

Soil and Grassland Forage Sampling



Achieving Reliable Results from soil sampling

In order to get an accurate representation of your soil or forage quality and subsequent recommendations for improvements it is important to follow these rules:

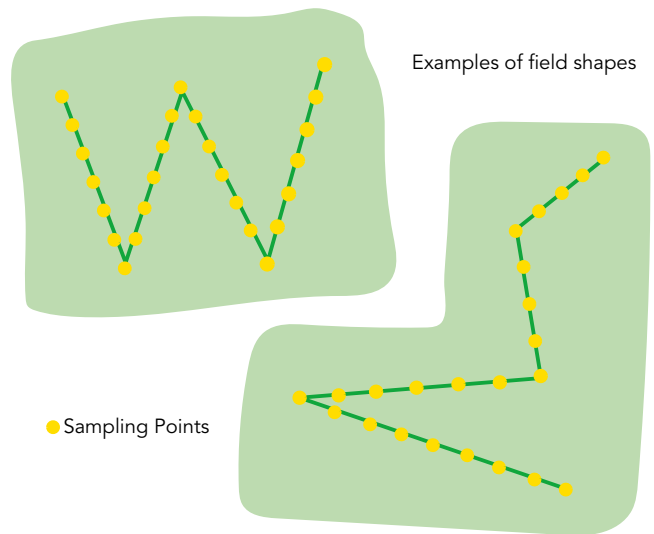
- Do not sample immediately after liming or fertilising. Ideally, sample 6 months before sowing a new sward to allow time for necessary applications to be made. Improving soil quality before sowing increases the chances of a successful establishment.
- Use clean equipment for each different field or field area. It is also advisable to wear clean, nitrile gloves for each sample. This avoids contamination of the sample and improves accuracy.
- Identify your soil sample clearly with as much detail as possible including previous cropping, liming and fertiliser regimes and any specific concerns with the field.

A basic soil sample will give you Potassium (K), Phosphorus (P), Magnesium (Mg) and pH levels and whilst this is a good starting point, it is worth getting a broad spectrum analysis which can also show Calcium (Ca), Sulphur (S), sodium (Na), Iron (Fe), Manganese (Mn), Copper (Cu), Zinc (Zn), Boron (B), Molybdenum (Mo), Cobalt (Co), Selenium (Se) and Iodine (I). As well as allowing better understanding of soil health, many of these nutrients are essential for livestock health.

Since April 2018 in England and Wales, it has been a legal requirement under the 'Reduction and Prevention of Agricultural Diffuse Pollution Regulations' to have soil samples under 5 years old for each field. Sampling 25% of the farm each year would be advisable to maintain soil health and productivity.

How to take a grassland soil sample

- 1 Take one sample per 25 acres (10 hectares). Any large fields with very different conditions should be divided accordingly and a sample taken from each area to improve the accuracy of the results.
- 2 Using the clean bucket and auger or spade, and wearing gloves, take a minimum of 20 individual samples (regardless of field size) from 7.5 – 10cm (3 – 4 inches) deep. Follow a 'W' pattern whilst taking the samples then mix all the samples well in the bucket and fill the sample bag with the required volume.
- 3 Avoid area of the field that are not representative for example, gateways, around water troughs, telegraph poles or field boundaries. Also avoid anywhere piles of manure/ lime/waste have sat.



'W' Pattern for soil and fresh grass sampling image

Targets indices for grassland soils

	Index	Volume (mg/l)
pH	pH 6 – 6.5	n/a
Phosphorus (P)	2	16 - 25
Potassium (K)	2	121 - 180
Magnesium (Mg)	2	51 - 100
Calcium (Ca)	n/a	2000

How to take a fresh grass sample

- 1 As with soil sample, allow one full sample per 25 acres (10 ha) and follow the 'W' pattern taking at least 20 individual samples. The sample should be cut 2.5 – 5cm (1-2 inch) above the ground then mixed and the required volume packaged. Again, take care to clearly and appropriately label all samples.
- 2 Always use clean equipment and gloves for each sample. If it is particularly wet, the forage can be blotted dry with some blue roll or other absorbent material however do not allow any material to contaminate the sample. Also avoid any soil or dung contamination in forage samples
- 3 With fresh forage sample, aim to do these early in the week so they can be posted immediately and sampled as quickly as possible to avoid deterioration of the sample and inaccurate results. Avoid weekends and holidays.

How to take a Silage/Hay Sample

- 1 Again, ensure equipment is clean and whilst wearing fresh gloves for each sample, select 6 bales from a stack taking a sample from the middle of each. Mix thoroughly and fill the packaging with the required volume. Label with the required information.
- 2 For clamps, ideally, a corer should be used to take at least 10 samples using a diagonal path from front to back. Mix well and package the required volume with clear, detailed labelling.
- 3 With bales stacks, avoid outer bales and with clamp silage, avoid the top layer (especially if sampling without a corer). As with fresh grass, dispatch immediately avoiding weekends or holidays.