Beef Herd Biosecurity – protecting your herd

The Health/Biosecurity Program

**Goal**
- To decrease likelihood of a devastating outbreak within a population of animals.
- Effects are mild or subclinical in nature if a disease agent is present in the herd.

The Health/Biosecurity Program

- Increase Immunity
- Limit or prevent transmission
- Reduce or eliminate the agent

Biosecurity/Biocontainment Strategies

Hazard Analysis and Critical Control Points

- Concept of HAACCP
  - understanding production cycles
  - understanding disease biology
  - recognize specific points to intervene
- Certain strategies common
  - isolation, sanitation, stocking rates
- Certain strategies specific
  - diagnosis, testing, treatment, culling

Biosecurity

protecting your herd from Trichomoniasis
Trichomoniasis or "Trich" for short, is a venereal disease of cattle resulting in reproductive losses.

- Trich is transmitted to cows by sexual contact with an infected bull.
- Cow to cow – via infected bull
- A disease of naturally bred cattle as opposed to artificially inseminated cattle.

What is Trichomoniasis?

- No outward signs of disease
- No effect on sexual activity or semen quality
- Localizes in secretions (smegma) produced by penis and prepuce
- Reside in crypts in the surface on the penis and sheath
  - Crypts become more prominent with age
  - Older bulls are more likely to become infected and stay infected.
- There is no effective treatment

What happens to infected males?

- Become infected when bred
  - Colonies of T. foetus grow and spread throughout reproductive tract
- Reaction results in inflammation
  - Inflammation results in death of the fetus

What happens to infected females?

- Open cows
- Extended calving

End Result of Trichomoniasis

- Open cows
- Extended calving

Trich – Geographic Expansion?

Geopolitical issues
Trichomoniasis in Nebraska

- Spring 2008 – Trichomoniasis Health Committee
  - NDA, NE Cattlemen, NE LMA, UNL, NE Dairy Assoc., NVMA
  - Draft proposal for voluntary Trichomoniasis Management Program
  - Improve reporting of Trichomoniasis in Nebraska

- Summer & Fall 2008 – Trichomoniasis Education
  - 12 regional cattlemen’s meetings
  - 3 veterinary educational meetings
  - Trichomoniasis educational material

- Fall 2008 – NVMA Ad hoc Trichomoniasis Committee
  - Review and advise Trich Health Committee on draft proposal
  - Proposed Trich education and certification for Veterinarians

Trichomoniasis Reporting by County – NE only

3810 total samples from 67 counties : 311 positives from 21 counties

Source: University of Nebraska - VDC

Trichomoniasis Reporting by County – NE only
Reporting dates: Jan 1, 2009 – Dec 14, 2009

3706 total samples from 75 counties : 19 positives from 10 counties

Biosecurity – Guidelines for prevention

- Females
  - Virgin heifers from reputable sources

- Males
  - Virgin bulls or test negative bulls
  - Do not loan, rent, or borrow bulls
  - Use young bulls
  - Perform annual Breeding Soundness Exams including semen check and Trich test
Biosecurity – Guidelines for prevention

- Sound reproductive management strategy
- Maintain short breeding season
- Timely pregnancy diagnosis
- Consider AI when possible
- Avoid co-mingling
- Maintain and manage by breeding groups
- Maintain good records

Manage by Breeding Groups

<table>
<thead>
<tr>
<th>Group</th>
<th>Cows</th>
<th>Bulls</th>
<th>Pregnancy Rate</th>
</tr>
</thead>
<tbody>
<tr>
<td>300 cows</td>
<td>12</td>
<td>95%</td>
<td></td>
</tr>
<tr>
<td>100 cows</td>
<td>4</td>
<td>65%</td>
<td></td>
</tr>
<tr>
<td>800 exposed</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>721 pregnant</td>
<td></td>
<td>90%</td>
<td></td>
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<tr>
<td>92% overall</td>
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Biocontainment - managing infected herds

- Cull all open cows and “short breeds”
  - These are the most likely carriers
- Manage bulls to prevent ongoing transmission
  - Best –sell all bulls and replace with virgin test-negative bulls
  - Alternative –test all bulls and retain only young test-negative bulls from the herd
- Cull cows and bulls should be sold for slaughter

Biocontainment - managing infected herds

- Segregate cows based on pregnancy status
  - ≥ 5 months pregnant
    - Most likely not infected or cleared infection
    - Cull cows that abort
  - < 5 months pregnant
    - Maintain separate and watch closely
    - Cull cows that abort
    - Open cows or cows with pyometra
  - Cull

What is bovine tuberculosis?

- TB is a contagious, chronic progressive bacterial disease.
- Primarily affects cattle but can be transmitted to any warm-blooded animal including humans.
- Federally regulated disease.
How is TB transmitted

• Spread by an infected animal through...
  • Respiration of TB bacteria aerosols
  • Contaminated feed or water from saliva or other discharges
  • Drinking raw milk from infected animal

What happens if TB is discovered?

• Initial herd is quarantined and tested.
  • Herds with direct exposure to initial herd quarantined and tested.
  • Epidemiologic investigation
    • Trace back of animals leaving or entering initial herd

TB in Nebraska

• June 1, 2009, a beef herd in Rock county diagnosed with TB
• Ongoing investigation with no additional infected animals found
• At the peak of the investigation, 43 herds in 14 counties quarantined
• Dec 13th, 9 herds in 8 counties quarantined
• 19,800 cattle have been tested

Biosecurity – Guidelines for prevention

• Maintain a closed herd
• Buy animals from an accredited TB-free herd
• Test new animals for TB
• Isolate for 60 days and retest
• Restrict contact between your herd and other herds
• Restrict on-farm visitors from contact with your herd
• Restrict contact with wildlife
• Test your herd

Biosecurity

• Set of guidelines
  • Reduces the likelihood of introducing a new disease from external sources.
• Assess your risks
• Devise a plan
• Consult your veterinarian

Questions?