

**Number of Arable businesses registered:**  
**761**

**Number of Horticulture businesses registered:**  
**359**

## Webinars



### Organic Conversion Scheme webinar – 30 attendees

The Organic Conversion Scheme was an area-based support scheme, which was available to existing agriculture producers across Wales who wished to convert from conventional to organic production. Welsh Government joined Farming Connect for a webinar presenting further information on the support available for individuals in the industry through the Organic Conversion Scheme. By supporting farmers during the two-year conversion period, the scheme aimed to provide support to deliver positive environmental land management benefits.

## Training



There were claims for **228** claims for courses received in the period, **98** of which were for land-related courses. Some of these courses are shown in the table below:

Courses delivered included:	Number of individuals trained during this period:
Rough Terrain Telescopic Lift Truck	22
Chainsaw Maintenance, Cross-Cutting, Felling and Processing Trees up to 380mm	13
L2 Award in Safe Use of Pesticides (PA1) and (PA2)	12
L2 Award in Safe Use of Pesticides (PA1) and (PA6)	9
Chainsaw Maintenance and Cross-Cutting	8

## Demonstration Network

### Gate Farm: Investigating min-till methods to increase sward diversity in organic grazing leys and establish a brassica break crop to extend the grazing season

The project set out to explore different overseeding establishment techniques using multi-species mixtures (herbs, legumes and grasses), to improve sward quality and plant species diversity, as well as soil texture and structure in an organic grassland grazing platform. In addition, the project aimed to explore a min-till establishment method for a brassica break-crop in a grass ley, to extend the grazing season and out-winter young stock, and reseed the following spring.

A successful open day was delivered on 6 July, with over 20 farmers in attendance. During the open day, the below key findings were shared:

- The overseed of perennial ryegrass and clovers was estimated to have increased the perennial ryegrass content to 70%
- The herbs introduced are more sparse, and only appear in areas of the field where the ground cover was below 70%
- Brassica establishment was good for an organic farm, with yields predicted to be approximately 3 tonnes/ha
- Each hectare would feed 40 heifers weighing 400 kgs for approximately nine days
- The field should ideally be strip-grazed and straw placed out in good time, allowing approx 4kg straw per head per day
- Minerals should also be supplemented, either by bolus or free access minerals in the field.

## Welsh Soil Project

Agriculture is responsible for a proportion of the greenhouse gas emissions in the atmosphere. However, farming systems also have the capability to sequester (remove) carbon from the atmosphere.



Soils may sequester or release carbon depending on a number of factors, such as:

- land use
- management practices
- soil type
- climate

Changes in soil carbon stock occur gradually over several years, and accumulation over time will reach an equilibrium. This makes quantifying a common baseline in soil carbon stocks a challenge. However, measuring the carbon content within soils provides useful figures for benchmarking in the future.

The Welsh Soil Project aims to determine the soil carbon stock of multiple fields from varying farming systems across the Demonstration Network.

The detailed data collected as part of this project will be used to provide an insight of current soil carbon stocks across different farming systems.

It will also demonstrate how soil carbon stock can differ within a single farming system, as well as between different farming systems, depending on land use and the management practices implemented. Soil samples were extracted from three different depths (Figure 1), up to 50cm where possible, to give a better understanding of soil carbon content at varying depths.

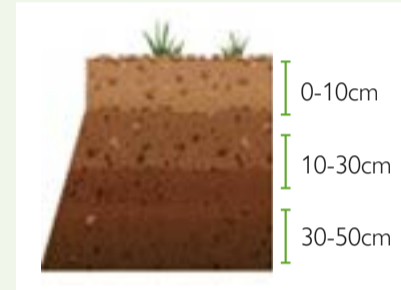


Figure 1: The three varying depths of sampling soils

Five fields under different management practices were selected for soil sampling to identify any differences, Table 1.

1	Permanent pasture field (>1 years)
2	Silage and/or hay field
3	A field that was recently reseeded (1-7 years)
4	Grazing only field
5	Other – e.g. arable, peatland, herbal ley, stock excluded

Table 1: Fields sampled under different management practices.

The results to date are presented below:

### SOIL ORGANIC MATTER

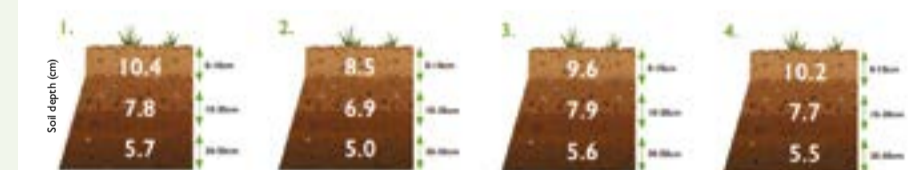


Table 2: Average Soil Organic Matter content (%) of each sampling depth within each field type.

### SOIL CARBON STOCK

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.

Soil depth (cm)	Field number			
	1	2	3	4
0-10	32.3	30.6	32.6	33.1
10-30	56.9	49.7	59.7	58.3
30-50	46.7	40.6	47.0	45.8

Table 3: Average Soil Carbon Stock (t/ha) of each sampling depth within each field type.

For more information and to follow the project's progress, please visit [businesswales.gov.wales/farmingconnect/land/soil/farming-connect-demonstration-network-welsh-soil-project](https://businesswales.gov.wales/farmingconnect/land/soil/farming-connect-demonstration-network-welsh-soil-project).

## Knowledge Exchange Hub

Technical articles produced by the KE HUB:

-  WOODLAND MACHINERY SOIL IMPACTS AND MITIGATIONS
-  BIODIVERSITY AND TECHNOLOGY



### Management Exchange

#### Dan Jones

Dan is a tenant farmer at Parc Farm, a National Trust Farm of 150 acres extending to 900 acres of grazing rights on the Great Orme. Dan farms this unique headland (home to rare flora and fauna) in a nature-first way. Growing up on a family farm on Anglesey, Dan graduated in agriculture and animal science, before working as a sheep research technician. He went on to secure his own farm tenancy, during which time he worked as a shepherd on Snowdon for a conservation grazing project, and where he found his passion: *“It’s essential that farming, conservation and carbon sequestration work together. Reducing the amount of carbon dioxide in the air is vital in the battle against climate change.”*

### Advisory Service

Number of business that have received support through the Land Categories of the Advisory Service during this period:



**32 individuals received one-to-one support through the Land Categories of the Advisory Service during this period.**



**97 groups received support through the Land Categories of the Advisory Service during this period.**

### Discussion Groups



#### Pembrokeshire Arable Group

A discussion group from Ynys Môn had raised their concerns regarding the rising costs of farm inputs. They invited Wyn and Eurig Jones from Pantyderi in Pembrokeshire to talk about their mixed crop of peas and barley. It has saved the business £33/t in concentrate costs, or a total of £5588 for the beef finishing enterprise.

The main advantages of growing peas and beans together were:

- Peas provide an early crop cover, which stifles weed establishment
- Beans provide a sturdy ‘scaffold’ that helps keep the crop upright later in the growing stages
- Studies show that mixed crops tend to produce more than when grown singularly
- Peas fill the air pockets in between the beans in the clamp, and help create the correct anaerobic conditions for ensiling
- Improved output and profit per hectare

The crops were drilled in on 22 April in two stages – the peas were sown in at a depth of 75mm, then the beans in at 50mm. No fertiliser was applied.

One of the group’s main concerns was harvesting the crops. Harvesting began at Pantyderi on 3 September, with a side knife attached to the combine to collect the peas. Bar having to clean the combine sieves on the first day (as the crop was a little damp around the field margins), the crop was harvested relatively easily.

The crop produced 5.25T of peas and beans and 22 bales of straw. It cost £432/ha to grow, £100/ha to harvest and £24/ha to crimp. This was equivalent to buying concentrate at 86% DM at £117/t. In monetary terms, it cost four pence per head less per day to feed the store cattle, and 21 pence per day less to feed the finishing cattle.

Another side-benefit and interest to the group was that significant savings can be made in terms of nitrogen(N) for the following barley crop. It was estimated that the residual N left by the pea and bean crop would be at 100Kg/N/ha.

The group are likely to adopt the practice of growing peas and beans as a mixed crop on their own farms next spring.

## EIP Wales



### Llwyn y Brain Farm

At 430 metres at its highest point, the land farmed by John and Sarah Yeomans and their family can be a challenging environment for growing grass on the shoulders of the season, but by incorporating timothy into seed mixes, leys are yielding an average of 10tDM/ha.

Timothy can grow when the soil temperature is at 0°C and the air temperature is +5°C.

It is the main grass species grown in Finland, where it is normal to have ice and snow in April, just weeks ahead of first cut in June.

After visiting Finland on a Farming Connect Management Exchange Programme, Mr Yeomans has been trialling its use on wet, deep peat soil in his beef and sheep system at Llwyn y Brain, Adfa, near Newtown.

That trial, part of three-year European Innovation Partnership (EIP) Wales study with input from Finnish grassland specialists Anu Ellä and Jarkko, has now concluded.

The results have convinced Mr Yeomans that timothy will have a place in his system going forward.

Leys that established well in 2019 averaged more than 12tDM/ha in 2021, providing valuable feed for 58 ewes and lambs per hectare for nearly three months, and extending late-season growth considerably.

*“It lifted productivity massively from May to late June,”* Mr Yeomans reports.

In 2022, the percentage of timothy in one of the plots increased to 25% – up from around 10% in 2020.

Independent grassland specialist Chris Duller, who has been providing technical input into the EIP project, together with Dr Iwan Owen of IBERS, said similar small increases in timothy were observed in some of the other original plots, too – those that had experienced challenging establishment conditions due to exceptionally high levels of rainfall.

Only 40kgN/ha had been applied up until the end of June; it is likely to total 80kg in 2022, compared to 120kgN/ha in 2021, because difficult ground conditions had prevented a spring application.

During a recent joint EIP Wales and Farming Connect open day at Llwyn y Brain, Mr Duller said a key finding from the trial was that timothy had grown as well as ryegrass in all but one of the plots.

There was no difference in the protein and energy values of timothy and ryegrass, despite an expectation that the quality of ryegrass would be higher.

But the trial had suggested that the highest percentage of timothy that could be achieved in any of the plots was 25%, whatever the sowing rate of the seed.

*“Going forward, it suggests that if we want to increase the diversity of grass, then we need to think about increasing the percentage of multi-species leys which include other grass varieties too,”* said Mr Duller.

*Understanding the longevity of timothy compared to ryegrass (a key benefit of this species) can only be known further down the line,* he said.

But the three-year timescale of the EIP project is one that Mr Yeomans is grateful for: *“You have to trial something for three years to know whether or not it will work, because in a shorter timeframe results can be skewed by an exceptionally good year, or an exceptionally bad one.”*

### E-learning

Some of the e-learning courses completed within this period include:

AGROCEUTICALS  
– DAFFODILS AND  
ALZHEIMER’S



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