Veterinary Science
Preparatory Training for the Veterinary Assistant
Floron C. Faries, Jr., DVM, MS
Bovine Trichomoniasis Control Program

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Objectives

- Discuss the cause, transmission, and prevention of genital trichomoniasis in cattle
- Describe the disease condition of trichomoniasis in cows
- Describe diagnostic procedures for bovine trichomoniasis
- Discuss state regulations for control of bovine trichomoniasis
Bovine Trichomoniasis

- Cattle disease
  - Genital disease
  - Venereal disease
- Long-standing endemic disease
- Increased rate of diagnosis
  - Increased infected herds or
  - Heightened test awareness
- Reportable disease in western states
Economic Losses

- Infected beef herd
  - Smaller calf crops
  - Less uniform calf crops
  - Increased culling costs
  - Increased replacement costs
  - Increased veterinary costs
  - Decreased herd income
    - 20-40% drop
    - $140 loss per cow

- National beef industry
  - $650M loss per year
Cause

- A protozoon
  - A single-celled, motile parasite
  - Sperm-head size
  - Pear-shaped
  - Three head hairs (flagellum, trich)
  - One side undulating hair (membrane)
  - One tail hair

- A trichomonad
  - *Tritrichomonas foetus*
  - No resistant stage in environment
Transmission

- Venereal – bull to cow or cow to bull
  - Infected bulls breed clean cows/heifers
  - Clean bulls breed infected cows (recent aborters)
- Not cow to cow
- Not bull to bull
- Not from environment
Bull Trichomononiasis

- Infection – no disease or symptoms
- Smegma in crypts (microscopic folds)
  - Penis
  - Internal sheath
  - Crypts deepen with age – increases rate of infection
- Infected for life
  - Persistent infection (PI)
- Sheath pus discharge (uncommon)
Bull’s Age

Older >5 yrs.  4 to 5 yrs.  Young < 4 yrs.
Cow/Heifer Trichomonosis Embryonic Absorption

- Disease
- Colonies – causes mild inflammation (<18 days)
  - Vagina
  - Uterus
  - Oviduct
- Embryo death – absorption
- Symptoms
  - Recycles (repeat breeders) (infertility)
Cow/Heifer Trichomonosiosis

Fetal Abortion

- Disease
  - Colonies – causes severe inflammation (>60 days)
    - Uterus
  - Fetus death – expelled
  - Infected fetus/placenta
- Symptoms
  - Recycles (repeat breeders) (infertility)
  - Early abortion
  - Uterine pus discharge (uncommon) (PIs)
Herd History

- Abortions (2-3 mos pregnancy)
- Recycles (repeat breeders)
- Late calvers
  - Infected for 2-4 mos – cleared
  - Immune response (short-lived)
  - Delayed conception
- Strung-out calving
- Open cows
- Overworked, tired bulls
Diagnosis

- Test bulls
  - >10 days after service
  - Sheath sample – culture test (3 samples)
    - Staggered at 7-14 day intervals
  - Sheath sample – gene test (1 sample)
    - Polymerase Chain Reaction (PCR) test
- Test aborted cows/heifers
  - <30 days after abortion
  - Cervical sample – culture test or PCR test
- Test aborted fetus/placenta
  - Stomach/placenta sample – culture test or PCR test
Treatment

- No approved drugs
Control – Biocontainment

- Consultation
  - Producer-private veterinarian-diagnostic laboratory
- Testing
- Culling
- Vaccinating
  - Killed Vaccine (TrichGuard®, TrichGuard V5-L®)
    - Does not prevent infection
    - Helps reduce severity of disease
    - Helps cows/heifers clear infection
    - Does not help bulls clear infection
Prevention – Biosecurity

- Consultation (producer-private veterinarian)
  - Annual test pre-breeding herd bulls
  - Artificial insemination (AI)
  - Good fences
  - Vaccination
    - Killed Vaccine (TrichGuard®, TrichGuard V5-L®)
      - Does not prevent infection
      - Helps reduce severity of disease
- Replacements
  - Virgin heifers
  - Virgin bulls
  - Pre-entry test bulls
State Regulations

- Reportable disease (17 western states)
  - State entry test requirements (breeding bulls)
  - In-state sale test requirements (breeding bulls or bulls/cows)

Arizona
California
Colorado
Idaho
Louisiana
Montana
Nebraska
Nevada
New Mexico
North Dakota
Oklahoma
Oregon
South Dakota
Texas
Utah
Washington
Wyoming
Bovine Trichomoniasis Control Program in Texas

- Trich is a reportable disease in Texas
  - All test results positive and negative must be reported to the TAHC < 24 hours

- Bulls entering Texas for breeding purposes
  - Bulls must be officially identified
  - Certified virgin bulls < 24 months of age
  - Test-negative bulls > 24 months of age
    - Test < 60 days
  - Requirements effective April 1, 2009
Bulls changing ownership in-state for breeding purposes

- Bulls must be officially identified
- Certified virgin bulls < 24 months of age
- Veterinarian certified virgin bulls < 30 months of age
- Test-negative bulls > 24 months of age
  - Test < 60 days
- Test-positive bulls go on permit to slaughter < 30 days
  - Remaining bulls in herd isolated from female cattle until tested and classified as negative

Requirements effective January 1, 2010
Test-negative bull in herd of unknown status
- 3 cultures (not < 7-day intervals) or
- 1 PCR

Test-negative bull in herd of known infected status
- 3 cultures (not < 7-day intervals) or
- 2 PCR