Magnesium Requirements

The aim is to keep the magnesium concentration of the diet at about 0.4% during the spring. As a rough rule of thumb this equates to 20 grams of elemental magnesium supplemented for both dry and lactating cows.

Table 1. Different quantities (grams) of Magnesium sources to supply the required amount of pure Magnesium.

Magnesium Source	Grams	Supplement Method
Mg Oxide (55%)	36	Drenched (Min 97% purity, 250 mesh)
Mg Oxide (55%)	80	Dusted in fine weather
Mg Oxide (55%)	120	Dusted in wet weather
Mg Chloride + Mg Sulphate	60 + 60	A good combination for water dispensers to help reduce milk fever.

Note: A lower magnesium concentration is required with soluble magnesium sources such as Mag C.

Calculation of magnesium oxide mixing rates

Step 1. Measure total volume of holding tank (e.g. 100 litres)

Step 2. Decide on dose volume and frequency (e.g. 200mls per dose twice daily)
Note: Higher drench volumes makes it easier to drench extra additives such as limeflour with the magnesium.

Step 3. Select magnesium dose (e.g. 40 grams daily = 20 grams per dose)

Step 4. Calculation.

100 L/200 mls = 500 cows doses x 20 grams mag oxide = 10 kg mag oxide

Magnesium oxide must be hydrated for 24 hours prior to adding to the drench. Hydrate magnesium oxide by slowly adding 1 kg to 3 litres of water, stir until mixed. Leave for 24 hrs, stirring as you pass from time to time. After 24 hrs add mix to the drench holding tank.

The hydrated magnesium oxide required above should be mixed into the holding tank first, with any other additives, such as minerals or molasses, added afterwards. Finally, add water up to the FULL volume of the tank.

Keep the drench holding tank above half full at all times, as pressure drops when the tank runs low may result in cows being under drenched.