



Bovine Trichomoniasis

Roger Dudley DVM

roger.Dudley@nebraska.gov

(402) 471-2351

Thanks to Dr Jeff Ondrak – USDA



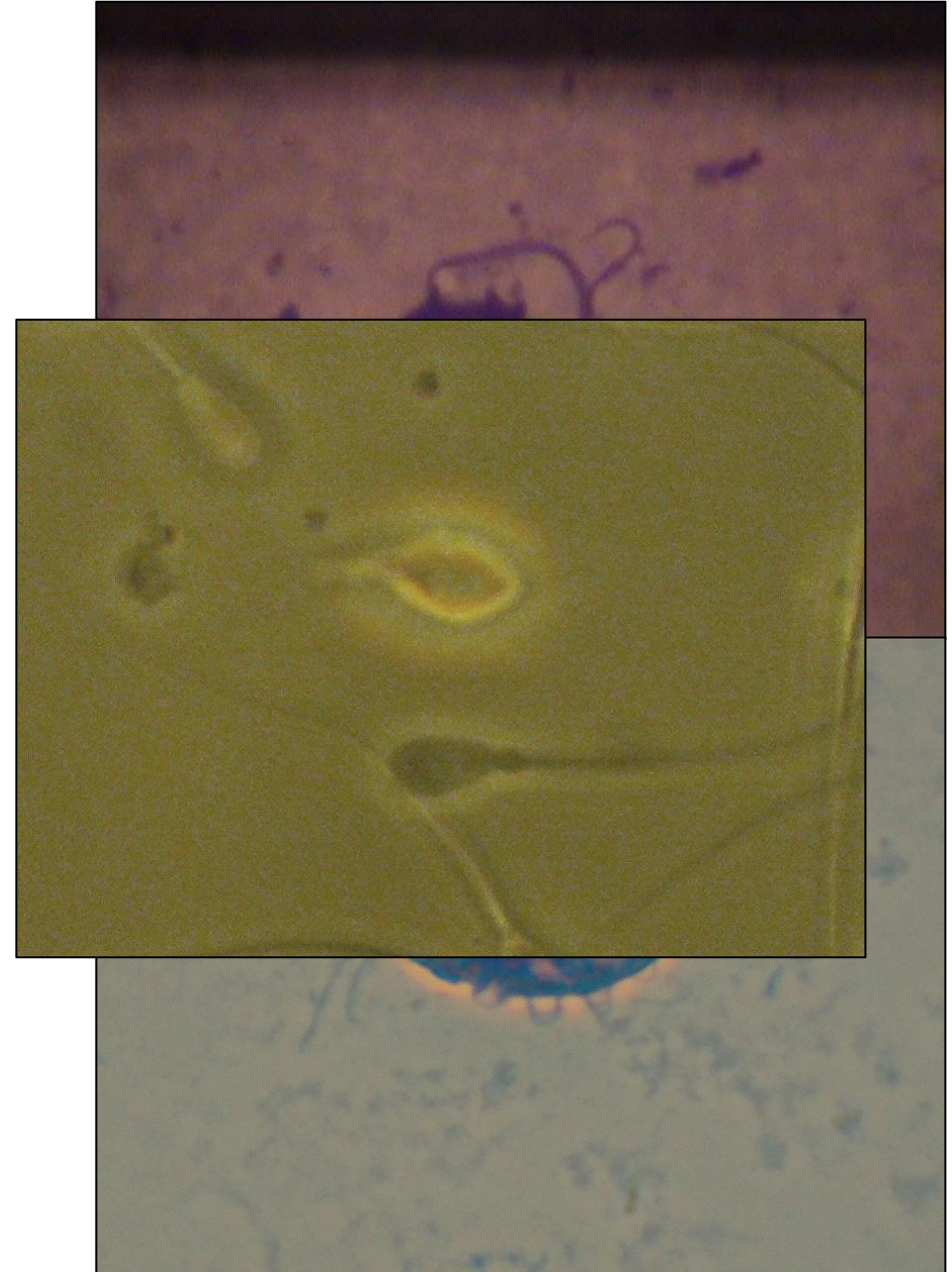
Objective

- To provide a basic level introduction to Bovine Trichomoniasis
- Understand the Trich disease reporting requirements in NE.



Tritrichomonas foetus

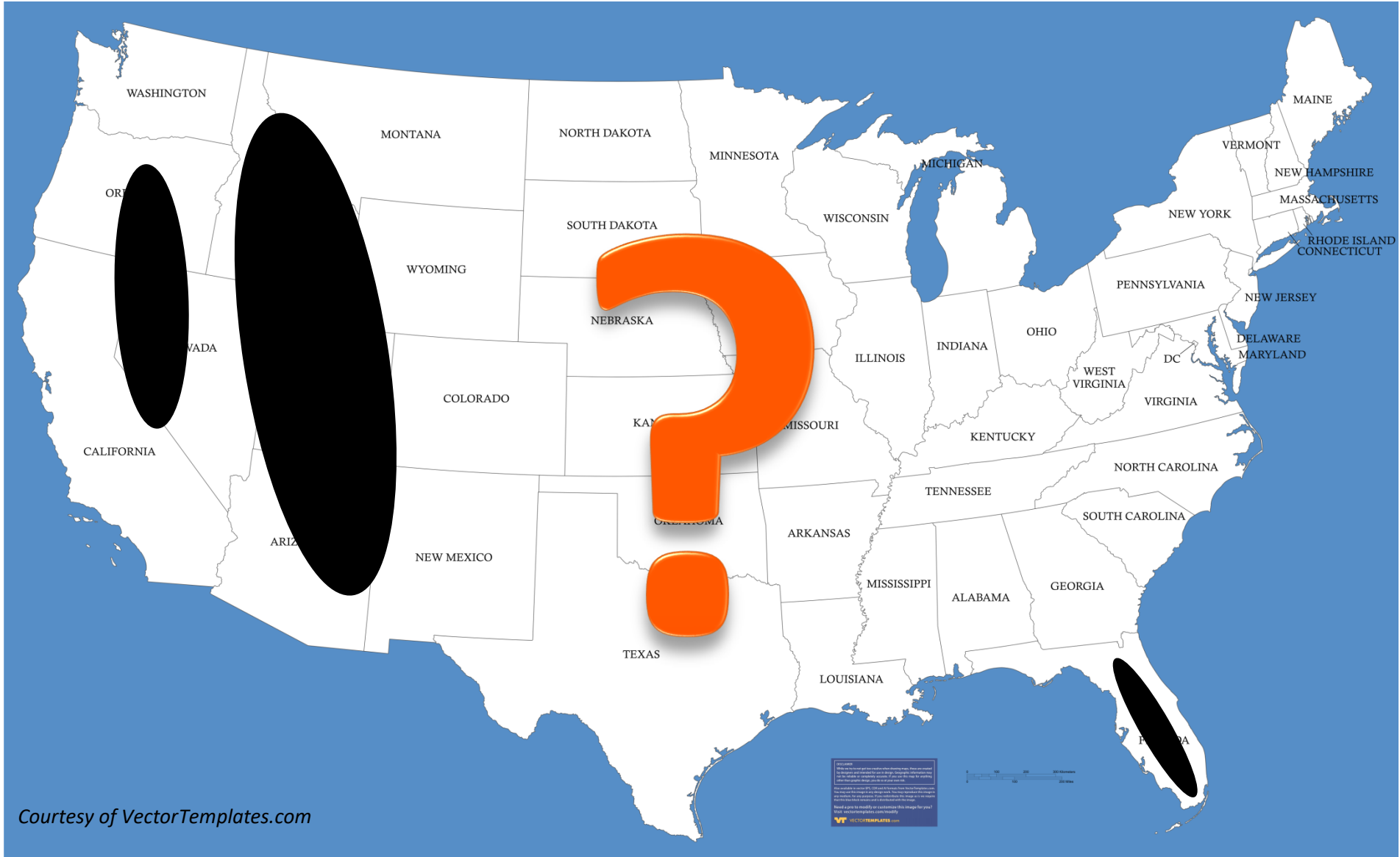
- Tri = 3; trich = hair
- 10-25 μm x 5-10 μm
- Obligate parasite of the bovine reproductive tract
- Highly contagious venereal disease
- No approved treatment



History

- 1888 France
- 1920's World-wide
- 1932 Pennsylvania dairy
- 1958 Western U.S.



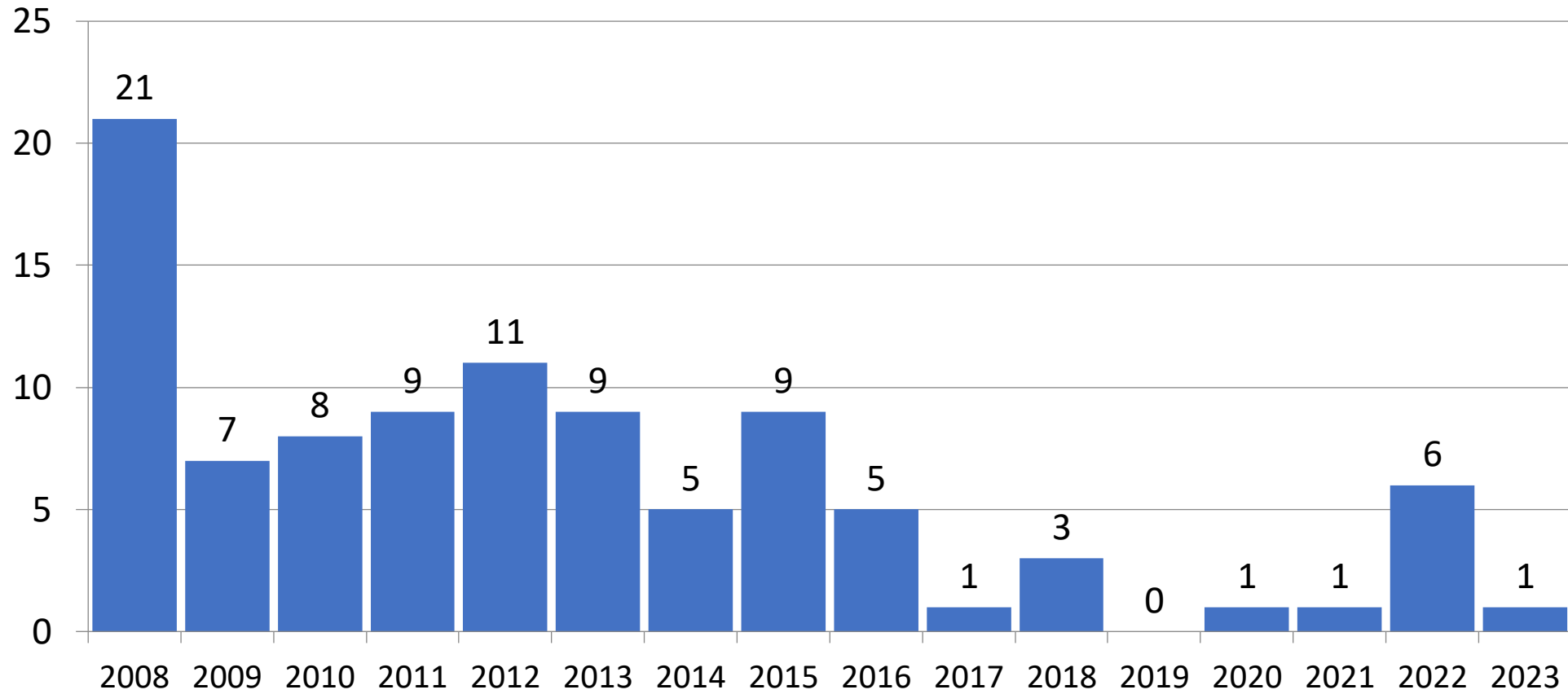


Courtesy of VectorTemplates.com

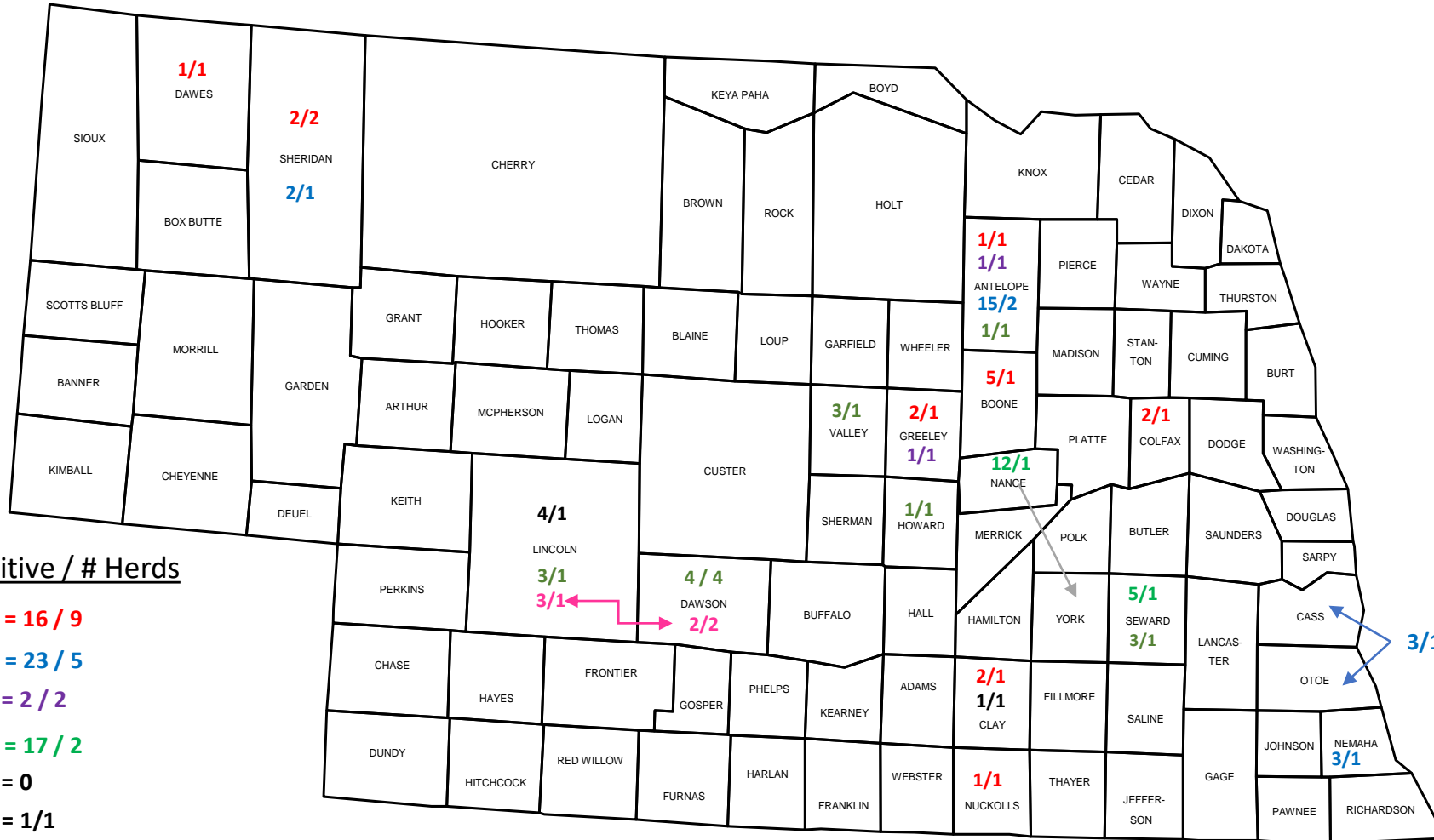
Historic Prevalence –

- California (1988-1989) – 15.8% herds; 4.1% bulls
- Nebraska/Colorado abattoirs (1988-1990) – 0.172% bulls
- Idaho (1989-1990) – 4.4% herds; 1.63% bulls
- Idaho (1990-1991) – 3.0% herds; 0.74% bulls
- Florida (1995-1996) – 81.8% herds; 11.9% bulls
- Florida (1997-1999) – 28.8% herds; 6.0% bulls
- Alabama (2002-2005) – 0.27% bulls
- Tennessee (2013-2016) – <0.01% bulls
- Wyoming (2007-2010) – 2.17% herds

Nebraska Trich Counties



Nebraska Department of Agriculture
 Animal & Plant Health Protection
Trichomoniasis Positives / Herds 2015 – 2023
 Dr. Roger Dudley – State Veterinarian
 Dr. Kaylie Fritts – Deputy State Veterinarian



Positive / # Herds

2015 = 16 / 9

2016 = 23 / 5

2017 = 2 / 2

2018 = 17 / 2

2019 = 0

2020 = 1/1

2021 = 4/1

2022 = 15 / 9

2023 = 5 / 3

Cost of Infection

- **Computer simulation** Rae 1989 *J Am Vet Med Assoc* 214:771-775
 - 14-50% reduction in calf crop
 - 12-30 day longer breeding season
 - 5-12% reduction in suckling period
 - 4-10% reduction in \$ returned per calf born
 - 5-35% reduction in return per cow exposed
- **Computer simulation** Villarroel 2004 *J Am Vet Med Assoc* 65:770-775
 - Uncontrolled trich; 300 cows = $\leq 23\%$ reduction in income
 - \$11.6 million lost in California

T. foetus in Females

Disease Process

- Infection leads to inflammation, but does **not** interfere with conception
- Early embryonic death and abortion at 50 – 80 days
- Immune response clears infection
- Infertility for 2-5 months
=> *normal fertility*
- Unusual outcomes

Clinical Signs

- Mild discharge
- Return to estrus
- Extended calving season
- **≥ 40% reduction in % pregnant cows**



Unusual Outcomes

- Pyometras
- Abortions
- Prolonged infections
 - 22 months *Alexander Aust Vet J 1953*
 - 300 days *Mancebo et. al. Vet Parasitol 1995*
- Carrier cows
 - 63-97 days *Goodger et. al. JAVMA 1986*
 - 9 weeks *Skirrow JAVMA 1987*



T. foetus in Males

Disease Process

- No tissue invasion
- No detectable immune response
- Preputial crypts aid in parasite survival?
- Chronic carriers in bulls > 3 years of age

Clinical Signs

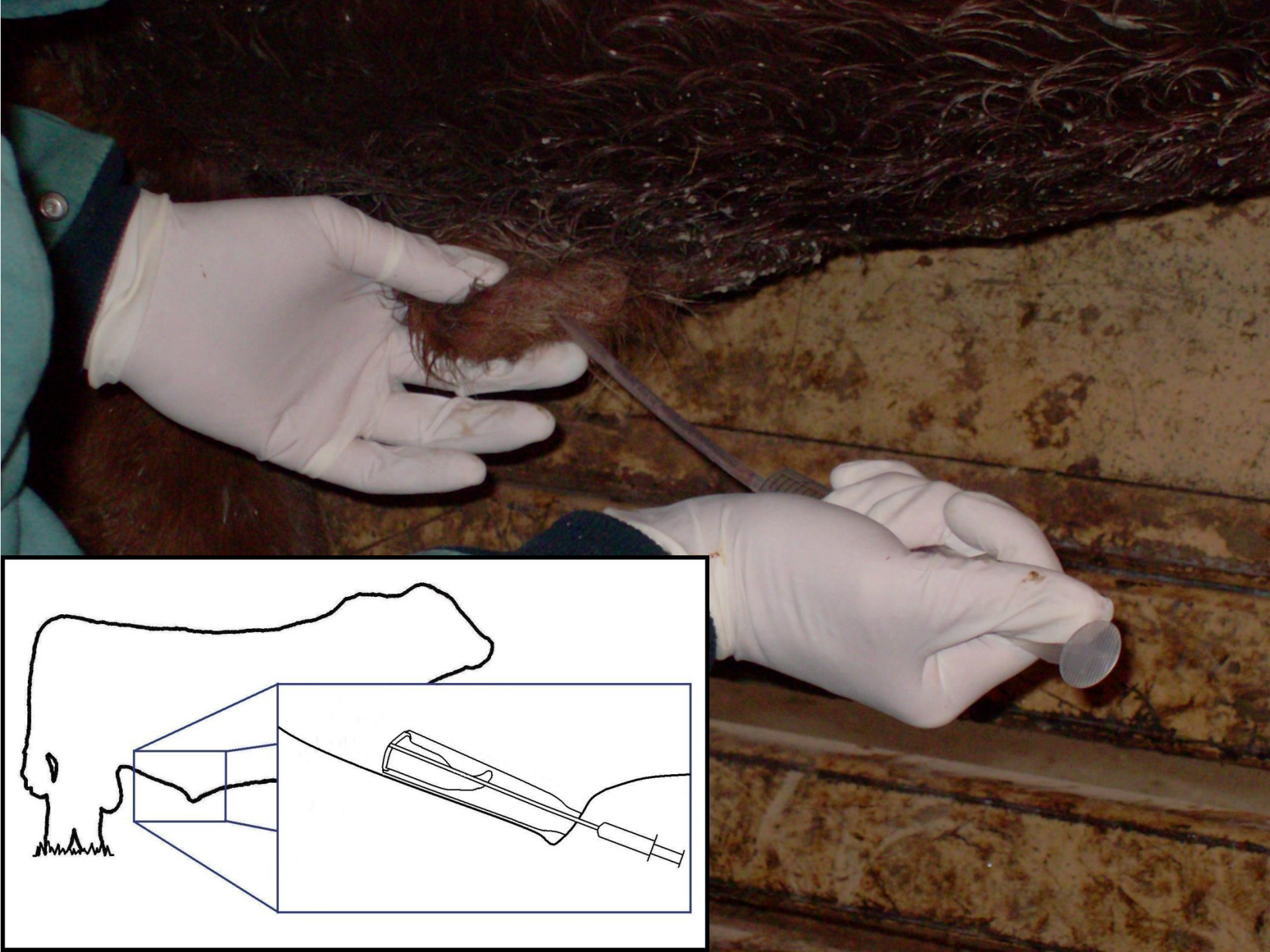
- None

Treatment

- *Test and slaughter!*

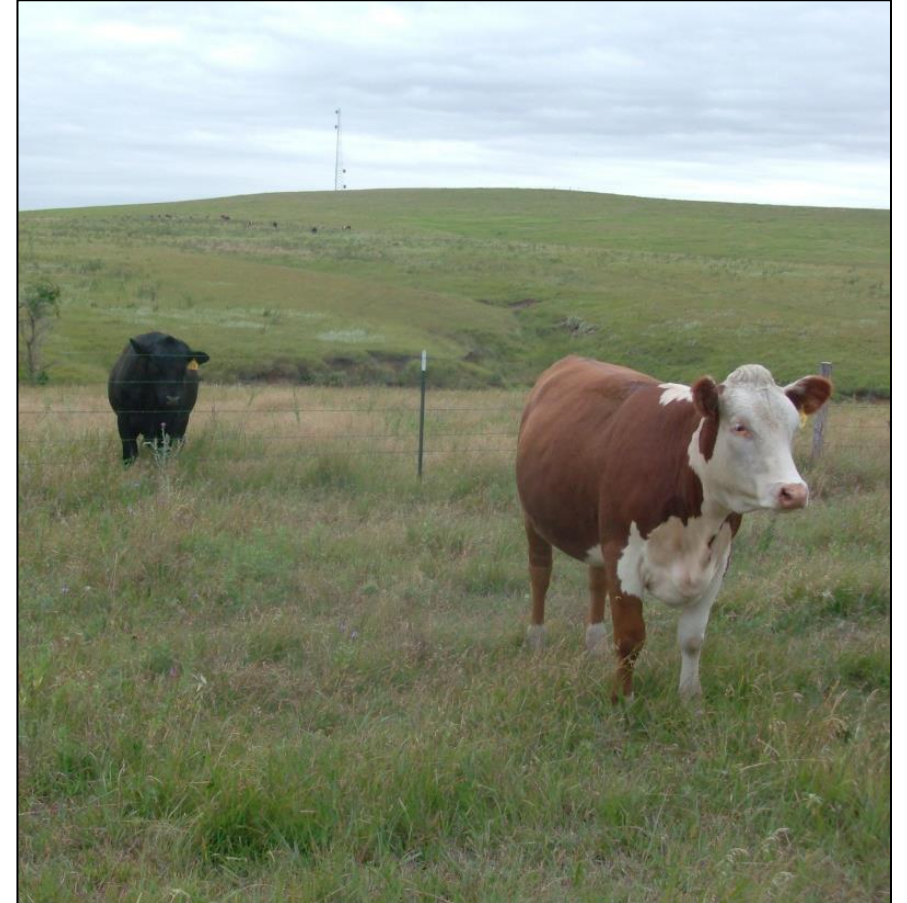


(Courtesy of Dr. Bruce Brodersen, University of Nebraska-Lincoln Veterinary Diagnostic Laboratory)



Herd Health Assurance: At-risk Herds

- Communication
 - Veterinarian ↔ producer
 - Producer ↔ producer
- Planned grazing
- Appropriate fencing
- Monitor fences and cattle
- Maintain a closed herd
 - Utilize artificial insemination
 - Observe regulations
 - Purchase only virgin or pregnant replacements
 - Isolate and test herd additions
 - Isolate and test herd reintroductions
- **Records**
- Surveillance testing



Herd Health Assurance: Low Risk Herds

- Communication
 - Veterinarian ↔ producer
 - Producer ↔ producer
- Monitor fences and cattle
- Maintain a closed herd
 - Utilize artificial insemination
 - Observe regulations
 - Purchase only virgin or pregnant replacements or purchase from a reputable source
 - Isolate and test herd reintroductions?
- **Records**
- Surveillance testing?????



Herd Health Assurance: Infected Herds

- Communication
 - Veterinarian ↔ producer
 - Producer ↔ producer
- Bull management
 - Test and cull
 - Cull
 - Utilize artificial insemination
 - Maintain a young bull battery
- Cow management
 - Cull all non-productive cows, or
 - Establish “clean” and “dirty” herds
- **Records**
- Surveillance testing



“...it is my opinion that if more care was taken in the sale and purchase of barren cows, in the purchase of bulls of breeding age, and if the farmers could be sufficiently educated to the unique opportunities for control that this disease offers, then its total elimination should be practicable in the quite near future.”

H.P. Harding

The Veterinary Record

September 16, 1950

Vaccine

- For vaccination of healthy cattle as an aid in the prevention of disease caused by *Tritrichomonas foetus*
- Licensed to reduce shedding of *Tritrichomonas foetus* organisms
- Dosage:
 - Initial dose - 2 mL SQ
 - Second dose 2 to 4 weeks later. The last injection should precede the breeding season by 4 weeks.
 - Revaccinate annually



Trichomoniasis

Home / Animal Health / Animal Diseases / Trichomoniasis

[Frequently Asked Questions about Bovine Trichomoniasis \(Trich\)](#)

[Trichomoniasis Import Regulations](#)

[Trichomoniasis Affidavit](#)

Trichomoniasis Reporting Statute - Miscellaneous Animal Health Statutes ([81-202](#), [71-1801 to 71-1805](#))

[Trichomoniasis Neighbor Notification Reporting Form](#)

[Trichomoniasis and Your Herd Brochure](#)

Trichomoniasis Presentation:

- [PowerPoint](#)
- [PDF Document](#)



54-2945.

Bovine trichomoniasis; prohibited acts; duty to report; notice to adjacent landowner or land manager; form or affidavit submitted to department; department; duties; costs.

(1) Any person who reasonably suspects that any beef or dairy breeding bull belonging to him or her, or which he or she has in his or her possession or custody, is infected with bovine trichomoniasis shall not sell or transport such animal except for consignment directly to a federally recognized slaughter establishment unless such person causes such animal to be tested for bovine trichomoniasis.

(2) Any person who owns or has possession or custody of a beef or dairy breeding bull, or who has a beef or dairy breeding bull belonging to another under his or her observation, for which an approved laboratory confirmed diagnosis of bovine trichomoniasis has been made shall report such diagnosis to the department within five business days after receipt of the laboratory confirmation.

(3) Any such breeding bull for which a laboratory confirmation of bovine trichomoniasis has been made shall not be sold or transported except for consignment directly to a federally recognized slaughter establishment. The department may issue an order for such trichomoniasis positive bull to go directly to slaughter if the owner or custodian of such animal does not comply as set forth in this section.

(4) An owner or manager of any beef or dairy breeding bull for which an approved laboratory confirmed diagnosis of bovine trichomoniasis has been made shall notify each adjacent landowner or land manager of the diagnosis if such land is capable of maintaining livestock susceptible to bovine trichomoniasis. Such notification shall be made to each landowner or land manager within fourteen days after the diagnosis even if cattle are not currently maintained on the owner's or manager's land.

(5) The owner or manager of the cattle shall submit to the department a form or affidavit attesting to the fact that the notification required under this section has occurred. The form or affidavit shall be submitted to the department within fourteen days after the diagnosis and shall include the names of adjacent landowners or land managers who were notified and their contact information. If an owner or a manager does not within such fourteen-day period submit the form or affidavit indicating that adjacent landowners or land managers have been notified as required under this subsection, the department shall notify such adjacent landowners or land managers of the diagnosis.

(6) The department shall assess the administrative costs of the department to notify the adjacent landowners or land managers against the owner or manager that failed to comply with subsection (5) of this section. The department shall determine the scope of adjacent land based on the disease characteristics and modes of transmission. The department shall remit any administrative costs collected under this subsection to the State Treasurer for credit to the Animal Health and Disease Control Act Cash Fund.

Source

TRICHOMONIASIS REPORTING REQUIREMENTS: EFFECTIVE SEPTEMBER 6, 2013

- 1. REPORT TRICH TO NDA IN 5 DAYS** The cattle producer or their veterinarian must report the positive diagnosis to NDA - Animal and Plant Health Protection (APHP) within five business days from knowledge of formal diagnosis. Call 800-831-0550.
- 2. NOTIFY ALL NEIGHBORS WITHIN 14 DAYS** after knowledge of formal diagnosis. Cattle Producers must notify their neighbors. Neighbor means - adjacent landowners or land managers, with land capable of maintaining livestock susceptible to bovine Trichomoniasis, even if cattle are not currently maintained on such owner's or manager's land.
- 3. SUBMIT A FORM TO NDA WITHIN 14 DAYS** after the diagnosis. The Cattle Producer must submit a Neighbor Notification Form which includes the names of adjacent landowners and land managers who were notified and their contact information. (A form is available at the NDA website www.nda.nebraska.gov).

This is only a summary of the Trichomoniasis reporting requirements. The full statute may be viewed at the NDA website for specific definitions and language.

Questions concerning the Trichomoniasis reporting statutes may be directed to NDA at:

800-831-0550

www.nda.nebraska.gov



Questions?

Roger Dudley DVM
NE State Veterinarian
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