



Food Animal Reproduction and Herd Health Services
 Veterinary Medical Teaching Hospital
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Bovine Trichomonosis: Essential Facts and Testing



What is bovine trichomonosis?

Bovine trichomonosis (a.k.a. trichomoniasis) is an important cause of economic loss in cattle operations that use natural service. Surveys in California beef cattle operations have shown that more than 15 percent of herds had at least one infected bull.

This disease is caused by a protozoan organism called *Tritrichomonas foetus*. This organism lives in the folds of the bull's penis and internal sheath. In cows this organism colonizes the vagina, cervix, uterus and oviducts.

How does it get transmitted?

Trichomonosis is a venereal disease of cattle. It is transmitted from cow to cow by a bull or, in rare cases, by contaminated semen or insemination equipment or nonhygienic artificial insemination (AI) procedures.

How does it affect cattle?

The most common signs in an infected herd are:

- Early abortion (too early to find an aborted fetus).
- Repeated breeding resulting in long breeding seasons.
- A wide range of gestational ages at pregnancy check.
- Pyometra (pus-filled uterus) in about five percent of cows.
- In first-time infected herds, it is common to end with a 50 to 70 percent calf crop strung out over three to eight months.
- Bulls show no clinical signs.
- Cows can commonly clear the infection within a few months, however, infection in bulls over 4 years of age is usually permanent and is the main source of transmission from one breeding season to another.

How can you test your herd for infection?

Testing for *Tritrichomonas foetus* is usually done on breeding bulls by performing a scraping of the penis and prepuce in order to obtain a preputial (internal sheath) fluid sample, and inoculating the sample into special culture media. If one bull is found positive, you should assume that the whole herd is exposed.

Studies of positive bulls have shown that this culture method will miss about 10 to 20 percent of infected

bulls if the test is performed only once. So, if no infected bull is found on the basis of one culture of all the bulls in the herd, then we can be 80 to 90 percent sure that the herd is "clean."

How can you treat infected herds?

The disease is self-limiting in cows, as opposed to bulls, that will be permanently infected. After several heat cycles, most cows and heifers clear the infection, but this may take months.

There is a vaccine available for *Trichostrongylus axei* (Trichguard or Trichguard Plus [Ft. Dodge]). The vaccine helps cows/heifers to clear the infection in a matter of weeks (vs. months in unvaccinated cows). In most cases, it does not prevent infection.

No vaccine efficacy has been shown in bulls.

There is no approved treatment for infected bulls.

How can you prevent the disease in your herd?

- Use young, fertile bulls or artificial insemination (AI).
- Culture new bulls at breeding soundness exam time.
- Keep a closed herd and test any animal that you buy.

How can you control the disease in your herd?

If one of your bulls is positive for trichomonosis, it is recommended to cull all bulls and vaccinate all females twice, one month apart. The best option to control trichomonosis is to use artificial insemination. If you want to keep your bulls, you can vaccinate all females annually, but it would be better to cull all bulls and open cows before next season.

An alternative, if you don't want to cull all bulls, is to sample them at least three times at weekly intervals. With three negative tests, we will be 99 percent confident that a bull is negative. Given the sensitivity of the culture diagnostic test, the table below will give you an idea of the confidence you should have in a "negative" bull, depending on how many times he is tested.

How sure can you be that your bulls are clean after a negative test result?

First test	date:	80% sure
Second test (one week later)	date:	96% sure
Third test (one week later)	date:	99% sure

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