# Tick Fever

Tick fever or 'red water' refers to both Babesiosis and Anaplasmosis and results from infection by the red blood cell parasites *Babesia bovis*, *Babesia bigemina* and *Anaplasma marginale*. These organisms are spread by cattle tick (Rhipicephalus australis), one of the most serious external parasites of cattle in Australia.
While cattle ticks can attach to other animals, tick fever only affects cattle, bison, and buffalo, which attacks the red blood cells leading to high fever, weakness, loss of appetite, and sometimes death. Cattle ticks and tick fever are both notifiable under the NSW Biosecurity Regulation 2017.

Anyone who suspects or becomes aware of tick fever - this includes members of the public, veterinary practitioners, and anyone consulted about livestock - must report it to an authorised officer at Local Land Services (LLS) or NSW Department of Primary Industries and Regional Development (DPIRD).

**All of NSW is considered a cattle tick free area. NSW DPIRD works with livestock owners to prevent, detect and eradicate any cattle tick incursions in the state.**

Infestations are generally confined to the Far North Coast of NSW, with occasional outbreaks occurring outside this area. It is critical that veterinarians collect and submit appropriate samples, such as blood or post-mortem tissue, to ensure accurate laboratory diagnosis.

## How is it spread

Tick fever is spread only by cattle ticks. When cattle ticks feed on an animal carrying the tick fever organisms, they take in blood containing the tick fever parasites. These parasites are then passed on to other cattle either through the tick's offspring or by the male tick moving between animals.

- *Babesia bovis* (most common and lethal) is spread by the larvae. Days after tick infestation to clinical signs in cattle - 8-18 days.
- *Babesia bigemina* is mainly spread by nymphs. Days after tick infestation to clinical signs in cattle - 14-20 days.
- *Anaplasma marginale* is generally spread by the male cattle tick by moving between cattle. Days after tick infestation to clinical signs in cattle - 21-47 days.

## What are the signs and symptoms

- High fever
- Lethargy and weakness
- Jaundice (yellowing of eyes and mucous membranes in the mouth, vulva, sheath)
- Red or brown urine ('red water')
- Nervous signs such as circling, head pressing, mania and convulsions
- Sudden or unexplained deaths
- Sick or dead cattle near water or shade
- Aborted calves
- Calves (under 9 months of age) are less susceptible to becoming sick

## Treatment options

Early treatment with specific injectable drugs, such as imidocarb and oxytetracycline, can save sick animals. Only use these treatments after getting a proper diagnosis and advice from your vet, to make sure you're using the correct product.

- Affected cattle need rest, shade, water, and careful handling; stress makes it worse.
- Severe cases may still die even with treatment, especially if left too late.
- Apply a chemical treatment to help prevent further generations of infected ticks contaminating pastures. Spraying cattle with Amitraz can knock down ticks quickly.

## Preventing tick fever

Transmission of tick fever is difficult to prevent via tick control as chemicals are very short acting or work too slowly (or both). However, it is important to start a chemical treatment program (with injectable or pour-on acaricides) as soon as possible to begin eradicating ticks with regular, timed treatments to prevent tick fever occurring in the future.

Understanding the makeup of your herd can help assess the risk of tick fever. Herds made up of naive cattle (those never exposed to tick fever) and cattle with past exposure (either natural or vaccination) may be at greater risk if cattle ticks are on the property. Cattle born and raised in endemic tick areas (such as the QLD cattle tick infested zone) often develop natural immunity or may have been vaccinated with the trivalent tick fever vaccine.

When purchasing cattle from areas where cattle tick is present or has previously occurred, producers should confirm whether the animals have had prior exposure to tick fever or have been vaccinated against it.

**If you don't have cattle ticks, then you can't get tick fever.**

## The trivalent vaccine

- The tick fever vaccine for cattle is the chilled trivalent (3 germ) vaccine.
- The trivalent vaccine protects against all three tick fever parasites (B. bovis, B. bigemina, A. marginale).
- It contains live, weakened versions of each parasite to help cattle build immunity.

Contact a LSS District Vet for further advice about when it may be appropriate to consider vaccination.

**Although the use of tick fever vaccine in NSW is no longer regulated, it still remains important that producers only use the vaccine when it is genuinely required.**

**If you suspect tick fever, contact:**

District vet contact details - Local Land Services or 1300 795 299.

Emergency Animal Disease Hotline 1800 675 888.

Cattle Tick Program via the NSW Biosecurity Helpline 1800 680 244.