JUST WHAT IS TRICHOMONIASIS OR “TRICH”? 

Venereal disease in cattle;

Causes infertility, open cows and occasional abortions in cows and heifers;

Can be economically devastating and costly to eradicate from a herd;
WHAT CAUSES TRICHOMONIASIS?

- Mobile, complex, three-haired, single-celled organism, protozoan, called *Tritrichomonas foetus*;
- Organism survives in microscopic folds of skin that line the bull’s penis and internal sheath;
WHAT CAUSES TRICHOMONIASIS (CONT’)

- In the cow or heifer, the organism lives in the vagina and uterus until her immune system eventually destroys it;

- This destruction process (immunity) may not occur for 3 – 20 weeks, and the immunity is short lived so a cow or heifer can become infected again;
HOW IS TRICH TRANSMITTED?

- Transmitted from cow to cow by the bull – nearly always a disease of cattle who are naturally bred;
- Transmitted via sexual contact with an infected mate;
- Rare cases of transmission through artificial insemination;
Cow does not appear ill;
Infected during breeding;
The cow may show a subtle, mild, vaginal discharge, 1 – 3 weeks later (pyometra);
Protozoa attach to the lining of the reproductive tract;
An inflammatory response occurs, resulting in the death of the embryo;
Repeated breedings;
Wide ranges of gestational ages at pregnancy checks;
No signs: semen quality and sexual behavior are not affected;
Trich lives in the crypts (folds) inside the sheath. Crypts deeper in older bulls;
As the bull ages, the skin grows, folds increase in the penis and sheath, creating additional places for the organism to thrive;
Older bulls (over 3 years) more likely to become chronically infected than younger bulls;
WHAT IF ‘TRICH’ GETS INTO MY HERD?

- In herds with a new infection, a 50-70% calf crop is common, strung out over 3 – 8 months;
- Embryo dies within the first 18 days; cow may stay on 21 day cycle;
- Usually, embryo dies at 50-60 days; cow will recycle;
- Abortion can occur at 7-8 months, rarely go to term;
SAMPLE COLLECTION FROM THE BULL
SAMPLE COLLECTION FROM THE BULL
**DIAGNOSIS**

- Bull becomes lifetime carrier;
- Best to test after 2 weeks sexual rest;
- Sometimes observed under scope immediately;
- Usually culture for 1 to 7 days;
- If even one bull is positive, you have to assume that the herd has been exposed!

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- Cows usually clear infection rapidly;
  - Test soon after embryo death
- Suggestive history not obtained until several months later;
HOW ACCURATE IS THE TEST?

Per the University of NE diagnostic lab:

- Current diagnostic methods will detect 80-90% of infected bulls with a single test;
- Repeating this test up to 3 times at 1-2 weeks intervals increases test accuracy;
- There are look-alike organisms and PCR testing has improved diagnostic efficiency;
TESTS AVAILABLE FOR TRICH

- **PCR**
  - Polymerase Chain Reaction;
  - Differentiate contaminate trichomonads;

- **In Pouch TF**
  - Convenient;

- **Diamonds Media**
  - Some Labs Prefer;

- **Culture**
HOW IS THE DISEASE CONTROLLED?

- Trichomoniasis is a complex problem and your veterinarian should always be consulted regarding decisions about diagnosing, preventing, or controlling this disease;
- It is easier to prevent the infection than to try to control it after it enters the herd;
Trichomoniasis preventative measures
A number of management processes need to take place concurrently to keep trichomoniasis out of cow herds.

- Include Trich. vaccine
- Repair fences
- Cull open cows
- Test & sell positive bulls
- Repro, disease vaccines
- Short breeding season
- Maintain closed herds
- Use young bulls

Cow Herd

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In 2007, the NE State Veterinarian entered into discussions with the Department, veterinarians and producers at association meetings, and various conferences, on ways to control Trichomoniasis in bovine herds across the state;
January 2008, the Department of Agriculture developed an import order for cattle entering the state.

PURPOSE:  Protect the health of Nebraska livestock;

GOAL:  Maintain the strength of our exports and respond to the need expressed by the industry;
TRICHOMONIASIS

BEFORE THE DEPARTMENT OF AGRICULTURE
STATE OF NEBRASKA

DR. DENNIS HUGHES
STATE VETERINARIAN

BUREAU OF ANIMAL INDUSTRY
DEPARTMENT OF AGRICULTURE

STATE OFFICE BUILDING
301 CENTENNIAL MALL SOUTH
FOURTH FLOOR
LINCOLN, NEBRASKA 68509

AMENDED TRICHOMONIASIS
IMPORT ORDER
AMENDED - JANUARY 15, 2006

Trichomoniasis (Trichomonas foetus (T. foetus)) causes a venereal disease of cattle characterized by fetal abortions, pyometra, and open cows. This Order is being issued to protect the health of Nebraska livestock as the result of Trichomoniasis infections in surrounding states.

Pursuant to the authority of Neb. Rev. Stat. §54-701 and §54-750.05, this Order is issued this 1st day of January, 2006, for the purpose of taking immediate action to protect the health status of Nebraska's dairy and beef cattle industry from imported bulls and cows which may be infected with T. foetus. This Embargo Order is in addition to the requirements found in the current Animal Importation Act and Animal Importation Regulations (Neb. Rev. Stat., §§54-754.01 to 54-756, and 23 NAC 2).

ORDER:

IT IS HEREBY ORDERED THAT:

1. Health Requirements for Beef and Dairy Breeding Bulls:
   a. All bulls over 24 months of age and all non-virgin bulls less than 24 months of age shall have:
      i. Three consecutive official negative Trichomonas culture tests at least one week apart OR one negative PCR test within 30 days prior to importation; AND
      ii. Samples submitted for testing shall be collected by an accredited veterinarian and conducted by a laboratory certified by the American Association of Veterinary Laboratory Diagnosticians (AAVLD); AND
   b. Not be used for breeding purposes between the tests and the time that the bull(s) is imported into Nebraska; AND

WEB SITES: www.agri-ne.gov

Neb. Rev. Stat. Section 54-754.01 to 54-756, 23 NAC 2

Department of Agriculture, 301 Centennial Mall South
AFFIDAVIT FORM FOR AUCTION MARKETS

AFFIDAVIT

Statement of status for Breeding Female cattle, being offered for sale at an approved Nebraska Livestock Auction Market, which originate from another state.

Seller Statements:

i. “The heifers being offered for sale are known virgin heifers.”

Owner/Custodian ___________________________ Date ___________________________

ii. “The heifers listed being offered for sale were exposed for their first breeding, only to a known negative T. foetus bull* or artificially inseminated, and are not yet 120 days pregnant.”

Owner/Custodian ___________________________ Date ___________________________

iii. “The cows or heifers being offered for sale are at least 120 days pregnant.”

Owner/Custodian ___________________________ Date ___________________________

Market Veterinarian ___________________________ Date ___________________________

iv. “The cows being offered for sale did not originate from a known positive T. foetus herd and have not calved at side.”

Owner/Custodian ___________________________ Date ___________________________

v. “The cows being offered for sale have had no exposure to other than known negative T. foetus bull* since parturition.”

Owner/Custodian ___________________________ Date ___________________________

Buyer Statement:

These cattle are being purchased for feeding and/or slaughter purposes only and will not be diverted for breeding purposes.

Purchaser ___________________________ Date ___________________________

The signed Affidavit shall be attached to the market’s Buyer or Seller records and kept at the market.
Nebraska and North Dakota have implemented Import Orders for monitoring. The following states have developed more comprehensive Trich eradication and testing programs:

- California
- Colorado
- Idaho
- Montana
- New Mexico
- South Dakota
- Utah
- Wyoming
FUTURE DISCUSSIONS ON TRICH
This presentation has been a collaborative effort between the:
NE Department of Agriculture and University of NE Diagnostic Laboratory.