

# DAIRY TALK



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24/7

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## Managing Late Lactation Mastitis

Late lactation mastitis can be difficult to manage. Many farmers experience an increase in bulk tank somatic cell counts (subclinical mastitis) towards the end of the season as cows start to produce less milk. This means there is less milk volume to dilute out the number of somatic cells in the bulk milk tank.

Somatic cells are immune cells and they can increase due to new intra-mammary infections in late lactation. Sometimes a rise in bulk tank somatic cell count is related to nutritional or other stress factors in late lactation. Often this will go hand in hand with a large number of clinical cases. If a clinical mastitis case is undetected in the main herd, it will increase the bulk tank somatic cell count markedly.

Late lactation mastitis can be more difficult to treat with lactation cow therapy. Sampling late season cases will tell you what type of mastitis bug you are dealing with and whether it is likely to be difficult to treat. Cows with high somatic cell counts (over 200 000 cells) in late lactation that have had repeated high cell counts throughout the season; have had more than 2-3 cases of clinical mastitis and are over 7 years old should be seriously considered for culling. A prolonged course of antibiotic in the form of dry cow therapy may be enough to cure these cows, such that they come back into the herd in the new season with a low somatic cell count. More often than not, farmers that 'hang onto' these problem cows year after year and have lax culling policies end up with more mastitis (subclinical and clinical). The problem cows act a source of infection for the rest of the herd.

Drying off high cell count and problem cows earlier than the main herd may keep your bulk milk in check for longer. Strict culling policies and prompt treatment of any clinical cows is also recommended.



TOP TIP:

**Not Happy  
With Your  
Empty Rate  
this Season?**

Book a Free introductory InCalf consultation from one of our 13 InCalf accredited Veterinarians. Contact your local clinic to arrange an appointment.

### Articles:

Managing late lactation mastitis

Theileria

CASE STUDY: Treating a Theileria cow with a blood transfusion

Is it economic to teat seal heifers at a low payout?

Body Condition Scoring and Managing Body Condition in Late Lactation

Trace Element Levels are Dynamic



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# Theileria

*Theileria orientalis* is a blood parasite which is widespread throughout the world and has been recognized in New Zealand since 1982 (although it is quite possible it has been here much longer). It is spread by the New Zealand cattle tick as it feeds on the blood of the cattle, and has no known associated human health or food safety risks. There is not thought to be any direct animal to animal spread in the absence of ticks, although there are question marks over the possibility of transmission by such things as biting flies.

In late 2012 an increase in the number of cases of anaemia in beef calves and dairy cattle was noted in Northland. Some of the affected animals died.

New laboratory tests carried out by MPI have identified a strain of *Theileria* called Ikeda, not previously identified in New Zealand. It is unknown how long this strain has been present, and recent identification could be a reflection of improved testing, rather than a new introduction of the disease. It is not being treated as an exotic disease. Any cattle can be affected and cases have been identified across the Waikato.

## What to look out for:

Signs of anaemia are the same as those seen in lambs with Barber's Pole worm. Stress and movement can lead to collapse and death due to lack of oxygen to vital organs. Some animals may become aggressive due to lack of oxygen supply to the liver and a buildup of ammonia in the blood. Normally placid cows can become dangerous just prior to dying.

## Natural immunity:

Over time cattle gradually develop a level of natural immunity to *Theileria*. The biggest risk is where animals which have had no previous exposure to the disease become exposed. This can happen when animals are moved in from outside the normal range of ticks, for example cattle moved up from the South Island.

## Preventing *Theileria*

Control of ticks is the only way to control *Theileria*. Regular treatment of cattle throughout the tick season will limit the spread. Ticks are protected on the ground by long damp grass, so grazing down to lower covers removes some of their habitat and tick numbers will fall.

Do not ground spray to kill the ticks without consulting with MPI, as there may be implications for withholding periods, and in any case many insecticides are ineffective against ticks.

It is thought that calves are likely to be the class of stock most at risk when the tick season begins again in the spring.

## Treatment of anaemic animals:

Most animals infected will recover with treatment, and many animals will be infected without showing any signs of disease at all.

Tetracyclines are the treatment of choice at the moment, and seem to be effective in more than half the animals treated. The problem is that the disease can be too far advanced for the treatment to make a significant difference.

Any suspected cases should be rested, given high quality feed and water, and handled only when absolutely necessary. Blood transfusions can also be used. Transfusing the blood from a healthy cow to a cow that is sick with *Theileria* can be the best course of action. This provides the sick cow with uninfected red blood cells and normally improves her condition markedly in quite a short time frame.

There is a medical treatment for *Theileria* on the market called Buparvaquone. Recently, the Ministry of Primary Industries extended the milk withholding period for Buparvaquone to 18 months. This makes it largely impractical to use for *Theileria* affected cows as it limits options for culling.



## CASE STUDY:

# Treating a Theileria cow with a blood transfusion

As discussed in the article, blood transfusions can be used to treat Theileria affected cows.

### History and presenting signs

A 400 cow herd with no previous history of Theileria. A number of animals in the herd had started to go off their milk and when the farmer used the DairyNZ FANI card to assess their vaginal mucous membrane colour he decided they were pale (sometimes with a yellow tinge). It was unclear how Theileria had entered the herd but heifers had been away grazing in high risk tick country.

3 cows affected with clinical signs of Theileria. One died, one treated with Tetracycline injectable antibiotic and one deemed eligible for blood transfusion (after blood sample).

### Deciding whether to blood transfuse

A 'packed cell volume' (PCV) was measured by collecting a blood sample from the sick cow. Any PCV value of less than 10% indicates that the sick cow may benefit from a blood transfusion. The sick cow that was selected for transfusion had a PCV of 8%, which is critically low. She was also down in the paddock with exceptionally pale mucous membranes.

### The blood transfusion

Blood was collected from the jugular vein of a healthy cow. It is safe to collect 10ml per kg body weight from the donor cow without affecting her. Around 5 litres of blood was collected from the 500kg donor cow. The blood was funnelled from the donor cow's jugular into a bag and mixed with sodium citrate to prevent it from clotting in the collection bag.

The sick cow was haltered to restrain her and the collected blood was run straight into her jugular vein using a large bore needle. For every litre of transfused blood, we expected the PCV of the sick cow to increase by about 1%. This meant that 5 litres of transfused blood was enough to move the sick cow into the 'non-critical' zone and save her from imminent death.

### The outcome

The sick cow had dried herself off prior to treatment, but has made a full clinical recovery since her blood transfusion.



## Trace Element Levels are Dynamic

Trace element levels depend on many factors, including soil and water level of minerals, season, weather and the demands on the animal. As such, it is almost impossible to predict what trace element levels in the blood and liver are likely to be as it is impossible to control all the factors which could change them. Even if your stock consistently graze the same properties year after year, it is still likely that there will be fluctuations in trace element levels. Major deficiencies can be costly, even fatal for affected animals. All trace element supplementation products are not created equal. Making a decision to use a science based product that has been formulated to provide all the necessary maintenance levels of trace elements such as Iodine, Zinc, Selenium and Copper is something that should not be taken lightly. In addition, a product that can be formulated to meet the demands of the animals in question is a useful advantage. Often a 'one size fits all' approach is inappropriate. Anexa Animal Health are pleased to announce the relaunch of Vetmix, our personalized, customised trace element supplementation plan that can be tailored to the needs of your animals and your farm. Talk to your vet about trace element testing and Vetmix.

## Is it economic to teatseal heifers at a low payout?

According to economic calculations, if more than 10% of your heifers are affected by clinical mastitis in the immediate period post-calving it becomes economic to teat-seal your heifers even at this year's low payout. The benefits of teat-sealing are well proven and most farmers that have used teat-seal in the past are loathe to stop as the results speak for themselves.

Heifers need to be teat-sealed 4-6 weeks prior to calving and our hygiene at insertion is of paramount importance. Our technician teams book up quickly, so it pays to book your heifers in as soon as possible to ensure you get your preferred date.

# Body Condition Scoring & Managing Body Condition in Late Lactation

Managing body condition score in late lactation is very important to ensure that your herd calves down at an average body condition score of 5. There is no time between now and calving for cows to lose excessive condition so careful nutritional management is imperative.

Getting cows to the correct body condition before dry off will save a lot of work trying to put condition on dry cows. Lactating cows are much more efficient at partitioning nutrition into body condition than dry cows are, so theoretically it is easier to put condition on a lactating animal than a dry animal.

Cows in the correct body condition score at calving have a 12 to 14% higher 6 week in calf rate than their skinnier counterparts, as well as a 10% better submission rates and a 12% better conception rate.

## Why can't we just worry about putting condition on the cows in the dry period?

There are several reasons why trying to put condition on cows in the dry period often doesn't work very well. One is that there is not enough time between dry off and calving to put enough condition on the cows. The other issue is grass cover which is often inadequate or of poor quality. In addition, cows in late gestation struggle to gain weight as their gut capacity is limited by the large foetus.

## When should I be body condition scoring my herd?

Regular body condition scoring will allow you to monitor nutritional trends and provide sufficient warning to take action before poor condition reduces reproductive performance.

### Body condition score your herd:

1. Before the Planned Start of Calving
2. Two weeks before the Planned Start of Mating
3. After the end of mating (before the summer dry)
4. In late lactation (3-4 months before the Planned Start of Calving date)

You may like to body condition score more frequently than this.

Day to day nutritional checks such as milk fat and protein ratios, milk solids yield and pasture residuals should be used in conjunction with regular body condition scoring to get an accurate picture of what is going on nutritionally in your herd.

## How to Body Condition Score your herd

You need to score at least 70 animals in your herd. If you run the herd as 2 mobs you should score 70 animals from each mob. This will produce a statistically significant average result for your herd. This is best achieved by



walking diagonally through a paddock of cows and using a tally chart to score them. Try to use the DairyNZ 'Body Condition Scoring Made Easy' book to calibrate yourself every time you condition score the herd so get an accurate result. Examine each point on the cow systematically every time to come up with a score for each individual animal.

Aim for less than 15% of your herd at body condition score less than 5, as this will minimise the impact of body condition score on future reproductive performance.

Anexa Animal Health has 11 vets trained as Body Condition Scoring Assessors. We offer a service whereby we can condition score your herd as either an one off visit, or on a regular basis. This provides you will valuable information, in particular for feed management. Contact your local vet to discuss this service further.

## Putting Condition on Cows in Late Lactation

There are several strategies which may be employed to ensure cows gain condition in late lactation. Increasing feed intakes across the board (to all animals in the herd) may not always be achievable. Preferential feeding of young or thin cows may help to improve the average condition of the herd. Early dry off dates, despite reducing income in the short term, may pay dividends in future as cows calve down in adequate condition and get back in calf sooner.

## Not Happy With Your Empty Rate this Season?

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