

Bovine Tuberculosis and Brucellosis Surveillance Results
Monthly Reports, Federal Fiscal Year (FY) 2012
October 1, 2011 – August 31, 2012

New Information – Tuberculosis (TB)

- One new suspect case occurred in an adult beef cow (> 2 years of age) slaughtered in Arizona with Nevada backtags. PCR is negative and culture is pending.
- No new affected herds were detected during August.

Update of Previously Reported Information

- The investigation is ongoing regarding TB in an adult beef cow slaughtered in Texas in March 2012. Officials in Oklahoma and Texas are conducting an investigation of the multiple potential consignors of this animal and testing the appropriate herds.
- Of the eight confirmed TB cases in fed cattle during FY 2012, five have occurred in cattle with official Mexican identification, indicating origin from Zacatecas (2), Nuevo Leon (2) and Chihuahua (1). A sixth case was determined to be of Mexican origin but did not have Mexican official animal identification present at the time of slaughter.
- The seventh fed-cattle slaughter case reported in June has been confirmed to be a female animal. The investigation is ongoing to determine the herd of origin
- The eighth slaughter case in a fed steer was PCR positive during August. Culture is pending and the case is under investigation.

Table 1. Bovine tuberculosis slaughter surveillance results, FY 2012.

Laboratory Status	New TB Cases August 1-31, 2012		Cumulative TB Cases Oct 1, 2011 – August 31, 2012		
	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	1	0	1	1

^a Confirmed by PCR testing and/or culture.

Table 2. Livestock herds confirmed infected with bovine tuberculosis, FY 2012, including test-and-remove managed herds under quarantine and carried forward from previous fiscal years.

State	Method of Detection	Herd Type	Herd Management Plan	Origin and Number of genotyping matches	Wildlife Surveillance Planned?	Approximate Number of Animal Traces	States With Traced Cattle
MI ^a	Area Test	Dairy	Test and remove	MI	Ongoing	Not applicable	Not applicable
MI ^a	Surveillance	Cervid	Test and removal	MI	Ongoing	None	None
MI ^a	Surveillance	Cervid	Test and removal	MI	Ongoing	None	None
CA ^a	Slaughter	Dairy	Test and removal	MEX = 3	Completed	None	None
CA	Slaughter	Dairy	Depop completed	Unique	Completed	For both CA herds, 196 traces of 2246 cattle culled since 2008, EMRS pending: CA (47) AZ (5)	CA, AZ
SD	Slaughter	Beef	Test and removal	CAN = 4, MEX = 124 USA = 86 matches from 8 herds including dairy herds in TX, ND, AZ, and NM and a beef herd in TX.	Fall 2012 hunter sampling	304 traces of 62 animals, EMRS pending: CO (2), SD (25)	CA, CO, IA, IL, IN, MI, MN, NE, OH, SD, TX, WI, WY
CA	Trace	Dairy	Test and removal	Same as CA case earlier this year	Completed	See above CA herd	CA
MI	Area Test	Beef	Partial depop ^b	New spoligotype; VNTR ^c matches MI strains	Ongoing	73 traces of 166 animals None Pending	MI
TX	Slaughter	Beef	Depop	USA= 86	Completed	62 traces of	TX

				matches from 14 beef herds and wild deer in MN		298 cattle, EMRS pending: TX (26)	
MI	Area Test	Dairy	Test and removal	MI	Ongoing	58 traces of 163 animals	IN, MI

^a Four herds detected in previous fiscal years have been added to this table to depict all TB-affected herds in the US. These include three herds in Michigan's MA zone, including one dairy from FY 2005 and two cervid herds from FY 2008 and one California dairy detected in FY 2011.

^b State funded partial depopulation.

^c Variable number tandem repeat.

Brucellosis – FY 2012

Idaho:

- 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 *B. 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. Seven out of eight adjacent herds have been tested for brucellosis with negative results. Movement controls are in place. To mitigate bison contact with elk, the owners are building an elk-proof fence around feed storage areas and those pastures used for winter feed lines. The next herd test will be in November 2012.
- Affected beef herd: A cattle herd (65 head) was traced from a MCI slaughter sample from California. This herd is located outside of Idaho's DSA. Movement controls are in place. Herd testing detected 5 reactors and 1 suspect. Milk was taken from four of the five reactor cows. *B. 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 1 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 were located in Idaho. Two of these herds have tested negative. The third herd is scheduled for testing in November or December 2012. All trace-out animals were destined for slaughter and have been identified. On June 30, 2012, a complete herd test detected 4 additional reactors out of 42 animals tested. Movement to slaughter for these reactors scheduled for the week of September 10, 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. *Brucella 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 for this herd is scheduled for Fall 2012.

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 post-calving whole herd test was completed in late August. The quarantine was released August 28, 2012. The entire heifer herd is scheduled for an assurance test in late fall. There were no trace-in herds because it is a closed herd. There were no trace-out herds because animals were either sold to slaughter or to terminal feedlots.

FY 2011 Herds Remaining under Quarantine, Test-and-Remove Procedures:

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. The assurance test for this herd is scheduled for October 19-20, 2012. Testing of trace-out herds in Montana has been completed and herds tested negative.
- Affected privately owned bison herd: A brucellosis-affected privately owned bison herd was disclosed 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. The second complete herd test for this herd is scheduled for fall 2012. 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.

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 reactor 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.

Table 3. Livestock herds confirmed infected with brucellosis and remaining under quarantine, FY 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	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) Idaho-closed One trace-out state: ID – neg.
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 4 Trace-out states: (TX, UT, ID, NM) - All trace-outs destined to

							slaughter
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: (OR, MT, SD, CO, NE, ID) MT – closed CO - 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: (NE, MT, WY, ID, KS) MT herds – closed.
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 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