

Bovine Trichomoniasis

Trichomoniasis can cause abortions, low pregnancy rates and delayed or prolonged calving seasons. This disease is present throughout the world, and can have severe economic costs for Alberta's beef producers. Tight economic conditions may allow the disease to spread undetected (e.g. less pregnancy checking, longer breeding seasons, purchase of bargain cows), but trichomoniasis can be prevented and controlled through management.

Cause

Trichomoniasis is caused by a sexually transmitted parasite (*Trichomonas foetus*). The protozoa can survive and grow in the folds of the penis. Bulls over three years of age rarely clear the parasite once they become infected, and serve as long-term carriers.

The parasite may also live in the reproductive tract of infected cows, though they often clear the infection within three months. Immunity to trichomoniasis lasts less than a year, so cows may be re-infected. Some infected cows may carry the infection into the next breeding season.

Spread

Trichomoniasis is spread by breeding activity. Infected bulls continue to breed normally and spread the infection to cows, which pass it to uninfected bulls when they rebreed. Bull-to-bull is rare; cow-to-cow transmission does not occur.

Trichomoniasis is more common in breeding pastures where multiple herds are mixed (e.g. community pastures), or in herds that purchase open cows or mature, untested breeding bulls.

The parasite is sensitive to freezing, drying, and sunlight, and cannot survive outside the animal.

Symptoms

Infected bulls show no symptoms. Infected cows usually abort early in the first trimester, resulting in repeat breeding, irregular heat cycles, longer

calving intervals, and reduced pregnancy rates. The uterus may become infected in some cases.

In uninfected herds, the majority of cows should be pregnant and calve in the first 45 days of the calving period, given proper management (good body condition score, short breeding season) and no other reproductive problems.

Trichomoniasis abortions peak at 50 to 70 days of gestation. So in trichomoniasis infected herds with a short breeding season, many cows may be open in fall. In infected herds with a long breeding season, many cows calve in the second half of the calving season.

Testing

There are two ways to test for trichomoniasis. Tests are generally used on bulls, as they are the most likely to be infected and responsible for spread. Bulls should not be used for breeding for at least two weeks before testing.

Culture tests (e.g. InPouch): use smegma samples collected from the prepuce of the penis. Results are usually available within a week. Three negative tests (conducted weekly, with no breeding activity in between) give a high level of confidence that the bull is not infected.

PCR tests: use the same sample, but multiple tests are usually not necessary.

Treatment and Vaccination

Antibiotics and vaccination are not generally economical or effective because the protozoa do not live within the bloodstream. This makes it difficult for antibiotics and vaccines to reach the parasite. The preventative value of vaccination is relatively short-lived, but may help in some cases.

Control and Prevention

Appropriate management of the breeding herd helps to prevent the introduction of the disease

to uninfected herds, and in eliminating the parasite from infected herds.

Control of trichomoniasis in infected herds:

- Test all non-virgin bulls.
- Cull infected bulls, and replace with virgin bulls. Virgin bulls have not been exposed to infected cows, and have not been shown to harbor the infection.
- Pregnancy check and cull open and late-calving females.
- Send culled animals to slaughter to avoid infecting other herds.
- Use home-raised replacements, or purchase pregnant replacements from reputable sources.
- Separate replacements from mature animals.

Minimizing the risk of trichomoniasis infections in uninfected (clean) herds:

- Purchase only virgin or tested bulls.
- Do not borrow, rent, lease or buy untested bulls that have been used for breeding.
- Cull open and late-calving cows.
- Winter cows and bulls separately to minimize infection of bulls by late calving or late cycling cows.
- Do not purchase open cows.
- Use home-raised replacements, or purchase pregnant replacement females from reputable sources.
- Separate replacements from mature animals.
- Avoid commingling of breeding herds, if possible.
- Check fences regularly to keep other animals out.

Community pastures:

Community pasture patrons groups need to allow the management team to establish,

implement and police biosecurity policies that help avoid trichomoniasis, such as:

- Test and cull infected herd and patron bulls.
- Consider wintering bulls used on community pastures away from cows to avoid re-infecting cows.
- Accept only virgin heifers and cows with a calf at foot.
- If facilities, fencing and labor are adequate, community pastures may set aside “clean” pastures for cows from uninfected herds with calves at foot, and “infected” pastures for infected herds, or herds with open cows.

Trade Implications

Some countries and some U.S. states require that imported bulls or semen be tested for trichomoniasis. However, since the disease is found throughout the world, it is unlikely to result in wholesale bans on the export of Canadian cattle.

Danger to humans

Bovine trichomoniasis is not believed to be a risk to humans. Human trichomoniasis is caused by a different organism (*Trichomonas vaginalis*). Trichomoniasis is not a food safety risk, and is not the same as trichinosis. Trichinosis is a parasite found in animals that eat meat.

Other considerations

Reproductive failure can also result from a variety of other nutritional, injury or infectious causes. A sound herd health program, developed in collaboration with your veterinarian, will help to minimize these risks.

For more information, contact Alberta Beef Producers at (403) 275-4400.