

Theileria and anaemia in cattle

Fact Sheet #5: Ticks and Theileria

December 2013

Introduction

Theileria orientalis is a microscopic blood-borne parasite transmitted between cattle by the cattle-tick (*Haemaphysalis longicornis*). The cattle tick can feed on many animal species but the parasite only affects cattle.

The parasite causes the disease Theileriosis which is usually seen as anaemia and, in more severe cases, can lead to death. The disease is not spread by direct animal-to-animal contact in the absence of ticks.

There are no human health or food safety risks associated with *Theileria*.

Farmer actions

- Talk to your veterinarian about the risks of *Theileria* infection in your herd, in your area and about preventive measures
- Regularly check all classes of stock for ticks. Look for ticks around the tail, on the udder, inside the legs, on the brisket, and in the ears
- Treat all stages of the tick lifecycle. Talk with your veterinarian about treatment options
- Quarantine new stock including service bulls, from the rest of the herd for at least seven days. Inspect the cattle for ticks during this time and treat for ticks as necessary.

Tick Lifecycle

The tick lifecycle consists of four stages – egg, larva, nymph and adult. *Theileria* are not transferred from the adult to the egg. However, once hatched if a larva becomes infected with *Theileria* the tick remains infected through the later nymphal and adult life stages.

Adult ticks are active mainly during early summer, larvae from late summer to early winter, and nymphs mainly in spring. Nymphs will be dormant during winter becoming active as the weather becomes more favourable in the spring.

All stages live at the base of pasture plants. Each stage, apart from eggs, needs to feed on a warm-blooded host to progress to its next life stage. During questing (searching for a host) ticks will climb up plant stems and attach to a passing animal.

Feeding lasts anywhere from 5 to 14 days, longer with older stages and after feeding the larva, nymph or adult tick drops off the host and returns to the bottom of the pasture to mature to the next stage, or to lay eggs if it is an adult tick.



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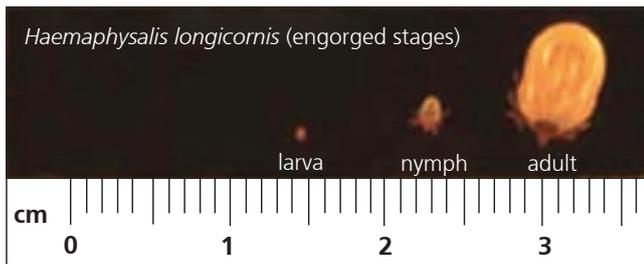
*This graph indicates the periods when the tick population can be seen from each lifecycle stage. Occasionally the lifecycle stages will not be obvious as ticks do have the ability to cycle several times within one year if conditions are suitable.

Finding ticks on cattle

Ticks can be difficult to see on cattle. They are on cattle for only a few days.

Larvae are no bigger than 1 mm, the size of the dot above the letter i when you write with a pen. Nymphs and especially partly-fed adults will be more obvious. When fully fed with blood the adult tick swells to about 6 mm, about the size of a small pea.

The most common areas on cattle that ticks will be found are around the tail, on the udder, inside the legs, on the brisket, in the ears and occasionally on the face and neck.



Finding ticks in the pasture

One easy established method of finding hungry ticks in pasture is 'blanket dragging' or flagging.

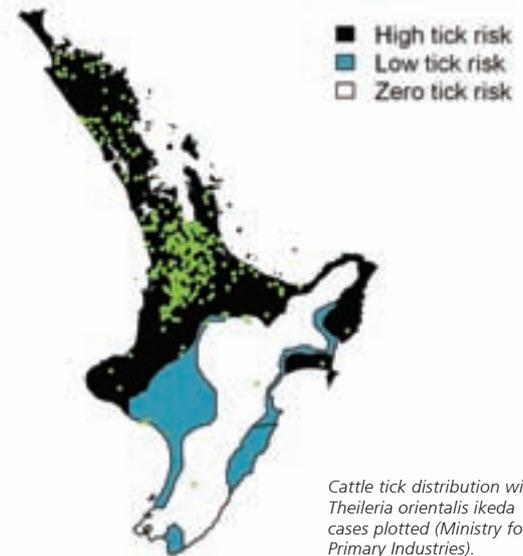
A white woollen blanket or piece of corduroy, about 50 cm wide, stiffened by a pole or cane, and up to 1 m long, is dragged by a string along a series of 5 m strips of vegetation until ticks are found.

Adult ticks which attach to the blanket can be counted. Larvae are best counted and removed at the end of the series of drags because they are not easily dislodged from the blanket during sampling, and are easily overlooked at the end of each sample drag when scarce and because of their size.

Blanket dragging over different paddocks will give an indication of the numbers of ticks and relative risk of different parts of the farm.

Tick distribution

Ticks are found mostly in the North Island and top of the South Island but they can be present on animals in other parts of the country that have been moved from areas where ticks are present. All cattle in areas where ticks are present are at risk of being infected with *Theileria*.



Tick removal/control

The eradication or removal of ticks from a farm is very difficult. The focus is more about controlling the tick population by treating animals carrying ticks or to deter ticks alighting on an animal, and by pasture management (see Fact Sheet #4).

Treating cattle with a tickicide or tick repellent at all stages of the tick lifecycle will limit the number of ticks on cattle and help in disease management.

Even though only a small proportion of the ticks on a farm are on livestock at any one time, reducing the numbers that feed and are available to develop into the next stage of the lifecycle will have an impact on the numbers of eggs that eventually get laid in the pasture.

When using a tickicide, always consult with your veterinarian, use a product registered for use on cattle and follow the directions for use.

Further advice is available

- From your veterinarian
- dairynz.co.nz/theileria for all fact sheets
- 0800 4 DairyNZ (0800 4 324 7969)