

Cattle ticks

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Animal Biosecurity and Welfare, NSW DPI

The cattle tick (*Rhipicephalus [Boophilus] microplus or australis*) is the most serious external parasite of cattle in Australia estimated by Meat and Livestock Australia to cost the industry over \$160 million annually. Cattle tick can transmit tick fever and, if uncontrolled, can cause serious losses to the beef and dairy industries.

In NSW, stockowners and the NSW government work together to control and eradicate cattle tick if it is detected anywhere in NSW.

The cattle tick should not be confused with two other ticks found on cattle in NSW:

- bush tick (*Haemaphysalis longicornis*)
- paralysis tick (*Ixodes holocyclus*).

More details on tick species of significance to livestock owners can be found in [Primefact 84 Ticks of significance to NSW stockowners](#) which is the NSW DPI website at <http://www.dpi.nsw.gov.au/content/agriculture/live-stock/health/images/information-by-species/cattle/ticks>

Cattle tick carriers

Cattle, buffalo, bison and deer are called primary cattle tick carriers because they are the favoured host to reliably complete their life cycle.

Horses, sheep goats and camelids are called secondary cattle tick carriers and cattle tick do not always complete their life cycle on these host species.

When cattle are heavily infested, ticks can be found anywhere on the body. On a lightly infested animal the main places to look are the escutcheon, tail butt, flank, shoulder, dewlap and ear.

Effects of cattle tick

Infested cattle lose condition because of 'tick worry' and loss of blood.

Heavy infestations can kill calves, and even adult cattle. Animals in poor condition are especially vulnerable. Previously unexposed cattle become heavily infested until they build up a degree of resistance. *Bos indicus* cattle (tropical breeds) and their crosses develop better resistance than do *Bos taurus* cattle (British and European breeds).

Cattle ticks may transmit the organisms that cause tick fever, a serious blood parasite disease of cattle. Tick fever can kill susceptible animals. Others may suffer a severe loss of condition.

The hides of infested animals are damaged by tick bites, and their value is reduced. In severe cases the hides may be unsaleable.

Horses also suffer tick worry and loss of blood from cattle tick infestation. They rub and bite the affected areas, causing severe skin lesions. After a period, however, horses develop a strong resistance to cattle tick.

The cattle tick has little effect on its other hosts.

Seasonal incidence

Cattle ticks can be seen at any time of the year, but they mainly occur from late spring to midwinter. The numbers found on cattle increase rapidly from summer to autumn, reaching a peak on the north coast of NSW in late autumn to early winter. They decline with the onset of colder weather.

Life cycle of cattle ticks

There are four stages in the life cycle of the cattle tick:

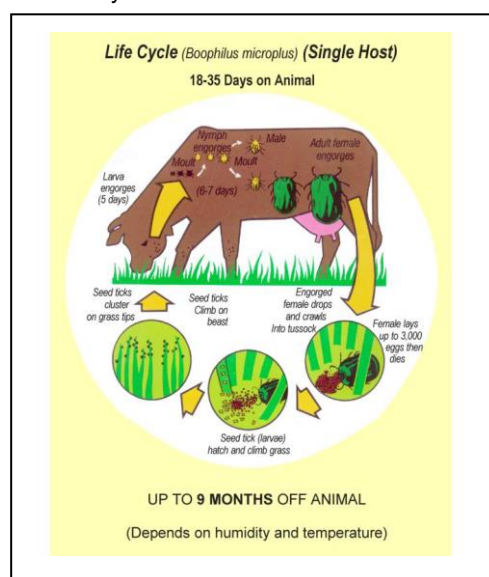
1. **Larvae**, or 'seed ticks', hatch from eggs and swarm up grass blades, where they may survive for up to 6 months before finding a suitable host.

When they do attach themselves to a host, they feed for about a week, shed their skins (moult) and turn into nymphs.

2. **Nymphs** feed for a further week, moult, and turn into adults.
3. **Adult** females feed slowly for about a week, filling rapidly with blood at the end of that time. They then drop into the pasture, lay up to 3000 eggs, and die. Males feed occasionally and wander over the beast for 2 months or more, mating with females. Male ticks can move from one animal to another if in close contact.
4. **Eggs** hatch into larvae after 2-3 months, depending on the time of year. In warm moist conditions eggs can hatch in weeks. Eggs are much slower to hatch in cold and dry weather.

The cattle tick is a one-host tick — that is, the larva; nymph and adult remain on the same animal. The parasitic phase of the life cycle lasts about 3 weeks while the non parasitic phase can be up to 9 months.

Figure 1: life cycle of cattle tick



Identifying cattle ticks

Cattle ticks must be distinguished from bush ticks and paralysis ticks. All three parasitic stages of the cattle tick may be present on infested cattle, but the easiest to identify is the adult stage. The colour of the legs is the main feature used to distinguish cattle ticks from bush or paralysis ticks. Leg spacing is also a guide. (see Figure 2)

Assistance with identification

Ticks for identification should be taken without delay to the nearest Cattle Tick Control program office or any other NSW DPI office or your Local Land Services.

Specimens

- Larvae, nymphs and unfed adults should be put into a bottle with three parts methylated spirits to one part water.
- Engorged adults should be put live into a screw-topped bottle with small holes for ventilation and moist wadding. Live adult females are required for resistance testing and they should be submitted promptly. If they are left for too long in the container they may lay eggs, and larvae hatching from those eggs could escape through holes in the bottle cap.

Resistant ticks

Ticks can be killed by dipping or treating cattle with an appropriate chemical (acaricide). Ticks can, however, develop resistance to acaricides. Larvae from eggs produced by engorged adult females are used to check for acaricide resistance.

More information

The NSW DPI tick webpage at <http://www.dpi.nsw.gov.au/content/agriculture/live-stock/health/images/information-by-species/cattle/ticks> has extensive information on cattle ticks including the following:

Primefact 1544 Cattle tick identifying life cycle stages

Primefact 84 Ticks of significance to NSW stockowners

Primefact 1555 Cattle tick - collection and storage of ticks

Primefact 81 Cattle tick control in NSW

Acknowledgments

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Figure 2: Tick identification schematic

