



# Infectious infertility and abortion in cattle

## Farmnote 48/2001

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There are a number of infectious causes of abortion in cattle present in Western Australia however bovine brucellosis was eradicated from Western Australia in 1989.

### **Campylobacteriosis and trichomoniasis**

Campylobacteriosis and trichomoniasis are two venereal diseases of cattle in Western Australia that cause early abortions and infertility. There are a number of similarities between the two diseases which can only be distinguished and confirmed by laboratory tests.

An abattoir survey in 1975 showed that 4 per cent of cull cattle were infected with campylobacteriosis and about 1.2 per cent with trichomoniasis. No recent surveys have been done but recent testing of bulls for live export consistently identified infected animals. Trichomoniasis has not been detected in cattle reared in the south-west of Western Australia but campylobacteriosis is present throughout the state and the incidence of campylobacteriosis appears to be increasing.

Campylobacteriosis is caused by the bacteria *Campylobacter fetus* subspecies *venerealis*. Trichomoniasis is caused by protozoan infection with *Trichomonas foetus*.

Both diseases are transmitted and carried by bulls that have no obvious signs of infection. Infected cows generally abort early in pregnancy and while the abortion may not be seen, the farmer may notice cows returning to service. An infertility problem, rather than obvious abortions, is a sign of both campylobacteriosis and trichomoniasis.

After infection and early abortion, cows usually recover, but carrier animals may still be in the herd. These cows may pass the disease back to a bull. Bulls are immune if vaccinated against campylobacteriosis.

Organisms of both diseases are usually spread during mating. However, bulls mounting each other at stud or at artificial insemination centres, and the use of contaminated grooming equipment or veterinary instruments, have all been incriminated in the spread of the infection.

# Clinical signs and diagnosis

Campylobacteriosis and trichomoniasis cause inflammation of the vagina, cervix, uterus and fallopian tubes in the cow. This inflammation usually prevents successful implantation of the embryo in the uterus and leads to early abortion.

This results in cows returning to heat and poor pregnancy test results. Young cows are usually worst-affected, because they have no previous exposure and immunity. However, animals of any age can be infected if not previously exposed to the diseases.

Diagnosis of trichomoniasis usually requires a veterinarian to take samples from the prepuce of an affected bull and send these samples in special transport medium to the laboratory. Similar techniques were required to diagnose campylobacteriosis but new technologies have been introduced in recent years and a test using vaginal swabs from affected cows is used.

# Prevention and treatment

Commercial vaccines for campylobacteriosis will not only prevent the disease, but will also cure infected bulls. Available in 'bull packs', the vaccine is administered at a rate of 5 mL for each of two doses, the second dose being given four to six weeks after the first.

An annual booster dose is essential to maintain immunity. If this is not given the full vaccination programme must be undertaken again to ensure the disease does not re-appear.

Cows can be vaccinated against campylobacteriosis, but it is cheaper to vaccinate bulls and maintain freedom from disease in this way.

At present there is no commercially-available vaccine for trichomoniasis available in Australia. Preventative measures include culling obviously-infected cows, enforced sexual rest (a minimum of three months) and treatment of bulls with specific anti-trichomoniasis drugs.

# Other infections causing abortion

Leptospirosis, neosporosis and viral infections may also cause infectious abortions in cattle. Diagnosis and treatment should be discussed with your local veterinarian.

# Further reading

- Farmnote 87/99 'Leptospirosis in dairy cattle' (Agdex 411/653).

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