

THE MAGAZINE FOR FARMERS & GROWERS IN WALES

FARMING connect

Our Farms Network

Take a closer look at some of
the new 'Our Farms' projects

Farming and trees, a symbiotic
relationship that works on farm.



Ariennir gan
Lywodraeth Cymru
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Welsh Government

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LOCATION:
Welshpool, South
Montgomeryshire



FARMER(S):
Chris & Glyn Davies



FARM:

Sector: Red Meat

Farm size (ha): 139

Livestock numbers:

800 ewes, 100 ewe lambs,
30 suckler cows, 1 bull.

Red clover: the key in moving towards protein self-sufficiency and environmental gains?

Over the last 5 years, Chris and Glyn have been making changes on the farm, Awel y Grug, with efficiency being a key driver.





With the costs of inputs reaching unsustainable levels, Awel y Grug's first project as part of the Farming Connect's Our Farms Network, will focus on trialling red clover, perennial ryegrass grass (PRG) & white clover versus a permanent pasture to reduce inputs to increase their self-sufficiency in protein whilst reducing their days to slaughter from the current average of 197 days, and their reliance on Nitrogen fertiliser.

Two neighbouring fields that have previously been managed identically as permanent pasture were identified for the project and divided into four plots as shown in Figure 1.



Figure 1. The divided plot areas; A1, A2, B and C and hectare detail for each plot

The following ley types have been allocated to each plot:

	Plot Area A1: Red Clover Aber HSG2 Early Cut (25kg/ha neu 10 kg/acre) AberClaret Red Clover (7.4 kg/ha neu 3 kg/acre)
	Plot Area A2: Red Clover Aber HSG2 Early Cut (25kg/ha neu 10 kg/acre) AberClaret Red Clover (7.4 kg/ha neu 3 kg/acre)
	Plot Area B: PRG & White Clover Aber HSG1 (37.1 kg/ha neu 15 kg/acre)
	Plot Area C: Control – Permanent Pasture

The project kicked off in August 2023 with establishing the red clover and PRG and white clover leys through ploughing.

Through the lifetime of the project, there will be key focus areas including:

1. Determine the effect of increasing the crude protein content of homegrown silage and grazing leys in the ewes' diet pre and post lambing
2. Assessing the potential of grazing each ley type to finish lambs
3. Calculating the economic benefit of establishing and managing a red clover ley in comparison to the PRG & white clover ley

There are additional benefits to the farm ecosystem. Legumes are extremely attractive to pollinating insects and provide an important food source for them throughout the growing season. Pollinating insects are vital for a functioning ecosystem and there are a wide variety of insect types that perform this important role, including bees, butterflies, hoverflies and moths. Alongside monitoring the performance of the plots sown for this project there will also be an assessment of pollinating insects in each trial plot area. For ease of identification, the project will focus on bumble bees.



Rhys Davies, Moor Farm

The role of GenoCells to identify high Somatic Cell Count cows within a dairy herd with a single bulk tank sample

Over the past few years, Rhys alongside his parents Dei and Heulwen Davies have been genomic testing their youngstock to estimate their genetic potential and allow them to make informed breeding decisions for their 100 cow Holstein Friesian spring calving herd.

To build on the genomics information available for the herd, the first project at Moor Farm under Farming Connect's Our Farms Network will investigate how accurate a next generation milk testing test, NMR GenoCells, is at providing individual cow Somatic Cell Counts (SCC) using a single bulk milk sample. GenoCells uses each cow's genomic profile to identify SCC contribution and aims to avoid the requirement for time consuming individual cow milk sampling.

This project is underway and compares the GenoCells SCC testing results with the conventional individual milk record testing

currently carried out at Moor Farm monthly. The project will test the GenoCells technology through late lactation, drying-off in January 2024 and in the transition period post calving; the period where cows are most vulnerable to mastitis and higher SCC to determine if it allows for quicker decisions regarding mastitis and SCC intervention resulting in high animal health and welfare, reduce antibiotic use and supports the application of selective dry cow therapy.

The GenoCells technology should result in labour and electricity costs savings: the cost benefit analysis will be completed taking into account the initial set-up cost for herds not currently undertaking genomic testing.

For more information and to follow the our farm's projects development, please visit the Farming Connect website.



LOCATION:
Holywell,
Flint



FARMER(S):
David, Heulwen
and Rhys Davies



FARM:

Sector: Dairy

Farm size (ha): 85ha

Livestock numbers:
100 spring calving cows
and 80 young stock heifers



Welsh Herbal Ley Project

Are multi-species swards as diverse as Welsh farms?

A new Farming Connect project provides an opportunity to further explore the possible productivity and environmental gains that multi-species swards may provide on Welsh farms, in comparison with conventional swards.

Multi-species swards, often referred to as herbal leys, are temporary swards that consist of a mixture of grasses, legumes and herbs. The inclusion of a herbal ley into a farm's grazing rotation is increasing in popularity in Wales, with a wealth of benefits seen to soils, forage and livestock, when managed appropriately.

Given the complexity and contrasting characteristics of herbal leys to conventional grass swards, their establishment and management differ to perennial ryegrass and clover swards, in order for them to thrive. Natural site conditions, such as soil type, structure, chemistry and climate will also impact the ley's success. Existing research has looked at some of these factors, along with investigating particular impacts of herbal leys on specific sites. However, there are still key research gaps to the success of herbal leys incorporating several different species across Wales.

Through a replicated field trial on multiple farms within the Farming Connect Our Farms Network across Wales, the productivity and environmental impacts of a herbal ley reseed and a conventional grass sward will be compared. These impacts include sward and livestock performance. The project also offers an opportunity to investigate the impact of varying site conditions (i.e. differing farms on a range of soil types) on the leys' success.

What will be done?

A chosen field on each participating farm from Farming Connect's Our Farms Network will be ploughed, and split in half for reseed purposes (green and orange areas in Figure 1 below). Recent soil sampling results for the chosen fields will be used to determine nutrient requirements in the seedbed (if any). Both seed mixtures will be sown at a rate of 34.6 kg/ha.

Some of the participating farms have sown at the end of Summer 2023 and the project will commence on additional farms in Spring 2024 due to the farms' reseed schedule.

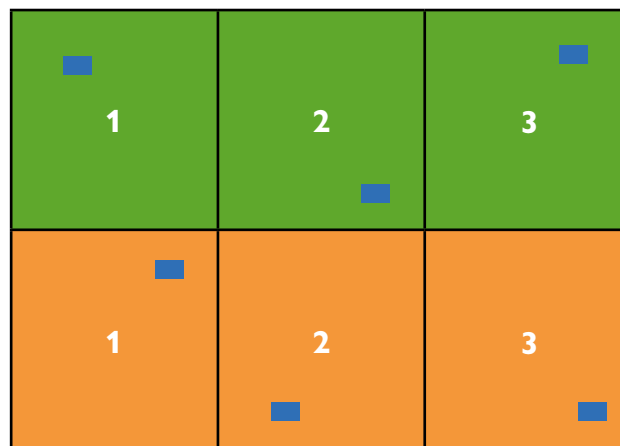


Figure 1. Project field set-up. Green areas indicate the replicated herbal ley plots ($n=3$) and the orange areas indicate the replicated grass-clover plots ($n=3$). The blue areas represent the stock-excluded areas for data collection (exact location of these will be discussed with the individual farmers).

As seen in Figure 1 (Plots 1, 2 and 3), each field will be split into a rotationally grazed system. Plot division, along with the timing and regime of grazing will depend on the field area, ley establishment success, along with stock availability. The livestock chosen to graze the field (lambs on most farms) will be split into two equal groups (in terms of numbers and age/weight) to graze the herbal ley and the grass/clover sward independent of each other. The stock-excluded areas set-up via the use of grazing cages will be randomly located on uniform areas of the fields.

Which species are included in the seed mixtures?

HERBAL LEY - a total of 14 species, including Perennial Ryegrasses, Timothy, Meadow Fescue, Red and White Clover, Ecotain, Sainfoin, Chicory and Lucerne

CONVENTIONAL GRASS LEY - Intermediate and Late Perennial Ryegrasses, Clover Blend and Timothy

What data will be collected?

Data collection will include -

- Forage quality (macro- and micronutrient content)
- Species composition
- Liveweight gain measurements
- Blood sampling (macro- and micronutrient content)
- Faecal Egg Count (FEC) sampling

Further data will be collected on some farms, including measurements of biodiversity abundance.

For more information and to follow the project's developments, please visit the Farming Connect website.



Herbal ley





Welsh Sheep Genetics Programme – Update

Following an incredibly successful recruitment drive back in June 2023, activity is now well underway in the Farming Connect Welsh Sheep Genetics Programme.

The recruitment of 107 flocks to join the brand-new programme, demonstrates a thriving appetite for performance recording within Welsh sheep flocks, both within hill and upland breeds and the four breeds selected to form Tier 2 of the programme.

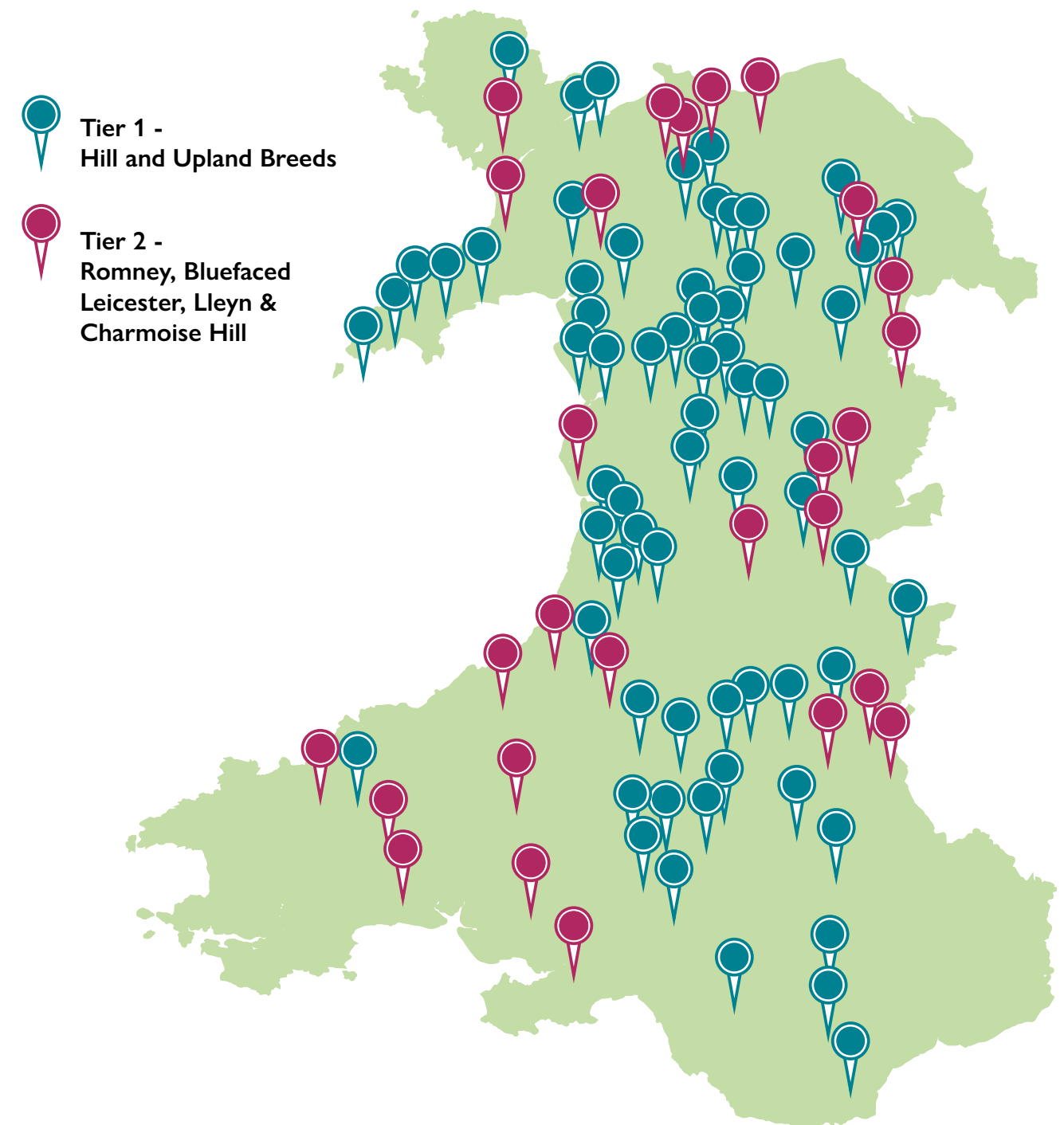
Participants have been working closely with Farming Connect's Genetics Officers to formulate a Breeding Action Plan, which is specific to their own flock. The objective is to review current key performance indicators (KPIs) and flock performance data, in order to identify key areas for improvement within the flock. The end goal is to improve flock efficiency by using data, impacting on business profitability.

Knowledge Transfer activities are also well underway, with participants invited to join events based on various topics of interest during the last few months.

Project work also forms a part of the new programme, with focus on three topics. The routine use of genomic breeding values has been implemented since June 2023, with the objective of providing more accurate breeding values. Changes to how the Welsh Hill Index is expressed have also been implemented, now providing farmers with a prediction of the financial value of using specific sires.

The breeding for worm resistance project has also commenced. By working in conjunction with Techion, Innovis and AHDB-Signet, the project will undertake FEC sample lambs from 22 flocks across Wales, as well as blood sampling to measure IgA levels in blood serum. The breeding for reduced methane emissions project will commence in Autumn/Winter 2023.

Welsh Sheep Genetics Programme Flocks



MASTERCLASSES: your ticket to business improvement

If you are eager to learn more about key technical subjects within farming to improve your business' performance, then Farming Connect Masterclasses are just the ticket for you.

These workshop style classes will provide a mixture of hands-on and theory in small groups. We would encourage you to take the opportunity to hear from experienced farmers, leading experts and advisors on a range of relevant topics to your business.

MASTER SLURRY

Workshop will cover farmyard infrastructure and organic manure management on land. By the end of the course, you will have gained knowledge in:

- › Regulatory requirements of silage clamps, slurry stores and farmyard manure (FYM) storage.
- › Calculations of slurry/dirty water production for regulatory compliance.
- › Mitigation options to ensure economical and sustainable route to compliance.
- › Nutrient application strategies to maximise nutrient recovery and reduce risks of pollution
- › Integrating organic manures and manufactured fertilisers

MASTER REGEN

Workshop to introduce you to the principles of regenerative livestock farming and equip you with the skills and knowledge needed to start the transition of your business to become more environmentally, financially, and socially sustainable.

- › Discuss farming practices that naturally improve soil health and fertility.
- › Develop a livestock enterprise that maximises productivity using minimal inputs.

- › Understand how to select livestock genetics that thrive in a low-input farming system.
- › Create a holistic context to support personal and business goals.

MASTER GRASS

Workshop to equip you with the knowledge and practical skills necessary to optimise production from pasture to improve your business resilience and profitability whilst reducing carbon footprint.

- › Measure pasture using a plate meter and enter data into pasture management software.
- › Design a paddock grazing system for a given group of animals and identify the most suitable types of fencing and water system.
- › Use practical skills to efficiently erect permanent and temporary electric fencing using suitable materials.

MASTER FARM HABITATS

Workshop to improve confidence and knowledge of on-farm habitat identification and management.

- › Composition and species characteristics of different habitats
- › Why habitats are important
- › Appropriate management of habitats
- › The value of habitat connectivity

These are a small selection of Masterclasses that Farming Connect have on offer. To find out more and to register your interest in attending please visit the website.

TRY-OUT FUND

PROJECT INTRO



- › Farming Connect has developed the Try-out fund to address specific local problems or opportunities with the aim of improving efficiencies and profitability within agricultural businesses whilst protecting the environment.
- › There are many changes on the horizon for agriculture and now is a great time to explore an idea that could benefit your farm and allow you to tackle 'real' problems or check if a research idea works in practice on your farm. These four projects have received up to £5000 of funding to try-out their ideas and bring them to life.

Welsh trial will establish best cover crops for under-sowing winter brassicas

A field-scale trial in Wales involving growing different cover crops under winter brassicas could help farmers identify which types best protect soils from run-off.

Winter brassica crops are an increasingly popular option for livestock producers seeking to reduce production costs as grazing in situ provides a cheaper source of winter feed than other forage by relieving pressure on housing and cutting labour and bedding costs.

However, leaving soils bare and exposed to wind and rain after grazing can result in a loss of topsoil, which is detrimental to soil nutrition and water quality.

Cover crops are a way of anchoring soils; therefore, a trial is being established on Bryn Hughes and Sarah Carr's beef and sheep farmland at Sylfaen, Barmouth to evaluate the most suitable crop to under sow in forage rape and stubble turnips.

"The project will evaluate different seed mixes for under sowing brassicas and assess their effectiveness in terms of ground cover, run off reduction, feed production and animal performance," Sarah explains.

Five one-hectare plots were established in August, all with forage rape and stubble turnips as the grazing crop but grown in combination with different cover crops.

These will include a ground cover mix of timothy, perennial ryegrass, clovers and vetch, a second mix of cocksfoot, intermediate diploid, festulolium and meadow fescue, and a third plot growing a combination of both.

There will also be one control plot with no cover crop and another with an Italian tetraploid. The plots will be grazed by sheep this winter.

As well as scoring livestock performance, the status of soils will be monitored and an evaluation made to establish the most suitable seed mix for under sowing.



Bryn Hughes and Sarah Carr

TRY-OUT FUND

PROJECT INTRO



Powys farmers trialling rock dust's potential as a grass nutrient

Two grassland farms in Powys are researching whether a rock dust sourced from a local quarry can provide sufficient nutrients to grow grass.

Finely ground basalt rock produced at a quarry in Builth Wells has been applied to one half of two fields covering 2.4 hectares at Upper House, Howey, where Gareth Davies farms with his son, William, and at Treforgan Farm, Dolau, farmed by father and son, David and Will Lewis.

Growth will be compared to land where basalt and fertiliser only has been applied and to a control area which has received no treatments.

Sward composition of both fields was assessed at the start of the project and growth will now be monitored over the coming months. This exercise will be repeated in the spring, on fields earmarked for silage or hay, and the response also measured.

Soil samples pre and post application will also be assessed to establish any differences.

Gareth Davies says if the project results are favourable, it would reduce his reliance on oil-based fertilisers.

"I had not heard of basalt rock dust until six months ago," he admits.

It costs around £40 a tonne delivered and spread.

Mr Davies says there could also be a benefit to the environment, as adding rock dust to farmland is believed to remove and lock up carbon dioxide from the atmosphere.

The research would not have been possible without funding and technical support from Farming Connect's Try Our Fund, he says.

Non Williams, who is overseeing the basalt rock dust project, said Farming Connect had developed the fund to help improve efficiencies and profitability within agricultural businesses whilst protecting the environment.

The results of this project will be shared with other producers in Wales after it concludes at the end of 2024.



Some of the farmers who are trialling rock dust's potential as a grass nutrient

TRY-OUT FUND

PROJECT INTRO



Can tea be grown successfully on Welsh hill farms?

The suitability of Welsh hill farms for growing productive crops of tea is being investigated in a detailed study underway in Powys.

Mandy Lloyd spotted an opportunity to use land on Cleobury Farm at Heyope, Knighton, to grow this high value crop to generate additional income from her 150 acres of hill land.

Although tea is already being grown successfully in the UK, it is believed to be a first on a hill farm.

Like many farms, Cleobury has a diversity of land types so working out which areas are most appropriate for planting tea bushes, where they are most likely to thrive and produce an optimal yield are important first steps.

One hundred and forty Camellia sinensis tea bushes are being grown on different plots around the farm, with those sites selected through a process known as geospatial analysis, which involves assessing the compatibility of

the crop with geographical locations based on factors including climate, light intensity and soil characteristics.

"This project will build on the existing knowledge, and could be applied to other novel crops," she says.

"We are trying crop diversification with the aim of improving profitability within our agricultural business whilst protecting the environment, improving diversity and producing a high-end crop long-term."

Mandy, who also farms beef and sheep, hopes there will be a positive effect from growing this crop on soil biology too, especially on land with sparse grass coverage.

"There is a need for an environmentally and socially responsible food and drink local supply chain, providing consumers with nutritious products, long term," Mandy suggests.

"Keeping profits local brings wider benefits, with a thriving local economy and increased spend, resulting in an increased supply and further job opportunities, creating cohesive communities."



Amanda Lloyd

TRY-OUT FUND

PROJECT INTRO



Lucerne trial could help sheep farms be climate change resilient

A Welsh sheep farm is hoping to increase resilience in its lamb finishing system by growing drought-tolerant lucerne.

The deep-rooted nitrogen-fixing crop with its high protein content has the potential to be the ideal feed for finishing lambs at Newton Farm, Brecon.

The Roderick family are investigating if growing lucerne could make their business more resilient to drier grazing seasons, and against volatile feed prices by displacing bought-in concentrates.

Their farm, which sits on a south-facing bank and has free-draining soils, is prone to grass burn off in a dry hot summer.

Richard Roderick says that with a changing climate likely to result in those summers becoming commonplace, lucerne could be a part of a mixture of solutions that make Welsh farming businesses like his more resilient.



Richard Roderick

Mr Roderick is currently changing his sheep system, with plans to lamb greater numbers of sheep outdoors in April to reduce concentrate use and feed costs. But this change comes with concern that he must have a reliable source of high-quality grazing for growing and finishing lambs throughout the summer.

He plans to grow 9.7 hectares of lucerne, incorporating cocksfoot and timothy into the ley. The crop, which will be planted in spring 2024, will be rotationally grazed by lambs through to finishing.

Its yield will be monitored and lambs will be weighed at key points during the trial with their weights compared to lambs grazing grass and clover leys, to establish if it can deliver positive financial benefits for the business compared to those feeds.

Lamb health and worm burdens will be monitored too, with support from Honddu Vets, Brecon. Mr Roderick hopes lucerne could further reduce the farm's carbon footprint by speeding up lamb finishing periods.

He says it not only has the potential to benefit his own farm but others in the region too as the results will be widely shared with the industry.

Take advantage of up to 90% contribution towards

NUTRIENT MANAGEMENT PLANNING

Farming Connect can provide advice on soil and nutrient management including soil samples.

- Recommendations on soil analysis results for Ph, phosphate (P), potash (K) and magnesium (Mg) and soil type
- The plan will lay out the nutrient inputs to either lift, reduce or maintain soil fertility
- Calculate most appropriate fertilizer rate for the crop
- Advice provided on application rate and timing of organic manures and account for their nutrient contribution
- Asses soil texture and soil structure to improve soil management for water holding capacity and drainage which will lead to improved nutrient use and reduced risk of soil loss and runoff

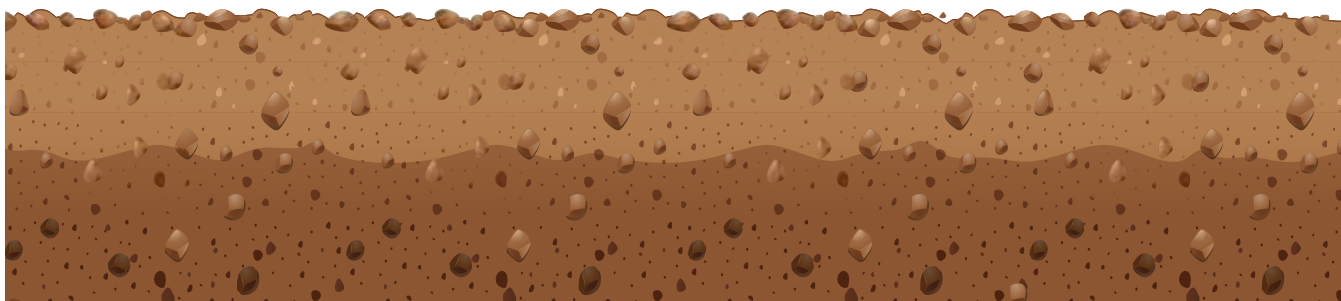
Addressing soil, nutrient and farmyard manure management is essential if you are aiming to run a business with top performing results.

For more information, contact your local Development Officer, or call the service centre.

 **03456 000 813**

 **gov.wales/farmingconnect**

Rydym yn croesawu galwadau'n Gymraeg
We welcome calls in Welsh



GWASANAETH
CYNGHORI
ADVISORY
SERVICE

MENTORING

Nineteen new mentors have joined the Farming Connect team and are eager to share their experience, guidance and perspective to support other farmers across Wales. There are now over 80 mentors who can provide up to 15 hours of fully funded one-to-one support to individuals registered with Farming Connect.

Here are some of our newest Mentors:



CAROLINE DAWSON

Located at: Flintshire **Sector(s):** Diversification

Key Specialism: Business Management and Planning, Direct Selling, Innovation, Marketing, Personal Development, Tourism

Having for many years successfully run multiple rural business ventures including food, accommodation, outdoor activities, and her own rural consultancy - which involved handling her own finances, personal development and staffing resources, Caroline has significant personal experience of what it takes to set up and manage a successful farm diversification venture.



GERAINT DAVIES

Located at: Meirionnydd **Sector(s):** Beef, Organic, Sheep

Key Specialism: Conservation grazing, Grassland Management, Regenerative Farming, Water Quality, Woodland Management.

Geraint has worked in agriculture for more than 25 years. This progressive farmer combines actively farming - mainly organically - and food production with managing the natural environment and resources in a sustainable way.



PAUL ROLT

Located at: Carmarthenshire **Sector(s):** Viticulture

Key Specialism: Direct Selling, Innovation, Regenerative Farming, Renewable Energy, Tourism

Paul has over twenty years' experience in owning and running vineyard-based businesses, with tourist destination offerings as part of the wider business. His great people skills and knowledge of his subject means he welcomes the opportunity to share his experience and knowledge that may 'in some small way' contribute to the success of Welsh viticulture.



RACHEL THOMAS

Located at: Pembrokeshire **Sector(s):** Diversification, Horticulture

Key Specialism: Business Management and Planning, Marketing, Tourism

Alongside traditional family farming, Rachel's entrepreneurial streak has been to the fore since her family first decided to transform under-utilised farm buildings into holiday cottages over 20 years ago. These proved a sound investment, providing an additional source of income. Most significantly, they gave Rachel the confidence to set up many more successful visitor-related enterprises.



TOM ADAMS

Located at: Vale of Glamorgan

Sector(s): Dairy, Horticulture, Poultry, Sheep

Key Specialism: Animal Health and Welfare, Benchmarking, Business Management and Planning, Direct Selling, EID, Energy Efficiency, Innovation, Renewable Energy

Tom is a partner in the farm business that consists of 350 acres of land near Cowbridge where he runs a mixed farm enterprise alongside his dad. The enterprise includes, dairy, sheep, poultry, potatoes and firewood, resulting in a lot of direct sales which keep him very busy!



LLION JONES

Region: Conwy **Sector(s):** Beef, Sheep

Key specialism(s): EID, Grassland management

Former Farming Connect demonstration farmer Llion, owns an 850 acre upland farm in Conwy, where he predominantly farms beef and sheep. A keen advocate of lifelong learning, he never passes up any opportunity to learn and improve his skills through workshops, webinars, podcasts, discussion groups as well as attending relevant open days etc.



HEATHER KIRBY

Located at: Wrexham **Sector(s):** Diversification

Key Specialism: Administration and Paperwork, Benchmarking, Business Management and Planning, ICT Support, Personal Development

Having worked and specialised in accounting for 17 years, progressing to her current partner role, she has acquired a vast amount of business management and financial experience, advising small start-up businesses as well as larger well-established clients. She prides herself on having good communication skills in Welsh and English. "I listen, learn, understand their objectives and then provide the business solutions or guidance they need in a succinct and clear way."

To find out more about our mentor's background, skills and expertise, browse through our 'mentor directory', which can be found at: gov.wales/farmingconnectmentoring

Farming and trees, a symbiotic relationship that works on farm.

The symbiotic relationship between farm woodlands and sustainable food production needs to exist in harmony to ensure the future health of our ecosystems and growing populations.

A healthy environment on sustainable farms demonstrates that trees and farming work together and that it's not one or the other. Whilst trees are beneficial for maintaining biodiversity in surrounding ecosystems and providing habitats, they also contribute to sustainable food production systems in line with the Welsh Governments Sustainable Land Management (SLM) outcomes. However, the protection and sustainable management of farm woodlands and the production of food from the same farms are often thought of as separate and by some, conflicting entities. On one side lies environmental concerns and on the other, protection of livelihoods and food security for the wider society. In fact, the fate of our woodlands and food production is inextricably linked, and with future policy changes here in Wales, the two must work hand in hand. It's not one or the other, trees or farming, but the close and prolonged association and relationship between farming and woodland is mutualistic, where both parties involved benefit from the interaction.

So how do woodlands and agriculture support each other? Agriculture is uniquely placed to lead on climate change mitigation whilst producing food. We know that trees on farms play a key role in supporting a healthy environment by taking

in carbon dioxide and release oxygen into the atmosphere supporting a healthy ecosystem which is vital for life on earth. For the farm environment, trees filter air and water, prevent erosion and farm woodlands create benefits in sequestering carbon and for biodiversity, provide a source of natural pollinators and biodiverse habitats for wildlife. Food production also benefits from:

SHELTER: There are multiple benefits from existing and newly planted trees on the farm such as woodlands established in strategic places for the provision of shelter for livestock and crops. With increasing unpredictable weather patterns, trees are very relevant to improving animal health and welfare whilst also promoting added benefits for animal productivity and crop yields.

PEST CONTROL: Healthy woodland ecosystems promote a range of birdlife, insects, spiders, fungi, and bacteria, which all consume or control pests, reducing the need to use commercial pesticides on crops planted nearby.

POLLINATION: Agricultural crops rely on pollinators for production. This pollination is dependent on biodiversity such as bees, butterflies, birds, and bats and the presence of fauna in farm woodlands.

WATER QUALITY AND CONSERVATION: Riparian woodlands can contribute to improving flood management and improve water quality. Stream side and riverside woodland corridors can reduce water run off or overland flow and protect soils from erosion.



Trees

SOIL PROTECTION: Agroecological approaches to farm management have significant potential to build resilience into our food production systems and trees on farms can:

- Help maintain soil fertility by providing nutrients from leaf litter and reducing erosion of nutrient-laden topsoil.
- Nitrogen fixing trees can also help to enhance soil fertility by cycling atmospheric nitrogen, thus increasing crop yields.
- Deeper root systems will capture nutrients leached below the grass or crop rooting zone and return them to surface soil via litter and through root turnover.
- Help improve the soil holding capacity for water and nutrients.
- Root networks can limit compaction by animals (poaching) and increase infiltration.
- Under elevated stress conditions (drought), trees invest in their mycorrhizal associations and can scavenge water and nutrients from deeper within the soil.

Understanding what trees can deliver for the farm is vital, however in transitioning to integrating trees into the farming system as an active asset, a clear list of objectives needs to be identified. To achieve this, an assessment of the on farm natural capital is needed. Farming Connect is undertaking a suite of assessments covering woodland, health and safety, biodiversity and carbon foot printing on the new Our Farms Network sites.

The woodland components in the assessment and how they're applied to the equation will determine the result in the best possible income from the revenue streams available and could forge opportunities to diversify into several income streams as a result of building natural capital. In future, business performance won't be as much about volume of product but could be how consumers are informed on how volume of product is produced. The multifunctionality benefits of trees to the farm are an integral part of that food production system.



SGILIAU A
HYFFORDDIANT
SKILLS AND
TRAINING

Looking for advice on Feeding your Flock for Optimal Performance?

Sheep farmers in Wales can learn about nutritional strategies for their flocks throughout the production year at a new Lantra Awards approved workshop added to Farming Connect’s animal health and welfare training programme, delivered by approved local vet practices throughout Wales.

Matching diet to ewe and lamb nutritional requirements at critical times of the year will ensure increased efficiency and productivity.

Workshop attendees will work through the nutritional requirements of the flock, focussing on the critical times during the year.

The themes of health planning, responsible use of antibiotics and anthelmintics, and the environmental benefits of improving productivity, will also be integrated throughout the course.

Workshop attendees will:

- Gain an understanding of the basic principles of how to measure and assess body condition score (BCS) in sheep on a five-point scale
- Identify the critical points in the production cycle when incorrect nutrition and BCS may have a detrimental effect on efficiency and production.

Other learning outcomes include understanding how decisions made about nutrition affect the productivity of the flock, and how those decisions should be made on a farm-by-farm basis and based on the condition score of the flock and available feed.

Attendees will also gain an appreciation on the role of health planning with regard to metabolic disease testing and trace element supplementation and an understanding the environmental benefit of good nutritional management.

- Fully funded
- All attendees must be registered with Farming Connect
- Complete an online Personal Development Plan (PDP)
- Workshop attendance will be logged on the individual’s ‘Storfa Sgiliau’ CPD record with a Lantra Awards ‘certificate of attendance’

Contact your local development officer or visit the Farming Connect website gov.wales/farmingconnectskillsandtraining to find out more.

 **Local Development Officer**

 **03456 000 813**

 **gov.wales/farmingconnect**

Are you looking into a possible on farm diversification?

Could a training course or an e-learning module give you the head start you need as you plan your new venture?

If you are thinking about or already planning an on-farm diversification, there are a range of short courses and e-learning modules which will help you improve your knowledge and understanding of what could lie ahead for you and your new enterprise.

Listed below are a range of short course titles to help you realise your plans, all 80% funded with availability across Wales through a network of providers.

- Agricultural Business Planning
- Planning a Diversification or New Enterprise on a Farm
- Business Planning and Development
- Marketing your Business
- Digital Marketing courses
- IEMA - Institute of Environmental Management and Assessment
- ILM - Institute of Leadership and Management
- Environmental Awareness, Audit and Management

If your project involves establishment or management of an on-farm woodland, you may be interested in:

- Woodland Management for Conservation
- Basic Tree Inspection
- Planting and Establishing Woodlands

If you haven’t got time to undertake a short course at the moment why not look through the wide range of e-learning modules available, which have been written by subject experts and are fully funded to individuals registered with Farming Connect.

DIVERSIFICATION AND INNOVATION	WOODLAND/TREES
<ul style="list-style-type: none">• Collaborative and Share Farming• Energy Efficiency – Dairy Farms• Energy Efficiency – Poultry Farms• Farm Business Diversification• Planning and Finance• Precision Technology in Agriculture• Renewable Energy – Electricity• Renewable Energy – Heat	<ul style="list-style-type: none">• Agroforestry• Benefit of Trees on Upland Farms• Climate Change and Land Management• Continuous Cover Forestry (CCF)• Tree Health – Tree Pests and Diseases• Tree Identification

For more information, please visit gov.wales/farmingconnectskillsandtraining

SGILIAU A
HYFFORDDIANT
SKILLS AND
TRAINING



Farm Health and Safety

Handling livestock

Every year, many of the deaths on farms happen because farmers become complacent and do not take precautions to make sure they are protected against livestock.

When you are working with livestock think about what increases the risks

- 1. Select and use well designed handling facilities in the yard, buildings and field. Keep them maintained.**
- 2. Never enter an enclosure with a loose bull or when an unrestrained cow is with a calf.**
- 3. Wherever possible separate livestock from the public and select fields without rights of way when cattle have calves at foot.**

NEVER ASSUME ANIMALS ARE GOING TO DO WHAT YOU EXPECT THEM TO DO
www.hse.gov.uk/agriculture



Diogelwch Fferm Cymru - Farm Safety Wales



@farmsafetywales



Farming Connect Horticulture – Opportunities for Diversification

The Farming Connect Horticulture Programme recently held a training workshop at Tom Adams Fruit Tree Nursery.

FRUIT TREE PROPAGATION

Propagated fruit tree rows run North to South for maximum light use efficiency. The mother orchard contains two of each variety, it is planted on semi-vigorous rootstocks. The Mother trees are trained as cordons with the leaders growing at a 45-degree angle to reduce vertical growth.

Chip buds are taken from the mother plants at the end of July and grafted onto appropriate root stocks. Chip budding is not as successful as graft wood with a 75-80% success rate, but it can be done in the summer, which is a quieter time of year, and a greater quantity of scions can be produced from buds. Any failed buds can be replaced with whip and tongue grafts in winter. Rootstocks are bought in and grown on, but Tom may grow his own rootstocks in future.

Apple trees are sold at approximately 2m tall, when the scion is 1 year old, and the root stock is two years old. Tree roots are undercut, and the soil is loosened in November.

Tom is unique in Britain for producing knip cherry trees with weaker side branches that are heavily productive. Tom grows 27 varieties of perry pears, which is more than other nurseries in the country.

WILLOW COPPICE FOR WOODCHIP MULCH

Willow, grown in blocks, is coppiced after two years of growth and chipped in November, just before lifting the apple trees. Woodchip mulch is applied to fruit trees in March/April at a depth of 10cm, which lasts around two years. Willow is grown with native hardwood species such as hazel, alder, and sweet chestnut to create a diverse stand, the hardwood is harvested after 5-7 years.

Ramial woodchip is produced from trees less than 7cm in diameter. The lignins are more soluble in smaller diameter wood, which produces a lower carbon to nitrogen ratio and therefore nitrogen is released to the soil more rapidly during decomposition.



FIGURE 1
Tom Adams with visitors at Farming Connect open day

PRUNING

Winter pruning stimulates growth, whereas summer pruning encourages fruiting. In winter the leaders are cut back to three buds to stimulate side-growth. Some commercial growers prune multiple times throughout the growing season to reduce the risk of fungal canker (*Neonectria spp.*), as less inoculum is present during drier conditions and warmer temperatures enable trees to better resist fungal infection, as they are actively growing.

ROTATION

Apple trees are grown on a seven-year rotation to reduce the risk of apple replant disease, which causes a plant to struggle to establish, grow poorly or die, caused by re-planting the same species in the same soil. Other crops in the rotation are managed as separate enterprises by other growers.

PEST AND DISEASE CONTROL

Wildflowers are encouraged to provide habitat and food resources for beneficial invertebrates such as hoverflies, ladybirds, lacewings, anthocorids, predatory mites, parasitoid wasps, and beetles. Garlic oil (*Ashton tree wash*) is used for pest control and is approved for use in organic production by the Soil Association.

Free draining soil reduces the risk of collar rot (*Phytophthora sp.*) which is caused by water borne oomycetes. Willow contains salicylic acid, which leaches out and helps to degrade apple scab (*Venturia inaequalis*) fungal spores on the soil surface. Contorted willow has a high salicylic acid content, whereas faster growing species tend to have a lower salicylic acid content. Slugs are also deterred by the woodchip surface.



FIGURE 2
Apple trees



FIGURE 3
Bee box among saplings

To be informed of future similar events please sign up to our Grower networks on the Farming Connect website -

GROWER NETWORKS...

peer-to-peer learning and study visits | Farming Connect (gov.wales)