**Rumetrace Magnesium Capsules – Reliable Magnesium Supplementation**

Milk fever is a common metabolic disease that occurs around calving time in dairy cows. It is due to insufficient calcium circulating in the blood of the cow.

When a cow calves and begins lactating she suddenly requires significantly more calcium than she had previously. This is because each litre of milk contains calcium, so milk production drains calcium reserves.

Mammals have a sophisticated means to mobilise calcium in the face of higher requirements. This is via hormone release in response to low serum calcium levels. This feedback mechanism means calcium is reabsorbed from bone, more efficiently absorbed from the gastrointestinal tract, and reabsorbed via the kidneys (so less calcium is excreted in urine).

In order for hormone release, and to be effective at its sites of action, the cow **must** have sufficient magnesium in her bloodstream. Low magnesium levels around the time of calving can result in a cow being unable to switch on her calcium release response fast enough. The net effect of this can be clinical milk fever.

Unlike calcium, body stores of magnesium cannot be mobilised in times of high demand or in response to low blood levels. This means that cattle are essentially dependent on the daily intake of magnesium being sufficient to meet metabolic requirements.

Many factors can contribute to low levels of magnesium in the blood. Inadequate magnesium intake most often occurs when cows are grazing lush rapidly growing pasture with low dry matter and low magnesium content. The risk is further increased if nitrogen or potash fertilisers have been used on the pasture. Risks of low blood magnesium are also significant when cows are subject to a period of reduced feed intake; perhaps caused by inclement weather, yarding or transport.

Preventing low magnesium levels requires a combination of management actions.

Key items are summarised below;

Managing the Diet

Beware of Nitrogen and/or Potassium (or effluent) fertilised lush, fast growing pasture.

Managing the Cows

Avoid transporting and minimise yarding time of cows in late pregnancy and during early lactation. Feed cows adequately to minimise loss of body condition after calving. Ideally provide shelter if inclement weather is likely.

Magnesium supplementation

There are several ways to provide additional magnesium to cows. It is important that supplementation occurs at least two weeks prior to the start of the “risk period”.

Some supplementation methods will not be possible or practical for all farms. Ask your vet for advice on the best method for your herd.

Magnesium can be;

1. Top-dressed onto pasture (magnesium oxide)
2. Added to silage and other feeds (typically magnesium oxide, or other mag salts)
3. Added to water troughs (mag sulphate, mag chloride)
4. Drenched to cows individually (magnesium oxide)
5. Delivered into the rumen via a slow release intra-ruminal capsule (Rumetrace® Magnesium Capsules)

Supplementation is just that! Metabolic disease can still occur in herds receiving magnesium supplementation in those seasons where there is a high risk (due to the factors discussed above). Even in high challenge circumstances, however, supplementation will substantially reduce the severity of clinical disease and limit mortality.

**About Rumetrace Magnesium Capsules**

For some farmers, the best option for magnesium supplementation are Rumetrace® Magnesium Capsules. This is especially the case in situations where

* dusting the pasture or hay with magnesium oxide is difficult or impractical
* water reticulation infrastructure does not allow water trough treatment,
* access to free water means cows will not drink water from treated troughs

Rumetrace Magnesium Capsules are often used to assist with managing later calving dairy cows. As the number in this mob reduces, the time taken to dust magnesium oxide onto their daily pasture ration becomes annoying. Time can be spent on other tasks instead.

RumetraceMagnesium Capsules are made from a specific magnesium alloy. The specially designed hinge closes into a cylindrical bolus for administration into the rumen. Once in the rumen the capsules open to a flat shape with two semi-cylindrical magnesium portions adhered, minimising likelihood of regurgitation.

The rubber hinge of the Capsules also acts as a conductor. The interaction between this conducting rubber (cathode) and the magnesium alloy (anodes) drives the dissolution of magnesium from the Capsule. The magnesium released from the Capsule is fully available for absorption by the cow. Also important is that magnesium (in this Mg++ form) is only absorbed in the rumen of cows. In contrast, magnesium in feed and other supplements must first be extracted and solubilised, before becoming available as Mg++ so only a relatively low proportion of magnesium from these sources is absorbed before passing from the rumen.

RumetraceMagnesium Capsules release magnesium at a constant rate over a 9 – 12 week period. They must be administered a few days ahead of when they are required, to allow time for the electrolytic reaction to get underway. The capsules provide around 2 grams of available magnesium per day. This compares to the daily available magnesium requirement for a springer dairy cow of 2.3g. These figures do not take into account antagonistic interference in the rumen by minerals such as potassium. Magnesium Capsules should be considered a supplement to augment dietary magnesium intake, and can be thought of as insurance to minimise the seasonal impact of metabolic disease.

Rumetrace® is a registered trademark of Ridley AgriProducts Pty Ltd and is distributed in New Zealand by AgriHealth NZ Ltd. Rumetrace Magnesium Capsules are registered pursuant to the ACVM Act, 1997 No A10958.