

PRODUCT INFORMATION SHEET



PASTUREMAG RANGE

What is the Pasturemag range?

The Pasturemag range of products has been specifically designed to meet the fertiliser needs of New Zealand dairy farms. Each product in the range has been formulated to supply the nutrients required to support healthy and productive pasture growth.

Pasturemag products have been formulated for use as standalone fertilisers and should not need to be blended with other products. However, if necessary they may be blended

with SustaiN, MOP, DAP, Serpentine Super, PhaSedN or Nrich SOA. They should not be blended with Superten, Sulphurgain or Pasturezeal G2 products. Seek professional advice before blending with other products.

All Pasturemag products contain less than 280 mg cadmium/kg phosphorus and less than 270 g fluorine/kg phosphorus.

Pasturemag products should be stored in cool, dry conditions and spread as soon as practicable.

Product	N (%)	P (%)	K (%)	S (%)	Mg (%)	Ca (%)	Bulk density kg/litre	Particle size (% in 1-4 mm range)	UI	SGN
Pasturemag	6.9	5.8		7.1	4.3	14.0	1.29	54	7	148
Pasturemag 5K	6.2	5.2	5.0	6.4	3.8	12.6	1.27	57	8	164
Pasturemag 7K	5.9	4.9	7.5	6.1	3.6	11.9	1.22	60	8	183
Pasturemag 10K	5.5	4.6	10.0	5.7	3.4	11.2	1.25	63	7	195
Pasturemag 15K	4.8	4.1	15.0	5.0	3.0	9.8	1.27	66	8	213
Pasturemag 12N	11.5	5.1		6.3	3.8	12.4	1.22	55	7	170
Pasturemag 12N + S	11.0	4.9		9.7	3.6	11.9	1.20	58	9	169
Pasturemag 16S	6.2	5.2		15.4	3.8	12.6	1.29	60	9	176
Pasturemag Peat	6.0	5.1	6.0	10.9	2.7	12.6	1.19	66	11	215
Pasturemag Pumice	6.0	5.1	6.0	10.9	2.7	12.6	1.19	66	11	215

Benefits of Pasturemag products

Low phosphate run-off. Pasturemag products contain only a small proportion of water-soluble phosphorus: most of the phosphorus is citric acid soluble, which means it is slowly released over time. This makes Pasturemag products ideal to use for maintenance fertiliser applications, where a sustained release of phosphate is required. It also means the products are suitable for use near rivers, lakes and streams, since there is a much lower chance of phosphate from the fertiliser entering waterways as a result of run-off.

A good source of magnesium. Pasturemag products contain magnesium in forms that are sparingly soluble in water, but readily soluble in citric acid, which means that the magnesium will become available for uptake by plants once in the soil. Applied at a rate of 500 kg/ha, Pasturemag supplies more than 20 kg Mg/ha, which is typically the maximum amount of magnesium required for maintenance on high-producing dairy farms.

A choice of sulphur forms. All Pasturemag products contain sulphur in the sulphate form, which provides immediately available sulphur to growing plants. Four of the range – Pasturemag 16S, Pasturemag 12N + S, Pasturemag Peat and Pasturemag Pumice – also contain elemental sulphur. This is useful when the goal is to raise soil sulphur levels in autumn in order to provide sufficient sulphur to support spring growth. Unlike sulphate sulphur, elemental sulphur is not at risk of loss through the wet months, so will remain in the soil over winter. In spring, elemental sulphur is degraded by naturally occurring soil bacteria, which turn it into the sulphate form that can be used by plants.

Nitrogen from SustaiN. Applying nitrogen with maintenance fertiliser in autumn helps to boost pasture growth and lift covers before the onset of winter. Pasturemag contains SustaiN, which helps to protect the nitrogen from loss by volatilisation. With regular urea, 10-20% of the nitrogen applied is lost by volatilisation, unless 5-10 mm of rain falls within 8 hours of application. With SustaiN, this loss is reduced by half, on average, so more nitrogen is retained in the soil, where it is available for plant growth.

The importance of magnesium

Magnesium is essential for both plant growth and animal health. In plants, magnesium is found in the chlorophyll molecule. Plants that are magnesium deficient start to turn yellow because the levels of chlorophyll fall. With insufficient chlorophyll, photosynthesis rates decline, so the plant does not grow to its potential.

In order to maintain plant health, soil Quick Test Mg levels should be maintained above a minimum of 8 to 10. Should levels fall below Quick Test Mg 5, then applying magnesium fertiliser will produce a growth response. It is best not to allow levels to fall this low, though; regular maintenance applications of magnesium (5-20 kg Mg/ha/year) will prevent a plant deficiency from developing.

Magnesium is involved in many metabolic functions in animals, yet it is not stored within cells or tissues, so adequate daily intakes are essential in order to maintain animal health. To meet animal needs, pasture needs to contain more than 0.2% magnesium, as measured by herbage testing. In order to achieve this, soil Quick Test Mg needs to be 25-30.

Animals have a particularly high requirement for magnesium in the two months before and two months after calving, and supplementation is normally required during this time to ensure needs are met.

Using Pasturemag products

All Pasturemag products are suitable for use as autumn-applied maintenance fertiliser on New Zealand dairy farms. The most appropriate product will depend on the specific farm requirements:

- General-purpose maintenance fertiliser – Pasturemag
- To boost potassium levels – Pasturemag 5K, 7K, 10K or 15K
- To provide elemental sulphur – Pasturemag 16S, Pasturemag 12N + S, Pasturemag Peat, Pasturemag Pumice
- To provide additional nitrogen for pasture growth – Pasturemag 12N or Pasturemag 12N + S
- For peat and pumice soils – Pasturemag Peat, Pasturemag Pumice

Typical application rates for all products are 400-500 kg/ha.

Magnesium by numbers

- **7 kg Mg/ha** – the amount of magnesium typically required to raise soil Quick Test Mg by one unit (over and above maintenance magnesium)
- **25 kg Mg/ha/year** – the amount of magnesium typically required to overcome most plant magnesium deficiencies. This would then be followed with annual maintenance dressings
- **100 kg Mg/ha** – the amount of magnesium usually required to overcome animal magnesium deficiencies. This would then be followed with annual maintenance dressings
- **5-20 kg Mg/ha/year** – the amount of magnesium typically required for maintenance
- **15-20 kg Mg/ha** – the amount of magnesium supplied by Pasturemag products at typical rates of application (400-500 kg/ha)

