

TRICHOMONIASIS (Trich)



The Difference Between Profit and Disaster

This past fall, a local veterinarian conducted a routine pregnancy check for one of his clients. This particular day was not routine. In past seasons, the pregnancy rate had been around 95%. However this day, 30.5% of the cows were open and 9.7% were extremely late. As in previous years, pasture conditions had been good, and the cows were in excellent condition during the breeding and grazing season. Investigations by the veterinarian and the diagnostic laboratory identified the problem as Trichomoniasis.

What is Trichomoniasis?

Trichomoniasis is a venereal disease of cattle which results in varying degrees of reproductive inefficiency. Due to improved diagnostic procedures, movement of cattle and increased awareness, it is evident that Trichomoniasis is more widespread than once thought.

Since Trichomoniasis is a venereal disease, the use of any natural service for breeding will increase the risk of an infected herd - even in dairy operations. Up to 90% of the cows serviced by a Trich infected bull become infected. This means that a single infected animal can infect an entire herd.

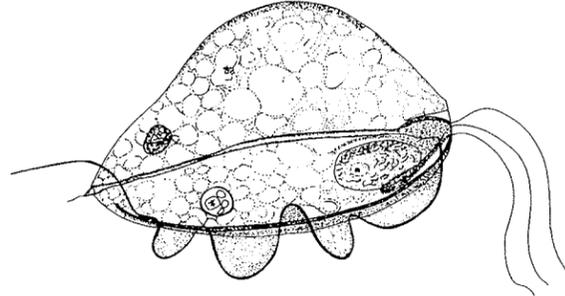
What causes Trichomoniasis?

Trichomoniasis is caused by *Trichomonas foetus*, a small protozoan (Figure 1) that lives in the crypts (wrinkles or folds) on the mucosal surface of the penis and prepuce of the bull. If the cow is exposed to the Trich organism at the time of breeding, these small protozoa grow and multiply on the lining of the uterus. This causes an inflammation (metritis) which eventually disrupts the placental circulation which supplies nutrients to the new embryo. Death of the embryo usually follows within the first 30-60 days of pregnancy. The only observable sign may be a minimal vaginal discharge from a uterine infection. Less frequently, abortions occur in the last 5 months of gestation.

The cow's immune system eventually acts against the Trich organisms and clears them from the reproductive tract. This may take up to 6 months. If the cow is not bred after being cleared of Trich organisms, she will be open at the end of the breeding season. The cow may eventually conceive after

repeat breedings provided the bull remains with the herd continuously. Most cows infected with Trich develop a short term immunity, but will likely be susceptible to reinfection by the next breeding season. Chronically infected carrier cows do exist. These infected cows may calve normally, but infect the bull during breeding thus maintaining the infection within a herd.

(Figure 1) *Trichomonas foetus* —
the protozoan causing Trichomoniasis



An infected bull is completely without symptoms. Young bulls are relatively resistant to permanent infection due to the lack of crypts on the lining of the penis and prepuce. Therefore young bulls may be only temporary transmitters of the Trich organisms. However as the young bull matures, these crypts become pronounced providing a more suitable environment for the *Trichomonas foetus* organisms to live and grow.

Trich organisms growing in the crypts of the penis of the older bull do not stimulate the immune system, thus the bull becomes a permanent carrier. The Trich organisms are transferred from the crypts and introduced into the reproductive tract of the cow during breeding which results in efficient transmission of the disease.

Economic implications of Trichomoniasis

Whether you run only a few cows or a large herd, you may wish to consider the economic impact of a typical encounter with Trichomoniasis. The value of production from 360 cows on an average ranch would be:

95% calf crop - 342 calves weaned
342 calves @ 450 lbs. = 153,900 lbs.
153,900 lbs. @ \$.85 = \$130,815
(value of production)

Using similar values, the anticipated production from this herd of cows in the presence of *Trichomonas* will be:

69% calf crop - 250 (total) calves
215 calves @ 450 lbs. = 96,750 lbs.
35 late calves @ 275 lbs. = 9,625 lbs.
106,375 lbs.

106,375 lbs. @ \$.85 = \$90,419
(anticipated value of production)

Loss of revenue \$40,396

This \$40,396 does not include the cost of maintaining 100 open cows or the loss of 7 infected bulls. However, the \$40,396 could represent the yearly loss in anticipated family income.

When should you suspect Trich?

Since Trichomoniasis causes no alarming clinical signs, it often goes undetected until a producer takes a critical look at his herd's reproductive efficiency. Operators who accept a 60-75% calf crop as normal, may never detect the problem. Trichomoniasis may be the culprit of a long breeding season (60 days), a spread out calving season and a wide variation in weaning weights.

Following the initial encounter with Trichomoniasis in a susceptible herd, the overall calving rate may drop to 50%. In subsequent years, the mature cows may not be as severely affected due to the development of some natural immunity, but new additions and first calf heifers will continue to show a high rate of embryonic death.

Trichomoniasis is not the only cause of reproductive inefficiency or failure. Other possibilities include Campylobacteriosis (Vibrio), nutritional problems or simply infertile bulls. Since your veterinarian is most likely to be acquainted with your operation and area, he should be contacted as soon as you detect such problems in your herd.

What can be done to prevent this disease?

Prevention of Trichomoniasis has been as difficult as detecting it's presence in your herd. There are several steps that you can use to prevent this economically devastating disease. The most effective is to vaccinate for the major causes of infertility Trich, Vibrio, and Lepto with TrichGuard™ V5L from Fort Dodge Laboratories.

TrichGuard V5L has been shown to reduce infection due to Trich by more than 90%. It has also demonstrated a dramatic increase in calf crops and a 22% increase in the number of calves born in the first 21 days of the calving interval. TrichGuard V5L is intended for both cows and heifers which should be vaccinated 2 - 4 weeks prior to the breeding season.

In addition to a good vaccination program, you should consider other management procedures in order to prevent entry of the disease into your herd and to reduce the level of challenge.

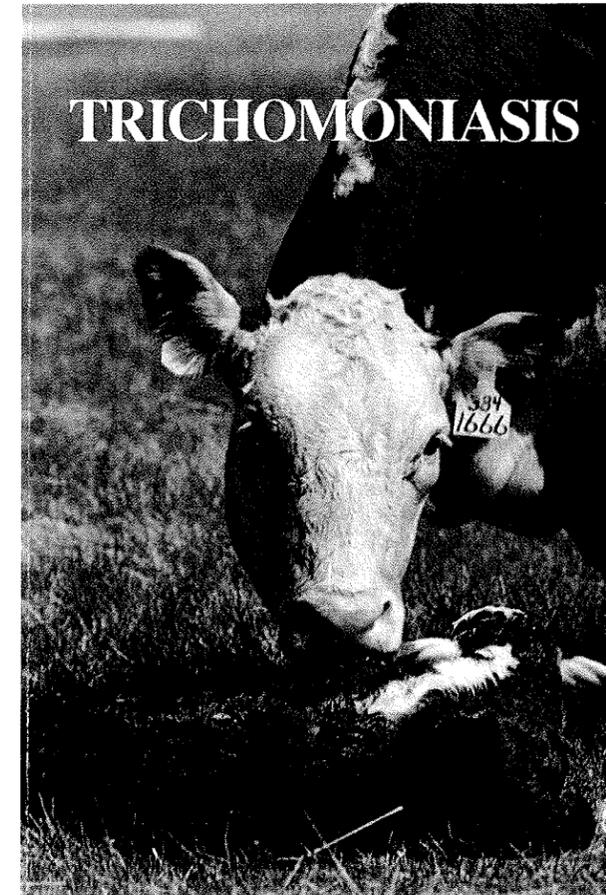
What if you already have Trich in your herd?

Like other diseases, a complete herd health management program including vaccination is the best method to control Trichomoniasis.

You should meet with your veterinarian to discuss all possible measures that can be taken to control the disease.

1. Check all cows for pregnancy at the end of the breeding season, with all open cows culled at that time.
2. Cull all older (3 years and up) bulls.
3. Have all remaining bulls sampled for Trich at least three times before the next breeding season. (One or two negative results is not a guarantee that the bull is clean.) All positive bulls should be culled.
4. Buy only virgin bulls for replacements.
5. Divide your herd into smaller units for breeding.
6. Make sure that all members of a community grazing association adhere to these guidelines.

Should you have specific questions about other control measures which might be available, please contact your veterinarian to arrange an educational program in your area dealing with the problem of Trichomoniasis.



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