Llywodraeth Cymru
Welsh Government

Sustainable Farming Scheme – Universal Layer

UA1: Soil Health – Technical Guidance

January 2026

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Sampling Timing

The optimal time to do soil sampling is in the autumn, when the soil conditions (including temperature and moisture) are such that it's easier to take the samples and the results are more representative.

In addition, avoid sampling within 6 months of a lime or fertiliser application (except Nitrogen), or 6 weeks of the last organic manure application.

Finally, avoid sampling areas of clear disturbance, for example near to gates or feeding areas, or too close to field boundaries as well as muck heaps, in headlands and the immediate vicinity of trees. Avoid sampling visible urine patches or dung pats.

Selection of Sampling Units

It is important that the samples taken are representative of improved land within the field parcel. If the whole field is managed in the same way, and soil type does not vary, the whole field can be sampled as a single sampling unit and a simple division of fields across the farm is sufficient to spread the work over a 5-year cycle.

If the field is managed in the same way across the field and the soil type/texture does not vary, but the field is larger than 10ha, then at least two sampling units should be designated.

If there are different management practices occurring within a field, you should consider splitting the field up into multiple sampling units. Similarly, if you are aware that the soil is very different within a field, or if crop growth is markedly different within different areas of the field, consider splitting the field up into multiple sampling units. You can complete the soil sampling yourself or choose for a company to undertake the soil sampling for you. You should aim to use the same sampling unit consistently when testing soils over time to help track true changes in soil nutrient status.

Recommended Soil Methodology

Materials needed:

- Whilst not mandatory, we recommend you use a closed soil sampling hand auger/corer, these can be purchased online or in some hardware stores.
- Prior to conducting the assessment, mark the corer at 7.5 cm or 15 cm. The sample depth is dependent on the land use type: sample to 15 cm depth if in an arable field or short-term grassland, or 7.5 cm depth if in long-term permanent pasture. Standardising and being as accurate as possible with depth is very important as soil can change significantly with depth.
- Ruler
- Bags for soil samples to be sent to laboratory with labels
- Permanent marker pen
- Smart phone or GPS device

Sampling protocol

For each sampling unit identified, conduct soil sampling according to the steps below:

- Avoid sampling areas of previous manure heaps, feeding areas, headlands, near to gates, or too close to field boundaries which will not provide a true representative sample. Walk across the field in a wide W shape taking 5-7 samples per leg of the W at regular intervals at the required depth from the soil surface for the crop.
- Taking multiple subsamples helps to ensure the results are accurate and representative across the whole field/management of sampled unit.
- Soil samples should be taken at a depth of 7.5cm for permanent grass and 15 cm for arable or short-term grass ley.
- Remove any stones and large pieces of vegetation from each sub sample before placing them together into one clean container.
- Mix the collected samples thoroughly to homogenise the subsamples into one final bulked sample.
- Place the required amount of bulked sample into a sealed bag. Most labs will require ~400 g of moist soil for the analysis but this can be clarified by your chosen lab.
- Label the bag using a permanent marker with the field name/number, your name, and the farm name and date.
- Send the bag(s) to the laboratory for analysis with the necessary paperwork repeating again the farm name, field names/numbers (written on the sample bags), geolocation using GPS or phone if taken, sampling date, depth, sample and analysis required.

If you are unsure of specific sampling or packing requirements, advice can be sought from the lab conducting your soil tests.

You can employ someone else to conduct soil sampling for you or you can do this yourself. If you decide to do it yourself, follow the methodology above.

Soil sampling is expected to take 20 minutes per sampling unit, plus time for sample collection, sending to the laboratory and collation of paperwork.

Although not a requirement of the Universal Action, you may also find it beneficial for your analysis to record supplementary data about the location, including soil type (if known) and field management history for the sampling unit to aid future management decisions (i.e., previous crop, current crop, manure/slurry or fertiliser applications, etc.).

Further optional measurements and analysis that may add additional value to determining soil health include; assessing soil structure i.e., digging soil pits to assess soil profile for compacted layer, root depth etc; counting earthworms; and assessing erosion and disturbance features.

An example standard W walk sampling methodology can be seen below:

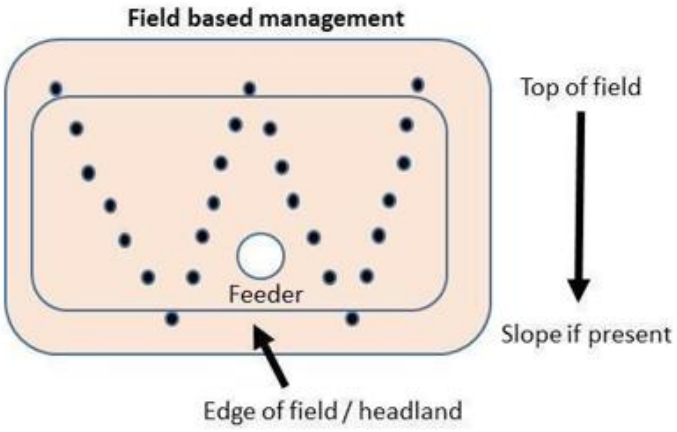

Figure* 1 *Guidance for a 'W' sampling design considering areas of disturbance. Source: Smith et al. (2022)

An example sampling methodology for a field with multiple management types can be seen below:

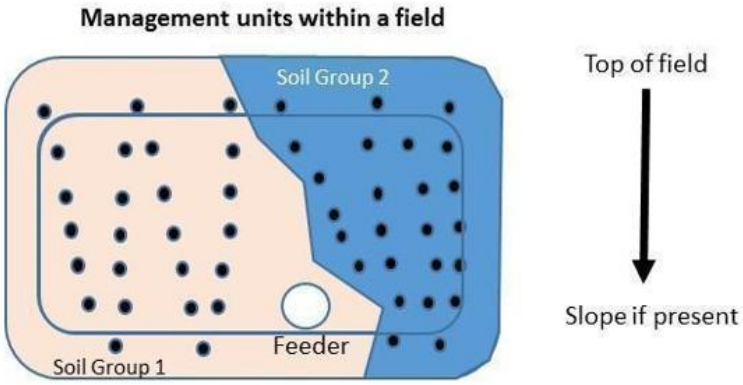

Figure* 2 *Guidance for a 'W' sampling design where a field has 2 management units. Source: Smith et al. (2022)

Sample Storage and Dispatch

If you are unable to send the soil sample(s) to the laboratory immediately after sampling, the bagged soil can be stored in a fridge for up to 1 week. The samples should be dispatched to the laboratory within 1 week of sampling.

To arrange dispatching the sample(s) to the laboratory, use the sample submission form on the laboratory's website. You should include details of the farm name, sampling unit name, geolocation using a GPS or phone if taken, the analysis required (P, K, Mg, pH, SOM) and your contact details.

Contact your chosen laboratory for advice on packing, labelling and delivery and arrange as per their requirements. This may be possible to do on the laboratory's website, or you can use a courier website to arrange sending the soil sample(s) to the laboratory. The laboratory will inform you that they have received the samples and will also return the cool box and ice packs to the farm address specified.

It is important that all soil samples from your farm are sent to the same accredited laboratory and that the same methodologies are used for each sampling period.

The AHDB website lists a range of accredited laboratories where soil samples can be sent for analysis and provides details of companies that will both undertake the soil sampling and conduct the laboratory analysis.

Soil and forage testing companies | AHDB

Interpretation of Analysis Results

The analysis results from the laboratory will be sent to you via email or post. You will receive one set of analytical results per bulked soil sample (i.e., per sampling unit).

From 1 April 2026, Farming Connect will no longer fund soil testing for farmers in SFS, however Farming Connect support will be available to interpret the results and advise on any appropriate actions.

You can seek further advice on soil and nutrient following receipt of your soil testing results from a suitably qualified advisor e.g. Fertiliser Advice and Certification Training Scheme (FACTS).