



The Veterinary Link

by **BOB LARSON, DVM**, Kansas State University

Trichomoniasis control

Trichomoniasis or “trich” is a disease of cattle, and although historically considered more common in the western U.S., it is an important cause of early pregnancy loss and open cows in all parts of the country.

Infection in females

Trich is caused by a parasite that is passed from a bull to a female or from a female to a bull during the act of mating. The disease does not produce any signs of illness in bulls, but can occasionally cause obvious reproductive tract infections in females.

The first sign of trichomoniasis is cows and heifers that resume cycling one to three months after breeding. A period of infertility when they can't maintain a pregnancy may last for another two to six months as a result of the infection. In infected herds, the number of cows that calve can be reduced by 20%-40%, the average calving date will be later, and the calving season will be spread out longer than in noninfected herds.

Infection in the cow occurs by exposure to an infected bull at breeding. Initial infection of the female does not cause immediate loss of the pregnancy. Instead, the pregnancy progresses to about 15 to 80 days, at which time the embryo/fetus dies and is resorbed or aborted. The parasite is eliminated from the reproductive tract in most females within six months as the result of an active immune response. Immunity, however, is not permanent, and the cow or heifer can be reinfected by the trich organism in the next or future breeding seasons.

A few nonpregnant cows will remain infected longer than six months. These chronically infected cows are important because they can remain as a source of infection to bulls in the following breeding season. In addition, although not very common, some cows can become pregnant and carry the pregnancy to term while they are still infected — again providing a source for infection the following year or in a new herd if they are sold.

Management strategies

In bulls, the organism lives on the tissue lining the penis and prepuce. Bulls less than 4 years of age tend to clear the infection, while those 4 years of age and older are often infected for life. Although young bulls tend not to become permanent carriers, they can still spread the infection to susceptible females during the weeks that they are infected.

At the present time there is no effective and approved treatment to clear the infection in females or bulls. Therefore, veterinarians and producers work to prevent infected bulls or cows from coming into contact with the herd in the first place.

Prevention and control methods will vary depending on how common trich infection is in the area. In areas where the disease is common, several management strategies should be observed, including:

- testing of non-virgin herd bulls prior to the breeding season;
- limiting the breeding season to 90 days or less with stringent culling of open cows;
- avoiding the purchase of open cows;
- isolating the herds from potentially infected herds with a well-maintained fence or other barrier (such as a road); and
- potential vaccination of females.

In addition, in herds where previous trich infection is confirmed or suspected, even pregnant cows are considered potential carriers. Cows should have two or more cycles between calving and the start of the next breeding season to increase the likelihood of clearing the infection before exposure to tested bulls. In herds with less risk of infection, management strategies should include

purchasing only virgin bulls, testing all purchased or leased nonvirgin bulls, and instituting a limited breeding season with culling of open cows.

Testing, vaccination

Testing bulls for the organism is an important component of control programs, but a single test produces many false-negative results. In order for a bull to be considered negative for trich, he must have three samples scraped from the prepuce taken at weekly intervals to be test-negative (see Fig. 1). This is true regardless of whether using a culture test or a newer PCR test.

Vaccines for the trichomoniasis organism have been developed. The first vaccination should be given eight weeks prior to breeding and the second four weeks prior to breeding. Previously vaccinated cows should be revaccinated annually four weeks prior to breeding. Research trials indicate vaccination helps exposed cattle produce an immune response earlier than in unvaccinated, naturally infected cows.

Vaccination of cows has been shown to be effective in reducing the number of open females at the end of the breeding season in exposed herds, but does not prevent all losses. Therefore, vaccination can be used as an additional tool in controlling the disease in herds at high risk for infection, but vaccination without institution of other controls has virtually no value.

Control strategies in an infected herd will vary widely based on a number of factors such as herd size, number of breeding groups, number of breeding seasons, etc. If trich has been diagnosed in your herd or in your area, you should work with your veterinarian to design a control strategy that will be most effective given your particular situation.

Fig. 1: Percent of infected bulls identified after each of three trich tests

