

Bovine Tuberculosis and Brucellosis Surveillance Results
Monthly Reports, Federal Fiscal Year (FY) 2014
April 1–30, 2014

New Information – Bovine Tuberculosis (TB)

- No new TB cases or affected herds were detected in April.

Update of Previously Reported Information

- *Mycobacterium bovis* was isolated by culture in a Holstein steer slaughtered in Michigan. This is the second TB case in a Michigan Holstein steer. Tissues were compatible for mycobacteriosis and PCR was positive. The *M. bovis* isolate from this animal matches the Saginaw County, Michigan, dairy depopulated in FY 2013. The steer originated from a Michigan feedlot that has been quarantined; an investigation is underway.
- The TB-affected bison herd detected in the modified accredited zone of Michigan has been depopulated. The lesioned animal was detected during slaughter inspection conducted by VS field staff. Tissues were compatible for mycobacteriosis, PCR was positive and *M. bovis* was isolated by culture. Whole genome sequencing results indicate that the most closely related isolate in the NVSL data was recovered from a raccoon in Alcona county, Michigan in 2008.
- Culture was negative for a beef cow slaughtered in Texas in February. The cow originated in New Mexico. Tissues were compatible for mycobacteriosis and PCR was negative.
- Herd testing is complete in Utah as a result of finding TB in a culled adult dairy cow that was slaughtered in California in November. Tissues were compatible for mycobacteriosis and PCR and culture are positive. Three dairies were tested in Utah by regulatory veterinarians without finding evidence of tuberculosis (cultures are pending on a few suspects). Other potential source herds in California and Arizona are being evaluated for herd testing.
- A herd plan with a test-and-remove management approach has been developed for the TB-affected North Dakota dairy. The *M. bovis* isolates from this herd are not closely related to any known historical isolate in the NVSL database. The herd was tested after an employee tested positive for *M. tuberculosis* complex. The *M. bovis* isolate from the employee matched a cattle isolate. An investigation is underway.
- A total of five TB cases have been detected in fed cattle in FY 2014. Of these, three are of Mexican origin, including Coahuila (1), Sinaloa (1), and Veracruz (1). Two cases are Holstein steers from Michigan. Culture is positive for *M. bovis* for all cases.

Table 1. Bovine tuberculosis slaughter surveillance results, FY 2014.

Laboratory Status	New TB Cases April 1-30, 2014		Cumulative TB Cases October 1, 2013 – April 30, 2014		
	Fed cattle	Adult cattle	Fed cattle	Adult cattle	Total
<i>M. bovis</i> cases, confirmed ^a	0	0	5	3	8
PCR pending	0	0	0	0	0
PCR negative, culture pending	0	0	0	0	0

^a Confirmed by PCR testing and/or culture.

Table 2. Livestock herds confirmed infected with bovine tuberculosis, Federal fiscal year (FY) 2014, including test-and-remove managed herds under quarantine and carried forward from previous fiscal years.^a

State (MI herd No.)	Federal Fiscal Year Detected	Method of Detection	Herd Type	Herd Management Plan	Origin and Number of Genotype Matches	Wildlife Surveillance Planned?	Approximate Number of Animal Traces	States With Traced Cattle
MI ^a (33)	2004	Area Test	Dairy	Test and removal	MI	Ongoing	Not applicable	Not applicable
MI ^a	2008	Surveillance	Cervid	Test and removal	MI	Ongoing	None	None
MI ^a	2008	Surveillance	Cervid	Test and removal	MI	Ongoing	None	None
CA ^a	2013	Slaughter	Dairy	Test and removal	Same as FY 2002 CA case	Pending	625 EMRS traces of 2500 cattle, 78% complete	AZ (2), CA (130), FL (2), IA, ID, MN (2), NE, NM (1)
ND ^a	2013	Trace	Beef	Test and removal	Same as FY 2012 TX herd	Pending	Pending	SD, TX
ND	2014	Herd test triggered by dairy worker diagnosed with TB	Dairy	Test and removal	No close matches	Pending	Pending	Pending
MI	2014	Slaughter	Bison	Depopulation	MI	Ongoing	None	None

^a Five herds detected in previous fiscal years are included.

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

FY 2014

Montana:

- Affected beef herd: On September 2, 2013, one reactor (7-month-old bull) was detected on a herd (560 head) Certified Brucellosis-Free herd recertification test in a beef herd in Park County. *Brucella abortus* biovar 1 was confirmed on October 11, 2013. This herd had been a Certified Brucellosis-Free herd since 2009. The herd is under quarantine with a designated surveillance area (DSA) and an affected herd plan in place. First post-reactor removal herd brucellosis test was conducted in November 2013, and all animals (556) were brucellosis negative. Four adjacent herds have tested brucellosis negative. There are 9 trace-outs covering 42 cattle in 6 States. There is one Montana cow identified as a trace-in. The post-calving whole-herd test in late March was negative and the quarantine for the herd was lifted in late March. A fall 2014 assurance test is pending.

Updates: The Montana trace-in epidemiological investigation is closed. Four of nine trace-outs epidemiological investigations are closed.

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. *Brucella 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. The herd is under quarantine with a DSA herd plan and an affected herd plan 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. There was no *Brucella* isolated from tissues submitted from the suspect cow, detected on January test, or its fetus. There were no trace-in animals identified. There are 23 trace-outs, covering 424 cattle in 8 States. The post-calving whole-herd test in late March was negative and the quarantine for the herd was lifted in late March. A fall 2014 assurance test is pending.

Updates: Two of 23 trace-out epidemiological investigations are closed.

FY 2012

Idaho:

- Affected beef herd: A cattle herd (65 head) was traced from a slaughter blood sample collected in California. This herd was outside of the Idaho's DSA; the DSA has been expanded since detection of this herd. 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 herd had its second negative whole herd test on October 11, 2013. A post-calving whole herd brucellosis test of 86 head performed on 28 April 2014 was negative for all animals. Next herd test is fall 2014 followed by a post-calving herd test in spring 2015 which will include the heifers born in spring 2013.

Updates: None

- Affected privately owned bison herd: A privately owned bison herd (268 head), assembled and located in the DSA in 2010, was brucellosis tested to meet Idaho's DSA requirements. Quarantine and movement controls are in place. An updated affected herd management plan is pending owner's signature. All trace-out and trace-in epidemiological investigations associated with this herd have been completed and closed. A whole-herd brucellosis test was conducted on December 4-5 and all animals were negative. This was the first negative whole-herd test. Next herd test is scheduled for fall 2014.

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 (*Brucella abortus* biovar 1 isolated) animals out of 4050 head of bison tested.

Updates: None

Wyoming:

- Affected bison herd: A brucellosis-affected privately owned bison herd inside the Wyoming DSA (Park County) was disclosed in November 2010. This herd consists of two groups – the Main herd and the Preferred herd. The Main herd remains under quarantine with movement controls and an affected herd management plan in place. The Preferred herd has undergone four negative brucellosis tests and was released from quarantine in late January 2012. All trace-out and trace-in epidemiological investigations associated with this herd have been completed and closed. In fall 2013 herd brucellosis testing of Main herd, all 462 cows and calves tested negative. Bulls will be tested in the spring/summer of 2014.

Updates: None

Table 3: Livestock herds confirmed brucellosis affected in FY 2014, 2013, 2012 and 2011

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
MT 2014	Certified Brucellosis- Free Herd Recertification Test	Beef	Quarantine with test & remove	Clusters with other isolates recovered from area wildlife & livestock	Yes	43	One trace-in State: MT - Closed 6 trace-out States: - CA, MN, MT, NE, SD, TX 4 of 9 traces closed
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 8 trace-out States: CA, CO, IA, MN, MT, NE, SD, KS 2 of 23 traces closed
ID 2012	MCI trace	Beef	Quarantine with test & remove	Similar to 2006 & 2010 ID cattle isolates	Yes	48	One trace-in State: ID, 3 herds All trace-ins closed. 4 trace-out States: TX, UT, ID, & NM. All trace-outs closed.
ID 2012	DSA required test	Bison	Quarantine with test & remove	Similar to ID elk isolates	No	349	5 trace-in States: ND, SD, MT, OK, ID. All trace-ins closed. One trace-out State: ID closed.
MT 2011	DSA herd management plan testing	Bison	Quarantine with test & remove	Exact match to a 2009 MT elk isolate	Yes	7510	3 trace-in States: NM, NE & MT All trace-ins closed. 5 trace-out States: MT, NE, WY, KS & ID All trace-outs closed.
WY 2011	Pre-sale test on farm	Bison	Main herd remains under quarantine with test & remove. Preferred herd released from quarantine.	Similar to 2007 & 2010 WY elk & 2010-2011 cattle isolates.	Yes	870	1 trace-in State: SD - closed. 4 trace-out States: MT, WY, CO & NV All trace-outs closed.