

# Soils, Nutrients and Fertiliser Factsheet

## Advice on Liming



### The benefits of liming

- Release of soil nitrogen (N) for early grass growth (up to 80 kg N/ha, 64 units/ac per year)
- Increase the availability of soil phosphorus (P) and potassium (K)
- Grow an extra 1.5 t grass dry matter (DM)/ha annually

### Target soil pH for different crops

Crop type	Target soil pH
Grassland (mineral soils) grass only swards	≥ 6.3
Grassland/Multi Species (mineral soils) with clover	6.8 to 7.0
Grassland (peat soils)	5.5 to 5.8
Cereals	≥ 6.5
Beet/Beans/Peas/Oilseed/Maize	6.8 to 7.0
High molybdenum (Mo) soils	6.0 to 6.2

### Return on investment (ROI) from ground limestone use

- Research shows an average grass production response of ~1.5 t DM/ha from lime alone
- This is worth ca. €181/t DM on a dairy farm and €105/t DM on a drystock farm
- An investment of €35/ha to maintain soil pH in the optimum and returns €160 to €270/ha/year
- This represents a return of €4.50 – 8 for every €1 invested in lime

# Advice on spreading lime



## How much?

- Test soils on a regular basis (every three to five years) to determine lime requirements
- Only apply lime based on a recent soil test report
- Don't exceed 7.5 t/ha in a single application

## When?

- Prepare a farm liming plan. This will identify where lime is needed, and when and at what rate lime should be applied
- Lime can be spread all year round. Having a lime plan in place will open up opportunities to get lime applied over the year when conditions are suitable and land is available

## How Often?

- Apply lime often as per the soil test report
- On very acidic soils apply 50% now and the remainder in two years' time
- Apply lime to 20% of the farm annually

## Which lime to use?

- Calcium ground limestone is most common
  - Fast acting (<3 months) and rapid pH adjustment
- Magnesium (dolomitic) ground limestone is available
  - Somewhat slower to react but higher liming value
- Granulated limes
  - Finer lime (less than 0.1mm particle size) and very reactive
  - Apply as maintenance product when soil pH >6.0

## Lime and high molybdenum soils

- Soils with high Mo status may give rise to copper deficiency in grazing animals
- Increasing soil pH >6.2 increases Mo availability
- To reduce elevated Mo levels maintain a somewhat lower soil pH 6.0 to 6.2

## Lime & slurry/protected urea

The type of N in slurry and urea is ammonical N and prone to loss if applied to freshly limed soils. To avoid N loss the following is recommended:

- Leave seven days between applying protected urea or slurry before applying lime
- No interval required between liming and protected urea