

DoloZest®

*A unique Soil Improver containing
biologically active Dolomite*



Magnesium is an annual requirement on many farms throughout the country, particularly dairy farms.

Over time there is an on-going loss of all minerals and nutrients, especially from irrigated land. For optimum performance these need replacing. Calcium and magnesium are two of the major cations in the soil and an annual dolomite application can replace all magnesium and an appreciable amount of the required calcium.

The future requires fewer animals producing more per animal and magnesium is an essential element. Professor T.W. Walker of Lincoln University wrote that “. . . in my mind dolomite is the ideal material to use on acid soils low in magnesium . . .”

Less synthetic nitrogen

The move away from a dependence on synthetic nitrogen as the driver of pasture growth requires nitrogen from another source. Clover is capable of providing all the nitrogen necessary for growth in excess of 20 tonne of Dry Matter annually. For clover to provide all the estimated 240kg N/ha extra calcium is required.

Higher inputs of calcium require extra magnesium, and dolomite (a natural resource) contains both in the ratio required for optimum growth.

To make magnesium rapidly plant available Functional Fertiliser developed DoloZest® 20 years ago.

It contains soft carbons inoculated with a wide range of selected beneficial microbes, including mycorrhizal fungi.

Applied annually in autumn it ensures sufficient plant available Mg for maximum growth throughout the following 12 months.

The included fungi and bacteria also speed the rate of nutrient cycling and the sequestration of carbon in the form of humus.

Humus building starts with pasture plants sequestering carbon (C) from the atmosphere via photosynthesis creating soil carbon - organic matter (OM). We see it on farm as dung, old root matter, and decaying plant leaves. Humus is formed when OM is fully digested by earthworms, fungi, bacteria and a host of other soil dwellers.



Above is a photograph of soil from adjacent properties. The soil on the right is from a long-term Functional Fertiliser client's property, the other from a site where regular applications of nitrogen have been made.

The darker colour indicates higher levels of carbon in the form of soil organic matter.

It is highly stable material and along with glomalin, builds soil structure to withstand extreme treading pressure and provides resilience in times of drought and flooding.

Glomalin is a sticky substance exuded by mycorrhizal fungi that builds tread-resistant crumb in the soil.

Increasing soil carbon levels is a key goal for any pastoral farming system. It provides the storage capacity for nutrients including nitrogen and water. It's the speed at which biological cycling takes place that elevates production levels – lifting both quality and quantity.

Where carbon is being constantly sequestered high levels of growth can be maintained with pasture growth exceeding 90kg DM/ha/day for extended periods.

Not all farms are sequestering carbon ☹

Work by Louis Schipper at Waikato University showed that intensive dairy properties reliant on synthetic nitrogen were, on average, losing 1.0 tonne of carbon/ha/year (refer to the picture on page 1).

The results of that loss are already obvious:-

- Pasture production levels have steadily declined.
- Supplements & grazing off-farm are required to fill the gap.
- Frequent pasture renovation/renewal; up to 20% of the farm per year.
- Higher animal health costs, and slower genetic gain – empty rates in excess of 20%.

A DoloZest-based nutrient programme containing all the required P, S & potassium, reduces and ultimately eliminates dependence on synthetic nitrogen.

More pasture is grown, higher animal production at lower costs along with greater resilience provides the necessary change for a truly sustainable farming future.

Benefits

- ✓ Significantly lower incidence of Ca/Mg related metabolic disorders in spring.
- ✓ Less weight loss after calving/lambing.
- ✓ Higher protein production.
- ✓ Lower animal health costs.
- ✓ Stronger pasture growth, particularly over summer.
- ✓ Reduced reliance on synthetic N application.
- ✓ More rapid recovery of pasture after stress periods.

The result is systems with lower costs and higher income levels. The supporting science is proven and verified by our own long-term pasture cut data from commercial farms.

Typical application rates

Intensive dairying	350 - 400 kg/ha/yr	} As part of a total nutrient programme based on regular soil testing.
Sheep & Beef	250 kg/ha/yr	

As DoloZest is a natural product, it is not possible to guarantee analysis to be absolute. Each mix produced will be such that there will be no significant difference in results obtained.

Calcium	Ca	15%
Magnesium	Mg	7%
Bio-carbon, min. 25%.		

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