

Product Data Sheet VETMAG®

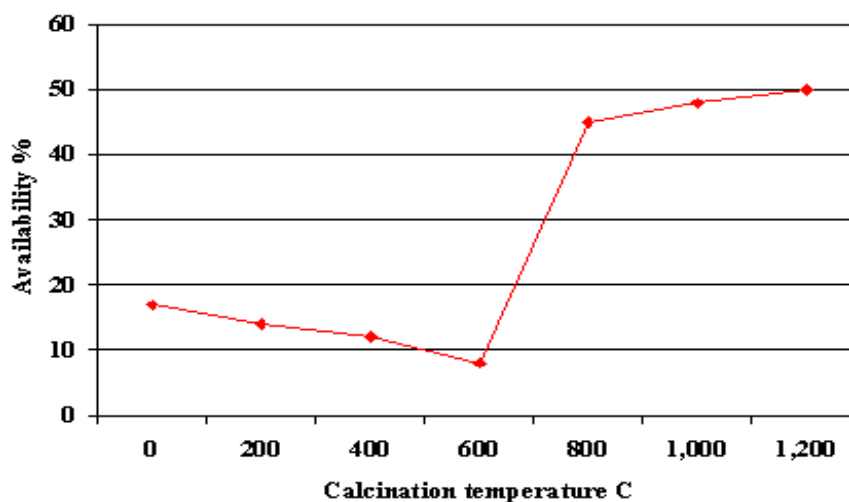


Product Description

Vetmag “Ultrafine” is a ready-to-use powdered magnesium feed supplement, suitable for drenching, pasture spraying, and applying to hay and silage, to supplement magnesium levels. It contains 95 -97% Magnesium Oxide (MgO) and a minimum 57% elemental magnesium. The levels of heavy metals As, Pb, Hg, and Cd are extremely low. It is highly reactive and better than most similar products on the market. It is a high quality product manufactured by QMag, Queensland, Australia from their high quality cryptocrystalline magnesite deposit.

Physical Properties

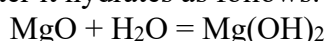
The availability of the magnesites, calcined at different temperatures, is summarized as follows:



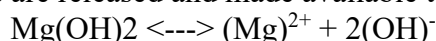
Vetmag “Ultrafine” is manufactured in modern state-of-the-art multiple hearth kilns. This type of kiln allows ultimate control over the calcination temperature profile which is between 800°C and 1000° C to ensure consistent high surface area (hence high reactivity) products are produced. The typical surface area is 35m² per gram.

Reaction and reactivity with water

When Vetmag ultra-fine is mixed with water it hydrates as follows:



Subsequently soluble magnesium ions are released and made available to the animal on the following basis.

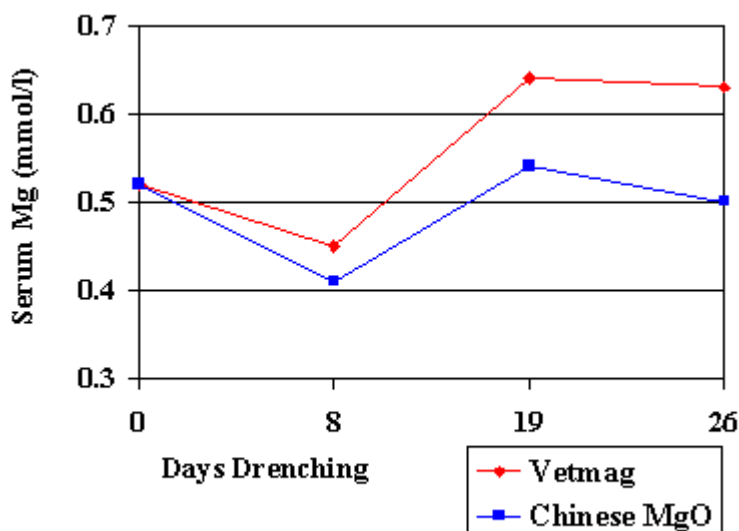


Hydration may occur before administration as with drenching, or in the animal with dusting. With hydration, heat is released, and the more reactive the magnesia, the more heat is released. Rapid heat generation is quite normal for high grade reactive magnesia products such as Vetmag “Ultra-fine”.

Trial work

Te Awamutu Comparative Trial

During the 1994 season the Te Awamutu Animal Health Centre conducted blood serum trials on a local Waikato herd to determine the comparative efficiency of drenching with Vetmag “Ultra-fine” compared to a common brand of Chinese origin magnesium product. Cows were randomly selected into the two treatment groups. The two groups were drenched daily for 26 consecutive days, with serum samples taken at 0, 8, 19, and 26 days. The following observations were made:



- The fall in serum Mg levels in the first week may be attributable to an inhibition of magnesium absorption by salt being in the drench mix.
- The initial dose was at the manufacturers recommended dose rate for high level, being 30gm per day for Vetmag “Ultra-fine” and 45gm per day for the Chinese origin product.
- On veterinary advice, the dose for each product was increased to 1.5 times the manufacturers recommended dose at day 8.
- The subsequent lift in serum Mg levels was achieved by using one third less Vetmag “Ultra-fine” with the Chinese derived product not reaching minimum acceptable levels.

Otorohanga Pasture Spraying Study

Pasture was sprayed using a quad bike with a CDAX spraying unit. Base serum magnesium levels were determined on 13th June. Up until 23rd July, pasture was dusted with 50gm per cow per day of a Chinese derived magnesium oxide. Pasture was then sprayed at the rate of 60ml per cow per day of Vetmag “Ultrafine” as a 50% mix, delivering 15gm of elemental magnesium per day. Repeat blood tests were taken three weeks after the start of Vetmag “Ultra-fine” spraying on 15th August.

Date	Average Serum Magnesium levels nmol/L
13 th June	0.58
15 th August	0.72

The serum levels of all cows had improved over this time.

Packaging

Vetmag “Ultra-fine” comes packaged in 20Kg multi-walled paper bags – 48 bags to the pallet.

Mixing Instructions

Weigh out a minimum of 1Kg Vetmag “Ultrafine” for every 3 litres lukewarm of water. This makes up approximately 3.25 litres of mix (one 20Kg bag will require 60 Litres of water) Stir and continue stirring until the slurry is of a consistent nature. Farmers may need to use different recipes to meet their drenching system requirements. In this case calculate the daily requirements using the following ready-reckoner.

Vetmag / cow / day	Vetmag / 100 cows / day	Vetmag for 100 cows for 100 days
10gms	1Kg	100Kg
20gms	2Kg	200Kg
30gms	3Kg	300Kg
40gms	4Kg	400Kg
50gms	5Kg	500Kg

Heat will be generated and in fact may boil. The heat generated is sufficient to raise the temperature of the mixture by up to 74°C. Heat loss from the container may be increased by using a steel drum with more heat loss through the drum sides. This heat generation is due to the high reactivity of Vetmag “Ultra-fine” and is usual for this high quality product.

Dosing Instructions

Drenching

Using the above mixture:

Risk	Grams Vetmag / cow / day	Grams Elemental Mg / cow / day (minimum)	ml of above mixture / cow / day (approximately)
Low	10	5	35
Medium	20	10	65
High	30	15	100

Hay or Silage

50 grams / cow / day mixed with water and added to or pored on the feed.

Pasture dusting

Apply 50 to 70 grams per cow per day to feed break with suitable dusting equipment.

Pasture spraying

Apply 60 ml (30 grams per day of Vetmag “Ultrafine” per cow per day = 15 grams of elemental Magnesium) as a 50% mix. This is made up by making up 5Kg of Vetmag “Ultrafine” to 10 litres volume with water.

Important times to supplement with Vetmag “Ultrafine”

- When advised by your veterinarian – they know the local conditions best.
- When blood tests show that magnesium levels in the herd to be low or becoming depleted.
- For the first three months and last three weeks of lactation, and during winter.
- When production is less than expected during early lactation.
- When there is an increase in the incidence of milk fever at or around calving time.
- Any incidence of grass staggers in early spring and during rapid pasture growth
- When cows give a poor condition or production response with a high level of nutrition.
- During the early dry period as magnesium is essential in body weight gain and maintenance.
- When dietary salt levels are too high or too low as this can reduce the magnesium uptake within the animal.
- When cows are underfed or have reduced feed intake due to cold, wet weather, causing blood magnesium levels to fall.