Bovine trichomoniasis is a reproductive disease of cattle which can have significant economic impact to cattle enterprises. Venereal transmission of the organism Tritrichomonas foetus can cause decreased reproductive efficiency in cattle. An infected cow becomes susceptible to early embryonic death, abortion, pyometra and transient infertility. In some areas of North America, particularly in the open range areas, as many as 50% of the herds may have been infected at one time. The organism has been known to exist for a number of years, maybe as long as one hundred years ago, but increased awareness has recently brought the disease process to the forefront of concern. Economic impact of the organism is significant and has made for more concern during the evolution of our current economic situation.

DESCRIPTION

Tritrichomonas foetus is a flagellated protozoan which can inhabit the reproductive tract including the prepuce and distal penis in bulls and the vagina and uterus in cows. Protozoa are single celled organisms which are more complex than bacteria but have many similar characteristics. These organisms may be observed with simple light microscopy when grown in special culture medium and thus infection may be readily diagnosed. They have a very characteristic motion which may be readily identified. However, other species are normal residents of the gastrointestinal tract; if sampling becomes contaminated with fresh fecal material other testing may be required in order to properly identify the organism.

TRANSMISSION

Transmission of this organism is from an infected bull to the susceptible cow or from the infected cow to the susceptible bull during breeding. Infection occurs when organisms are discharged from the mucosal membranes of the reproductive tracts of the male and female during service. T. Foetus cannot survive outside of its host, as it has no means of protecting itself from the environment. Thus, unless some type of direct contact occurs with reproductive structures transmission other than by sexual contact is extremely unlikely.

Once infected, bulls become chronic carriers of the infection; once they are infected they will always be infected. Bulls of yearling age or up to four years of age are not supposed to be able to harbor infection by the organism T. Foetus. There has been scientific evidence that a young bull may spread the infection for a period of time after service of an infected cow (currently thought to only be about one hour) but will not chronically spread the infection. Mature bulls four years of age and over are the main reservoirs of infection. If left to reside in their herd they will continue to infect healthy, susceptible cows.

Cows usually self limit their infections, with the problem being eliminated one hundred twenty to one hundred fifty days after the initial introduction of the organism. However there are reports of cows maintaining infection with T. foetus as long as nine weeks after delivery of a live calf. These types of infection may lead to a continued infection scenario within a herd. This situation brings to light the importance of insuring proper biosecurity when introducing new genetics into the herd, whether it is male or female. Be sure of your source of replacements in the herd.

DIAGNOSIS

Careful consideration should be given to herd history when evaluating reproductive inefficiency any scenario. Spontaneous abortions, retained fetal membranes and cows continuing to show estral activity for several cycles should provide warning signs that something is afoot with the herd. History of a mature bull entering the pasture, either thru purchase or from a neighboring pasture should help signify a problem may have been introduced. The simplest evaluation is to sample the smega of the prepuce of the bull for presence of the Tritrichomonas foetus organism. Care should be given in order the sample taken be free of contamination from the environment, particularly with any fecal matter. One negative growth culture of a suspected bull is not good enough to confirm a bull is negative. At least three cultures should be performed with good technique before suspicion of a bull's status can be resolved. The Polymerase Chain Reaction test (PCR) is another good procedure to evaluate for the organism. This again requires sampling of smegma from the bull and culture of the sample but the test looks for DNA of the organism instead of the actual live organism to be identified. This test, if the sampling is performed correctly, only requires one procedure to identify the organism.

Many states have enacted regulations to control trichomoniasis and reinfection of herds. You must be aware of these regulations before the movement of breeding cattle. If you suspect you have a problem in your herd please contact your local veterinary health care provider for advice as they may diagnose and deal with your problem. Remember—GOOD FENCES MAKE GOOD NEIGHBORS (Dr. Wallace Cardwell 1962).

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