

Lime now brings better grass and crops later

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Money spent on lime is one of the best investments a farmer can make.

Ground limestone can be spread at any time, with grass being grazed as soon as the lime has been washed off the leaves by rain.

However, lime is best spread in the autumn, while weather and ground conditions allow.

This will encourage growth in the coming spring, by releasing organic nitrogen and phosphorous from the soil, encouraging earthworm and microbial activity, increased uptake and utilisation of chemical NPK fertiliser by grass plants and tillage crops.

Also, spreading lime in the autumn reduces the risk of lime being taken up in silage crops next year. Excess lime in mown grass would inhibit silage preservation, resulting in poor quality silage.

Importance of Lime

Lime is the foundation of all soil fertility, grass growth and livestock production.

Lime, along with phosphorous (P) and potassium (K) are all essential grassland nutrients whose use has declined in recent years.

Ask most farmers when they last spread lime, and will they remember?

Low levels of lime showing up in recent soil test results will impact negatively on grass production in the coming years.

Lime can have a huge effect

on animal thrive, resulting in extra liveweight gain and higher stocking rates.

Lime supplies calcium and, in some cases, magnesium, important for healthy bone development in livestock for the production of milk.

Effects of Liming

Lime is a soil conditioner and improves the sward quality.

It is necessary to correct soil acidity and facilitate healthy plant growth.

Soil acidity is measured on the pH scale of 0 to 14.

The optimum pH for good grassland is 6.3 to 6.5.

Ryegrasses and clover perform best at this pH or higher, but are replaced by

lower productive grasses, such as bent grass, when the pH drops below 6.0.

Keeping grassland close to pH 6.3 is essential to maintain ryegrasses and clover.

But 60% of many Irish soils have a pH less than 6.0.

If you are reseedling, lime increases the availability of nutrients (NPK) to grass seedlings. Any lime recommended on the basis of a soil test should be applied and tilled into the seedbed before sowing commences.

Liming promotes soil micro-organisms and encourages earthworm activity that breaks down plant and animal residues, to release plant nutrients, especially nitrogen.

It is estimated that by liming an acid soil (pH 5.5), up to 80kg of free nitrogen (64 units) is released from the soil per hectare annually over several years.

Liming improves the availability of phosphorous to

plants, and aids its release from organic matter.

At a time of high fertiliser prices, keeping soils at the recommended pH is a good investment.

With lime, the correct pH allows optimum use of other nutrients such as potassium (K). Lime is the cement in the mix of NPK that makes them available to promote plant growth.

Lime Losses

Lime is lost from the soil mainly in drainage water.

This loss is from 250 to 265kg per hectare/year, depending on the rainfall, soil type, and the amount of lime in the soil at the start.

Crops and livestock remove lime. An average crop of silage or hay removes 60 to 80kg per hectare per year of limestone.

A good bullock removes nearly 25kg/head/year.

High fertiliser N usage will increase soil acidity. Each kilo

of N applied will require approximately two kilos of lime.

Completing a soil test is the first step to take to correct any lime deficiency. A standard soil test will give the soil fertility status for pH lime requirement, as well as phosphorous (P) and potassium (K).

Follow any soil recommendations given by a Teagasc adviser or agricultural consultant carefully.

Granular Lime

This is finely-ground, fast-acting lime which is granulated and can be applied with a normal fertiliser spreader, but it is much more expensive than ground limestone.

It is very suitable if small amounts are required to maintain soil pH, but it should be applied every year.

It can be convenient when reseedling small areas of grassland.