



Rumetrace Magnesium Capsules – Insurance against Grass Staggers

Grass Staggers (hypomagnesaemia) is a metabolic disease that primarily affects adult lactating cows. Grass Staggers is caused by a deficiency in magnesium.

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 dependent on an adequate daily intake of magnesium to meet metabolic requirements.

Grass Staggers can be rapidly fatal. In extreme circumstances the first sign can be up to 20 – 30% of the cow herd found dead. More commonly, initial signs of restlessness, increased alertness, and suddenly running for no apparent reason are observed. When disturbed, cows may bellow and walk with an unusual gait. These signs can rapidly lead to uncoordinated staggers and convulsions, often leading to death unless immediate treatment is provided.

Many factors can contribute to Grass Staggers. During lactation the magnesium demands of the cow are sharply increased, as magnesium is an integral component in the production of each litre of milk. Cows over 4 years are most at risk as their milk production is higher than younger cows, as are higher producing cows, or those with twin calves at foot. Grass Staggers most often occurs when lactating cows are grazing lush, rapidly growing pasture with low dry matter (DM) and low magnesium content. The risk is further increased if potash or nitrogen fertilisers have been used on the pasture, as the resultant grass is often lush with lower DM content, and also potassium can interfere with magnesium absorption from the diet. Cases of Grass Staggers or deaths are frequently preceded by a period of reduced feed intake; perhaps caused by inclement weather, yarding or transport.

Preventing Grass Staggers requires a combination of management actions. Key items are summarised below;

Managing the Diet

Beware of Nitrogen and/or Potassium fertiliser or effluent affected lush, fast growing pasture. If this grass is the primary feed for lactating cows, be very aware of the grass staggers risk, and always ensure a magnesium supplement is provided. Consider adding an alternative feed source containing a higher proportion of magnesium to the diet during high risk periods.

Managing the Cows

Minimise transport and yard time of cows in late pregnancy and especially during early to peak lactation. If transporting cows, ensure they are adequately fed and supplemented with magnesium prior to the journey, and also during long journeys. 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 herds or farms. Ask your vet for advice on the best method for your herd.

Magnesium can be;

1. Top-dressed (dusted) 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 seasons where there is a high risk (due to the factors discussed above). Even in high challenge circumstances, however, magnesium supplementation will substantially reduce the severity of clinical disease and limit mortality.

About Rumetrace Magnesium Capsules

For some herds, the best option for magnesium supplementation is 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
- daily observation and/or supplementary feeding of cows is not undertaken

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

The rubber hinge of the Capsule also acts as a conductor. The interaction between this conducting rubber (cathode) and the magnesium alloy (anodes) drives the release 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 in the rumen, before becoming available as Mg⁺⁺ and hence only a

relatively low proportion of magnesium from these sources is absorbed before passing from the rumen.

Rumetrace Magnesium Capsules release magnesium at a constant rate over a 9 – 12 week period. They must be administered at least 2 weeks 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 of 1.5g for a beef cow producing 10L of milk per day. These figures do not take into account the antagonistic interference in the rumen by minerals such as potassium. Magnesium Capsules are a supplement to augment dietary magnesium intake, and can be considered 'insurance' to minimise the seasonal risk and impact of Grass Staggers.

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