



## Taking soil organic matter samples

Soil is a potentially enormous carbon sink, and Farm Carbon Calculator wants its users to fully understand the impacts of good soil management. In order to work out the carbon sequestration occurring in your fields, you must take **annual soil organic matter samples**.

With this data to hand you can monitor the annual changes in organic matter across the farm. Some fields may lose organic matter between years, but if soils are managed well across the rotation and farm, you can see organic matter levels rise year on year.

### Taking soil samples

It's really important to standardise how you take your soil samples. We are recommending following these guidelines:

#### Preparation

- From a map of the farm work out which fields you will sample.
- Take samples from every field if possible, whether cultivated, grassland or orchard.
- Prepare some large clear plastic bags and label them all clearly with field names
- You will need two buckets (one for samples, one for mixing soil), plastic bags for samples, an auger/shovel and maybe your farm map.

#### Timing

- Spring or autumn is best.
- Make sure the soil is not very dry, very wet or frozen
- Don't take a sample from a field that has had major disturbance (like ploughing or rotavating) for at least 1 month.
- Fields that are in a 'stable state' give most reliable samples – e.g. a cropped field nearing harvest.

#### Sampling

- Use a soil auger if you have one to take core samples – they're really worth having if you're going to do this annually. They can be ordered from [Novanna](#), amongst other places. Prices are around £50. If you don't have an auger a shovel will do.
- Don't include the first two inches of soil in each sample (this will contain fresh organic matter which will alter the result).
- Take a sample down to 12 inches/30cm depth (not including the top 2 inches removed).
- Treat each field as a separate sample.
- Take between 10 and 25 samples per field to make up one field sample. Walk a 'W' shape across each field, taking samples along each line and at the points of the 'W'.
- Avoid spots that have abnormalities – e.g. poached ground, around feed troughs, compacted tramlines, etc.

- Mix up each field sample in a bucket, extracting between 0.5kg and 1.0kg of soil to make one sample. Label it clearly with the field name!!
- Make a note of the soil type (rough proportions of sand/silt/clay) for each field

### **Getting the samples tested**

Send the samples off next day if possible; if this can't happen then air-dry the samples.

You can get a soil organic matter analysis as part of a wider soil sample (e.g. N, P, K, pH, trace elements, etc) or on its own. A simple soil organic matter analysis only costs in the order of £5 - £9 per sample. We're aware of the following companies that offer SOM only analysis:

[Anglian Soil Analysis](#)  
[Forest Research](#)  
[Yara](#)

Make sure you get an analysis measured to two decimal places - accuracy is important.

### **Next year**

It's critical to take soil samples from the same fields, using the same principles, 12 months after you took last year's samples. Try and measure as close as possible to the day that you measured last year, assuming that the measuring principles on soil moisture and disturbance can be met.

Enter the analysis results in the carbon calculator, both last years and this years, for each field. The calculator will automatically work out the amount of carbon sequestered in the soils of your farm from the change in organic matter over a year.