

Trichomoniasis Update- 2020

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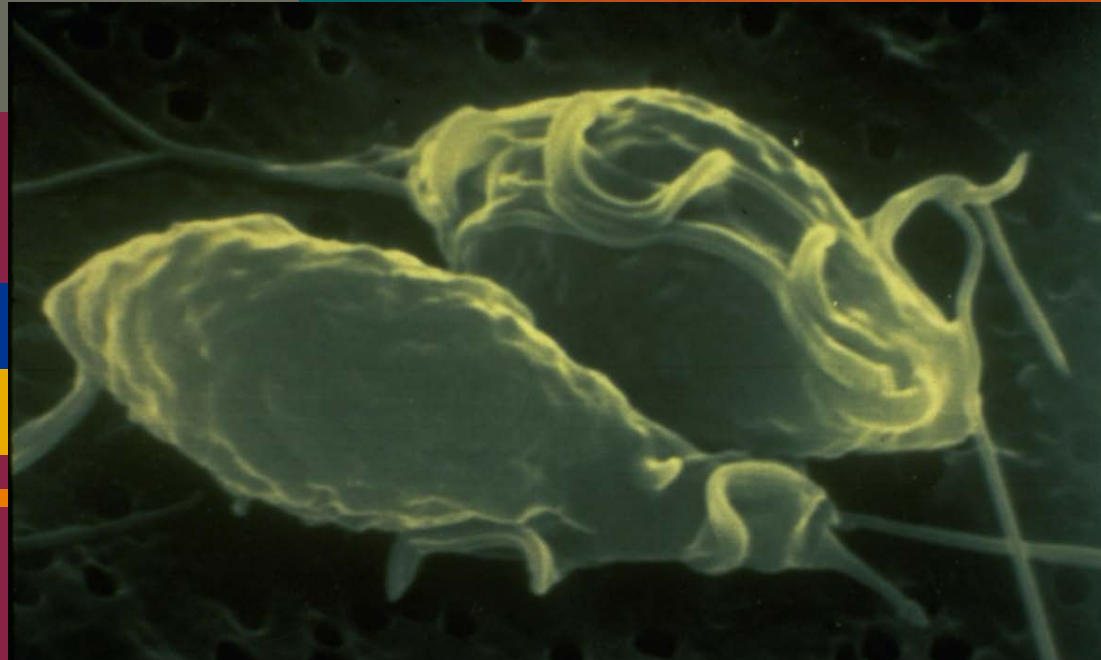
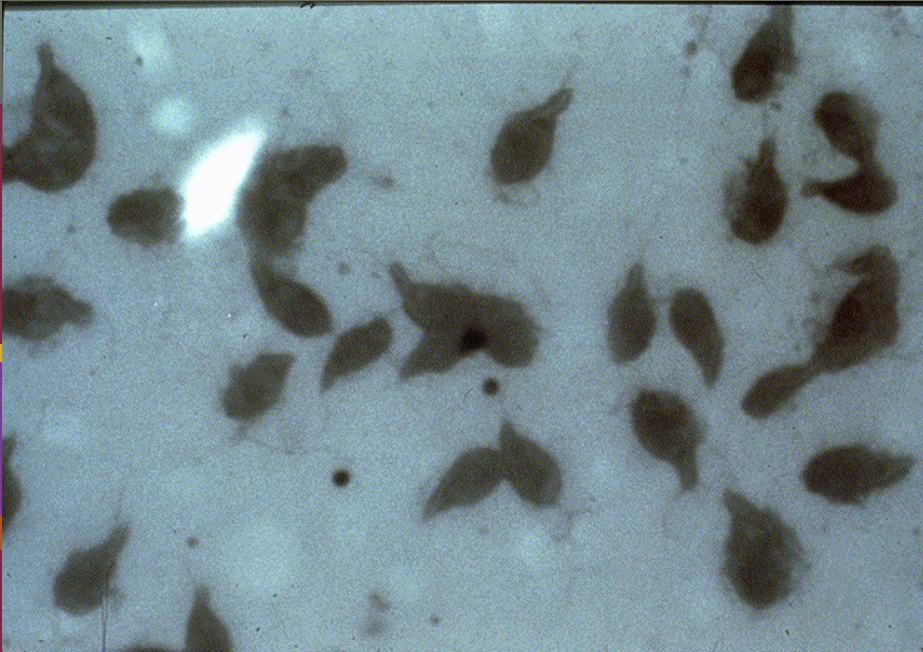
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Trichomoniasis- the disease

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

Signs:

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



Parsonson et al 1976

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

Transmission



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

Trich in the cow

- The cow loses pregnancy at approximately 60 days or earlier.
- She may then cycle 3 to 5 times and may infect any bull that breed her.
- Cow develops immunity in 3 to 5 months, re-breeds – may carry the calf to term.
- Calving season extended.
- A few cows may remain infected and still carry trich from one year to the next (about 2%)
- 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.

Trich in The Bull

- Two types of infection:
 - Acute infection- Infection not sustained
 - Chronic infection- Organism able to maintain an infective population

Why test results may differ from test to test-

Acute vs Chronic infection

Organism “clusters”

Organism numbers wax and wain

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 3-7 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

Official Testing Method

- Molecular methods-Genetic based tests:
 - Standard Polymerase chain reaction (PCR)
 - Real-time PCR (QPCR)- developed at NMVDS

3-Blind Studies conducted by USAHA- NMVDS only lab in US to get every sample correct. Two samples conducted on every positive (to confirm positive) before reporting

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

The Economics of Trich- when the dust settles!!

Cow/ Calf Budget:	(\$\$) W/O Trich per cow	(\$\$) W/ Trich per cow
<u>RETURN</u>	<u>\$192.56</u>	<u>-\$209.27</u>
<u>Difference</u>		<u>-\$401.83</u>

Dr. Jerry Hawkes, NMSU



- ❖ After testing all bulls, if one bull is positive, then others must be tested 2 more times, once before they can be turned out and again post breeding
- ❖ One infected animal equals an infected herd and will result in a quarantine being issued

General Requirements if Positive

- All bulls testing positive for T. foetus will be identified by NMLB approved method, quarantined and removed from herd.
- All bulls remaining in the bull battery must have a second negative official test prior to turnout with cow herd.
- A third negative bull battery test must be completed within 12 months after initial tests and after exposure to the cowherd for breeding (following designated breeding season).
- All bulls 12 months of age or older added to the bull battery must have an official negative T. foetus test within 60 days prior to addition, and be verifiably segregated from cows from test date until added to herd

General Requirements if Positive

- Bred cows being sold must be certified pregnant 120 days or greater by an accredited veterinarian or licensed pregnancy diagnostician unless sold for slaughter only.
- Open cows being sold must be verified by Affidavit as being segregated from bulls for 120 days or greater or be sold for slaughter only.
- All intact cattle over 12 months of age leaving quarantined premises will bear Slash N Brand or other NMLB approved ID indicating origination from a positive herd, either as an individual or as a group, depending on destination and determined by NMLB with on premise inspections only

General Requirements if Positive

- Maintain all testing results and accurate records on all bulls; Account for all bulls in battery that are not reflected on a test chart and meet all testing deadlines as required.
- The NMLB will be notified of any stray bulls entering a positive premise. The bull will be quarantined at owner's ranch pending a negative official T. foetus test prior to being turned out. Testing will be at owner's expense and will be tested as soon as possible after 7 days of isolation. The NMLB will notify the positive premise, on which the stray was detected, with the results of the test **only if the stray tests positive**.
- Only onsite inspections will be allowed for shipments from a positive premise. No cattle of any age or class will be allowed to leave the premise unless an onsite inspection has taken place.

If You Are Adjacent to a Positive Premise:

- It is suggested that you contact your veterinarian as soon as possible after you are notified, and inform them that you are adjacent to a positive premise so a biosecurity and/or biocontainment plan can be developed.

If You Are Adjacent to a Positive Premise:

- You will be notified by the NMLB that your ranch is adjacent to a premise where Trichomoniasis has been diagnosed.
- With this notification you may be required to test some or all of your bull battery within a timeframe set by the NMLB at your own expense. Testing requirements will be set by the State Veterinarian's office based upon an epidemiological investigation and risk assessment.
- Other requirements may be necessary based on testing results or other factors and will be considered on a case by case basis by the State Veterinarian's office.
- If any of your bulls test positive for *T. foetus*, you will be considered a positive premise and a herd management plan will be required within 45 days.



New Trich Rules

New Mexico Farm Bureau

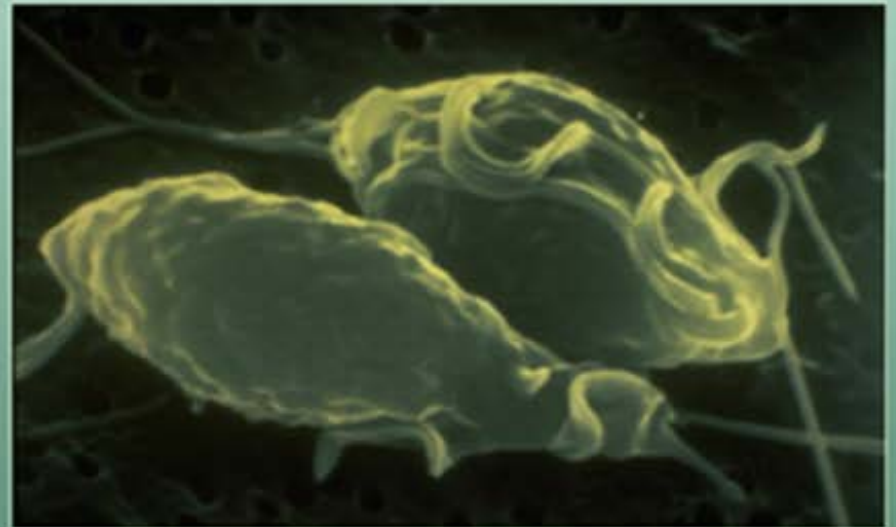
Ralph Zimmerman, DVM

New Mexico Livestock Board

July 28,2020

Trich Rules: Why Make A Change?

- ▶ The January 1, 2018 inventory of all cattle and calves in New Mexico totaled 1.51 million head, up 6 percent from the January 1, 2017.
- ▶ Bulls 500 pounds and over, up 14 percent to 40,000 head.
- ▶ In 2018, Veterinary Diagnostic Services tested 13,525 bulls. TVMDL: tested 426 bulls, CSU: tested 78
- ▶ Less than 50% of bulls are tested statewide.
- ▶ Surveillance determines the incidence of bovine Trichomoniasis in New Mexico.
- ▶ Long term goal is eradication of the disease.
- ▶ Surveillance requirements will be reviewed every 2 years.



21.30.6.8 IMPORT REQUIREMENTS FOR BREEDING BULLS

- All non-virgin bulls must have
 - CVI
 - import permit
 - negative official *T. foetus* test within 60 days prior to entry into NM
 - no sexual contact between testing and entry.
- If the pre-entry test is not an official Trich test, an in-state, post-entry test shall be required within 10 days of entry into NM.
- No Trich positive bull shall enter NM unless consigned to slaughter
- CVIs issued for breeding bulls shall state:
 - “*T. foetus* has not been diagnosed in the herd of origin”; or
 - “The bull(s) represented on this CVI have had a negative official *T. foetus* bull test within sixty (60) days prior to entry and there has been no female contact since the last qualifying test.”
- The issuing veterinarian shall submit a copy of negative Trich tests for the bull(s) to the Office of the State Veterinarian.
- No bull from a positive *T. foetus* herd shall enter NM unless it has 3 consecutive negative official Trich tests 7 days apart within 60 days prior to entry. A post-entry official test is required. Bulls must be isolated from females until the in-state test results are known.
- Exceptions to the importation testing **and slaughter surveillance** requirements are:
 - transient rodeo or exhibition bulls, which have no sexual contact with cows and are held in a secure facility while in New Mexico
 - bulls consigned direct to slaughter; or feeding
 - bulls originating from a certified Trichomoniasis-free herd.

21.30.6.8 IMPORT REQUIREMENTS FOR INTACT COWS

- ▶ No cow from a positive *T. foetus* herd can enter NM unless:
 - ▶ there were 3 consecutive official negative *T. foetus* tests of the entire bull battery on the premises of origin and the only allowed females:
 - ▶ have a calf at side and exposure to known negative bulls since parturition
 - ▶ are at least 120 days pregnant; or
 - ▶ are known virgin heifers; or
 - ▶ are heifers exposed only to known negative bulls and not yet one hundred twenty (120) days pregnant; or
 - ▶ have at least 120 days of sexual isolation; and no other female from such herds will be allowed entry into NM for breeding purposes;
 - ▶ They are consigned directly to slaughter or to a quarantined feedlot.
- ▶ Bovine breeding females must have the following statement placed on the CVI and signed by the owner/manager of the herd of origin:
 - ▶ **(a)** “the cows listed on this CVI did not originate from a known positive *T. foetus* herd”; or **(b)** “the cows listed on this CVI are at least 120 days pregnant”; or **(c)** “the cows listed on this CVI originated from a positive *T. foetus* herd and are consigned for slaughter”; or **(d)** “the heifers listed on this CVI were exposed for their first breeding only to a known negative *T. foetus* bull or artificially inseminated and are not yet 120 days pregnant”; or **(e)** “the females listed on this CVI have had at least 120 days of sexual isolation immediately preceding their movement into New Mexico



21.30.6.8 IMPORT REQUIREMENTS FOR COMMUTER PERMITTED CATTLE

Commuter permitted cattle

- All bulls must be negative to an official *T. foetus* test within 60 days prior to entry.
- There shall be no commingling between testing and entry.
- All purchased bulls added to herd shall comply with test provisions.
- A positive *T. foetus* bull in any herd shall be identified and sold to slaughter only.
 - All remaining bulls must test negative on 3 consecutive official tests at least 1 week apart.
 - Only females with a calf at side and exposure only to known negative *T. foetus* bulls since parturition, are at least 120 days pregnant, are known virgin heifers or are heifers exposed only to known negative bulls and not yet one hundred twenty (120) days pregnant are allowed to accompany the commuting herd.
 - Other open cows shall be sold to slaughter, moved under quarantine to be fed for slaughter or artificial insemination or held in sexual isolation for a 120 day period.

Import permit.

- All cattle must obtain an import permit, which will be recorded on the CVI.
- All cows originating from a premises where *T. foetus* has been diagnosed within the last year must obtain an import permit, and prior approval for entry from the New Mexico State Veterinarian, which will be recorded on the CVI.



21.30.6.8 IMPORT REQUIREMENTS FOR PUBLIC LIVESTOCK SALES (AUCTIONS)

- (1) All out-of-state bulls must be accompanied by an import permit.
- (2) All non-virgin bulls (**imported**) shall be accompanied by an official laboratory negative *T. foetus* test, conducted within 60 days prior to sale with no exposure to bovine females from the time of sample collection until sold. Any bull without a test will be placed under quarantine and tested at the livestock sale premises within 10 days of sale or will be sold for slaughter only. Bulls shall be isolated from all females until the in-state test results are known. Identification procedures are listed below.
- (3) All bulls not qualifying as above will be announced in the sale ring as having “unknown *T. foetus* status” and shall be so designated on the buyer’s documents. Such bulls shall be identified with a back tag designating them as having no *T. foetus* test prior to being offered for sale.
- (4) Untested bulls may be sold for confined feeding. To be removed from confined feeding, bulls must go directly to slaughter or have a negative official *T. foetus* bull test or have been castrated.
- (5) Cows shall be accompanied by one of the following statements signed by the owner/manager of the herd of origin on the CVI or other suitable document. In the absence of one of these statements, cows over 12 months shall be consigned and sold to slaughter (or quarantined feed for slaughter) only:
 - (a) “The cows listed on this document did not originate from a known positive *T. foetus* herd.”
 - (b) “The heifers on this document have been exposed to only known negative *T. foetus* bulls and are not yet 120 days pregnant.”
 - (c) “The cows listed on this document are at least 120 days pregnant.” or
 - (d) “The cows listed on this document originate from a positive *T. foetus* herd and are consigned for slaughter.”

21.30.6.9 INTRASTATE BREEDING BULLS:

- A. All non-virgin bulls including culled herd sires sold for slaughter, must have a negative *T. foetus* test within sixty (60) days prior to:
- (1) change of ownership (sold to slaughter buyers)
 - (a) all slaughter bulls can be N branded and have a Trich sample collected, but may go to slaughter with results pending. Slaughter surveillance bulls do not need to be held for test results.
 - (2) change of possession under lease or rental, sharing or
 - (3) any other agreement that would place the bull in a different breeding herd.
 - B. There shall be no sexual contact between the time of testing and change of possession. A NMLB inspection shall be required to verify change of possession and appropriate *T. foetus* testing. The owner presenting the bull for sale is financially responsible for the testing.
 - C. Cutter bulls, out of state cull bulls and slick bulls, may be castrated rather than tested, and sent for confined feeding.
 - D. Culled herd sires with medical conditions (broken penis, lameness, etc.) shall be tested at the owner's expense. If it appears it would be inhumane (at the discretion of the NMLB inspector or herd veterinarian) to put the bull through the chute, crippled and chronic broken penis bulls will be exempt.
 - E. The need for slaughter surveillance will be reevaluated by the working Trichomoniasis Committee, every two years.
- FB.** Bulls shall not be exposed to females at the new premises until the results of the test are known.
- GC.** Any bull with a positive test shall be immediately quarantined and the positive bull(s) shall be identified with the official New Mexico livestock board "N" fire brand or other NMLB approved method.
- HD.** The positive *T. foetus* bull's herd of origin will be placed under quarantine.
- IE.** The quarantine will be released in accordance to the regulatory section of this rule.

[21.30.6.9 NMAC - N, 7/15/05; A, 2/26/10; A, 07/15/13; A, 07/15/14]

21.30.6.11 REGULATORY ACTION:


A. Commingled grazing. All non-virgin bulls commingling in grazing associations or multiple permittee allotments or leases, shall have the official *T. foetus* bull test conducted annually prior to turn out. A new official test will be required each time the bull(s) enter a different grazing association or multiple permittee allotment or lease.

(1) If a bull is found positive, the entire bull population present on the allotment or lease, regardless of ownership, will be required to have an official *T. foetus* test conducted. All positive bulls shall be identified with the official New Mexico livestock board "N" fire brand or NMLB approved method, and be sold for slaughter only. All test negative bulls belonging to the same owner(s) will be required to have a second negative test prior to turn out and a third negative official test after the bull(s) are removed from the grazing association or multiple permittee allotment or lease.

~~(2) Any stray non-virgin bull from an untested group that enters the grazing area of tested animals may be held under quarantine until the bull has one or more official *T. foetus* test(s) conducted. The test(s) shall be the responsibility of the bull's owner. The conditions of the quarantine and number of tests will be determined by the state veterinarian.~~



21.30.6.11 REGULATORY ACTION:



B. Positive *T. foetus* bull & herd. Any confirmed *T. foetus* bovine and its herd (as defined by state animal health officials) shall immediately be placed under quarantine and will continue under quarantine until the following rules are completed.

(1) Positive *T. foetus* bulls shall be identified with the official New Mexico livestock board “N” fire brand or other NMLB approved method.

(2) Positive *T. foetus* bulls shall be quarantined and sent directly to slaughter or to public livestock market for slaughter only. Positive bulls may be required to move on a NMLB approved method. Confined feeding may be allowed provided bulls are “N” branded.

(3) All other bulls in a positive *T. foetus* herd shall test negative to three consecutive official *T. foetus* tests at least seven days apart. The third *T. foetus* test will be completed within 12 months of *T. foetus* confirmation in the herd and will be conducted after the bulls have had breeding exposure to the cow herd for a minimum of 65 consecutive days. A shorter breeding season must be approved by the State Veterinarian, and be provided for in the Herd Management Plan. The bulls will be removed from the cow herd at least seven days prior to the official *T. foetus* test. If more than 12 months have passed since confirmation of *T. foetus* in the herd, the state veterinarian may require additional *T. foetus* testing prior to release of quarantine. ~~The initial negative *T. foetus* test is included in the three negative tests.~~

(4) If a disease management plan has not been developed and activated within 45 30 days of confirmation of *T. foetus* infection in the herd, all bovinds, except steers and spayed heifers, will be required to go directly to slaughter upon leaving the ranch.

(5) Any bull entering a quarantined premise will be required to test negative prior to re-introduction to its herd of origin.



C. Reproductive bovine females from a positive *T. foetus* herd.

- (1) Females over 12 months of age (not known to be virgin heifers) from a positive *T. foetus* herd may be sold direct to slaughter or quarantined on the premises of origin. Individual females may be released from quarantine when either all requirements of Paragraph 3 of Subsection B of 21.30.6.11 NMAC have been met or the cow(s) has a calf at side with no exposure to other than known negative *T. foetus* bulls since parturition, has documented 120 days of sexual isolation or is determined by an accredited veterinarian to be at least 120 days pregnant. Heifers known to be virgin at the time of turnout or heifers exposed only to known negative *T. foetus* bulls and not yet 120 days pregnant are allowed unrestricted movement.
- (2) Open females shall be sold to slaughter or held in isolation from all bulls for 120 days. Any female sold to slaughter through a livestock market shall be identified with an official New Mexico positive *T. foetus* tag or NMLB approved method during the quarantine period.
- (3) Breeding by artificial insemination is allowed during the quarantine period and cows confirmed by an accredited veterinarian to be at least 120 days pregnant as well as cows documented to have 120 days sexual isolation will be released from quarantine.
- (4) If a disease management plan has not been developed and activated within ~~45~~ 30 days of confirmation of *T. foetus* infection in the herd, all bovids, except steers and spayed heifers, will be required to go directly to slaughter upon leaving the ranch.

D. Regulatory action.

- (1) Any stray non-virgin bull of unknown *T. foetus* status, or from a positive *T. foetus* herd, that enters the land of a neighboring premise, and may have commingled with the herd on that premise, will be quarantined until the bull(s) has one or more official *T. foetus* test(s) conducted. A NMLB livestock inspector shall be involved in the interaction. ~~from an untested group that enters the land of a negative *T. foetus* herd and commingles with that herd may be held under quarantine until the bull has one or more official *T. foetus* test(s) conducted.~~
- (2) The test(s) shall be the responsibility of the bull(s) owner. The conditions of the quarantine and the number of tests will be determined by the state veterinarian.



E. Neighboring facilities of a positive *T. foetus* herd.

- (1) All facilities that share a common boundary with a positive *T. foetus* herd will be notified by the NMLB, and will be required to test, due to the fact that *T. foetus* is a regional disease, and all neighbors testing will facilitate a more rapid regional eradication. Certified New Mexico *T. foetus* Free herds in compliance with the provisions of NMAC 21.30.6.10, will be exempt from testing, as well as instances where the State Veterinarian has determined such testing to be unnecessary based on epidemiological investigation. This requirement will be reevaluated by the working Trichomoniasis Committee every two years. ~~and may be quarantined based on results of the epidemiological investigation by the State Veterinarian. Quarantine will remain in place until testing requirements are satisfied.~~
- (2) Any exposed herds found positive upon testing will be designated as a positive *T. foetus* herd.
- [21.30.6.11 NMAC - N, 7/15/05; A, 2/26/10; A, 07/15/14; A, 04/24/2018]

21.30.6.16 COMPLIANCE: Livestock Inspectors who are certified peace officers, in accordance with NMSA 1978 30.18.14, shall enforce the provisions of Chapter 30, Article 18 NMSA 1978 and other criminal laws relating to livestock. Livestock inspectors may arrest persons found in the act or whom they have probable cause to believe are guilty of driving, holding or slaughtering stolen livestock. Any person who violates the provisions of these rules may be subject to the criminal and civil penalties pursuant to NMSA 1978, sections 77-2-9, 77-2-22.

Penalties for misdemeanor crimes can include imprisonment of less than one year or fines up to \$1000 or both. Penalties for petty misdemeanors can include imprisonment not to exceed six months or fines up to \$500 or both. Furthermore, any person who violates a rule adopted under the power granted to the board unless the penalty has been fixed by law is guilty of a misdemeanor and upon conviction shall be sentenced in accordance with the provisions of Section 31-19-1 NMSA 1978.

[21.30.6.16 NMAC - N, 7/15/05]



Trich Rules: Numbers to Remember

- **2:** The Trich Committee will review the need for slaughter surveillance every two years.
- **3:** Three consecutive official *T. foetus* tests are required in a bull battery when a herd is Trich positive.
- **7:** Bulls must be isolated from cows for seven days prior to testing (not necessary for slaughter surveillance).
- **10:** If bulls are untested or do not have official test results, a post-entry test shall be required within 10 days of entry into NM or to slaughter or confined feeding prior to slaughter.
- **12:** In NM, any bulls 12 months of age or older are considered non-virgin regardless of exposure to cows.
- **45:** A herd management plan must be submitted within 45 days to the Office of the State Veterinarian, otherwise cattle will be sold for slaughter only
- **60:** Trich tests must be performed within 60 days prior to change of ownership or interstate travel for breeding purposes.
- **65:** Breeding season is defined as a minimum of 65 days, for herds under quarantine
- **120:** Cows from a Trich positive herd must be sexually rested for 120 days or be over 120 days pregnant to be sold into channels other than slaughter.



Trich Rules: Why Make A Change?

- Amendments apply to 21.30.6 NMAC sections 8, 9, 11, 16
- Make testing mandatory for slaughter surveillance at producer's cost
- Facilities that share a common boundary with a positive *T. foetus* herd will be notified by the NMLB, and will be required to test.
- Certified New Mexico *T. foetus* free herds and cases where the State Veterinarian has determined testing to be unnecessary based on epidemiological investigation will be exempt from testing.
- Stray bulls from untested or quarantined facilities will be tested, if the person trespassed on desires a test.
- Breeding season is defined as 65 days. Approval of a shorter breeding season will be at the discretion of the State Veterinarian.
- Herd plan must be submitted to the Office of the State Veterinarian within 45 days. If not, any animals shipped will be sent to slaughter.
- Compliance penalties pursuant to statutes will be defined for clarity.
- Changes to the Trich rules were voted in by the board, December 12, 2019. Have been in a grace period until August 1, 2020

Questions?



What to do in the spring

- Test bulls prior to turnout
- Have new bulls tested before turning out
- Only virgin (?) bulls 12 months of age or less from tested herds should be test exempt
- May want to 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

Trichomoniasis

Control:

- Test & remove infected bulls.
- Keep bulls off cows for 5 months
- Shorten breeding season – 65 days?
- Cull open cows ?.
- Use bulls 4 yrs. of age or younger?
- Don't lease or borrow bulls unless tested.
- Repair fences..
- Vaccinate?