

# Ten Points on Good Farm Soil Practice – ‘LESS’ IS MORE VALUE

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1. **Soil Sampling:** A basic soil sample gives information about two key major elements Phosphorus (P), Potassium (K), as well as pH and lime advice. The ideal time to sample is September to March, waiting 3-6 months after the last application of P or K before sampling.
2. **Nitrogen (N):** Nitrogen (N) nutrient advice is based on grass demand, stocking rate (Kg/Ha) and farm systems. Background release of N from soil depends on variables like soil, sward clover content, whether old or new pasture. Generally, the highest N release from soil occurs in late spring and early autumn when soil temperatures and moisture levels are right.
3. **Protected Urea:** N is volatile and exists in different forms. CAN fertiliser, half N is ammonium and half nitrate form. Ammonium is less vulnerable to leaching and N transformation losses compared to nitrate. Urea fertiliser N, is converted to ammonium when applied to soil by the enzyme urease. Protected Urea is Urea N fertiliser made safe from ammonia gas loss with a urease inhibitor which is coated on surface or in melt.
4. **Ammonia and Green House Gas (GHG):** Nutrients not absorbed by plants are a major source of air, soil, and water pollution. Agriculture activities account for over 99% of our national ammonia emissions. Ammonia gas loss reduces N use efficiency, contributes indirectly to nitrous oxide emissions, a potent GHG mainly driven by N fertiliser surplus use and emission from animal waste.
5. **Peat Soil:** A peat soil is defined as soil having more than 20% organic matter and this can be confirmed by soil test. It is important to distinguish between mineral and peat soils. Peat releases N on liming, consequently N fertiliser should be omitted or reduced. Fertiliser P for peat soils shall not exceed the amount permitted for P Index 3 soils or maintenance level to minimise loss to the environment.
6. **Soil pH:** Soil pH is the first and most important deficiency to correct, key to healthy soil, controlling a range of physical, chemical and biological properties to support the soil in achieving its full potential. Aim to maintain mineral soils in the optimum pH range, 6.3 to 7.0 and peats, 5.5 to 5.8, to maximise nutrient availability, improve N recycling and reduce total N requirements.
7. **Lime:** Lime, a soil conditioner is added to correct pH, controls soil acidity by neutralising acids generated by N fertiliser, slurry and high rainfall. The benefits of liming include, increased grass production, release of up to 80 kg N/Ha/year, unlocking P and K and increasing the response to applied fertiliser. Teagasc research has shown that getting pH right can significantly reduce emissions of GHG, nitrous oxide.
8. **Slurry Efficiency:** A key factor in getting value from your slurry is timing. It is important to try to use as much of the slurry as possible in spring rather than summer, under suitable ground and weather conditions. The benefits can be the equivalent of an extra six units of N per 1,000 gallons spread. A dry matter and N, P, K analysis can be carried out on farm slurry samples to look at nutrient value.
9. **‘LESS’ is More Value:** Spreading method can add three units of N per 1,000 gallons spread. Low Emission Slurry Spreading (LESS) such as a dribble bar, trailing shoe or injection are being used in place of the splash plate. LESS gives more precise application, less N losses, less grass contamination, increased flexibility with reduction in odour and negative effects on human and animal health.
10. **Slurry Calibration Tool:** New slurry equipment involves learning new skills, it is important to ensure that slurry is applied evenly and at the right rate. View slurry calibration calculator on Teagasc website.



**Peats Soils - Maintenance P fertiliser only**

