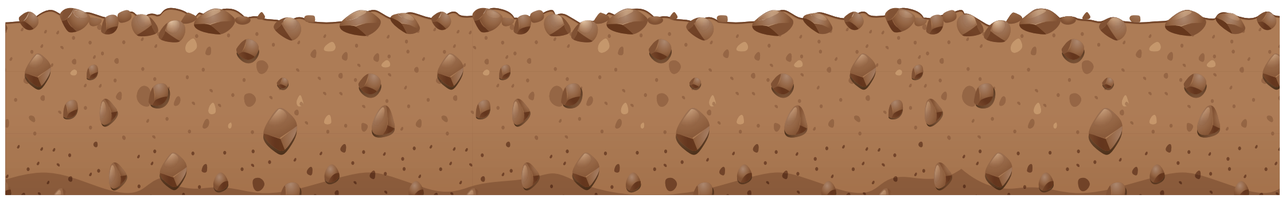
WELSH SOIL PROJECT

findings from Our Farms



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WELSH SOIL
PROJECT

- Farming systems have the capability to sequester *(absorb or 'fix')* carbon from the atmosphere
- Soils may be carbon sinks *(sequestering carbon)* or sources *(releasing carbon)*, depending on a number of factors *(land use, management practices, climate and soil type)*
- The quantity of carbon *(carbon stock)* stored in soils may vary in different areas on a farm

Table 1: Field categories selected for soil sampling.

Field number	Field type/management
1	High intensity - intensive field with high nutrient requirements, high pasture production, high stocking rate
2	Medium intensity - an intermediate field with medium nutrient requirements, moderate pasture production - predominantly grazing only fields
3	Low intensity - an extensive field with low nutrient requirements, pasture production is generally low, grazing only field (no silage is taken off the field)

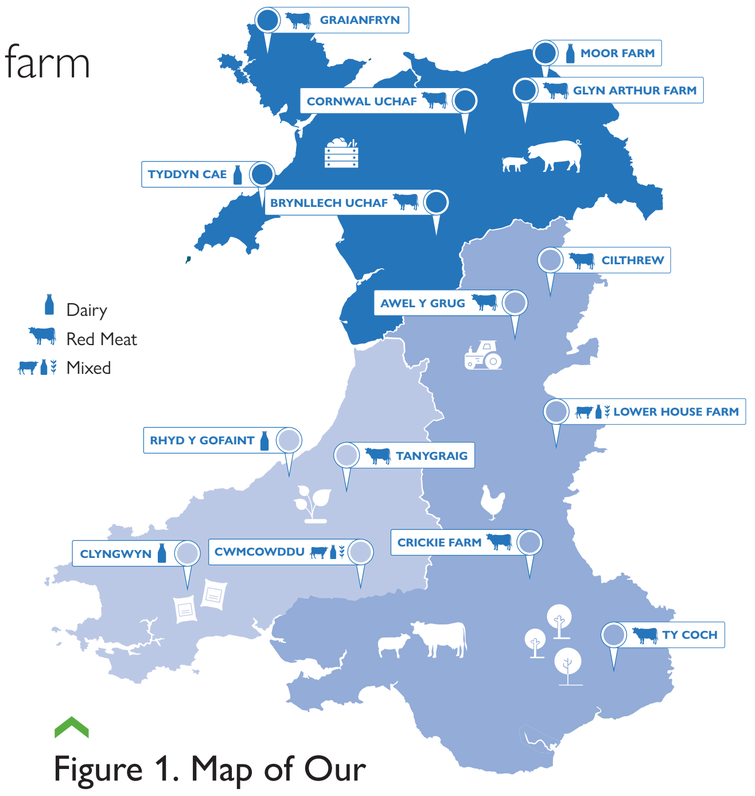

Figure 1. Map of Our Farms that participated in the project in Autumn 2023.

SOIL ORGANIC MATTER RESULTS

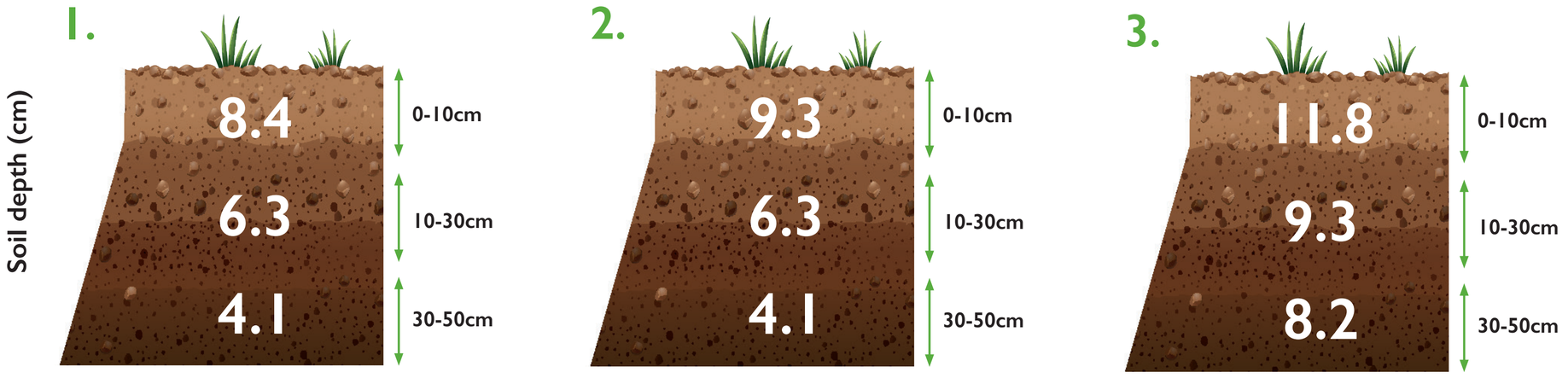

Figure 2: Average Soil Organic Matter content (%) of each sampling depth within each field type for all farms *(data by the hedges are not included in the figures)*.

SOIL CARBON STOCK RESULTS

The Organic Matter results were converted to Soil Organic Carbon *(which is the main constituent of Soil Organic Matter)*. These figures were then used, along with bulk density data *(the weight of dry soil within a known volume)*, to estimate the carbon stock of the sampled soils, expressed in tonnes per hectare.

Table 2: Average Soil Carbon Stock (t/ha) of each sampling depth within each field type.

Soil depth (cm)	Field/hedge number					
	Field 1	Hedge1	Field 2	Hedge 2	Field 3	Hedge 3
0-10	28.8	31.6	32.4	31.2	33.9	26.4
10-30	24.9	23.1	22.5	25.4	24.4	24.1
30-50	18.2	22.6	17.9	18.7	16.2	21.1

USING THE RESULTS

- Changes in soil carbon stock occurs gradually over several years, and accumulation over time mean that the capacity of soils to furher sequester carbon eventually becomes limited.
- Repeated measurement and monitoring of soil carbon content can provide useful information to determine changes over time, and ultimately a farm's ability to achieve Net Zero.
- It may also help to understand the importance of managing soils in a manner that will have a positive impact on soil health, microbial activity, nutrient supply, and crop/pasture yields.

For more information and to follow the project's progress, please visit the website or use the QR code →

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