Bovine Tuberculosis

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Outline

• Background
• Infected Herds
• Trace Investigations
• Circle Testing
• Wildlife Testing
• Likely Source
• Lessons Learned
Background

- **February 19** - cow discovered at slaughter
- **February 25** - Saginaw herd quarantined
- **February 28** - slaughter cow bovine TB positive
- **March 12** - Michigan strain of bovine TB
Background

• **March 4-7** - herd TB tested.
  - 18% of cattle responded to TB testing

• **March 25** - Saginaw herd designated TB affected

• **May 1** - Gratiot and Midland County herds designated as TB affected

• **September 5** - Arenac County feedlot designated as TB affected
Outcomes - Infected Herds

- **June 7** - Small freezer beef herd depopulated in Midland County.
- **June 19** - Small dairy beef herd depopulated in Gratiot County.
- **August 8** - Saginaw dairy herd completed depopulation.
- Arenac feedlot in process of depopulating.
Michigan Bovine Tuberculosis Zones
September 14, 2011

- 2013 Saginaw Co. TB positive dairy herd
- Gratiot & Midland Co. TB positive dairy herds
- Arenac Co. TB positive dairy herds
Trace Investigations Outcomes

• Three additional TB affected herds were found – Gratiot, Midland, Arenac herds

• 230 farms visited that were linked to the four infected farms

• 83 of the 230 herds needed TB test - 14,994 head of cattle TB tested.
Circle Testing Outcomes

- Public Act 466 - requires circle testing
- Typically 10-mile circles
- Three overlapping circles
Circle Testing Outcomes

- March 26 - Special Surveillance Area declared around Saginaw herd
  - 63 farms in 10-mile circle
  - All testing done by regulatory veterinarians
  - 26 farms verified as not having cattle
  - 37 farms TB tested - 876 head of cattle

- No further disease discovered!
Circle Testing Outcomes

• May 6 - Special Surveillance Area declared around Gratiot herd
  ▪ 67 farms in 10-mile circle
  ▪ 19 farms verified as not having cattle
  ▪ 48 farms TB tested - 4,415 head of cattle

• No further disease discovered!
Circle Testing Outcomes

• May 6 - Special Surveillance Area declared around Midland herd
  ▪ 20 farms in 10-mile circle
  ▪ 5 farms verified as not having cattle
  ▪ 15 farms TB tested - 5,508 head of cattle

• No further disease discovered!
• Enhanced Surveillance to detect TB in the Deer Herd

• If TB is found – the DNR will respond appropriately
How Saginaw Herd Infection Happened

• Genetic test show similar to cattle and wildlife in NE Lower Peninsula’s

• To date all wildlife testing in Saginaw region has been negative.
How Saginaw Herd Infection Happened

• Trace investigation found that Saginaw herd last purchased female cattle in mid-90s.

• Three source herds - 6,085 head of cattle were negative

• Cattle purchased in mid-90’s - most likely source of infection
How Saginaw Herd Infection Happened

- Multiple factors likely involved
  - Stress of heat and drought
  - High concentration of cattle
  - Stress of calving
  - Feeding unpasteurized milk to calves
How Other Herd Infections Happened

• **Gratiot infection** - unpasteurized milk from Saginaw dairy

• **Midland infection** - infected animal originated from Saginaw dairy

• **Arenac infection** - unpasteurized milk from Saginaw dairy at Gratiot farm in 2012
Lessons Learned

• Important to identify all cattle with RFID tags
  ▪ 2012 bull calves without RFID tags complicated the investigation

• Raw milk viable source of infection
  ▪ Source of infection for two of three additional farms
Questions