



The Veterinary Link

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Control trichomoniasis

Trichomoniasis, or “trich,” is a disease of cattle, primarily in the western United States, caused by a protozoan 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.

Trich's tricks

Infection in females can cause early embryonic death and what is usually a short-lived infertility, which leads to a reduced calving percentage and an extended calving season. Within infected herds, ranchers will notice that a high percentage of cows and heifers are still showing estrus 60 days or more into the breeding season. The number of cows that calve can be reduced by 20%-40%, and the average calving date will be later for infected herds. Calving seasons will also be spread out longer than those of noninfected herds.

In bulls, the organism lives on the tissue lining the penis and prepuce

(sheath). Bulls less than 4 years of age tend to overcome 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 period they are infected.

Infection in the cow occurs primarily by exposure to an infected bull at breeding, but contaminated semen or insemination equipment may be the source of infection in herds using artificial insemination (AI). Initial infection of the female does not cause immediate conception failure; rather, the pregnancy progresses to about 15-80 days, at which time the embryo/fetus dies and is resorbed or aborted.

Telltale signs

The first sign of trichomoniasis in a herd is that infected cows and heifers return to estrus one to three months after breeding. A period of infertility may last for another two to six months as a result of the infection. The parasite is

eliminated from the reproductive tract in most females as the result of an active immune response. Immunity, however, is not permanent, and the cow or heifer is subject to reinfection in subsequent breeding periods.

Most infected females spontaneously rid themselves of the infection in approximately four to six months, but a few will remain chronically infected. These chronically infected cows are important in the epidemiology of the disease because they can be a source of infection to bulls in the following breeding season.

Management strategies

At the present time there is no effective and approved treatment to clear the infection in females or bulls. Since trichomoniasis is a venereal disease and can only be transmitted by sexual contact, the best prevention is to prevent infected bulls or cows from coming into contact with a susceptible herd. Prevention and control in areas where the disease is common rely on several management strategies,

including testing of bulls prior to the breeding season, stringent culling of open cows, isolation of clean herds from potentially infected herds and, potentially, vaccination.

Testing bulls for the organism is an important component of control programs, but the test produces many false-negative results. In order for a bull to be considered negative for trichomoniasis, he must have three samples scraped from the prepuce and taken at weekly intervals, with all samples resulting in culture-negative status.

To reduce the risk of maintaining an infected cow in the herd that can serve as a source of infection for herd bulls, the breeding season should be limited to less than three months, and open cows should be culled.

Other management tools to control trichomoniasis in areas of the United States where this disease is common include monitoring traffic in and out of the herd, and keeping fences in good repair to prevent accidental contact with potentially infected cattle. In addition, replacement females should either be pregnant or less than 6 months of age, and replacement bulls should be known virgins.

If the sexual history is unknown or questionable, replacement bulls should be cultured three times before they enter the herd. Bulls should be sexually rested a minimum of three months between breeding seasons. The longer

the rest period, the better, as this allows more time for an infected bull to potentially overcome the infection.

Use only virgin bulls on heifers, and remove the bulls after three months of breeding. Shortly after the breeding season, examine heifers for pregnancy, and cull all nonpregnant animals.

Remove bulls from adult cows after three to four months of breeding. Examine cows for pregnancy, and cull all nonpregnant cows. In herds with split breeding seasons (spring and fall), do not move nonpregnant cows from one herd to the other.

In addition

To complement trichomoniasis control and to promote high calving percentages, ranchers should control campylobacteriosis (vibrio), another

important venereal disease, by vaccinating before the breeding season. In addition, using AI when practical (for example, for intensively managed beef operations) will decrease the risk of the disease.

Killed vaccines specific for the trichomoniasis organism have been developed. Research trials indicate that vaccination helps exposed cattle induce

an immune response earlier than in unvaccinated, naturally infected cows. Vaccination has been shown to be effective in reducing losses in reproductive efficiency that occur in trichomoniasis-infected herds and can be used as an additional tool in controlling the disease.

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 trichomoniasis has been diagnosed in your herd, work with your veterinarian to design a control strategy that will be most effective for your particular situation.



Tips for controlling trichomoniasis in trich-positive herds

- Culture all bulls. (Results must be negative from three successive samples taken at weekly intervals). Cull all positive bulls.
- Keep the average bull age as young as possible. Some experts recommend removing bulls greater than 3 years of age; others suggest that aggressive annual testing of bulls, plus removal of bulls greater than 5 years of age, is adequate.
- Culture all new bulls regardless of age.
- Ensure all replacement bulls are known virgins.
- Use only virgin bulls on heifers.
- Sexually rest bulls a minimum of three months between breeding seasons. This length of time allows bulls to potentially clear any possible infection.
- Remove bulls from heifers after a two- to three-month breeding season (less than 90 days). Examine the heifers for pregnancy, and cull all nonpregnant animals.
- Remove bulls from cows after a two- to four-month breeding season (less than 120 days). Examine the cows for pregnancy, and cull all nonpregnant animals.
- Consider using killed vaccines for trichomoniasis, which have been developed and may be helpful as an adjunct to control measures described above.