



## Milk Fever and the modern cow

Whilst the majority of farms rarely see a case of Milk Fever now through carefully managed dry cow rations and partial DCAB, when we do get cases they often tend to be refractory (get up and then crash again). Once cows have been down for extended periods they often develop secondary downer cow syndrome which results in long term muscle and nerve damage to hind limbs reducing prognosis.

**Prevention and causes:** The analysis of all forages in advance of feeding to provide a low calcium and low potassium ration for a partial DCAB should reduce the number of cases. Heavy use of straw to increase DMI with correctly balanced dry cow rolls is a simple way to consistently feed dry cows throughout the year. Farms that feed calcium rich grass silages, continue to graze close-up dry cows or have an ageing herd increase the risk of cases. Sub clinical milk fever may be present on more farms than we think with strong links with retained foetal membranes/cleansings (RFM) and early lactation mastitis (poor teat sphincter closure).

Cows that are at high risk of Milk fever due to age, lameness, or known calcium high ration can be given oral calcium boluses to prevent milk fever and save hours of time managing a down cow. One bolus is given at the first signs of parturition and the second immediately after calving.

### Too High to Dry?

Some of our dairy units repeatedly battle with trying to dry off cows with high yields and report udder engorgement and discomfort, milk leaking after synthetic sealant and mastitis from milk soaked beds. However we still need to dry these cows off to give the udder time to involute and prepare for the next lactation.

A bolus recently launched to the market that may benefit those of you with cows that are yielding over 15 to 20 Litres at dry



**Treatment:** Cows need an IV bolus of Calcium at 1g per 45kg bodyweight. Whilst a 400ml bottle of Calciject 5 (contains 11.9g calcium) was fine for a 535kg cow, most cows are now an average of 650-750kg bodyweight so we need double the volume. This needs to be administered through a new needle and flutter valve set over 10 – 15 minutes. To supplement this IV treatment, an oral bolus given into the rumen raises blood calcium for around 24 hours. As long as there is fluid in the rumen, the bolus will dissolve at the correct rate and be absorbed into the blood stream. Oral boluses should not be used prior to IV treatment to stop risk of aspiration – once the cow can swallow, an oral bolus can be administered safely. Another bolus can be given 12 hrs later if required.

#### Regime:

- 2 x 400ml Calciject 5 into the vein
- Then 1 Oral bolus +/- bolus 12hrs later

**Latest Research:** We know now that the use of Calcium under the skin **negatively impacts** recovery. In some cows the calcium remains under the skin and can be seen over 48 hrs later – slow heart rate and poor peripheral circulation means it is not absorbed at all. If it is absorbed, then it actually reverses the Calcium demand from bone and cellular matrix by negatively feeding back to the Parathyroid Hormone system (PTH) that mobilises calcium from the skeleton. This is often why cows appear to relapse after initial IV treatment if they have not started eating considerable amounts of high calcium milker's ration by this point.

off, is BOVIKALC Dry – not to be confused with the above of course! The grey coloured bolus with the red top tube contains a mixture of anionic salts – namely ammonium chloride, calcium chloride and calcium sulphate in a high enough level to create a large ionic difference (DCAB). 2 boluses are given orally either 12 hours before or at the time of dry off. It acts for 3 days creating a metabolic acidosis (NB NOT rumen acidosis). This results in a decreased glucose demand from the udder cells and a

short term drop in Dry Matter Intake. As the short term drop in dry matter intake is in line with the reduced energy demand from the udder cells it doesn't create negative energy balance. The end result is a drop in short term milk production and reduced udder engorgement. This improves dry period lying times and with shorter



standing times we also see less lameness. Other benefits will include less milk running post dry off and less milk on beds.

Speak to us about how Bovikalc Dry may be of use to you for a few high performance cows. We can also supply training for administering oral boluses or IV's.

## Lungworm/Husk

In preparation for turnout we need to think about Lungworm. With a long, dry grazing window lungworm aka *Dictyocaulus viviparus* on the pasture should be lower heading into this 2019 grazing season but it also means that immunity in adult and juvenile cattle will also be low. Young stock in their first grazing season and adult cattle that have not been exposed for some years are at high risk of developing severe clinical signs as they have little or no immunity:



We see:

- Coughing
- Loss of body condition
- Increased respiratory rate and difficulty breathing
- Death in severe cases in 24-48 hours
- Adult cows can also show milk drop

### Lifecycle:

Larvae are ingested from infected pasture and migrate out of the gut and through the diaphragm. This damages lung tissue causing parasitic bronchitis. The larvae mature to adults in the lungs and lay eggs which hatch into new larvae. These

larvae are coughed up and swallowed back into the rumen - then shed in the faeces completing the infection cycle. Once a farm has lungworm, cases will recur due to larvae over wintering on pastures and cows carrying larvae through the housing window.

### Immunity:

A natural immunity develops once animals have been exposed to low numbers of larvae. If adults are grazed each year then their immunity is boosted annually. If we have a particularly low year for larvae, like summer 2018, then their immune system will not be exposed, leaving them almost naive the next season. The only method of protecting animals is to vaccinate cattle **BEFORE** turnout.

**Huskvac** is a vaccine made of live but irradiated 3<sup>rd</sup> stage larvae to allow immunity to develop against the lungworm:

- Vaccinate ALL CATTLE BEFORE THEIR FIRST grazing season from 8 weeks old
- Course of 2 doses – 4 weeks apart
- 2nd dose needs to be 2 weeks prior to turnout (**start the course a minimum of 6 weeks prior to turnout! – i.e. very soon!**)
- Keep the vaccine in the fridge prior to use and GENTLY mix each bottle to not kill larvae before administration orally
- Applicators are available to assist with dosing but a head scoop makes life a lot easier and safer
- Do not use ANY wormer for 2 weeks after – this kills the larvae and stops the immunity from mounting a response
- Graze these animals on old permanent leys, avoiding clean pasture
- Beware the purchase of unvaccinated in calf or down calving heifers! Animals that have not been exposed for a number of years are naive again and will develop clinical disease. Quarantine animals and use a wormer prior to grazing as a standard protocol to avoid contamination of pastures



LUNGWORM LARVAE

**Order Huskvac NOW to get the 6 week course complete prior to grazing**