Magnesium Supplementation.

Magnesium is the most important element for dairy cattle in NZ, and the most commonly occurring major nutrient deficiency seen on farms. Of primary concern is the fact that low magnesium levels predispose cows to milk fever. Deficiency is often due to a combination of seasonally low concentrations in herbage, low retention of magnesium by animals, restricted feed intake and increased requirements in winter and early lactation. It is important to remember that cows cannot store magnesium in their systems, so they are totally reliant on the magnesium they ingest each day from pasture and supplements to maintain normal levels.

During May we had reasonably good growth conditions, which has allowed some feed deficit catch up, but left us with lush rapidly growing pasture. The key factors that inhibit uptake of magnesium by the cow are high protein, high potassium and low dry matter grass, more or less the conditions we have at present. Usually cows are going into mature saved pasture at this time of year. Therefore magnesium levels should be a paramount issue on the farm at the present time.

Cows that are fed well and are in reasonable condition will achieve optimum magnesium levels with a quality magnesium supplement. Conversely, with restricted feeding levels magnesium quality becomes more important as cows will struggle to uptake adequate amounts. If cows calve down at lower condition scores combined with low feed intakes before and after calving, then metabolic problems are likely to be an issue. With poor storage ability and poor gut absorption purity and mesh size of Magnesium products becomes critical.

Good quality magnesium is worth the investment. Magnesium Oxide for dusting should be a minimum 94% purity and a minimum 150 mesh size. Dust at a rate of 70-90 grams/cow per day. Make sure that the entire break is evenly dusted. Magnesium Oxide for drenching should be a minimum 98% purity and minimum 250 mesh size. Cows should be dosed with 30-40 grams per day, preferably in split doses. We will cover drench mixes next month.

Magnesium For Trough Treatment

Instead of dusting, magnesium may be added to the cow's drinking water via an in-line dispenser or trough dispenser. One drawback of this system is the risk of low uptake if cows have access to other sources of water or during rainy weather, as cows won't drink much trough water – in this situation dusting should be employed as well. Cows should never go without water on their break!

For trough treatment use either magnesium sulphate or magnesium chloride. Start with a low dose of mag-c, as this has a higher magnesium level, increasing over 2-3 weeks to the desired dose. Remember that higher dose rates are unpalatable, so a flavourant should be added to the water to maintain intakes. We have found that apple based products work best. The recommended dose of mag-c is about 100-120 grams/cow/day. At this rate the cows will not drink the water and damage to the gut may occur. Note that doses above 100 grams of mag-sulphate/cow/day can result in scouring. Therefore a combination of the two is the safest option. Ask your vet about the correct rates for your farm.