

# SOUTH EAST COUNTRY VETS

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## TICK FEVER IN CATTLE

Tick fever, commonly called 'red water', is a disease of cattle caused by blood parasites that are spread by cattle ticks. Tick fever kills cattle and can be very costly to your business when an outbreak occurs.

### WHAT CAUSES TICK FEVER?

Tick fever in Australian cattle is caused by one of the following blood parasites: *Babesia bovis*, *Babesia bigemina* or *Anaplasma marginale*. These parasites are all spread by cattle ticks with most outbreaks in Queensland being caused by *Babesia bovis*. The organisms are microscopic parasites which invade and destroy red blood cells.

### HOW IS TICK FEVER SPREAD?

The cattle tick (*Boophilus microplus*) is required to spread the organism from one animal to another. The tick fever parasites are taken up from an infected animal when the tick engorges on blood. The parasites are then transferred through the tick's eggs to their larvae and the disease is spread when these larvae attach to new animals, inject their saliva and infect this beast. It is important to note that not all ticks and larvae become infected however it only takes one infected tick to cause an outbreak in your herd.

### RISK FACTORS FOR TICK FEVER

- Breed:** British, European and other *Bos taurus* breeds are more susceptible to tick fever caused by *Babesia bovis* than what Brahman and *Bos indicus* breeds are. Notably, all breeds are highly susceptible to disease caused by *Anaplasma marginale*.
- Age:** There is a strong link between cattle age and immunity - older animals are more likely to be severely affected than younger ones. Calves between 3-9months of age exposed to tick fever organisms rarely show clinical signs and develop a solid, long lasting immunity.
- Exposure:** All cattle raised in areas free of cattle ticks are at risk of developing tick fever when introduced into areas where ticks are present. Cattle born and raised in areas where ticks are endemic can develop natural immunity through exposure of ticks carrying the tick fever organisms at a young age. This can be unpredictable though and exposure is influenced by breed, season and tick-control strategies.

### SIGNS OF TICK FEVER

The signs of tick fever are due to anaemia and red blood cell destruction (the parasites themselves and the body's immune system destroys red blood cells that have been invaded) and the associated high fever. Despite the common name of 'red water', this is not always seen and is usually present late in the course of the disease when animals are very unwell.

Common signs of tick fever include:

- sudden onset high fever (>44C°)
- weakness, lethargy and depression
- red urine ('red water')
- loss of appetite
- abortions
- sudden death
- pale/white membranes around the eyes, mouth and vulva due to anaemia
- jaundice (yellow colouration) around the eyes, mouth and vulva towards the end of the disease

## DIAGNOSING TICK FEVER

A fast and accurate diagnosis of tick fever is vital for treating sick animals and managing the outbreak on your property. In most cases, a diagnosis can be made by examination of blood smears under a microscope and can also be sent to an external diagnostic laboratory for further evaluation. Consult your local veterinarian if you suspect tick fever in your herd.

## HOW TO TREAT SICK CATTLE

Once the diagnosis of tick fever has been made, treatment of all sick animals can begin. It is important to accurately identify all of those treated as this may have implications if you choose to vaccinate down the track. A combination of Imidocarb (Imidox, Imizol) and Oxytetracycline can be used depending on the organism that is causing the illness. It is recommended you speak with your local veterinarian regarding treatment of sick animals, especially dairy breed animals.

## CAN CATTLE CARRY TICK FEVER AFTER RECOVERING?

Cattle that recover from natural infection of tick fever can carry a small number of the parasites in their blood stream, sometimes for up to several years. They can therefore act as potential sources of infection for other animals in your herd (i.e. ticks feed on infected animals then feed on naïve animals spreading the disease to them).

## TICK FEVER VACCINES

All cattle in tick-infested areas are at risk of developing tick fever. Tick fever vaccine is the most reliable and practical tool for long-term control of tick fever in cattle on your property. There are two types of tick fever vaccine available in Queensland, a chilled vaccine and a frozen vaccine. Both of these protect against all three parasites that cause tick fever and the most common vaccine used is the chilled version (frozen can be used when larger stocks are required to be on hand or when transport is problematic).

Following vaccination, immunity takes a number of weeks to develop and is then usually lifelong. During this time it is important to be monitoring your herd for vaccine reactions and ensuring they are not stressed by movement, mating, yarding, mustering etc.

If you wish to order tick fever vaccines, please either contact the Tick Fever Centre directly, see the Queensland government information site on vaccines or contact your local veterinarian for further information.

## WHAT IF I DON'T VACCINATE?

If you are in a buffer zone along the tick line or in a tick free area and planning on buying or moving cattle at any stage then your cattle are at risk of contracting tick fever. For those animals that come down with tick fever but survive, there are many ongoing production losses including:

- loss of condition, important in cattle ready for sale
- reduced fertility in bulls following on from a high fever
- additional musters costing time and money
- lost live export markets for 6-12m following an outbreak
- drop in milk production, some cows may 'dry up' for that entire lactation
- abortion and death of breeding stock



*This information sheet is not intended as a substitute for a veterinary consultation.*

*It is recommended that a consultation be arranged with a veterinary practitioner if you have any concerns with your herd health.*