Bovine Tuberculosis and Brucellosis Surveillance Results
Monthly Reports, Federal Fiscal Year (FY) 2013
November 1–30, 2012

New Information – Tuberculosis (TB)

- One new suspect TB slaughter case was detected during November 2012. The animal was slaughtered in Texas and had official Mexican identification indicating origin from Tamaulipas. Histology was compatible for mycobacteriosis and polymerase chain reaction (PCR) was positive. Culture is pending.

Update of Previously Reported Information

- A dairy heiferette confirmed infected with TB was slaughtered in Arizona in September 2012. Animal identification and/or slaughter records suggested the animal originated from California where officials are conducting an investigation to determine the herd of origin. Genotyping results indicate that the *Mycobacterium bovis* isolate from this new case matches isolates from a 2002 TB-affected dairy herd in California.
- Culture is pending for one case in a steer slaughtered in Texas with Mexican official eartags indicating origin from Tamaulipas. Polymerase chain reaction (PCR) was positive for *M. tuberculosis* complex.
- Culture is pending for a suspect case in a heifer slaughtered in Pennsylvania in October. Histology was compatible for mycobacteriosis and PCR was negative.
- An adult beef cow confirmed to be infected with TB was slaughtered in Texas in March 2012. Officials in Oklahoma have completed the investigation of potential consignors of this animal and tested the appropriate herds and found no additional infected animals. One herd remains to be tested in Texas.

Table 1. Bovine tuberculosis slaughter surveillance results, FY 2013.

	New TB Cases November 1-30, 2012		Cumulative TB Cases October 1 to November 30, 2012		
Laboratory Status	**Fed Cattle**	**Adult Cattle**	**Fed Cattle**	**Adult Cattle**	**Total**
M. bovis cases, confirmed[a]	1	0	2	0	2
PCR pending	0	0	0	0	0
PCR negative, culture pending	0	0	1	0	1

[a] Confirmed by PCR testing and/or culture.

Table 2. Livestock herds confirmed infected with bovine tuberculosis, FY 2013, 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 Manage-ment Plan	Origin and Number of Genotype Matches	Wildlife Surveillance Planned?	Approximate Number of Animal Traces	States With Traced Cattle
MI[a]	2005	Area Test	Dairy	Pending	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]	2011	Slaughter	Dairy	Test and removal	MEX = 3	Completed	None	None
CA[a]	2012	Trace	Dairy	Test and removal	Same as FY 2012 CA case	Completed	For this and previously depopulated CA herd, 265 traces of 2246 cattle culled since 2008, EMRS pending: CA (63) AZ (4)	CA
MI[a]	2012	Area Test	Beef	Partial depop[b]	New spoligo-type; VNTR[c] matches MI strains	Ongoing	73 traces of 166 animals None pending	MI
MI[a]	2012	Area Test	Dairy	Test and removal	MI	Ongoing	58 traces of 163 animals	IN, MI
MI	2013	Area Test	Dairy	Test and removal	MI	Ongoing	109 traces of 200 animals	MI, IN

[a] Seven herds detected in previous fiscal years that remain under quarantine are included.
[b] State funded partial depopulation.
[c] Variable number tandem repeat.

Brucellosis – FY 2013

No new brucellosis affected herds in the GYA.

FY 2012 Herds Remaining under Quarantine, Test and Remove Procedures or Awaiting Assurance Test Results:

Idaho:

- Affected beef herd: A cattle herd (65 head) was traced from a slaughter sample from California. Herd testing detected 5 reactors and 1 suspect. Milk was taken from four of the five reactor cows. *Brucella abortus* biovar 1 was cultured. Two of the five reactor cows that were milk culture positive were necropsied. *B. abortus* biovar 1 was isolated from tissues collected from these animals. Seventeen heifers, one of the reactors, and one suspect detected by herd testing have been spayed. Two reactor cows with young steer calves were slaughtered on May 24, 2012, after their calves were weaned. *B. abortus* biovar 1 was isolated from tissues collected from these two cows. All nine adjacent herds have been tested with negative results. Three trace-in herds are located in Idaho. One of these herds has tested negative. The two remaining herds (200-250 head) are scheduled for testing in early December 2012, after they return from summer pasture. All trace-out animals were destined for slaughter and have been identified. This herd is outside of the ID DSA. Movement controls are in place. On June 30, a complete herd test detected 4 additional reactors out of 42 animals tested. These reactors were slaughtered September 20. Third complete herd test was conducted October 19, with one cow (out of 38 tested) being detected as positive and classified as a reactor. This cow was slaughtered on November 5 and *B. abortus* biovar 1 was isolated from tissues collected from this cow. A herd test was completed on November 23 — all cattle tested negative. This is the first negative whole-herd test.

- Affected privately owned bison herd: A privately owned bison herd (268 head) was tested to meet Idaho's Designated Surveillance Area (DSA) requirements. Two reactors were detected. Samples collected at necropsy were found culture positive for *Brucella abortus* biovar 4. This herd was assembled and located in the DSA two years ago. Elk have been seen in and around this herd. One trace-out group of 19 head was traced to a feedlot and has tested negative. All eight adjacent herds have tested negative for brucellosis. Movement controls are in place. To mitigate bison contact with elk, the owners have built an elk-proof fence around 100 acres for use as a winter feeding enclosure. The next herd test will be in December 2012.

Montana:

- Affected privately owned bison herd: A brucellosis-affected privately owned bison herd located in Madison County within Montana's DSA was disclosed on November 14, 2011. An entire herd test was conducted in October 2011 that detected a single two-year-old bison bull as a reactor. *B. abortus* biovar 1 was isolated from a single lymph node from this bull. Adjacent herd testing has been completed with approximately 7300 head tested with negative results. All trace-ins (1) and trace-outs (6) have been located and were destined for slaughter

or have been assigned for testing. Six hundred heifers tested brucellosis negative in early May 2012. The second complete herd test was conducted in October 2012. All animals were brucellosis test negative. Next complete herd test is scheduled for October 2013.

Wyoming:

- Affected beef cattle herd: One beef herd located in Park County within Wyoming's DSA was determined to be brucellosis affected in October 2011. In September, two 13-month beef heifers were found to be seropositive on brucellosis testing as a result of pre-sale testing of 30 heifers (out of 250 heifers). In October, culture results confirmed infection with *B. abortus* biovar 1. This operation maintains a cow herd which is epidemiologically separate from the affected heifer herd. This cow herd was negative for all testing and was released from quarantine in late 2011. An epidemiologic investigation is in progress and the heifer herd remains under quarantine. Whole-herd testing of two adjacent herds was negative. A whole-herd test of the heifer herd detected a third seropositive animal that was culture positive for *B. abortus* biovar 1. Two additional whole-herd tests of the heifer herd in November and December 2011 were negative. A third negative whole-herd test (post-calving) was completed in late August and the quarantine was released August 28, 2012. There are no trace-in herds since it is a closed herd (replacements home raised) and no trace-out herds because animals are only sold to slaughter or terminal feedlots. A whole-herd assurance test began in October and is partially completed. All animals tested to date are brucellosis test negative.

FY 2011 Herds Remaining under Quarantine, Test and Remove Procedures or Awaiting Assurance Test Results:

Montana:

- Affected beef cattle herd: In September 2011, six yearling heifers in a group of 65 animals tested serologically positive on a change of ownership test for movement out of the DSA (Park County). Four of the six heifers was culture positive for *B. abortus* biovar 1. A 10-month-old bull tested serologically positive in November, but culture results were negative. Post-calving herd test has been completed and all animals negative. This is the third consecutive negative herd test and the quarantine of the herd was released April 24, 2012. Testing of trace-out herds in Montana has been completed and herds tested negative. Four of six out-of-state traces have been completed. The assurance test for this herd began October 19, and should be completed by early December. All animals that have been brucellosis tested to date are negative.

- Affected privately owned bison herd: A brucellosis-affected privately owned bison herd was disclosed in Gallatin County in November 2010. This herd was detected as part of Montana's DSA herd management plan testing. The herd is under quarantine with an affected herd management plan in place. All initial testing of adjacent herds, assurance testing of adjacent herds, and all testing of all trace-out herds in Montana is complete and has been negative. Approximately 7500 animals have been tested with negative results. The second complete herd test was conducted over a 6 week period in September/October 2012. Nine reactors

were identified in this round of testing with three having biovar1 isolated from submitted tissues. Next complete herd test is scheduled for September/October 2013.

Wyoming:

- Affected bison herd: A brucellosis-affected privately owned bison herd inside the DSA (Park County) was disclosed in November 2010. This herd was detected via on-farm pre-sale testing. This herd is comprised of two groups of animals, the cow-calf operation (Main herd) and the Preferred herd. The Preferred herd is managed separately and epidemiologically distinct from the Main herd. The Preferred herd has undergone four negative tests and was released from quarantine in late January 2012.

  The Main herd remains under quarantine with an affected herd management plan in place. In mid-October 2011, 689 animals that comprised the Main herd were tested. An additional 95 reactors, including 60 bulls, were detected. Thirty-five reactors cows and heifers were segregated out to a separate location, and 60 reactor bulls were slaughtered in February 2012. Serum and tissues from the reactor bulls were submitted for diagnostic testing. Serologic testing detected 42 reactors with *B. abortus* biovar 1 isolated from 36 percent of the tissues cultured. Blood cultures were negative.

  The 2011 calf crop was tested in March 2012, and 12 reactors were identified. The 12 reactor calves have been segregated to a separate location on the ranch apart from the Main and Preferred herds. The test negative calves from the 2011 calf crop are being held in a feedlot. The owner plans to keep the reactor cows and heifers until the next herd test in December 2012 – January 2013. All four adjacent herds have had negative herd tests and were released from quarantine in January 2012. All trace-in and trace-outs have been located and tested negative. All traces associated with this herd have been completed and closed. A herd test was conducted on November 26; results are pending.

Table 3: Livestock herds confirmed infected with brucellosis and remaining under quarantine, FY 2013, 2012 and 2011.

State	Method of Detection	Herd Type	Herd Management Plan	Genotyping Descriptive Results	Wildlife Surveillance Planned?	Cattle Being Traced	States Receiving Traced Cattle/ Bison
ID 2012	MCI trace	Beef	Quarantine with test and remove	Similar to 2006 and 2010 ID cattle isolates	Yes	48 animals	One trace-in State: ID, 3 herds, 1 tested neg. & 2 are scheduled. 4 trace-out States: TX, UT, ID, NM. All trace-outs destined to slaughter.

ID 2012	DSA required test	Bison	Quarantine with test and remove	Similar to ID elk isolates	No	349 animals	5 trace -in States: ND, SD, MT, OK, ID. ID closed. One trace-out State: ID – neg.
MT 2012	Epi link to 2011 bison herd	Bison	Quarantine with test and remove	Unique profile but the profile clusters with other isolates associated with GYA elk and bison	Yes	3169 animals	1 trace-in State: NE. 6 trace-out States: MT, CO, OR, SD, NE, ID. MT – closed
WY 2012	Pre-sale test on farm	Beef	Quarantine with test and remove	Similar to 2007 & 2010 WY elk and 2010-2011 cattle	Yes	0	0
MT 2011	DSA herd management plan testing	Beef	Quarantine with test and remove	Most similar to elk and previous cattle herd isolates from the area	Yes	22 herds	7 trace-out States : ID, MN, MT, NE, SD, UT, WA. MT and four other traces closed.
MT 2011	DSA herd management plan testing	Bison	Quarantine with test and remove	Exact match to a 2009 MT elk isolate	Yes	7510 animals	3 trace-in States: NM, NE, MT. 5 trace-out States: MT, NE, WY, ID, KS. MT herds closed.
WY 2011	Pre-sale test on farm	Bison	Quarantine with test and remove	Similar to 2007 & 2010 WY elk and 2010-2011 cattle	Yes	870 animals	1 trace -in State: SD, test negative. 4 trace-out States: MT, WY, CO, NV – all test negative