

Trichomoniasis Update

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Caused by a protozoan, *Tritrichomonas foetus*. Trich lives in the cow's reproductive tract & on the surface of the bull's penis & prepuce.



Trichomoniasis- the disease

- Results in a reduced calf crop - 5-10% reduction to 30 to 50% reduction
 - infertility, abortions, pyometras (uterine infections)
- Similar disease to Vibrio – both are venereal diseases = spread during breeding

Signs:

- No visible signs.
- Too many open cows.
- Late abortions.
- Extended calving season.
- Pyometra.

Parsonson et al 1976



Transmission

- 95% of the cows bred to an infected bull become infected.



Trich in the cow

- The cow aborts after 60 days.
- She may then cycle 3 to 5 times and infects any bull that breed her.
- Cow develops immunity in 3 to 5 months, re-breeds - carries a calf to term.
- Calving season extended.
- A few cows may remain infected and still carry trich from one year to the next.
- Immunity short lived, < 15 months; cow subject to re-infection.

Clark et al 1983

Transmission

95% of bulls that breed an infected cow pick up the organism. Not all become chronically infected.



Trich in the bull

Infection

Bull pathogenesis



- *Trich* is restricted to surface of penis & prepuce.
- No exposure to immune system

(Parsonson et al 1977)

The bull is the vector of the disease.



- Most chronically infected bulls are four years of age or older.
- Some bulls 1 to 3 years of age can be chronically infected..

Clark et al 1974

Diagnosis

Tests cows- (not good)

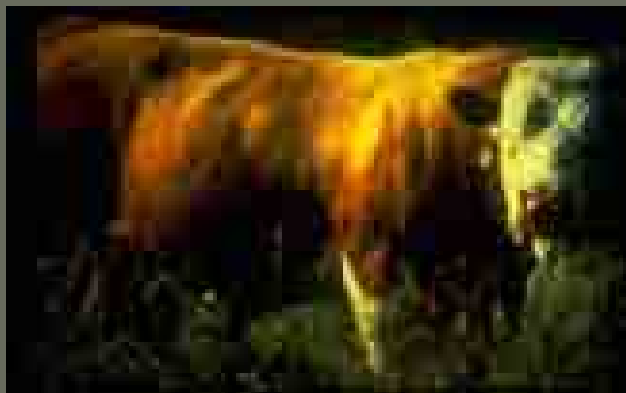
- Ten to thirty days post breeding.
- Collect vaginal mucus.
- Test 5 times because test sensitivity is ~80%.

BonDurant 1985

Diagnosis

Test bulls:

- one week post breeding.
- Gather bulls from pasture.
- Collect scraping from prepuce
- Samples are sent to lab for PCR testing
- Results available in 10- 14 days.



- Sample collection and handling is of the utmost importance
- All testing must be done by veterinarians certified by the NMLB to do Trich testing
- Contact the NMLB for a current list of certified veterinarians at: www.nmlbonline.com

Methods of detection

- Culture- was the gold standard- is only about 80% accurate
- Molecular methods-Genetic based tests
 - Standard Polymerase chain reaction (PCR)
 - Real-time PCR (QPCR)

- ❖ After testing all bulls, if one bull is positive, then others must be tested 2 more times before they can be turned out
- ❖ One infected animal equals an infected herd

Trichomoniasis

Control:

- Test & remove infected bulls.
- Keep bulls off cows for 5 months
- Shorten breeding season – 60 days
- Cull open cows ?.
- Use bulls 4 yrs. of age or younger.
- Don't lease or borrow bulls.
- Repair fences..
- Vaccinate.

Economic Losses with Trich

- Direct loss of positive bulls
- Costs of testing and feeding bulls
- Cost of replacing positive bulls
- More open cows
- Prolonged calving season- lower weaning weights

Table 2 Gross returns, feed and variable costs for each scenario

	Gross Revenue	Feed Costs	Variable Costs
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Scenario One	402.49	54.41	60.71
Scenario Two	312.09	55.29	77.01
Scenario Three	293.71	55.01	197.56



Scenario

Net Return/ cow exposed

- Herd with no Trich.....\$ 72.00
- Herd with early Trich.....\$ -35.00
- Herd with chronic Trich.....\$ -185.00

Western states with Trich rules



Trichomoniasis in Arizona

• Year	Total tested	# positive	% positive
• 2002	403	15	3.7%
• 2003	846	5	0.5%
• 2004	2560	120	4.6%
• 2005	940	37	3.9%
• 2006	3138	109	3.4%
• 2007	2764	40	1.4%
• 2008	738	53	7.2%
• 2009	2711	54	2.0%

Trichomoniasis in Texas

- In 2009, samples were submitted from 150 counties
- 69 counties had at least one positive bull
- Incidence ranged from 0.0% to 23.3%
- The county with 23.3% had 98 positive bulls on 420 samples

Trichomoniasis in New Mexico

- | | Total tested | pos | neg | % |
|--------|--------------|-----|------|-----|
| • 2005 | 781 | 51 | 730 | 6.5 |
| • 2006 | 4545 | 287 | 4258 | 6.3 |
| • 2007 | 6685 | 137 | 6548 | 2.0 |
| • 2008 | 7946 | 232 | 7714 | 2.9 |
| • 2009 | 8558 | 223 | 8335 | 2.6 |

What to do in the spring

- Test bulls prior to turnout
- Have new bulls tested before turning out
- Only virgin bulls from tested herds should be test exempt
- Vaccinate susceptible cows if positive or neighbor to a positive premise

What to do in the fall

- All bulls should be tested at end of breeding season
- Pull bulls off of cows and leave off for 5 mos
- We must identify where the disease exists
- Try to get bulls tested prior to shipping cull COWS
- Be very careful of additions to herd

Clean Herds:

- Herds are presumed clean unless an animal tests positive for Trich
- Females can move unrestricted
- Virgin bulls less than 12 mos. can move unrestricted
- Bulls 12 months or older must have an official negative test prior to being sold
- Mature bulls must have a current negative test or sold for slaughter only

Grazing Associations

- Multiple use permits
- ALL bulls going onto an allotment must be trich tested negative prior to turnout
- All bulls on community allotments must be tested annually

Positive Herds:

- All positive bulls must be “/ N ” branded by livestock inspector prior to movement
- All bulls must have three negative tests prior to turnout
- All open cows and cows bred less than 120 days must be “/ N” branded and sold as slaughter only
- Bred cows must be certified more than 120 days pregnant by a Veterinarian or by approved sale barn Technician to be sold
- Brand Inspector must be involved in all movement of breeding age cattle
- HERD IS QUARANTINED

Changes in Trich Regulations

- All bulls >12 mo must have an official negative test to be sold for breeding purposes
- All bulls > 12 mo must have an official negative test within 30 days of import
- All positive premises must have a Disease Management Plan approved by NMLB
- A Disease Management plan must be enacted within 30 days after notification of positive status

- A positive premise must have three successive negative bull battery tests to be released from quarantine. The third test must be a post-breeding test after at least seven days sexual rest
- Bulls must have two negative tests prior to turnout
- All ranches with exposure to a positive premise may be required to do a single bull battery test

QUESTIONS ??

- THANKS FOR LISTENING !!!!

The End

