Dawson Creek Veterinary Clinic
238-116 Avenue, Dawson Creek BC, V1G 3C8
Small Animal 250-782-5616, Large Animal 250-782-1080
www.dcvet.ca

Bovine Trichomoniasis

Bovine Trichomoniasis (**Trich**) is a venereal disease in cattle caused by the parasite *Tritrichomonas foetus*, and has been associated with very high open rates in beef herds. This disease results in infertility by causing early embryonic death, abortions, and uterine infections in infected cows.

The parasite lives in the reproductive tract of cows and bulls, and is spread by sexual contact only. It can exist in a carrier state in bulls. Older bulls are more susceptible to being carriers as it is thought the prepuce (sheath) in older bulls is a more favourable environment for this parasite.

Cows become infected during breeding and usually conceive normally. This pregnancy most commonly undergoes early embryonic death and the cow is perceived to be infertile. This early embryonic loss often occurs within the first 60days of pregnancy, but later gestational abortions can occur.

Cows harbour the organism for variable lengths of time and can be a source of infection for bulls on pasture. Most cows handle the infection naturally and can conceive anywhere from 3-5 heat cycles after embryonic loss. This immunity is short lived, and these 'recovered' cows can be re-infected in subsequent breeding seasons. Rarely a carrier state exists in cows. These carrier cows can calve normally and remain infective for months postpartum.

PCR has become the test of choice for the detection of carrier bulls. This is a one-time test that relies on the genetic material of the organism for identification. Historically a more cumbersome and expensive testing protocol has been recommended involving 3 consecutive T. foetus scrapings, collected one week apart from sexually rested bulls and analyzed microscopically.

For regulatory purposes, it is currently recommended that a bull's TF – free status be documented with a single PCR test.

The sample is collected from the sheath (prepuce) of bulls at the time of the breeding soundness exam (semen check) and incubated in the 'InPouchTM TF' medium and incubated at 37ºC for 2 days, before being sent to the lab for PCR testing. DNA sequencing is also used to rule out the cross reactivity that can occur with tritrichomonad-related organisms.

Increased sensitivity of the test has been very helpful in effectively removing carrier bulls from herds and contributing to the low prevalence of T. foetus infection now being seen. Routine testing and removal of carrier animals will help maintain low prevalence or perhaps even lead into a 'free' status for some populations.

Once Trich has been detected in a herd it is still recommended that all bulls be tested and positive bulls culled. Breeding seasons should be kept short and opens culled quickly to eliminate the possible carrier cows from the herd.

Management is very important when preventing the disease and certain practices can be implemented to achieve control of the disease:

1. Use virgin bulls and keep your bull battery young
2. Breeding season should be kept short
3. Strictly cull open or late cows and any cow that has aborted
4. Mixing of herds should be prevented
5. Introduction of new ‘outside’ cows should be kept to a minimum
6. Only use virgin heifers as replacements and home raised when possible
7. Monitor breeding season to detect excessive repeat breeding

In community pastures, this becomes difficult and the risk of infection increases significantly. However there are still certain protocols pasture managers can follow to decrease the risk of Trich. Cows should not be accepted into pasture without calves at foot because cows that have calved successfully are at low risk for carrying the disease and thus contaminating the bulls at pasture. Ideally, only virgin bulls or bulls negative to Trich testing are allowed into the pasture.

There is no treatment for Trich, however there is a vaccine. The vaccine can be quite expensive and only moderately protective therefore it is generally only used in emergency situations.

Trichomoniasis can be devastating to beef herd reproductive rates. Reports of 11%-84% open cows in infected herds have been documented. However, producers who control the breeding season, cull late and open cows, add few ‘outside bred cows’ and keep their bull power young have a low risk of herd infection with Trich.