

Trich is Tricky

So is coping with trich regulations.

by **Troy Smith**, field editor

If you never ever want to worry about trichomoniasis,” advises Jeff Ondrak, “you should run sheep.”

The University of Nebraska (UNL) clinical veterinarian and trichomoniasis (trich) researcher says discounting the disease’s potential consequences has been a costly mistake for some cow-calf producers. Ondrak can cite examples, such as the ranch where 14% of its 3,000 cows failed to maintain pregnancies. It can be worse, like another operation where 27% of 1,500 females were found to be open. Because of infertility, abortions and the cost of eradication, trich can be a real drain on the pocketbook, sometimes for years.

According to Ondrak, trich is tricky. It doesn’t always play by the rules. The Intermountain West and Florida have long been considered the primary areas

comprising this venereal disease’s historic geographical range, but trich occurs periodically in other areas, too.

“It shows up every 10 years or so. It’s a problem for a little while, and then it dies down again. It happens almost nationwide,” states Ondrak. “Wherever you live and run cattle, if you or your neighbor have trich, you have a problem.”

Exposure and testing

After exposure to an infected bull, 80%-90% of females will become infected. Infection doesn’t necessarily prevent conception, but an infected cow seldom carries a fetus to

term. Early embryonic death is common, although some pregnancies end later in abortion. Ondrak says females typically clear the disease after three or four heat cycles, but there are exceptions. Some cows have remained chronically infected for up to 10 months.

“In rare cases, a cow can even carry the disease while pregnant, deliver a calf and remain infected for four to five cycles,” adds Ondrak. “That affords ample opportunity for her to infect bulls during the next breeding season.”

While they show no outward signs of trich infection, bulls are the main source of transmission. The causative organism, a protozoan organism called *Tritrichomonas foetus*, resides on tissue surfaces of the penis and prepuce of infected bulls. The infection is transmitted to the reproductive tract of

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females during breeding. It is there that trich does its dirty work. Bulls older than the age of 3 years often become chronic carriers. There is no treatment for trich, so it must be controlled through management.

“There is a vaccine for use in healthy animals, and it has been shown to help reduce losses by shortening the period of infection in females. It does not prevent infection,” warns Ondrak.

Diagnostic testing of bulls plays a major role in managing trich. There is no blood test for trich, so smegma (sloughed skin cells and secretions) collected from the surface of the penis and prepuce must be collected and analyzed for the presence of *T. foetus*. However, Ondrak says test results are not always correct. False results, both negative and positive, occur due to mistakes made when collecting and handling samples, and occasionally because of diagnostic and reporting errors. Ondrak says some testing errors also occur because of differences in bulls. Some infected bulls carry lesser loads of the organism than others.

“When testing bulls from a herd known to have been infected, it’s important to remember that one test, with no positives, is not definitive,” warns Ondrak. “A single test is not adequate to detect all positive



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bulls. Testing as many as three times may be necessary.”

‘Trichy’ regulations

To help control trich, 26 states have adopted regulations pertaining to testing requirements and procedures for breeding bulls entering their borders. Some also have trich rules pertaining to in-state movement of bulls. Compliance can be tricky for

producers and can cause headaches for veterinary practitioners because regulations vary significantly among states. Regulations change, too, as state programs evolve. Additionally, diagnostic laboratories have different requirements for how test samples are to be collected, packaged and shipped.

The lack of standardized regulations and procedures causes confusion in the

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country, complicates cattle marketing and burdens producers economically. Most often affected, perhaps, are seedstock breeders who frequently merchandise cattle to multiple states. Stockmen whose operations straddle state lines, ranchers who graze public lands in common and other producers share the frustration stemming from differing rules.

All states require testing to be performed by an accredited veterinarian, but some also require the veterinarian to be trained and certified for trich testing, specifically.

State regulations vary regarding the age at which bull testing is mandatory. According to one rulebook, testing may be required of all imported bulls older than 12 months of age, while another state's rules require

testing at 24 months of age. In certain states, shipment of bulls must occur within 30 days of receiving negative test results. Others allow a 60-day window.

Regulations also vary as to the type of diagnostic test required. A culture test involves collection during a three-week period of up to three smegma samples, which are placed in culture media and submitted to an approved diagnostic lab. Alternatively, a polymerase chain reaction (PCR) test requires submission of a single sample. The latter is a DNA-based test representing the most current technology. Many states accept both testing methods, but a few states recognize PCR as the only "official" test.

Eleven states allow laboratories to pool samples of up to five bulls during a single screening test, using PCR. A negative result means all of the bulls should be free of infection. If the pooled test detects the presence of *T. foetus*, samples from those bulls are then tested individually. Pooling offers cost savings but in rare instances can fail to detect a trich infection. Opponents of pooled testing claim the potential economic consequences of missing a trich-infected bull should be of more concern than using the least-expensive test.

A few states are considering the addition of a female component to their trich regulations. Kansas, for one, has already done so. The Sunflower State now requires

collection and analysis of cervical mucus or uterine secretions for all nonpregnant cows and heifers coming into the state.

Veterinarian Jeremy Van Boening, whose Alma, Neb., practice serves both sides of the Kansas-Nebraska border, says variation among different diagnostic laboratories' sample-handling and shipping protocols makes trich testing even more troublesome. Van Boening says labs are inconsistent in their recommendations for type of sample collection media, whether commercially manufactured pouches or tubes. Labs also differ on whether or not samples should be incubated prior to shipment and whether or not they should be frozen and shipped on ice. Neither do they agree on the maximum

time that should be allowed for shipping of samples.

"We polled 10 different labs to get their recommendations for sampling and shipping," says Van Boening, "and we received 10 different answers. I would like to see some standardization of procedures, especially since most testing errors are attributed to methods of collection, handling and shipping of samples."

Hoping to ease the angst, the National Institute for Animal Agriculture (NIAA) and the U.S. Animal Health Association (USAHA), whose respective memberships include animal health regulatory officials, animal scientists, and others associated with the livestock industry, have been discussing

how trich regulatory procedures might be standardized. Many members believe the time has come to find common ground and at least harmonize state regulations, as well as collection, handling and laboratory protocols.

"I think we need to promote standard operating procedures for dealing with trich," adds Van Boening. "We also need to promote producer and veterinarian awareness. Some producers have no idea what trich is and some veterinarians are totally unfamiliar with trich testing. We need more education."



Editor's Note: *Troy Smith is a cattleman and freelancer from Sargent, Neb.*