3-PART WEBINAR SERIES

Making profitable management decisions after the dry

Key management considerations for beef producers

Erica Noonan
Biosecurity Officer
Department of Agriculture & Fisheries

Queensland Government

Erica Noonan
Biosecurity Officer
Department of Agriculture & Fisheries
erica.noonan@daf.qld.gov.au

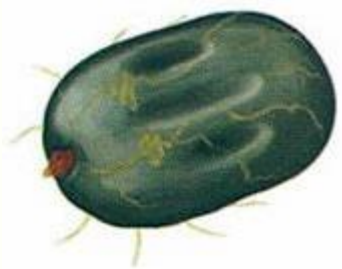
Biosecurity Considerations

Disease
- Botulism
- Leptospirosis
- Clostridial Diseases
- Disease Prevention

Parasites
- Cattle ticks
- Tick Fever
- Biting insects

Plant poisoning and Weed Emergence

Botulism



Rhipicephalus (Boophilus) microplus

Parthenium Weed

Botulism

Botulism is a paralysing disease of animals, birds and humans caused by a potent nerve toxin produced by the bacteria *Clostridium botulinum*.

Botulism can be an issue where drought conditions have caused deficiencies of phosphorus and protein, leading to bone chewing and eating of other unusual objects. The disease can result in rapid, significant losses.

Botulism

Animals with botulism have paralysed tongues leading to refusal to eat and drink and drooling of saliva. They are dehydrated and weak. Flaccid paralysis may be present (back then front legs) or aggression.

Botulism - Prevention

Correct nutritional management is the key to prevention of botulism. Accidental cases can occur when feed contaminated with rodent, bird or reptile carcasses is fed out, as well as mould in grain or silage. If you notice this contamination do not use the feed.

Initial treatment	Annual booster	Animals to treat	When to treat	Comment
One injection OR two injections 4–6 weeks apart – depending on the vaccine used.	Yes.	All susceptible animals.	When convenient, but preferably not at the same time as another vaccine.	Vaccines are available that give up to three years' protection with a single injection. However their effectiveness depends on whether animals get exposed to botulism during that time. If it is a low risk area, annual vaccination is recommended.

Leptospirosis

Zoonotic

Leptospirosis occurs in cattle, sheep and goats. It is caused by bacteria called *Leptospira*.

The disease is spread by urine from infected animals contaminating pastures, water and feed. Humans can also be infected and the disease is a workplace health and safety issue for farm workers.

Leptospirosis infections represent a risk after rainfall events and can cause death in young animals relatively soon after infection.

Leptospirosis

Clinical signs that would lead producers to suspect leptospirosis include the following:

- Abortion or still births.
- Decline in quality and quantity of milk.
- Bloody port-wine coloured urine.
- Rough, dry coat.
- Severe fever and death in young animals.

Clostridial Diseases

Clostridial diseases are caused by anaerobic bacteria that are widespread in the environment, particularly in soil, and are often fatal.

Clostridial diseases include:

- Tetanus
- Blackleg
- Black disease
- Malignant oedema
- Pulpy kidney
- Botulism

Clostridial Diseases

Tetanus - Penetrating wounds (including marking wounds), foot trimming wounds, dog bites, grass-seed punctures and dehorning.

Blackleg - Muscle bruising especially in growing animals.

Black disease - Liver fluke infection.

Malignant oedema - Wounds, especially in females associated with recent birthing.

Pulpy kidney - Lush pastures, heavy grain feeding and a sudden change in feeding.

Disease Prevention - Vaccination

5-in-1 covers five clostridial diseases, namely pulpy kidney (enterotoxaemia), black disease, tetanus, blackleg, and malignant oedema.

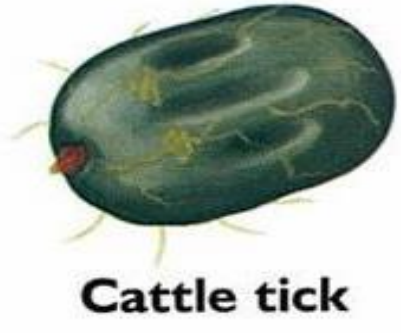
Initial treatment	Annual booster	Animals to treat	When to treat	Comment
Two injections of 5-in-1 4–6 weeks apart.	At your discretion, but recommended in areas where there is high risk of any of these diseases.	Calves from 6–8 weeks to 2 years old.	Branding and weaning – assuming that these are not more than 6 weeks apart for maximum protection.	Giving only one vaccination at branding provides only **limited** protection for 4–6 weeks.

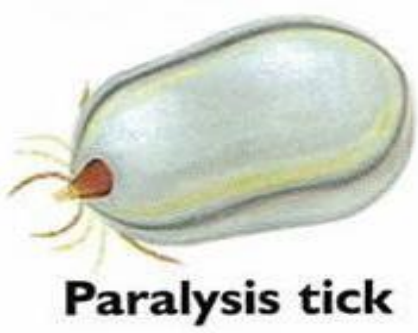
7-in-1 covers the same diseases as 5-in-1 plus *Leptospira harjo* and *Leptospira pomona*.

Initial treatment	Annual booster	Animals to treat	When to treat	Comment
Two injections 4–6 weeks apart.	Yes. For best effect the annual booster should be given at mid-pregnancy to ensure a high level of protection when reproductive problems are most likely to occur.	Maiden heifers and pregnant cows.	Vaccinate maiden heifers (2 injections) before mating. Then all pregnant animals at mid to late pregnancy.	If heifers have had two 7-in-1 injections, an annual vaccination mid to late pregnancy is required.

Cattle Tick
Rhipicephalus (Boophilus) Microplus


Bush tick


Cattle tick


Paralysis tick

	Bush Tick	Cattle Tick	Paralysis Tick
Legs	Dark red-brown First pair close to snout	Pale cream Wide space between first pair and snout	First and last pair brown, others pale In V-shape line from snout down sides of body
Body	Oval	Oval to rectangular	Pear-shaped to oval
Face	Broadly oval	Oval, wider at front	Oval, wider at rear
Snout	Short, wider at face	Short, straight	Very long

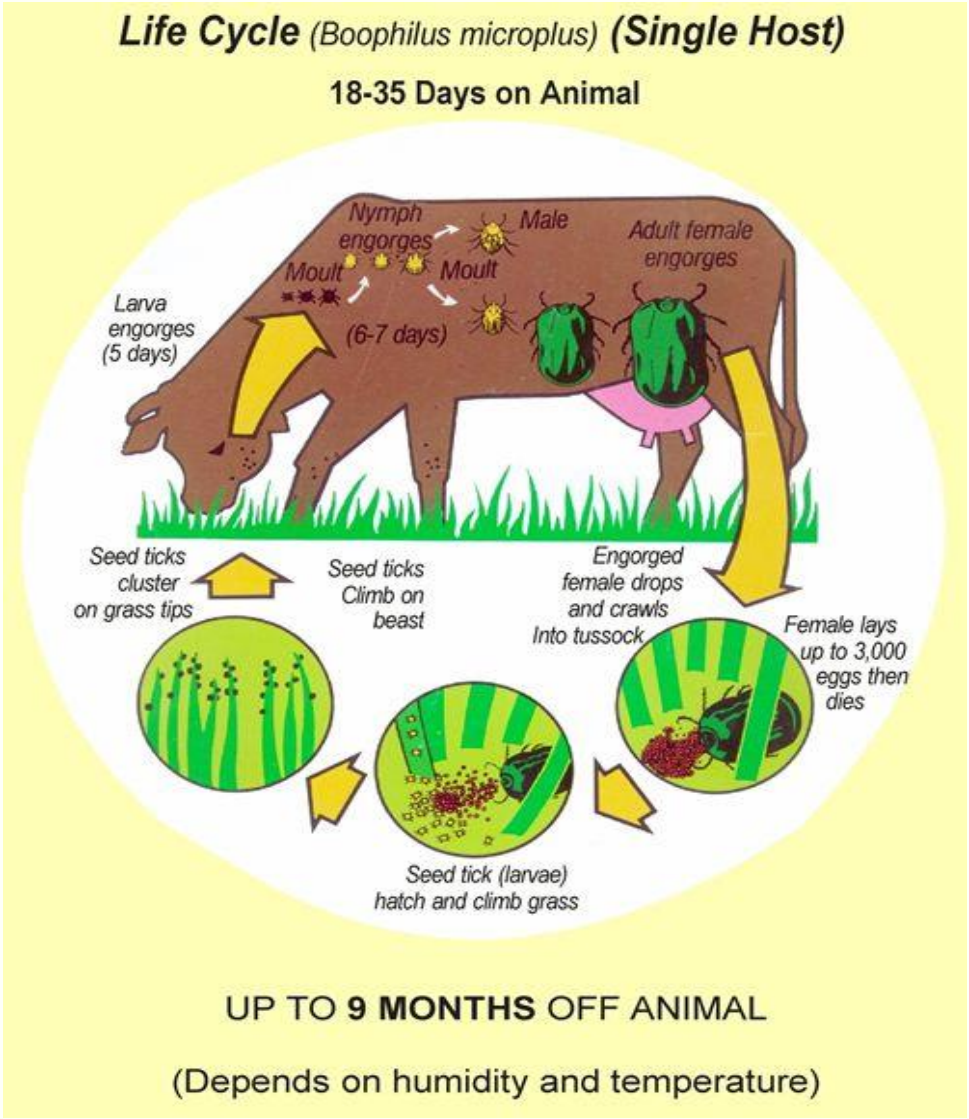
Cattle Tick

Between 18-35 days on the animal (parasitic stage)

Up to 9 Months off the animal (non-parasitic stage)

A single female tick can lay up to 3000 eggs

Environmental conditions affect viability

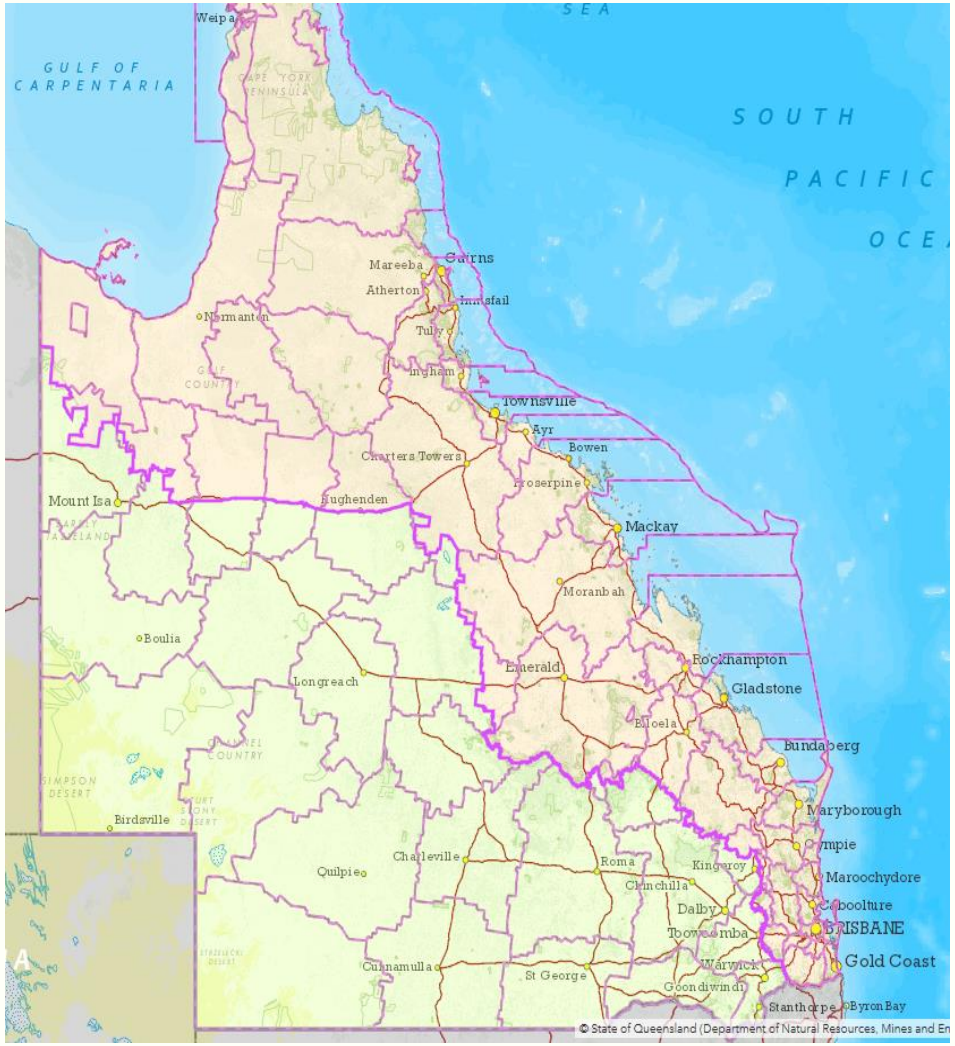


Tick Fever

Tick fever is a cattle disease caused by any one of the following blood parasites:

- *Babesia bovis*
- *Babesia bigemina*
- *Anaplasma marginale.*

Babesia bovis is the most important parasite, causing more than 80% of outbreaks of tick fever in Queensland each year.



Tick Fever

Signs of tick fever include:

- weakness
- depression
- loss of appetite.

These signs are mainly due to the associated fever and red blood cell destruction (causing anaemia).

Tick Fever Centre
Phone: (07) 3270 9600

Tick Fever Vaccine

Cattle of any age can be vaccinated, but it is best to vaccinate animals at 3-9 months of age when there is little risk of reactions to the vaccine.

Development of immunity

- 3-4 weeks after vaccination for both species of *Babesia*
- 8 weeks after vaccination for *Anaplasma*

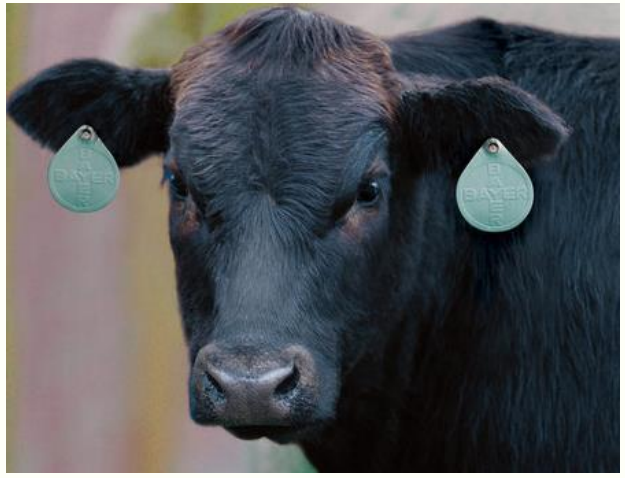
Initial treatment	Annual booster	Animals to treat	When to treat	Comment
One injection.	No.	All animals including home-grown and introduced, particularly animals considered 'at risk', e.g. cattle with lower Brahman content.	Any time but ideally at weaning (3–9 months of age).	Consider a second vaccination for expensive/stud animals introduced from tick free areas.

Biting Insects

Biting insects such as buffalo fly, midges, mosquitoes, stable fly and other biting flies can increase in population following rain events.

Cattle are adversely affected by these insects in two ways:

- Persistent biting causing distress and associated loss of production due to distress
- Transmission of diseases by insects (three-day sickness being the most common).



Bovine Ephemeral Fever - Three Day

Symptoms usually last only a few days, but the disease can significantly affect the herd's production in the following ways:

- temporary or permanent paralysis may occur as a result of damage to the spinal cord
- occasional deaths (3%) or prolonged recumbency leading to 'downer syndrome' can occur
- dramatic drop in milk production - over 70% is not uncommon
- milk yield after recovery is often reduced by 15% or more
- lactating cows can dry up completely
- abortion can occur in heavily pregnant cows
- most of the herd can be affected
- bulls may be temporarily infertile (up to 8 weeks).

Plant Poisoning and Weed Emergence

Rainfall can cause growth or increased abundance of many toxic plants. The growth of these plants tends to occur more rapidly than pasture grasses after rain events. Weed seeds can be transferred on-farm through contaminated fodder or movement of machinery. Restrict access where possible or ensure a ready supply of alternative feed to prevent livestock eating toxic plants. Early detection and management is critical.

Lantana Poisoning – Photosensitisation causing the skin to blister and slough (fall off)

Take Home Messages

EMERGENCY ANIMAL DISEASE WATCH HOTLINE
1800 675 888

- Recognise the signs
- Early detection
- Prevention
- Contact local Vet or local Biosecurity Officer