Vet Call

▶ by **Bob Larson,** *Kansas State University*

Trichomoniasis

A few years ago, beef cattle producers in many parts of the country had not heard about the disease trichomoniasis, also called trich. The disease has been an important cause of abortion and infertility in U.S. cattle herds for many years, but as it becomes more common in more parts of the country, many producers, veterinarians and states are taking aggressive steps to control this significant problem.

Big impact

The reason that trich is an important disease is because of the devastating impact it can have on herd fertility. Most diseases, toxins and stresses that cause infertility or abortion will affect a relatively small percentage of cows in a herd, but a trich-infected breeding group can have 30% or more of the cows fail to calve. The organism is passed between bulls and cows during mating. In other words, infected cows will infect previously clean bulls, and infected bulls will infect previously unaffected cows.

The disease does not cause bulls to show any signs of illness, and the only signs in cows are not being pregnant at preg-check time or, in a few cases, an infected uterus. The disease can enter a herd through a purchased infected bull, a purchased open cow that recently aborted due to trich, your bull crossing a fence to breed an infected cow in a neighboring pasture, or an infected cow or bull from across a fence crossing to mate with cattle in your herd.

After being infected by a bull shedding the trich organism, a cow or heifer can become pregnant, but the pregnancy only progresses for about 15 to 80 days, at which time the embryo or fetus dies and is resorbed or aborted. The first sign of trich in a herd is that infected cows and heifers start showing signs of heat again one to three months after breeding. A period of infertility may last for another two to six months as a result of the infection. Almost all infected cows will eventually clear the infection, but this takes many weeks, and a few cows will maintain the organism for more than a year. To avoid maintaining trich in infected herds, open cows should be culled for slaughter at the end of each breeding season.

Most bulls that become infected with trich will remain infected the rest of their lives; and although some young bulls can clear the infection, in practice, infected bulls are considered to be lifelong carriers. There are no approved treatments for this disease in the United States, and although treatments for trich are attempted in other parts of the world, the high treatment failure rate makes these treatments a bad idea in U.S. production systems even if they were legal.

Vaccination is not considered a primary control method for this disease.

Testing samples taken from the prepuce of bulls is an important component of control programs, but the currently available tests produce many false-negative results. In order for a bull to be considered negative for trich, he must have negative tests from each of three samples taken at weekly intervals. All positive bulls should be sent to slaughter.

A vaccine for trich is approved for use in cows, but because the organism does not produce a good immune response, the vaccine is only useful as a secondary form of damage control to reduce the impact of the disease in positive herds. Vaccination is not considered a primary control method for this disease.

Prevalence

One reason many beef producers and nearly all seedstock producers have heard about trichomoniasis in the past few years is that many states that did not previously regulate the movement of bulls between states have begun to implement testing and other requirements when bulls change ownership. These regulations will vary between states and when you sell or purchase bulls in many states, you must work with your veterinarian and state regulators to ensure that you are protecting both the bull seller and buyer.

As important as the regulations are when bulls change ownership, these rules are not designed to be trich-prevention or eradication programs for herds either at-risk for or already infected with the disease. Because state regulations are designed to be a set of rules that can be broadly applied to all herds to reduce the risk of trich entering or moving within a state with minimal disruption to normal commerce, they are not intended to address herd-specific risk and management. In other words, your veterinarian will likely set up a control program that is very different than the state regulations.

For herds already infected with trich or at high risk of becoming infected, your veterinarian will recommend much more aggressive testing of bulls, segregation of breeding groups, pregnancy-testing of cows, and other control measures required by state regulations. In contrast, if your herd is at very low risk for disease, your veterinarian is not likely to apply the control measures outlined in state regulations to any animals except those that are changing ownership as required by law.

If a herd is positive for trich, it is recommended that all positive bulls and all bulls in the same breeding pasture as positive bulls be sent to slaughter. Bulls that are not likely to have contacted the same cows as those bred by positive bulls must be tested at least three times at weekly intervals before the next breeding season and be negative on all tests.

All imported bulls must be tested at weekly intervals three times and be negative on all tests. Limit the breeding season to 60 to 90 days or less. Plus, cull all cows to slaughter that are open at the end of the breeding season or that abort prior to calving. Breeding groups should be strictly separated so that no bulls or cows move between groups during or between breeding seasons. These restrictions should be maintained until you and your veterinarian are absolutely certain that the disease has been eliminated from the herd.

Once a previously positive herd is no longer infected, or if the herd is at risk for exposure to trich because of purchased non-virgin bulls or open cows, or even fenceline exposure to at-risk herds, the restrictions are less than for positive herds,

but serious efforts should still be made to limit the risk of trich introduction. Testing imported bulls three times at weekly intervals, limiting the breeding season to 60 to 80 days or less, culling open and aborting cows, and enhancing fenceline security are all recommended management practices for at-risk herds.

Herds that are at very low risk for trich introduction include those that only import virgin bulls, do not purchase females from outside the herd, and have no fenceline contact with other cow herds during the breeding season or fenceline contact only with very low-risk herds. Management steps to stay low-risk include: importing only virgin bulls or testing purchased non-virgin bulls three times at weekly intervals, importing only virgin heifers or bred cows from low-risk herds, limiting the length of the breeding season to 90 days or less, minimizing transfer of bulls or cows between breeding groups on the ranch, and maintaining excellent fenceline security.

Trich is a devastating disease if your herd becomes infected. In many states, regulations have been adopted that require attention by herd owners and veterinarians if bulls (and sometimes cows) cross state lines, or, in some cases, change ownership within a state. Regardless of the regulations in your state, herds already infected or at high-risk for trich should adopt aggressive eradication and control measures.

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