



Grab the opportunity!

Building soil P fertility on intensive livestock farms

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Under the new Nitrates Action Programme (NAP), Ireland has been allowed additional fertiliser P application on very low fertility grassland soils (P Index 1 and 2) for four years starting in 2018 and finishing in 2021. This is to help build up soil P levels to increase the grass-growing ability of soils to meet the extra feed demand on livestock farms stocked above 130kg Organic N/ha.

Building soil P levels for example from Index 1 to Index 3 will increase

grass yields on average by up to 1.5t DM/ha annually. This is worth €270/ha in extra grass on a dairy farm and €160/ha on a drystock farm.

Why correct soil pH before applying additional P?

The first step on the road to building up soil P levels is to correct soil pH to the optimum 6.3 to 6.5 on mineral soils and on peat soils to 5.5. This will increase soil P availability and may increase the soil P Index (Index 1 to Index 2) on some soils. For example, acidic mineral soils (pH <5.9) fix and bind up applied P and once these soils are limed P is released and is more plant available. Therefore, check soil test results and apply lime as recommended on the soil test report.

Lime is a low-cost input and will help reduce initial P fertiliser costs when building soil P levels. Lime increases the availability of both soil and applied P as either manures or

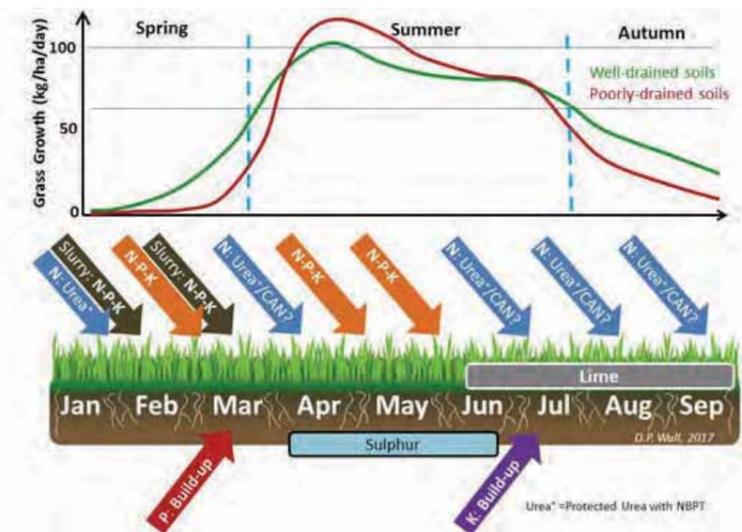
fertilisers. The return on investment from applying lime and correcting soil pH on mineral soils is between €4 to €7 of extra grass production for every €1 spent on lime for dairy and drystock farms.

How do I set about availing of this chance to increase soil P?

- Have soil test results for every 5ha on the farm and check soil organic matter status map.
- Engage with a FAS Advisor to complete a farm fertiliser plan.
- Complete a short training course on fertiliser planning.
- Apply to DAFM to avail of this P build-up.

How much extra P can I apply on my farm?

Once the fertiliser plan has been completed for your farm it will outline on a field-by-field basis the recommended rates of P required. Aim to apply 50%



of the recommended P in the spring (March) and apply the remaining 50% between April to June in 2 or 3 applications (See figure 1).

Can I apply P build-up rates on mineral and peat type soils?

At time of soil sampling, soils need to be classified as mineral- or peat-type soils. See the soil organic map of Ireland (Source:- DAFM) consult this map before soil sampling.

If you are not sure, it is worth testing the soil organic matter percentage. Soils that are above 20% organic matter on the soil test are classified as peats. On peaty-type soils, P build-up rates are not permitted as peat soils cannot store phosphorus. On peat-type soils it is only permitted to apply maintenance rates (Index 3) of P. The P fertiliser strategy on peat-type soils is to apply maintenance rates of P during the growing season. On mineral soils P build-up rates can be applied. Mineral soils have the ability to store soil P due to their mineral (sand, silt and clay) content.

Which fertiliser type is most suitable for building soil P levels?

A high P fertiliser type will be required, for example straight P as in 16% Super P is an option. Alternatively, a fertiliser that will supply a good balance of N, P and K is preferable, for example an 18-6-12, 15-10-10, 10-10-20 etc type fertiliser. Where soil K levels are medium to high, an N and P type fertiliser will be required to deliver high rates of both N and P, for example 23-10-0, 25-5-0, 24-7.5-0 type fertiliser blends.

When is the best time to apply P fertiliser build-up?

Once significant grass growth kicks off in spring, for example March/April, aim to apply 50% of the recommended P fertiliser. The first P application is required early in the grass

growing season to drive grass yield and early grass production. Apply the remaining 50% in the following two to three months with each round of N fertiliser (see figure 1 above). These later applications ensure there is adequate P content in grazed grass for animal nutrition.

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