

Bovine Tuberculosis and Brucellosis Surveillance Results
Monthly Reports, Federal Fiscal Year (FY) 2016
December 1-31, 2015

New Information – Bovine Tuberculosis (TB)

- One suspect TB case occurred in a steer slaughtered in Texas in December. The histology was compatible for mycobacteriosis and PCR tests were positive.
- One new TB-infected herd was detected in a Michigan beef herd located in the Modified Accredited (MA) zone during an annual whole herd test (WHT). This is the 63rd infected herd found in Michigan since 1998.

Update of Previously Reported Information

- Depopulation, cleaning, and disinfection were completed in early December, and repopulation has begun for the TB-infected Michigan dairy located in the MA zone. This herd was detected during an annual WHT. This is the 61st TB infected herd found in Michigan since 1998.
- Trace-outs from the Michigan beef herd located in the MA zone have been completed. There were no out-of-State traces associated with this herd. The herd was detected in May 2015 on an annual MA zone test and was depopulated in June/July 2015. This is the 62nd TB-infected herd found in Michigan since 1998.
- The first Texas dairy quarantined in October 2014 has begun the depopulation process, which is expected to span several months. The initial estimated within herd prevalence was 5.9 percent with a herd size of over 10,000 cattle.
- The second Texas dairy, quarantined in October 2014, completed three whole-herd removal tests without evidence of TB. A quarantine releasing test was completed in December and three cattle suspect to the comparative cervical test are pending examination postmortem. A total of three TB-infected cattle were associated with this herd on initial testing.
- Two Texas organic dairies and the associated Texas feedlot and heifer raiser were quarantined on April 8, 2015. A total of 39 lesioned cattle have been removed from the herd. A removal test was completed in December and test positive cattle are awaiting postmortem examination.
- AZ, CA, CO, MI, MO, MN, NM, IN, and TX have received trace-exposed heifers from the TX feedlot and heifer raiser (before diagnosis and quarantine). These States continue working to locate these cattle and test associated herds.

Table 1. Bovine TB cases found through routine slaughter inspection, FY 2016.^a

Laboratory Status	New TB Cases December 1-31, 2015		Cumulative TB Cases October 1, 2015-December 31, 2015		
	Fed cattle	Adult cattle	Fed cattle	Adult cattle	Total
<i>M. bovis</i> cases, confirmed ^b	1	0	1	0	1
PCR pending	0	0	0	0	0
PCR negative, culture pending	0	0	0	0	0

^a Animals detected through routine slaughter inspection. Animals sent to slaughter with a 1-27 permit, "Permit for Movement of Restricted Animals" are not included.

^b Confirmed by PCR testing and/or culture.

Table 2. Livestock herds confirmed infected with bovine TB, FY 2016, including test-and-remove managed herds under quarantine and carried forward from previous fiscal years.

State	Federal Fiscal Year Detected	Method of Detection	Herd Type	Herd Management Plan	Closest Isolates by WGS (Number of SNP Differences) ^a	Wildlife Surveillance Planned?	Approximate Number of Animal Traces	States With Traced Cattle
MI ^b	2008	Surveillance	Cervid	Test and removal	MI	Ongoing	None	None
MI ^b	2008	Surveillance	Cervid	Test and removal	MI	Ongoing	None	None
TX	2015	Slaughter	Dairy	Depopulation	2004 TX (16), 2007 NM dairies (15), 2011 AZ roping steer from CHI (25)	Not indicated	None	None
TX	2015	Epidemiology	Dairy	Test and remove	Same as above	Not indicated	68	MI
MI	2015	Area Testing	Dairy	Depopulation	MI	Ongoing	368	Pending
TX	2015	Slaughter	Dairy ^c	Test and remove	1997 MX (8)	Not indicated	4,150	AZ, CA, CO, MI, MO, MN, NM, IN, TX
MI	2015	Area Testing	Mixed	Depopulation	MI	Ongoing	None	None
MI	2015	Area Testing	Beef	Pending	Pending	Ongoing	2 source	None

^aWGS = whole genome sequencing, SNP = single nucleotide polymorphisms; () = number of SNP differences to the most recent common ancestor compared to other isolates in the National Veterinary Services Laboratories database.

^bTwo herds detected in previous fiscal years are included.

^cThis herd consists of two sister dairies and their associated common heifer raising/feedlot facility.

Brucellosis - Herds Remaining under Quarantine and Test-and-Remove Procedures or Awaiting Assurance Test Results

FY 2016

Wyoming

- Affected beef herd: Testing a portion of a Park County commercial cow-calf beef herd located in the Designated Surveillance Area (DSA) on October 28, 2015, revealed one reactor (a 4-year-old cow). The herd of 515 adults was placed under quarantine. Tissues from this cow cultured positive for *B. abortus* on November 19, 2015. Testing of the balance of the herd in early December revealed no non-negative animals. All the adjacent/contact herds have been identified and have begun to be tested. Next whole herd test will be in January. Cow originated from MT (non-DSA) and was shipped to this ranch in November 2013. All other traces are pending.

Updates: None

- Affected beef herd: On November 9-11, 2015, testing of a portion of a Sublette County (DSA) commercial cow-calf beef herd revealed five reactor cows. The herd of 717 cattle was placed under quarantine on November 17, 2015. Tissues from several of these reactors cow cultured positive for *B. abortus* as reported on December 9, 2015. Testing of the balance of the herd in early December revealed six more reactor animals. All of the seven adjacent/contact herds have been identified and have begun to be tested. All other traces are pending.

Updates: None

FY 2015

Montana

- Affected beef herd: On November 8, 2014, one reactor (an 8-year-old cow) was detected during testing of a group of 171 head in a Madison County commercial cow-calf beef herd. The herd had a DSA herd plan in place, as a portion of the herd grazes within the DSA. Whole herd testing of 2,338 head was completed December 10, 2015, and no additional seropositive animals were found. An Affected Herd Plan was put in place December 11th. All the DSA-adjacent herds have been identified and have tested negative. Whole-herd test post-removal of the reactor was completed in January 2015 and all animals were negative. Post-calving whole herd test completed and all animals were brucellosis test negative. Quarantine has been released. Assurance test is scheduled for this fall. Traces are pending. All non-DSA adjacent herds (27) have been identified and all tested negative.

Updates: Assurance testing began in October and concluded in mid-December. All animals tested negative. Traces are pending.

- Affected beef herd: On October 23, 2014, one reactor (a 3-year-old cow) was detected during testing of a group of 262 head in a Park/Carbon County commercial cow-calf beef herd. The reactor animal was part of a cohort that grazes seasonally in the DSA and was tested when leaving the DSA, per State law. The herd was placed under verbal quarantine October 25th. An Affected Herd Plan is in place. On October 31, 2014, the reactor's seropositive status was

confirmed, and the milk samples submitted to National Veterinary Services Laboratories (NVSL) for culture on November 12th were found negative for *Brucella* spp. On December 4th, tissues from the reactor animal were collected and submitted to NVSL. On December 12, 2014, NVSL reported isolation of *B. abortus* biovar 1. Whole-herd testing was completed on December 18, 2014, and no additional seropositive animals were found. All the Park County adjacent herds have been tested and are negative. Whole-herd test post-removal of the reactor was completed in January 2015 and all animals were negative. Whole-herd test was completed March 11, 2015, and all animals were negative. Quarantine was lifted March 16, 2015. Traces are pending. All Carbon County adjacent herds (4) have tested negative. Assurance test was completed in October 2016. All animals tested negative.

Updates: Traces are pending.

FY 2013

Montana

- Affected beef herd: On September 5, 2013, a single brucellosis reactor (2-year-old female) was detected on a DSA brucellosis pre-slaughter test of 42 head in Madison County. *B. abortus* biovar 1 was confirmed September 25, 2013. A herd brucellosis test (1116 head) detected one reactor and one suspect. The tissues were submitted but no *B. abortus* isolation was made from either animal. DSA herd and affected herd plans are in place. Epidemiological work has determined the exposure occurred sometime in the spring of 2013. Nine adjacent herds have tested brucellosis negative. A whole-herd test conducted on January 8, 2014, was negative. No *Brucella* was isolated from tissues submitted from the suspect cow, detected on January test, or its fetus. There were no trace-in animals identified. Twenty of 22 trace-out epidemiological investigations, covering 467 cattle in nine States, have been completed. The post-calving whole-herd test in late March 2014 was negative and the quarantine for the herd was lifted in late March 2014. The fall assurance testing was completed in October 2014; all cattle tested negative. Awaiting disposition of final two traces.

Updates: None

FY 2011

Montana

- Affected privately owned bison herd: A brucellosis-affected privately owned bison herd was detected in Gallatin County in November 2010. This herd was detected as part of Montana's DSA herd management plan testing. This herd is under quarantine with movement controls and an affected herd management plan in place. All trace-out and trace-in epidemiological investigations associated with this herd have been completed and closed. The fall 2013 test detected 13 seropositive (*B. abortus* biovar 1 isolated) animals out of 4050 head of bison tested. Annual fall testing began October 20, 2014, and was completed November 21, 2014. At the conclusion of the annual fall testing, 16 reactors and 3 suspects had been identified. 2015 Fall testing concluded November 6th with a final count of two suspects and 6 reactors identified out of 3262 head tested.

Updates: Next test will be fall 2016

Table 3: Livestock herds confirmed as brucellosis affected, FY 2011-2015.

State/ FY	Method of Detection	Herd Type	Affected Herd Management Plan	Genotyping Descriptive Results	Wildlife Surveillance Planned	Animals Being Traced	States Receiving Traced Cattle/Bison
WY 2016	DSA Herd Plan Test	Beef	Quarantine with test & remove	Most closely related to non- feedground elk	Undetermined	Pending	Traces are pending
WY 2016	DSA Herd Plan Test	Beef	Quarantine with test & remove	Most closely related to NER & Franz elk feedgrounds and 2004 Teton County beef herd isolates	Undetermined	Pending	Traces are pending
MT 2015	DSA Herd Plan Test	Beef	Quarantine with test & remove	Most closely related to 2 elk isolates (2009 – 2010)	Yes	Pending	Traces are pending
MT 2015	DSA Herd Plan Test	Beef	Quarantine with test & remove	Closest common ancestor – wild bison (1985)	Yes	Pending	Traces are pending
MT 2013	DSA Required pre-slaughter testing	Beef	Quarantine with test & remove	Common ancestor with wild elk from the same area	Yes	424	0 trace-in States 9 trace-out States: 20 of 22 traces completed (CA-1, ND-1; open) (MN-1, CO-1, IA-1, KS-1, MN-1, MT-12, SD-1, NE-2; closed)
MT 2011	DSA herd management plan testing	Bison	Quarantine with test & remove	Exact match to a 2009 MT elk isolate	Yes	7510	All trace-ins closed. All trace-outs closed.