

Theileria

Theileria orientalis is a parasite which lives in the red blood cells of cattle, and is spread by ticks.

It has been recognised in New Zealand cattle since 1984, however a new strain called Ikeda first appeared in Northland in August 2012 and since then cases have been found across New Zealand, predominantly in areas where ticks are very prevalent, in the upper North Island. *Theileria* is likely to continue to spread to become endemic in all areas where ticks are active. (See figure 1)

To become infected a cow must be bitten by a tick, which is carrying the disease; it is not spread by direct animal-to-animal contact. It does not affect other species, or humans.

Figure 1

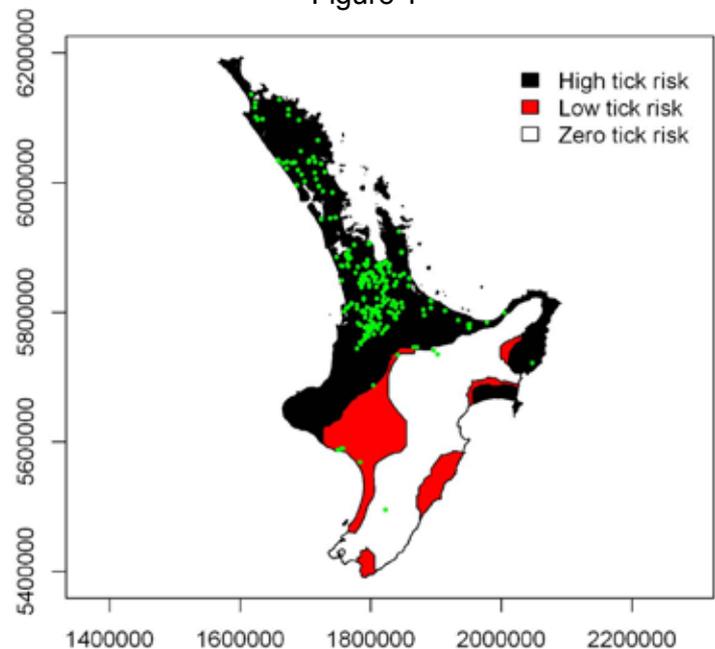


Image courtesy of mpi.govt.nz

Clinical signs

In the majority of cases, cattle can be infected with the *Theileria* parasite without showing any signs of clinical disease. Over time, cattle will gradually build up a level of natural immunity to *Theileria*.

Peak levels of *Theileria* in the blood appear to occur 4-6 weeks after initial infection. The main risk is where peak parasite levels occur at the same time as another stressful event, especially calving. This can result in large numbers of significantly affected adult cattle and deaths rates of 1-2% of the herd.

Once the animal is infected, the body reacts by trying to destroy the parasite. Because the parasite is living inside the red blood cells, the body destroys its own infected red

blood cells (haemolysis) to try and get to the parasite. This loss of red blood cells is called anaemia and results in the following signs;

- Weakness
- Pale or yellow (jaundice) mucous membranes i.e. the gums, inside the vulva and the white around the eye)
- Depression
- Not eating
- Weight/condition loss
- Abortion
- Poor milk production

Theileria can be diagnosed at the laboratory from a blood sample.



TREATMENT

It is important to work closely with your veterinarian to get the best advice for your circumstances.

Individual animals

There are a number of treatment options available, depending on the severity of clinical signs. The colour of the mucous membranes, or the cows PCV (a test for the proportion of the blood volume that is made up by red blood cells) can be used as a guide.

Treatment may include:

- Buparvaquone. This is a Theileria specific medication, which requires veterinarian prescription and treatment.

It is effective, however it has extended withholding periods, and strict tagging and recording requirements.

- Blood transfusions are an effective and sometimes necessary treatment, and other treatment options may be recommended by your Veterinarian specific to your circumstances.

Herd

Reducing stress and pressure on affected animals is very important to control the severity of the disease and the number of animals developing clinical signs.

This can be achieved by:

- Once a day milking
- Minimised handling
- Walking cows at their own pace to the shed
- Good quantity and quality of



Prevention

The main focus for prevention is around naive animals. For example, animals that have not previously been exposed to Theileria entering a herd where Theileria is prevalent, or where a herd is moved into a region where the disease is present and large number of ticks exist.

Cattle with Theileria in their blood will spread the parasite to new areas if ticks are present in the environment. There are a large number of farms where Theileria is already present, but not identified yet. If you are in a high-risk area for ticks, then you are unlikely to prevent infection entering your herd in the long term, due to the spread of infected ticks by other mammals (e.g. hares, rabbits, and possums). Here the emphasis should be on minimising the chance of infection occurring just before calving.

If you are in a Low or Zero Risk area for ticks, then your focus should be on minimising animal movement from any areas where Theileria is present, and the quarantine treatment of all animals for Ticks on arrival. Theileria is not spread by direct animal-to-animal contact in the absence of ticks.

Ticks and tick control

The control of ticks is important during high tick-risk periods. This is commonly mid-August to mid-March, but as long as the mean air temperature is above 7°C, ticks will be active. There are 4 stages to the tick life cycle – egg, larva, nymph and adult. Theileria is not transferred from the adult to the egg. However, if a larva becomes infected with Theileria the tick remains infected as a nymph and an adult and is able to transfer infection to cattle at each of these stages.

The tick's spends most of its life living in the base of the pasture sward. To progress to its next life stage the tick needs to feed on a warm-blooded host, and so it will climb up the plant stem and attach to a passing animal, feeding for five to 14 days, before dropping off into the pasture again to mature to the next stage, or to lay eggs. Where the climate is moist and warm and winters mild, ticks can be active through winter, and therefore pose a significant threat if infecting cattle in the months prior to calving.

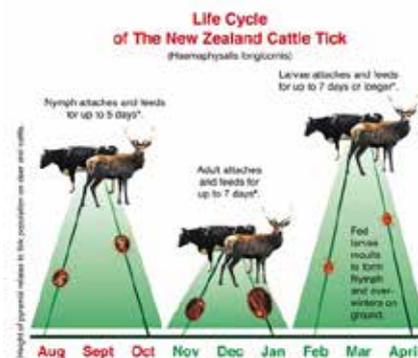


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For more information contact your local XLVets practice:



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