

Trichomoniasis in the Northern Territory

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Trichomoniasis is a contagious venereal disease of cattle transmitted by sexual intercourse; it causes infertility in cows through early embryonic death and abortion resulting in extended calving intervals.

DISTRIBUTION

Trichomoniasis is particularly prevalent in large beef herds under extensive conditions in northern Australia. It has declined in importance in the smaller beef herds of southern Australia. Artificial insemination, with no cow to bull contact, has largely eliminated it in dairy herds. Trichomoniasis is widespread in the northern half of the Territory. It has been recorded in the Barkly Tableland, Elsey and Gulf districts, as well as in the VRD and the Darwin district. Its incidence in the Alice Springs district is low.

A survey of 1008 bulls on 41 stations in the VRD in the mid-80s found 65.6% of herds were infected by trichomoniasis. The prevalence of disease in infected herds ranged from 2.9 to 33.3% with an average of 11.7%.



CAUSE

Trichomoniasis is caused by an organism called *Tritrichomonas foetus*. This organism can live in the reproductive tract of cows for up to 22 months, but may live for years in the reproductive organs of bulls.

SPREAD

An infected bull may infect any female it serves. Similarly, an infected female may infect any bull that serves it. The disease is purely venereal and can only be passed by sexual contact. Any animal of breeding age is susceptible to infection. The organism lives in the uterus of the cow where it produces an inflammation, which either prevents conception or causes an early abortion. Such abortions are common at approximately two to four months. In bulls, the organism lives on the penis and in the surrounding prepuce.

SYMPTOMS

The best indication of the presence of trichomoniasis is when females keep returning to the bull for four to five months after they have been initially served. Often, the incidence for this is higher in heifers than in mature cows. Aborted foetuses of three to four months of age may be found in the paddock and a persistent vaginal discharge occurs in affected cows. However, under the extensive management conditions of the NT, these symptoms are usually not observed.

In recently-infected herds, 5 to 30% of cows can show clinical signs of the condition. These signs may include a mucopurulent (containing pus discharge and inflammation of the vagina, cervix and uterus. A discharge usually occurs more commonly in this disease than in other venereal diseases, such as campylobacteriosis. However, the discharge is often only slight and can therefore be easily overlooked.

Bulls often show no obvious symptoms of trichomoniasis infection. Occasionally, some may be lazy at service or even refuse to serve cows altogether due to pain in the penis.

DIAGNOSIS

Diagnosis can only be done by a veterinarian through a microscopic examination of vaginal discharge in cows or preputial scrapings in bulls. An enrichment medium is available in which trichomonas may be cultured in an incubator to increase the number of organisms in the sample, thus making them easier to detect. Unfortunately this diagnosis does not detect all infected animals.

CONTROL

At present, the control of trichomoniasis under extensive conditions is impractical and is not cost-effective.

However, in special intensive situations, control is possible. Because trichomoniasis can only be spread by sexual contact, it can be effectively eradicated by carefully managing the herd. Generally, females that have four to six heat periods without mating will rid themselves of the disease.

Where heifers are segregated from the rest of the herd, mate them only by clean young tested bulls. By keeping them segregated from the rest of the herd, you should be able to clean your herd of any trichomoniasis infection as long as no infected animals get into the paddock.

The most reliable way to eradicate trichomoniasis from an infected herd is to separate the females and use only artificial insemination. By using semen from bulls that are guaranteed to be free of trichomoniasis and other venereal diseases in cows that have been isolated for four to six heat periods, you will eradicate trichomoniasis. However this would be practical only in special situations in the Northern Territory, such as stud herds and dairy cows.

In a disease-free herd, it may pay to ensure that purchased bulls are free of trichomoniasis before you mate them with cows or heifers. Stray bulls should be immediately removed from your herd. It is possible that the incidence of trichomoniasis will decrease naturally with the reduction of wild scrub cattle. In the VRD survey mentioned earlier, the percentage of infected herd bulls was half that of scrub bulls.

CARRIER STATE

A carrier state exists in both cows and bulls. The bulls show no outward sign of the disease, with the organism establishing itself in the microscopic folds of the skin that lines a bull's penis and sheath. Older bulls can harbour a large number of parasites here. All infected bulls should be regarded as permanent carriers of the disease.

Infected cows usually recover without any treatment within three to five heat cycles after an abortion. They are then able to conceive and calve normally. However, immunity in cows following infection is short-lived and re-infection may occur after a few weeks if cows are re-exposed to an infected bull. If previously infected females are re-infected in the next breeding season, they can abort again. Some cows can occasionally remain infected throughout pregnancy and then calve normally. These cows can remain as a source of infection for clean bulls introduced in the next breeding season. Contact between recently calved cows and new clean bulls should be avoided when attempting to eradicate the disease.

For station cattle, treatment of trichomoniasis is not a cost-effective proposition. There is no approved effective treatment or commercial vaccine for trichomoniasis available in Australia. In most situations, the best strategy is to cull all infected bulls. In large herds, it may be too costly to replace all bulls at the same time and splitting the herd into separate mating groups using virgin bulls on a portion may be the preferred option. Treatment of cows is generally unnecessary as they recover after 12 weeks of sexual rest following calving.

MANAGEMENT RECOMMENDATIONS

The following steps will aid in the eradication of the disease from infected properties:

- Ensure all fences are stock-proof.
- Separate all bulls from cows and young stock.
- Test all bulls and cull positive bulls.
- Pregnancy test all joined cows two months after the bulls have come out and cull all empty cows.
- Pregnancy test all joined cows again at six months after the bulls were pulled out and cull all empty cows.
- Buy bulls from reputable studs, never from saleyards.
- When introducing stock, virgin heifers and bulls are the safest option.
- Bulls should be quarantined on arrival and given two doses of vibriosis and leptospirosis vaccine a month apart prior to their use in the herd. Controlling these reproductive diseases with appropriate vaccination will make it easier to detect trichomoniasis.

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