

Veterinary Science

Preparatory Training for the Veterinary Assistant

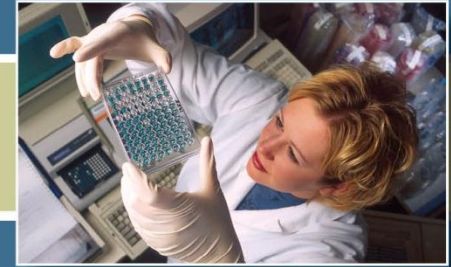
Floron C. Faries, Jr., DVM, MS



FAZD CENTER

NATIONAL CENTER FOR FOREIGN ANIMAL
AND ZOONOTIC DISEASE DEFENSE

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Bovine Trichomoniasis Control Program

Floron C. Faries, Jr., DVM, MS

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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

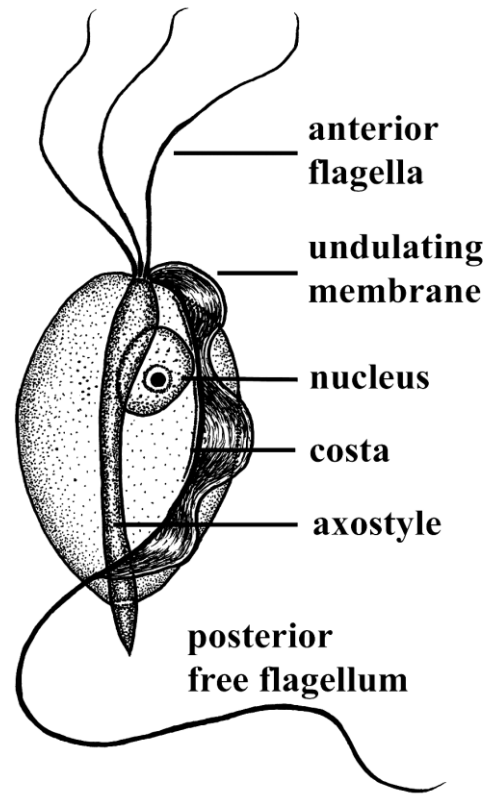
- Cattle disease
 - Genital disease
 - Venereal disease
- Long-standing endemic disease
- Increased rate of diagnosis
 - Increased infected herds or
 - Heightened test awareness
- Reportable disease in western states

Economic Losses

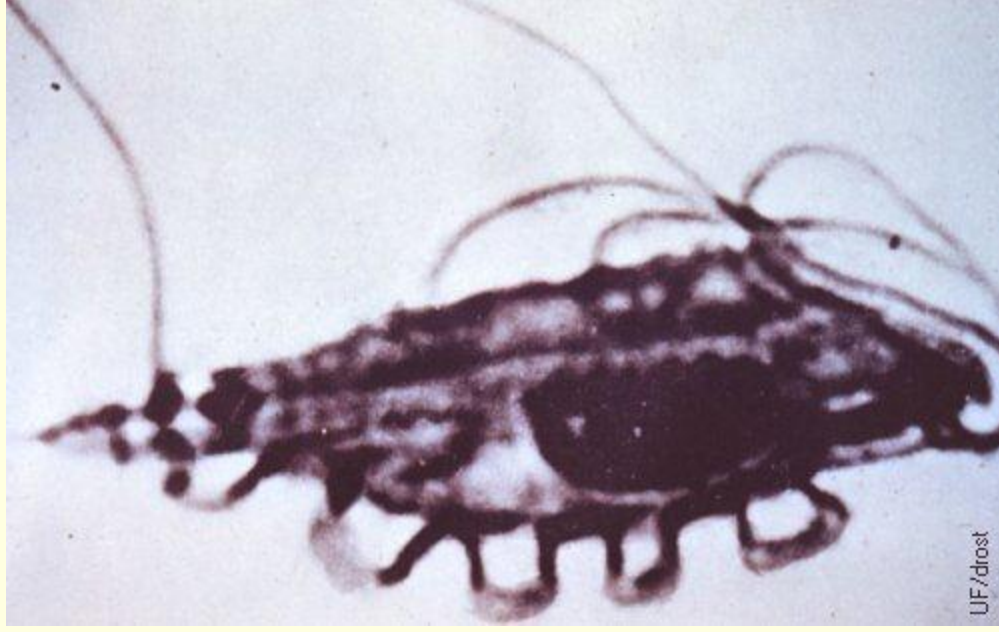
- Infected beef herd
 - Smaller calf crops
 - Less uniform calf crops
 - Increased culling costs
 - Increased replacement costs
 - Increased veterinary costs
 - Decreased herd income
 - 20-40% drop
 - \$140 loss per cow
- National beef industry
 - \$650M loss per year

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 Trichomoniasis

- 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.

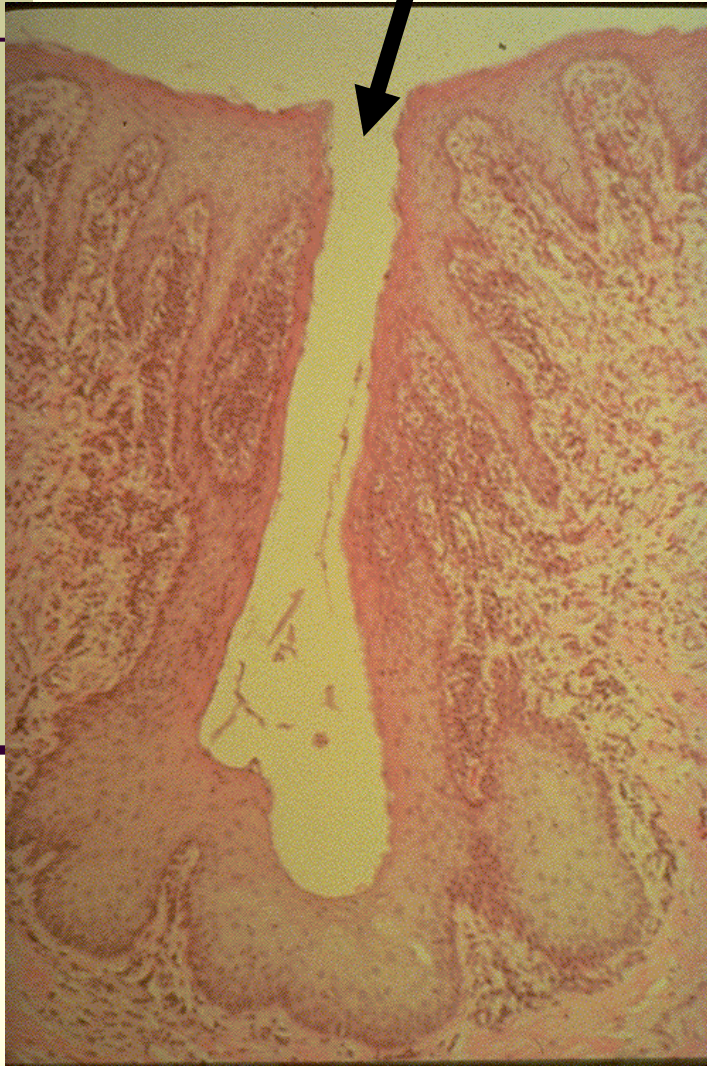
4 to 5 yrs.

Young < 4 yrs.



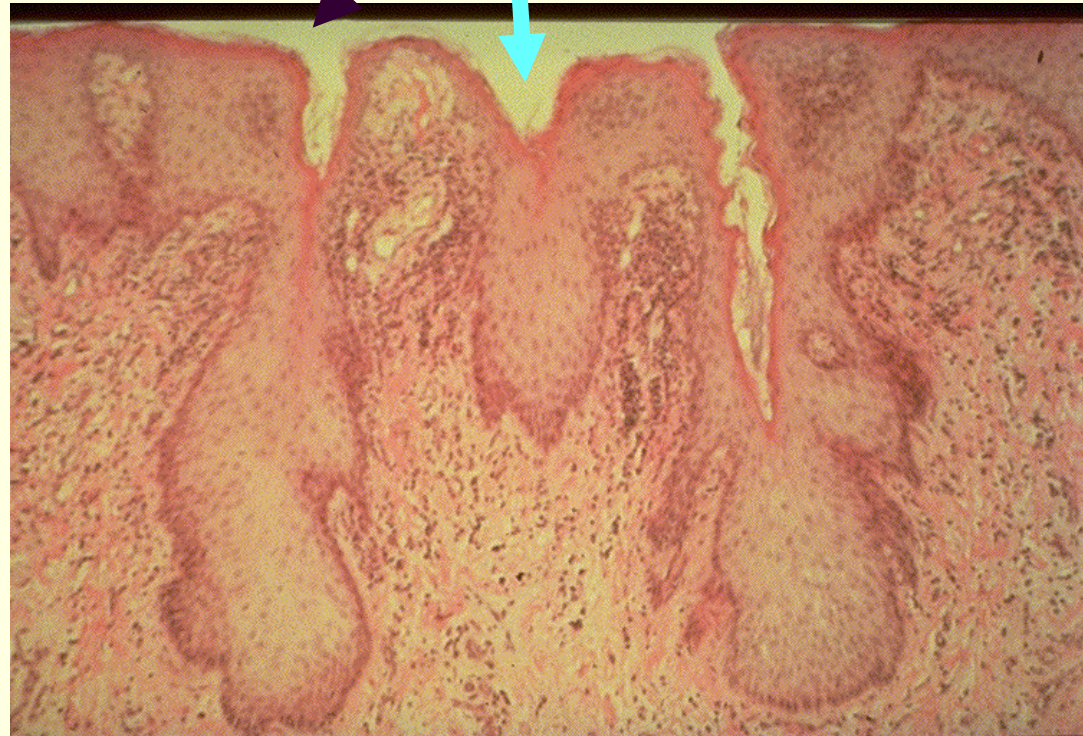
From Older Bull

Crypt



From Younger Bull

Crypts





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 Trichomonosis

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

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- 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

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- 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