

The prevalence of *Tritrichomonas foetus* in cull cows at a southeastern abattoir

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Introduction

Trichomoniasis is a sexually transmitted disease in cattle caused by the protozoa, *Tritrichomonas foetus*. This single-celled, flagellated parasite colonizes the preputial folds of bulls, who serve as asymptomatic carriers of the organism. It is a significant cause of infertility and pregnancy wastage in beef herds. Cows become infected by a carrier bull during breeding, frequently resulting in infertility because of embryonic or early fetal death, abortion, and occasionally pyometra and fetal maceration. Trichomoniasis can be masked by other factors such as poor nutrition, bull subfertility, drought, or other diseases such as leptospirosis and campylobacteriosis. Management practices that perpetuate trichomoniasis include introducing or keeping infected bulls or brood cows in the herd. In some cases, pregnant cows may carry the organism and be a source of infection after calving. Progress in controlling or eradicating trichomoniasis is hampered by the lack of knowledge of its true prevalence throughout the United States. Results of a 2004 report of beef herds in Florida indicated that 11.1% of herds had at least 1 *T. foetus*-positive bull. Reports documenting the prevalence of *T. foetus* in beef cows are lacking. Infertility due to infection with *T. foetus* may be a significant cause of culling in beef cows. However, because of the self-limiting nature of the disease and low sensitivity of culture in cows, testing for *T. foetus* is not routinely performed on the farm. The objective of this study was to determine the prevalence of *T. foetus* in the reproductive tracts obtained from cull cows at a Georgia slaughter plant.

Materials and Methods

Samples of cervical and uterine mucus were obtained from the reproductive tracts of 500 non-pregnant and early gestation (<60 days by direct palpation and visual estimation) cows following slaughter. A sterile pipette was inserted into the cervix, and uterine body and fluids were aspirated into the pipette using a 12 mL syringe coupled to the pipette. An adequate sample consisted of 0.4-0.8 inch (1-2 cm) of mucus in the lumen of the pipette. The sample was then inoculated into a commercial In Pouch TF trichomoniasis culture pouch. Inoculated media were kept at ambient temperature until transported to the Tifton Veterinary Diagnostic Investigation Laboratory (TVDIL), Tifton, GA. The samples were tested for the presence of *T. foetus* by culture and real-time PCR.

Results

Of the 503 samples tested, 1 (0.2%) was positive by culture and 7 (1.39%) were positive by RT-PCR assay.

Significance

Considering the occurrence of *T. foetus* infection in random samples tested in this study, larger herd-level studies to evaluate the actual prevalence and economic impact of trichomoniasis in beef herds is urgently warranted. Also, this study indicates that the practice of breeding purchased cull cows with unknown *T. foetus* status represents a potential source for *T. foetus* infection.