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

New Information – Tuberculosis (TB)

- One new suspect TB slaughter case was reported in a steer slaughtered in Texas. Polymerase chain reaction and culture are pending. If confirmed, this will be the 8th fed cattle case this fiscal year.
- No new affected herds were detected during July.

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 seven 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). The sixth case was determined to be of Mexican origin but did not have Mexican official animal identification present at the time of slaughter. The 7th slaughter case reported in June has been confirmed to be a female animal. Polymerase chain reaction and culture were positive. The *M. bovis* strain isolated from this heifer matches a strain found in Mexican origin dairy cattle and does not match the strain from the TX adult beef cow case described above.

Table 1. Bovine tuberculosis slaughter surveillance results FY 2012.

	New TB Cases July 1-31, 2012		**Cumulative TB Cases Oct 1, 2011 – July 31, 2012**		
Laboratory Status	**Fed cattle**	**Adult cattle**	**Fed cattle**	**Adult cattle**	**Total**
M. bovis cases, confirmed[a]	0	0	7	3	10
PCR pending	1	0	1	0	1
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, FY 2012, including test and remove managed herds under quarantine and carried forward from previous fiscal years.

State	Method of Detection	Herd Type	Herd Manage-ment 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		
CA	Slaughter	Dairy	Depop Completed	Unique	Completed	For both CA herds, 183 traces of 2246 cattle culled since 2008, EMRS pending: CA (59) AZ (3)	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	305 traces of 62 animals, EMRS pending: CO (2), IA (4), 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 matches from 14 beef herds	Completed	10 traces of 298 cattle, EMRS	TX

				and wild deer in MN		pending: TX (1) (49)	
MI	Area Test	Dairy	Test and removal	Pending	Ongoing	Pending	Pending

[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 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. The owners are building an elk-proof fence around feed storage areas and 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. 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 will be scheduled for testing. 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, 2012, a complete herd test detected 4 additional reactors out of 42 animals tested. Movement to slaughter for these reactors is pending.

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 (4), other than the animals moving to slaughter, have been located and 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 whole herd test (post-calving) is scheduled for September 2012. The quarantine will be released if the results of this test are negative. The entire heifer herd is scheduled for an assurance test in late Fall if the quarantine is lifted.

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 herd is scheduled for Fall 2012 assurance test.
- 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 trace-out testing 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. This 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.

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	Number of 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 4 trace–out states (TX,UT,ID,NM)
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) One trace-out state: ID
WY 2012	Pre-sale test on farm	Beef	Quarantine with test and	Similar to 2007 & 2010	Yes	0	0

			remove	WY elk and 2010-2011 cattle			
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	4 trace-in States (MT,OR, NE,ID) 6 Trace-out States: (OR, MT, SD, CO, NE, ID)
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) 8 trace-out states: (NE,MT, WY,TX, CO, ID, SD, KS)
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 Slaughter/ feedlot traces pending	1 trace –in state (SD) 4 trace-out states: (MT, WY, CO, NV)