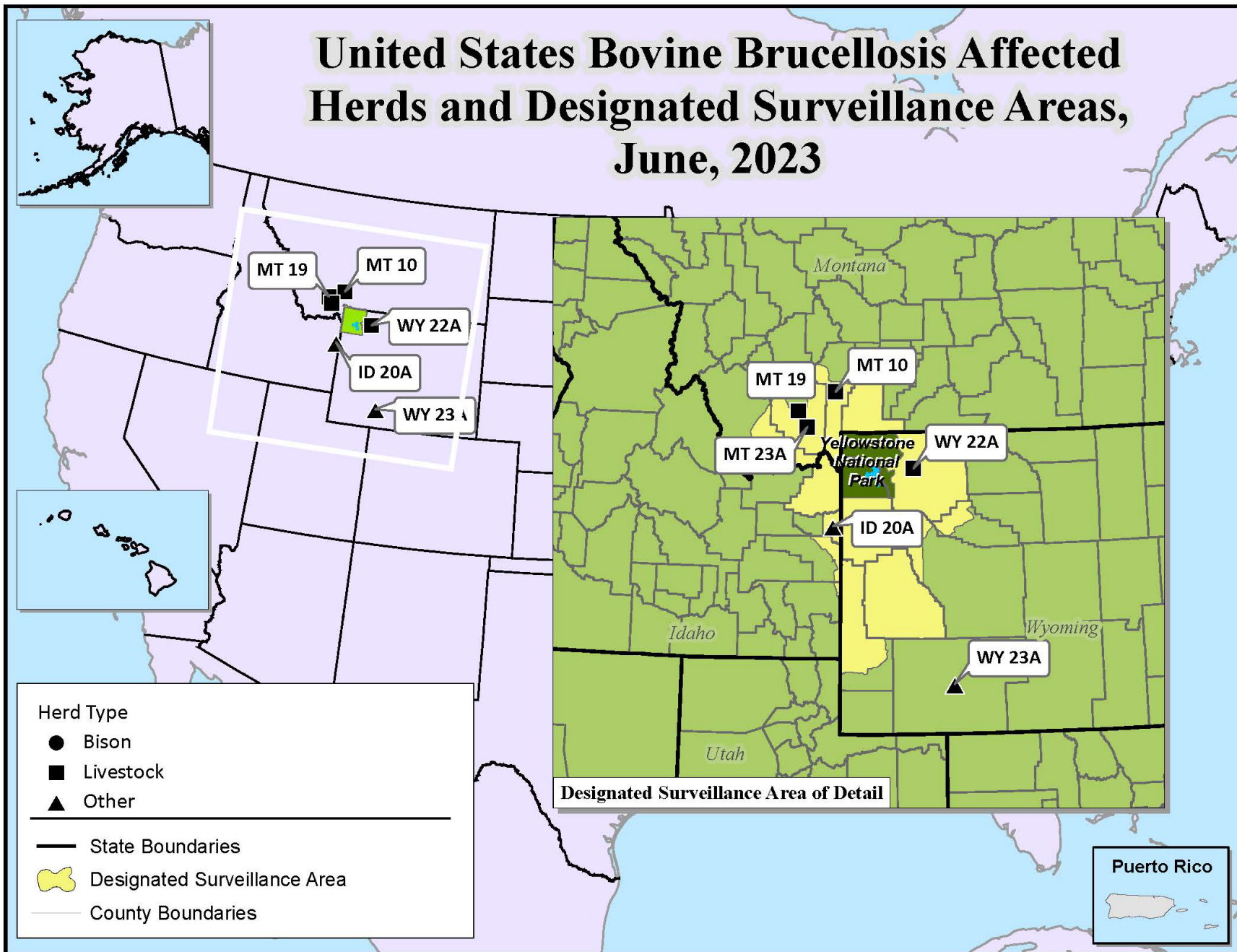
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# Brucellosis (*B. abortus*)



FY23 Q3 (April-June 2023) Updates

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



Affected herds are mapped to the center of their county.

## Brucellosis Affected Herds Under Quarantine Q3 (April-June 2023)

Herd <sup>1</sup>	Date Detected	Method of Detection	Herd Type <sup>2</sup>	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 Q3 (April-June 2023)

Herd <sup>1</sup>	Date Detected	Method of Detection	Herd Type <sup>2</sup>	Herd Management Status	Next Test Tentative Start Date
<b>MT23</b>	May 2023	Livestock Market	Livestock	Test and Remove	Pending
<b>WY 23A</b>	June 2023	Slaughter	Beef	Test and Remove	Pending

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 Q3 (April-June 2023)

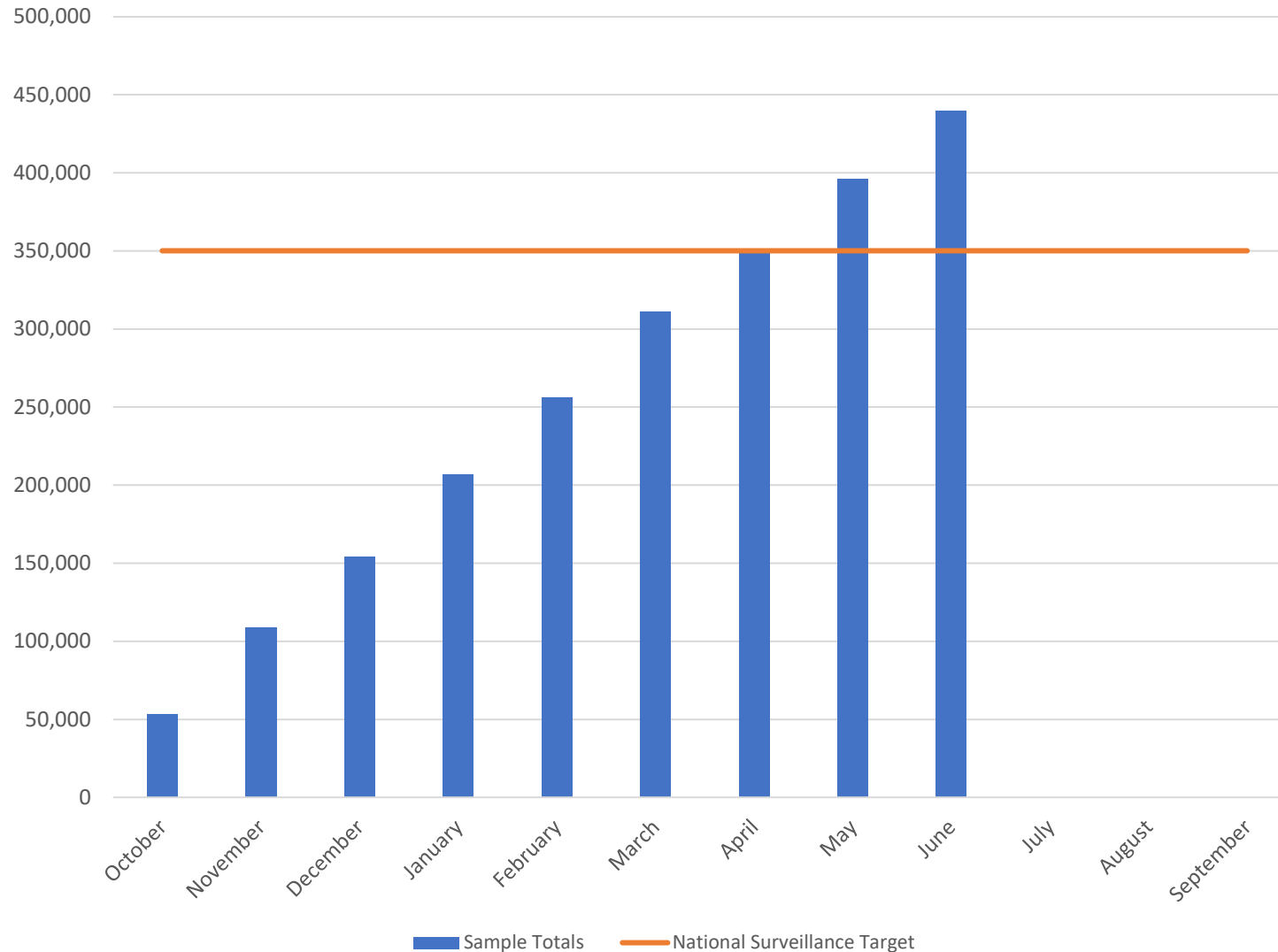
- **MT 10** → Identified on DSA Surveillance Testing
  - WHT completed Winter 2023
  - Assurance testing planned for Fall 2023
- **MT 19** → Identified on DSA Surveillance Testing
  - Culture positive identified during Fall 2021 WHT
  - WHT completed Winter 2023
  - Assurance testing planned for Fall 2023
- **ID 20A** → Identified on DSA Surveillance Testing
  - WHT planned for Spring 2025

## Brucellosis Affected Herds Under Quarantine Q3 (April-June 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 planned for Fall 2023
- **MT23 → Identified on DSA Surveillance Testing**
  - First WHT completed in May 2023 with all negative results
  - Next WHT planned for Fall 2023
- **WY 23A → Identified through routine slaughter surveillance**
  - First WHT completed June 2023 and revealed 7 reactors
  - Culture results are pending
  - Herd is outside of the DSA and the epidemiologic investigation is ongoing



## FY2023 Cumulative National Brucellosis Slaughter Surveillance Samples



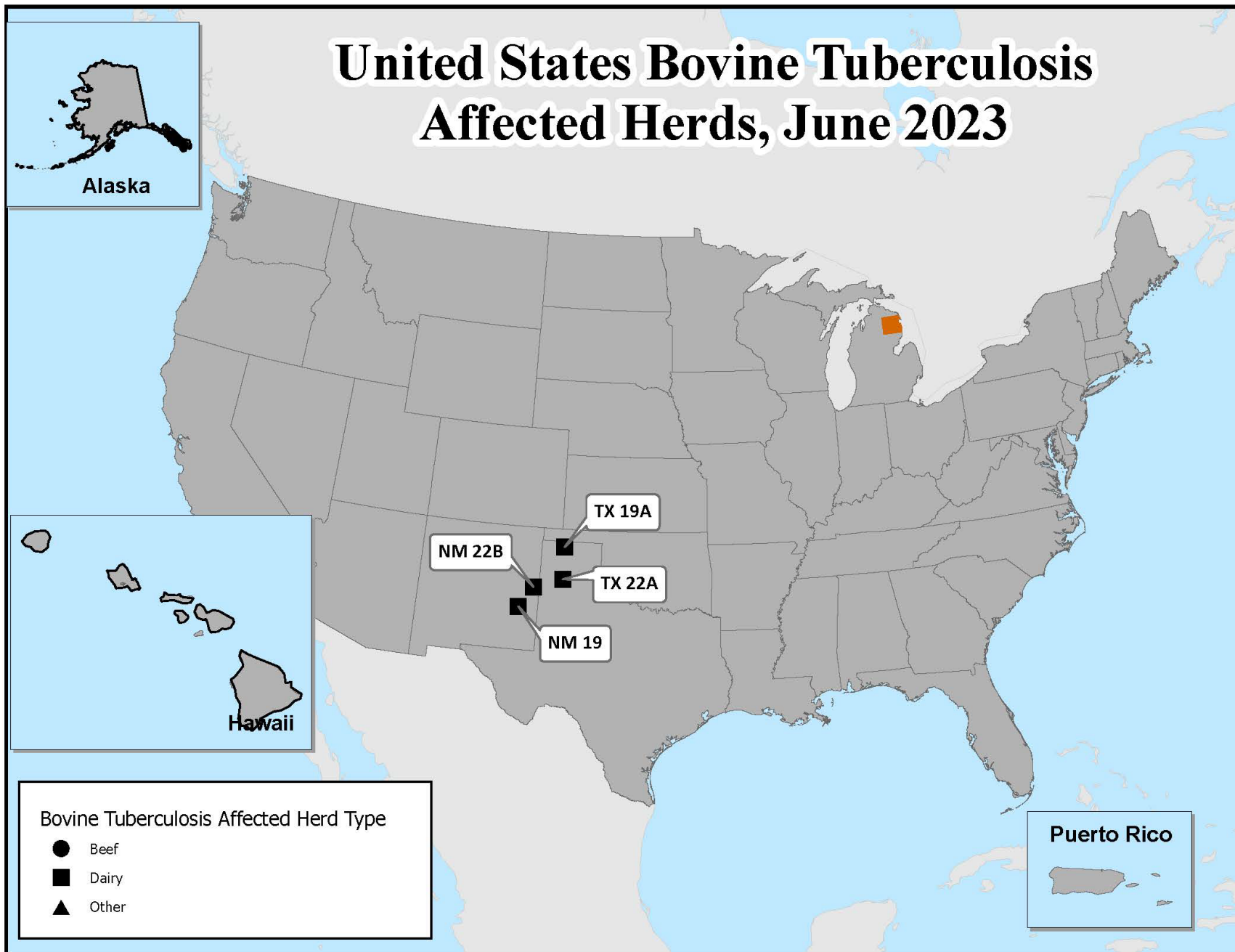
- The orange line represents our annual 350,000 surveillance sample target to detect disease with 95% confidence at a 0.001 percent or higher prevalence.

# Tuberculosis (*M. bovis*)



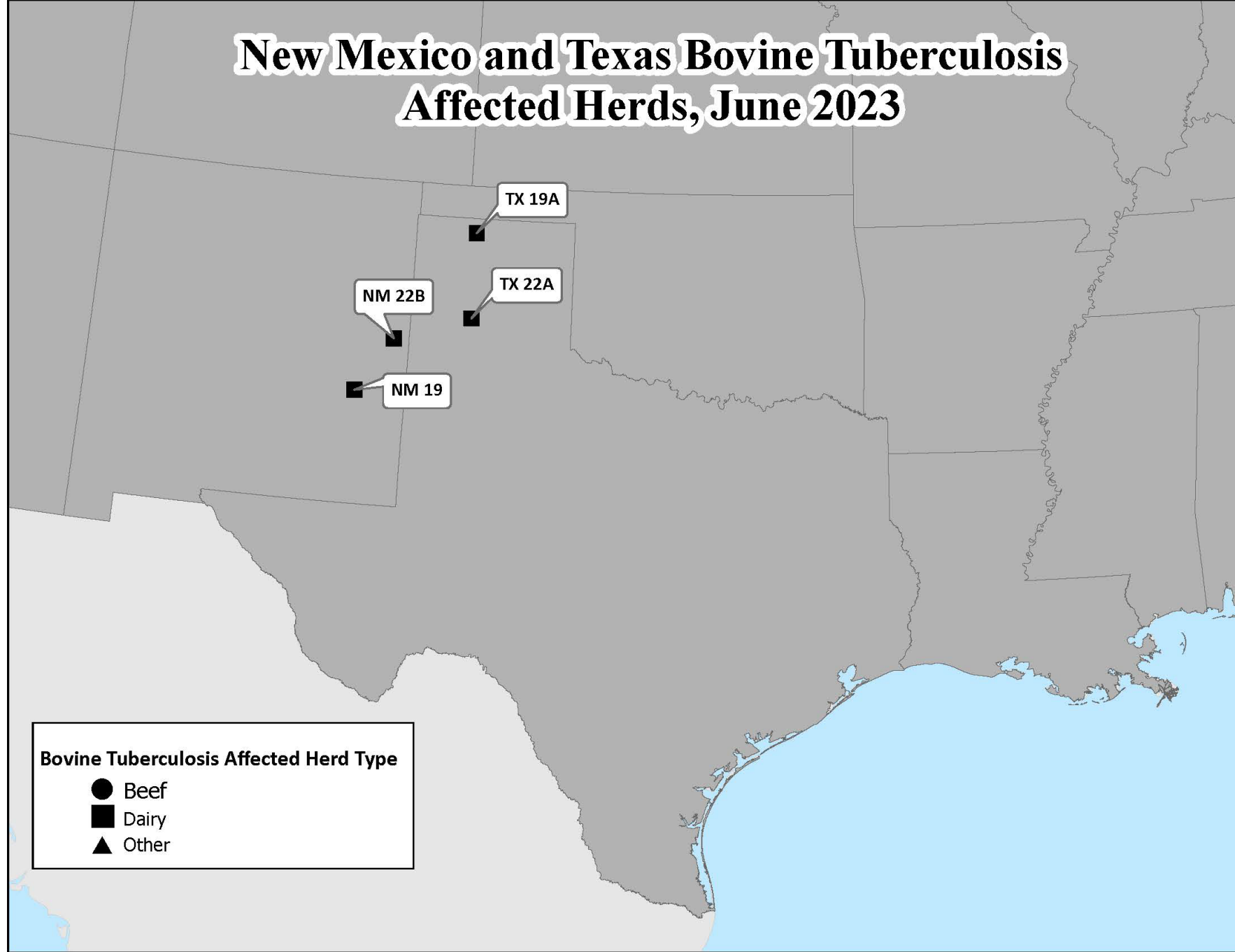
FY23 Q3 (April-June) Updates

# United States Bovine Tuberculosis Affected Herds, June 2023



Affected herds are mapped to the center of their county.

# New Mexico and Texas Bovine Tuberculosis Affected Herds, June 2023



Affected herds are mapped to the center of their county.

## TB Affected Herds Under Quarantine Q3 (April-June 2023)

Location <sup>1</sup>	Date Detected	Method of Detection	Herd Type	Herd Management Status	Next Test Tentative Start Date
<b>TX 19A</b>	February 2019	Epi Investigation	Dairy	Test and Remove Phase	Pending
<b>NM 19</b>	May 2019	Slaughter Trace	Dairy	Test and Remove Phase	Pending Verification Test Results
<b>NM 22B*</b>	July 2022	Epi Investigation	Dairy	Test and Remove Phase	Sept. 2023
<b>TX 22A*</b>	July 2022	Movement Testing	Dairy	Test and Remove Phase	Sept. 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

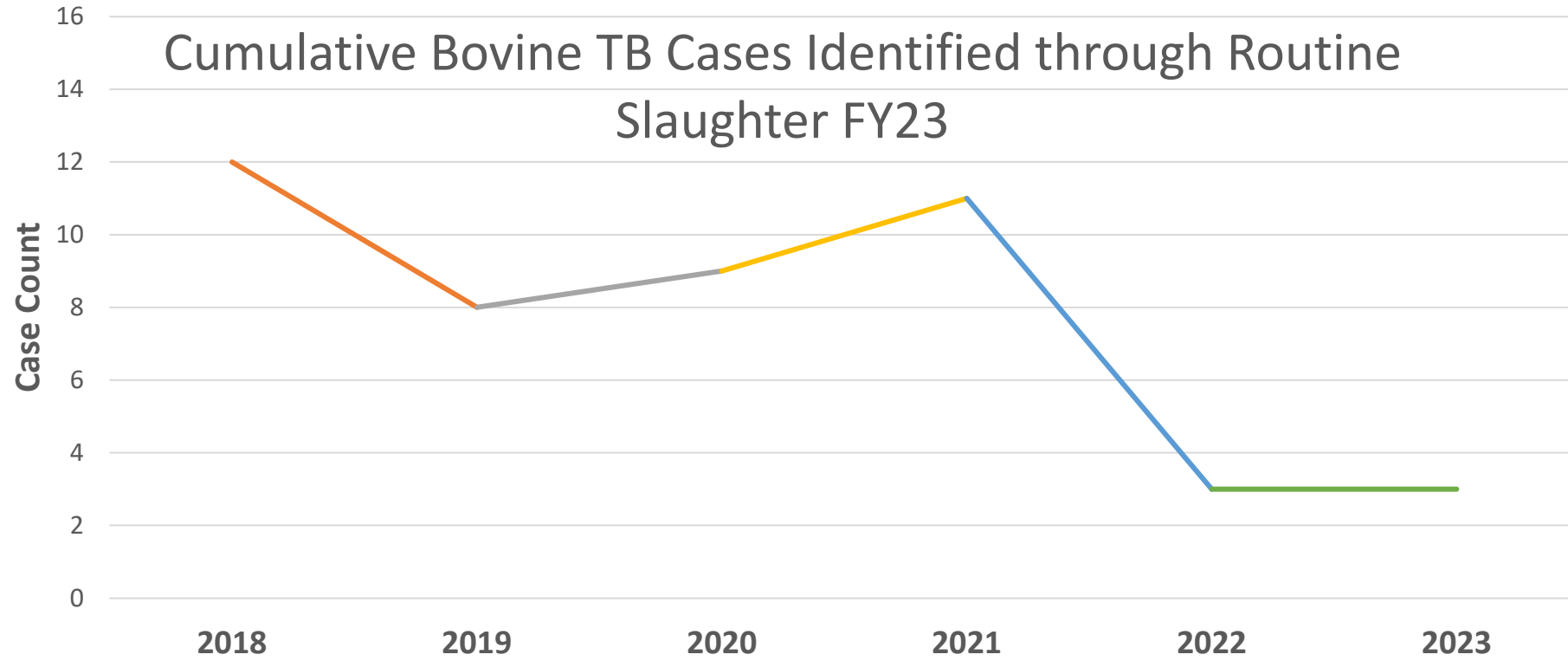
## TB Affected Herds Under Quarantine Q3 (April-June 2023)

- TX 19A → Removal test (11<sup>th</sup>) planned for July 2023
- NM 19 → Verification test completed May 2023, pending culture results

## TB Affected Herds Under Quarantine Q3 (April-June 2023)

- NM 22B → still conducting WHTs of herds within complex
  - Confirmed July 2022
  - Test-and-Remove Model completed by CEAH
  - **Removal test (4<sup>th</sup>) June 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 (4<sup>th</sup>) June 2023**

## Cumulative Bovine TB Cases Identified through Routine Slaughter FY23



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



# 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.
  - 2<sup>nd</sup> 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](mailto:vs.sp.chc.all@usda.gov)