

Bovine Tuberculosis and Brucellosis Surveillance Results
Monthly Reports, Federal Fiscal Year (FY) 2014
August 1–31, 2014

New Information – Bovine Tuberculosis (TB)

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

Update of Previously Reported Information

- *Mycobacterium bovis* was isolated from the tissues of two Holstein steers slaughtered in July in a Wisconsin slaughter establishment; tissues from both animals were compatible for mycobacteriosis and PCR was positive. The animals originated from Michigan and were together in the same Iowa and Nebraska feedlots prior to slaughter. Whole genome sequencing determined that the isolate from each case is a close match to isolates from the 2013 Saginaw county Michigan affected dairy.
- 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 2013. Tissues were compatible for mycobacteriosis and PCR and culture were positive. Three dairies were tested in Utah by regulatory veterinarians without finding evidence of tuberculosis. Herd testing is underway for other potential source herds in California and Arizona.
- A total of eight TB cases have been detected through regular slaughter inspection in fed cattle in FY 2014. Of these, three are of Mexican origin, including Coahuila (1), Sinaloa (1), and Veracruz (1). Three cases are in Holstein steers from Michigan. Two new cases, described above, are under investigation.
 - The three TB cases in Michigan Holstein steers originated from two different feedlots and were detected through routine slaughter inspection. In addition, TB was detected in four additional animals these two feedlots. These four animals went to slaughter under permit and therefore are not classified as being detected through routine slaughter inspection. Whole genome sequencing results for the isolates from all seven cases closely match the 2013 Saginaw county Michigan dairy *M. bovis* strain.
- A total of three TB cases have been detected in culled adult cattle in FY 2014. The herd of origin was located for two cases, but infection was not confirmed in the source herds. Of these two, one case occurred in a beef cow from a South Dakota herd that had been dispersed. The second case occurred in a beef cow that originated from Texas; herd testing found no additional infected animals. The third case in an adult dairy cow is currently under investigation, as described above.
- Correction: A suspect TB case in a steer was detected in a Kansas slaughter plant in June, but was inadvertently omitted from the June monthly report. PCR was negative and *M. avium* complex was identified by culture in August.

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

Laboratory Status	New TB Cases August 1-31, 2014		Cumulative TB Cases October 1, 2013 – August 31, 2014		
	Fed cattle	Adult cattle	Fed cattle	Adult cattle	Total
<i>M. bovis</i> cases, confirmed ^a	0	0	8	3	11
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	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	2008	Surveillance	Cervid	Test and removal	MI	Ongoing	None	None
MI ^a	2008	Surveillance	Cervid	Test and removal	MI	Ongoing	None	None
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

^aTwo herds detected in previous fiscal years are included.

Brucellosis – Herds Remaining under Quarantine and 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. The Montana trace-in epidemiological investigation is closed. 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: Seven of nine trace-out epidemiological investigations are completed.

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. 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. 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. There are 22 trace-outs, covering 467 cattle in 9 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: Eleven of 22 trace-out epidemiological investigations are completed.

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 April 28, 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. Herd will remain under quarantine until heifers born in 2013 have calved and tested negative at post-calving test, tentatively scheduled for spring 2015.
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 (*B. 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. Nineteen bulls from the Main herd tested negative on 7/10/14.
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) 9 trace-out States: 7 of 9 traces completed CA-1, MN-2(closed), MT-3 (2 closed), NE-1(closed), SD-1(closed) TX-1 (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 9 trace-out States: 9 of 22 traces completed CA-1, CO-1, IA-1 (closed), KS-1 (closed), MN-2(1 closed) , MT-12 (6 closed), NE-2(1 closed), ND-1, SD-1 (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.