THE MAGAZINE FOR FARMING & FORESTRY IN WALES

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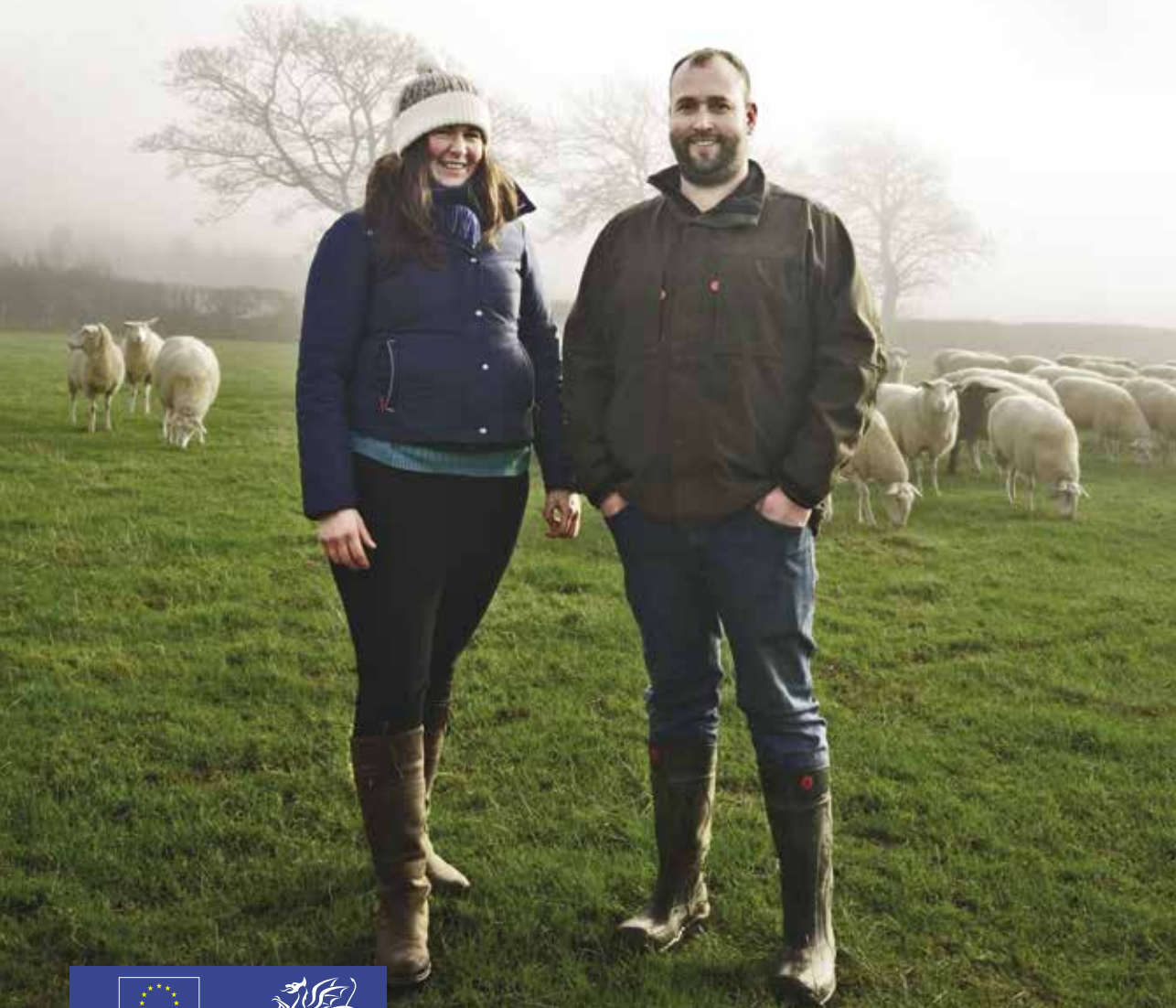
Lambing issues
How managing ewes' nutrional needs can help

Helping 'ewe' get where you want
How Farming Connect helped Bryn and Becca set up their sheep dairy business



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Part of the Maestanyglwyden flock

Tackling mastitis in ewes

Focus Site: Maestanyglwyden, Penybont, Oswestry

Technical Officer: Lisa Roberts

Project Title: Tackling mastitis in ewes

Improving hygiene and providing adequate space at lambing has reduced mastitis cases from 10% to 6.8% at Maestanyglwyden, near Oswestry.

Mastitis had been a major cause of losses in Ryan Morris' flock, either through premature culling or deaths as a result of toxic mastitis. Out of nearly 1,000 ewes, around 10% would get mastitis every year.

"We had problems throughout the year, although the spring was the worst time," says Mr Morris, who took on the farm from his grandfather five years ago, and now farms with his partner, Rebecca Greaves.

Farming Connect enabled an on-farm trial alongside the farm's vets, Cain Farm Vets, to establish the factors influencing the high incidence of mastitis, and to help inform a plan to reduce rates.

The trial monitored the mastitis incidence rate in 439 twin-bearing ewes from the March-lambing flock. Blood sampling was used to assess flock nutrition three weeks before lambing; this established that the diet was meeting the protein and energy requirements of the ewes during late gestation. Milk sampling had shown the presence of the mastitis-causing bacteria, *Staphylococcus aureus* (*S. aureus*) and *Mannheimia haemolytica*. Ewes were vaccinated with Heptavac P, a clostridial vaccine containing *Mannheimia haemolytica*, and a booster administered four weeks before lambing.

Mr Morris made several improvements to his housing to reduce stocking density; he increased floor space by a sixth to reduce the pathogen load within the shed, and provided more dedicated small pens for freshly-lambed ewes, so that they could be moved out of the main lambing area into clean pens within two hours.

Close attention was paid to cleanliness. All staff wore arm-length disposable gloves for lambing, and short gloves for jobs such as putting lambs to suckle, to reduce the risk of bacteria spreading between sheep and onto teats.

Alana Jackson, of Cain Farm Vets, who instigated the trial, puts this down to a combination of factors – notably, reduced stocking density and improved hygiene at lambing.

"Reducing the pathogen load that ewes are exposed to at the point of lambing, when their immune system is most suppressed, will have had a positive effect," she advises.

If a ewe isn't producing enough milk, lambs will suckle more frequently; this can cause teat damage, increasing the risk of a ewe developing mastitis. Continuing to feed ewes adequate energy and protein up to peak lactation and until six weeks after turnout will also have helped by ensuring sufficient milk production, she adds:

"Mastitis is a multi-factorial disease, which makes control difficult," she admits. "This field trial just shows that tweaking several aspects of management in the flock has had a positive effect. However, there is no 'silver bullet'."

Vaccinating for mastitis

Another part of the trial included administering a vaccine to protect ewes from mastitis caused by *S. aureus*. Ms Jackson says analysis of the data showed that there was no statistical difference in mastitis rates between the vaccinated and unvaccinated groups in this small trial, where half of the ewes were vaccinated (see Table 1). However, she warns against drawing conclusions from this, due to the study involving under 500 ewes.

"The positive effect of the vaccine may be subtle, and having more ewes in the study may have shown that vaccinated ewes did have a significantly reduced mastitis incidence rate," says Ms Jackson.

She believes that boosting the ewes' immunity to *S. aureus* with the vaccine will have helped.

Table 1: Difference between vaccinated and unvaccinated groups

	Vaccinated	Unvaccinated	Totals
Average BCS	3.53	2.86	
Total number	225	214	439
Number of case of mastitis	14	16	30
% of mastitis cases	6.22%	7.48%	6.8%

The full project report can be found at gov.wales/farmingconnectourfarms.

Management of ewes' nutritional needs to reduce health issues around lambing

Demonstration Site: Pentre Farm, Pentrecelyn, Ruthin, Denbighshire

Technical Officer: Non Williams

Project Title: Management of ewe nutrional needs to reduce health issues around lambing

Prolapses have significant effects on ewe longevity and productivity; high levels of the condition are directly detrimental to both the performance and profitability of a flock.

In 2020, nearly 10% of the closed flock prolapsed at Pentre Farm, Pentrecelyn. This resulted in a project to target the prolapses, along with other health issues around lambing, by considering the multifactorial causes of the condition, with support from independent vet Fiona Lovatt from Flock Health Ltd.

Ewe body condition and the nutritional supply of energy and protein, as well as the ratios of macro minerals, can be contributing factors towards prolapse incidences before and during lambing.

The project includes continuous monitoring of ewe weight and body condition, and the supply and balance of both energy and protein to the ewes throughout the year, as well as their mineral supply.

Various changes were implemented at Pentre Farm last year. These included encouraging the pregnant ewes to eat hay alongside grass to increase fibre intake, which created a good rumen environment and improved gut transit times. The ewes were also fed at the top of the hill each day, in order for them to walk up to keep fit. One practical step taken at lambing time was ensuring that the tails of ewe lambs were docked at a reasonable length (that is, not too short, and definitely long enough to cover the vulva).

The results to date have shown that the supply of key minerals in the diet throughout the year is sufficient to meet the ewes' requirements, and that the ratios of calcium and magnesium (Figure 1) in late pregnancy seem appropriate. A possible cobalt and selenium issue on the silage fields will be further investigated in 2022.

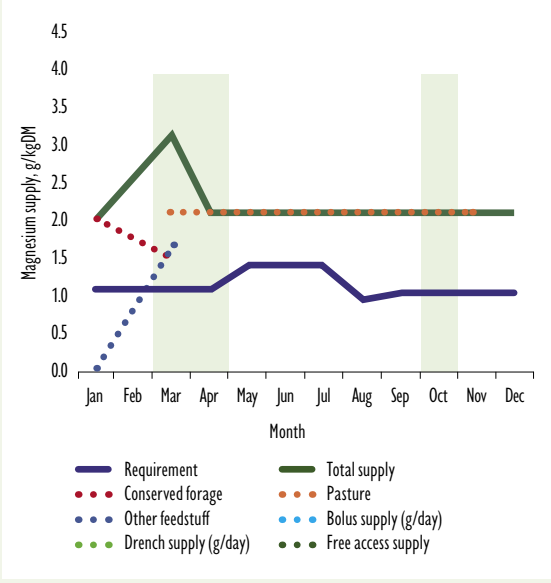

Figure 1: Magnesium supply to the ewes.

In 2021, the total number of prolapses reduced by 25% in comparison with the previous year. Further work will be carried out to fully identify the causes of the issues, which should aid future decision-making from a management perspective.

Grassland trial confirms sulphur application as an economically valuable input

A healthy 7:1 return on investment was seen across three Farming Connect demonstration sites that took part in a project to establish the effectiveness of using fertilisers enriched with selenium and sulphur.

Independent grassland and soil specialist Chris Duller, who provided technical support for the trial, says many soils in Wales are known to be deficient in selenium – a mineral that plays an important role in livestock performance.

"Raising the selenium status of forage through the use of fertilisers containing selenium has the potential to improve productivity, and can be a useful addition, or an alternative, to mineral supplementation and bolusing," he says.

Sulphur deficiency in grassland is also now more commonplace. It can impact on grass yields, as well as protein and sugar levels, and impede nitrogen uptake. This leads to residual nitrogen in soil, which can leach over winter.

Analysis showed that across all sites, in both fresh herbage and silage, the Booster fertiliser increased the selenium content, by typically five times in fresh grass and by two or three times in silage.

Yield benefits of up to 11% were recorded on all three farms. With the typical cost of adding sulphur to each silage cut at around £7/ha, the extra grass grown in this trial – 300kgDM/ha – is worth nearly £50, in terms of energy and protein.

Farming Connect partnered with Yara for the project, supplying its Booster and Nutri Booster range of fertilisers for application, to trial against control fields spread with standard fertilisers. The trial took place during the 2021 growing season at Rhiwaedog, a beef and sheep farm at Bala, Mountjoy Farm, a dairy farm near Haverfordwest, and Bodwi, a beef and sheep farm on the Llŷn.

For further details on the project outcomes, please visit **gov.wales/farmingconnect**.

Growing a protein concentrate feed

Home-grown protein concentrate feed provides a cost saving of £5,588 for growing and finishing 200 beef cattle.

Demonstration Site: Pantyderi, Boncath, Pembrokeshire

Technical Officer: Delana Davies

Project Title: Growing a protein crop

Aim of the project

At Pantyderi Farm in Pembrokeshire, growing cereals provides enough starch energy to grow and finish 400 beef cattle annually. However, to make up the protein shortfall in the ration, a 36% protein concentrate blend was bought in. The aim of this project was to trial the growing of a home-grown protein crop that could be harvested by crimping, and stored in an outside clamp ready for feeding out in the winter.

Following consideration of several options, it was decided to bi-crop peas and beans, for the following reasons:

- Peas provide earlier and better ground cover, which helps smother weeds
- Beans provide a strong scaffold that helps to keep the crop standing later in the season
- Both crops benefit from the same agronomy approach
- Growing them together tends to synchronise any varietal differences with regard to time of maturity
- Trials indicate that mixed crops tend to produce more than crops grown individually
- The peas act to fill the air gaps between the larger particle size of the beans in the crimped clamp, and help create the anaerobic conditions required
- Output and margins per hectare are improved

Growing the crop

Following ploughing, cultivating and the addition of lime and manure, a free draining 8ha field was drilled in two passes on 22 April, with beans sown first at 75mm depth, followed by the peas at 50mm deep.

The correct full-crop sowing rates for both crops was worked out using the PGRO App:

Table 2: Agronomy details

	Lynx Beans	Karpate Peas
Thousand seed weight g	535	280
Target population per sq.m	50	70
Germination %	90	90
Field losses %	5	5
Seed rate kg/ha	313	229
Actual seed rate kg/ha	308	225

No fertiliser was applied to the crop; the only further treatment it received before harvest was two spray applications for chocolate spot on the bean plants.

Nitrogen-fixing nodules on the plant roots

Harvesting

For crimping, the crop needs to be between 25% and 45% moisture to guarantee air exclusion in the clamp, but with the combine working better with a drier crop, 30-35% moisture was used as the target.

Combining started on 3 September, with a side knife fitted to the combine to help pick up the peas. Apart from having to clean out the combine sieves on the first day (when the crop was slightly damper around the headland), the crop was combined easily.

A local crimping contractor processed the crop, applying 4 litres per tonne of CrimpSafe 300, diluted 50:50 with water, and the clamp was rolled and sealed.

Yields and analyses

The crop yielded 5.25t/ha of peas and beans and 22 haulm bales/ha.

Table 3: Crop analysis

	Peas/beans	Haulm
Dry matter (DM) %	61.7	32.5
ME (MJ/kg DM)	13.6	7.5
Crude protein (%)	26.6	8.0
D-value (%)	93.4	47

Freshly crimped peas and beans

Crop costings

Table 4: Crop costings

	Farmer costings	Contractor costings (inc. land rent)
Growing costs (£/ha)	432	917
Harvesting cost (£/ha)	100	100
Crimping & additive (£/t)	24	24
Cost of production (£/t) (less haulm value):		
@ Fresh weight 62% DM (£/t)	84	161
@ Concentrate equivalent 86% DM (£/t)	117	223

For comparison, the current buying-in cost of beans is £275 delivered and milled.

Feed rations

Beef rations of equal energy and protein to the previous winter's diets were formulated. The cost savings for feeding the peas and beans are shown in Table 5.

Table 5: Cost savings

	Growing ration		Finishing ration	
Year	2020	2021	2020	2021
Cost/head/day (£)	1.35	1.29	2.39	2.18
Cost saving (£)*	1,800		3,788	

*Cost saving based on 200 cattle being fed for five months on the growing ration and three months on the finishing ration.

Winter wheat has followed the pea and bean crop, and it is estimated that the nitrogen-fixing capacity of the legume crop will contribute up to 100kg/ha residual nitrogen for the cereal crop.

For further information on this project, please visit gov.wales/farmingconnectourfarms.

Using a hydrogen electrolyser to reduce on-farm emissions

Coleg Glynllifon Farm have installed a hydrogen electrolyser (HE) on two farm tractors with a view to reducing carbon emissions by 80%, and fuel efficiency by 20%.

Grŵp Llandrillo Menai agriculture and engineering students

The small device can be retro-fitted on older tractors or farm diesel vehicles, such as quad bikes or 4x4s. The installation process was undertaken by Water Fuel Engineering Ltd on a John Deere 6630, in a fitting that took just under three hours. Some modification and the addition of a bespoke bracket was needed to fix the HE device under the cab. The second device was installed by the agricultural engineering department at the college workshop on a McCormick CX95 tractor that is used with the feeder wagon to feed the 200-cow dairy herd.

For every 60 hours of tractor work, the HE device requires 300ml of distilled water, which is being sourced from Halen Môn as a by-product of their sea salt manufacturing process. This ensures a steady plentiful supply of ready-made distilled water, which is essential for the formation of the hydro-oxy gas that is then delivered into the air intake.

The college's engineering staff have been monitoring the early impact of the device on the two tractors to ensure that there are no negative side-effects to normal operations. The impact on emissions and fuel will be monitored against baseline information for the engines, and results will be made available later in the year.

Glynllifon Farm and the wider Grŵp Coleg Llandrillo Menai are looking to further incorporate hydrogen fuel into the various technical courses offered, with a view to becoming a leading centre for hydrogen fuel learning in north Wales. Young agriculture and engineering students at Glynllifon have been involved in the installation, monitoring and assessment of the device, which provides a valuable insight into potential new technologies to help tackle the climate emergency.

Overseeding programme aims to improve sward biodiversity, soil fertility and use of milk from forage

Focus Site: Gate Farm, Llandyssil, Montgomery

Technical Officer: Simon Pitt

Project Title: Different overseeding establishing techniques using multi-species mixtures and min-till establishment method for a brassica break-crop in a grass ley

With the help of Germinal's Helen Mathieu, dairy farmer Glen Lloyd from Gate Farm has been undertaking a programme of overseeding on his 350-acre organic holding in Abermule, near Newtown, to introduce new grass varieties, and legume and herb mixtures. The farm ranges from 500 to 1000ft, which includes a grazing platform of 180 acres, where he grazes his 170 milkers and 110 followers.

During summer/autumn 2021, a reseeding strategy (including overseeding) was undertaken. This included plantain, chicory, PRG, white clover and brassicas, to improve sward biodiversity and soil structure and fertility, to increase the yield and usage of home-grown forage protein in the organic grazing platform. The significance of the project at Gate Farm is that establishment and management need to be free from the assistance of artificial fertiliser and any associated pesticides or herbicides. Various species and varieties have been established to monitor both their potential in an organic situation and their medium- to long-term benefits on soil health and structure.

According to Helen Mathieu, the perennial ryegrass overseeding appears to have had a certain degree of success, as have some of the clovers – although the herbs introduced are sparser, and only appear in areas of fields where the ground cover was below 70%.

Along with species establishment, another aspect of the focus site project was to evaluate the potential to use a hybrid (rape/kale cross) brassica as a break crop in grassland renewal, via a min-till method of establishment.

Helen considers the brassica establishment to be good for an organic farm – and predicts yields at Gate Farm of approximately 3t/ha. Each hectare would feed 40 in-calf heifers weighing 400kgs for approximately nine days:

"The field should ideally be strip-grazed and straw placed out in good time, allowing approximately 4kgs straw per head per day. Minerals should also be supplemented, either by bolus or free access in the field."

The project aims to monitor the forage quality and availability during spring 2022, as well as observing how the various species have impacted on soil conditions ahead of turnout.

What effect do different diets have on pork quality?

Focus Site: Forest Coalpit Farm, Abergavenny

Technical Officer: Dafydd Owen

Project Title: What effect do different diets have on pork quality?

In 2021, Farming Connect, Menter Moch Cymru and Forest Coalpit Farm began a trial to compare the meat quality of pigs finished in a forage-rich paddock with pigs finished in a barren paddock. The fatty acid profile of the pork produced was of particular interest.

Only gilts were used for the trial, so the dataset is not affected by gender differences. Pigs were paired and split into the allocated treatment groups at random:

Group 1 = 10 gilts – Standard feed + barren paddock

Group 2 = 9 gilts – Standard feed + forage paddock

Feed was slightly restricted to encourage the pigs to eat the forage. The restriction was applied to both treatment groups, with 2kg/day/head being made available to the animals.

Lauren Smith and Kyle Holford, of Forest Coalpit Farm

Conclusions

The main findings of the assessments carried out showed that the pork reared in a forage-rich paddock contained a significant increase in α-Linolenic acid (ALA), compared to the pork reared in a barren paddock. As pigs are unable to synthesise ALA, the increase of the n-3 or omega-3 essential fatty acid is a direct result of the addition of forage to the diet. There are multiple benefits of eating products containing ALA for the human consumer (for example, heart attack prevention, lowering high blood pressure and cholesterol and reversing hardening of the blood vessels).

Studies have shown that through manipulating feed (that is, adding fish/plant/seed oils), it is possible to make pig meat into a functional food due to omega-3 and omega-6 content. Further work is required to see if different forage leys can manipulate the quality of the meat further.

The sample size of the assessments is relatively small, at ten versus nine animals. To draw further conclusions as to the effect of forage on meat quality, a larger dataset would be required.

What is soil carbon?

Dr William Stiles, Farming Connect Knowledge Exchange Hub

In the land management sector, much attention is given to carbon and to potential management methods that promote carbon sequestration in order to reduce the effects of climate change, by capturing greenhouse gases from the atmosphere (particularly CO_2).

Soil comprises multiple elements, including minerals, organic matter, and space between these materials, filled with either water or air ('pore space'). In a functioning soil (that is, one not affected by disturbance or compaction), around 50% is pore space, with the other 50% containing varying amounts of minerals or organic material, which differs between soil types.

When we talk about soil carbon, we are particularly interested in the organic matter component of soil, as this is the primary carbon reservoir. Organic matter is the biological component of soil, and is a mix of living organisms (soil animals, plant roots, microbiology) and dead material in various stages of decomposition.

Carbon capture and sequestration in soil happens over time. It begins when plants assimilate carbon into their biomass through photosynthesis; when they die back, this organic material begins to decompose. Eventually, much of this material will be mineralised and returned to the atmosphere as part of the natural carbon cycle, but some of it will achieve a state where it is resistant to further decomposition. This material, often referred to as 'humus', represents the component of soil organic matter that is stable in the long term, and can have long residence times in soil.

Soil organic matter (and therefore soil carbon) increases when the organic matter input exceeds the rate of decomposition. In a stable system, a higher rate of input generally results in a higher rate of output, so high rates of sequestration may be challenging to achieve. Nevertheless, the more organic matter input into soil, the greater the potential for ultimate sequestration. Furthermore, soil organic matter is absolutely essential for soil health and function. It positively affects physical, chemical, and biological properties of soil, promoting a range of production advantages. Therefore, adopting management that enhances soil organic matter offers a wide range of benefits.

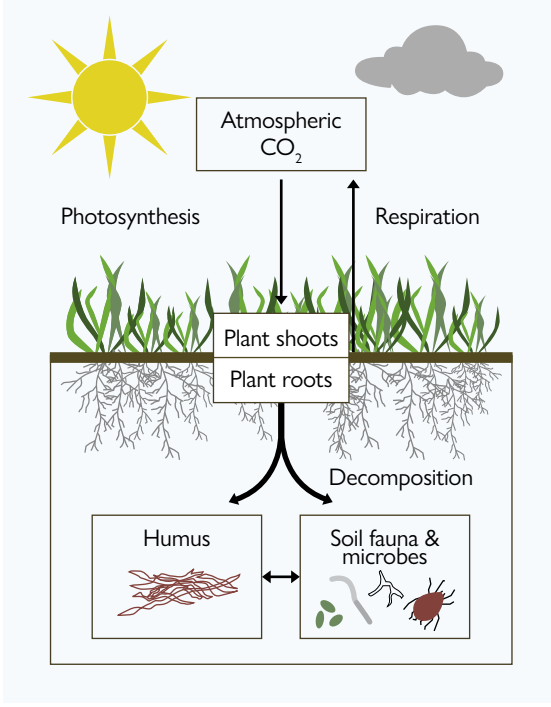

Figure 2: The process of organic matter accumulation in the soil

Becca Morris and Bryn Perry

When you know what ‘ewe’ want, Farming Connect will support you all the way!

Bryn Perry and his partner Becca Morris, both in their early 30s, keep a flock of around 120 East Friesian ewes – a breed renowned for the quality of their milk – at council-owned smallholding Fferm Wernllwyd, near Haverfordwest, where they moved in early 2021.

Neither had a farming background and lived in the suburbs of Southampton before they upped sticks to Pembrokeshire, where Becca was brought up.

“It’s been a fast learning curve, but we wouldn’t change a thing, and we’re excited to see what the future brings!”, they said.

The UK sheep-milking industry is still relatively new, but this entrepreneurial couple are capitalising on this rapidly growing market, in more ways than one. Thanks to a range of support services from Farming Connect, Bryn and Becca have set up collaborations with a number of similarly ambitious farmers in west Wales. As a result, they are already processing milk into a range of speciality Welsh ewe’s milk cheeses ‘in the style of’ Feta, halloumi, blue and manchego cheese, and have recently launched their own brand of ‘Ewenique’ ewe-whey vodka.

“Critically, we received a huge amount of support from Farming Connect, which not only helped me develop my skills as a business-person and sheep farmer, but also,

through the Venture programme, enabled us to set up our first joint venture with well-known sheep's milk producers Nick and Wendy Holtman, who own Defaid Dolwerdd in Crymych", Bryn said.

He added that without help from Farming Connect, and a very supportive farming family from Moylegrove, "who taught me everything I know about managing a large, sustainable dairy unit", he would not be where he is today.

To hear Bryn and Becca talk about how they turned their rural dream into reality, and read the full story about their plans for the future, visit: www.gov.wales/farmingconnect

Bryn Perry

Bryn Perry's personal development journey included:

Venture Programme – fully-funded support that can help landowners wishing to exit or step back from farming and introduce them to new or young entrants wanting to enter.

Advisory Service – business, financial and technical advice, subsidised by up to 80% for individual applications and fully-funded for group applications. Bryn implemented recommendations to set up a new rotational grazing system.

Business Bootcamp – a fully-funded residential short course designed to give new entrants into agriculture the confidence, skills and motivation to grasp opportunities, develop efficient businesses and build successful careers.

Agri Academy – Farming Connect's personal development programme for those working in land-based industries.

Agrisgôp – Farming Connect's fully-funded action-learning programme that brings like-minded individuals together to progress and develop business ideas.

Storfa Sgiliau – Farming Connect's secure online data storage facility that records all Bryn's academic, professional and practical achievements, enabling him to plan his future career progression.

To find out how Farming Connect can support you, contact your local development officer or call the Farming Connect Service Centre on 08456 000 813. Alternatively, visit: www.gov.wales/farmingconnect

EIPWALES
Cydweithio er ffyniant gwledig
Collaborating for rural success

From left: Anthony Griffiths (Tŷ Newydd Farm) and Matt Goodall (GWCT), standing by the wild bird seed mix bucket, with cover crop behind

The Welsh Farmland Bird Initiative

Two north Wales farmers are hoping that growing cover crops on their farms as part of an EIP Wales project will demonstrate its effectiveness as a method of farmland songbird conservation.

Wales is renowned for its ability to grow grass, which dominates most of our farming landscape. Whilst this is ideal for producing livestock, it doesn't provide much in terms of food or habitat for our farmland songbirds – especially during the winter months, when food is scarce.

There are many contributing factors for the reduction in songbird populations over recent decades; however, research has shown that over-winter mortality is one of the main reasons for their decline.

Matt Goodall, an advisor for the Game and Wildlife Conservation Trust (GWCT), who is leading the project, explains that cover crops that produce seed for birds to feed on during the winter months are proven to be effective at boosting farmland bird numbers on arable farms. However, despite schemes such as

Glastir having wild bird cover crops as an option, take-up by farmers has been low.

With the move towards subsidised support to deliver public goods on farms, this project aims to demonstrate how wild bird conservation can be delivered on pasture-based farms.

Anthony Griffiths, of Tŷ Newydd Farm, Trefnant in Denbighshire, is one of the two farmers taking part in the project.

"It's a 480ha organic dairy farm, milking about 950 cows on a spring-calving system. We're always looking at ways of creating more diverse habitat on parts of the farm," says Mr Griffiths.

"By establishing these cover crops on two farms (the other being Gilar Farm, near Pentrefoelas, which is a traditional hill sheep farm), we hope to demonstrate the realistic costings of establishment on land that can be challenging. We also hope to show the added benefit of having a biennial crop compared to the one-year cereal-based crops option in Glastir," says Mr Goodall.

At Tŷ Newydd, three 1ha fields of biennial cover crops were sown in summer 2021, containing a huge variety of plants such as oil radish, gold of pleasure, linseed and mustard. These all provide seed to help songbirds over-winter and be in good condition for the breeding season, thus increasing the population. The crop also included kale and utopia, which will flower in spring, providing food for pollinators such as bumblebees and other insects.

"A biennial crop not only halves your establishment cost, but also brings other benefits to biodiversity that you'd miss out on if you have to re-establish the crop every year," says Mr Goodall.

Supplementary feeding buckets are also placed near the crop. The buckets are filled with seed such as wheat, black sunflower and sunflower hearts, linseed and millet. Eventually, the seed in the cover crop will all be eaten, so the seed buckets provide a buffer to ensure sufficient food during the whole 'hungry gap' period, which is from December to the end of April.

"It's important to note that having the buckets alone isn't enough, as it's not providing the habitat that sustains the biodiversity needed for these birds to thrive," says Mr Goodall.

"It's obvious just by walking through the cover crops that there's much more bird activity compared to fields of grass," says Mr Griffiths.

"Each field will likely benefit the bird population within a 0.5km radius, but if more farms across Wales could provide some sort of cover crop on parts of their farm, then they would start to link up," says Mr Goodall.

Over the winter months, bird surveys have been undertaken across both farms to monitor changes in the bird population. The project will continue until early 2023.

For further information on this EIP project, please visit the EIP Wales page on the Farming Connect website: gov.wales/farmingconnect

Fertiliser spreading

Control of Agricultural Pollution Regulations

Nutrient Management Plans

From 1 January 2023, the spreading of fertilisers will require a Nutrient Management Plan to meet the requirements of The Water Resources (Control of Agricultural Pollution) (Wales) Regulations 2021.

Nutrient Management Plans (NMP)

The Nitrogen Management Plan (NMP) is used to demonstrate your compliance with the regulations, but it is also an important tool for managing the application of nitrogen fertilisers to your holding. This can improve crop growth, reduce the use of manufactured fertiliser and reduce the risk of pollution.

The NMP must be completed before any organic manures or manufactured fertilisers are spread on a crop, and in the case of grassland, before 1 January each year.

Maximum nitrogen limits by crop type

- The total nitrogen applied to a crop (including grassland) from either organic or manufactured fertilisers must not exceed the limits set out in the regulations.

Nitrogen limits for the spreading of manures

- Across the whole holding, you must not exceed a limit of 170kg of nitrogen per hectare from all livestock manure, including direct excreta from animals on to the land and the spreading of manure within any calendar year (starting on 1 January).
- A limit of 250kg per individual hectare is applied to the spreading of organic manure for any 12-month rolling period.

Recording the spreading of manures and fertilisers

- You will need to record within one week the actual spreading of fertilisers to any crop, including grassland. You should include information such as the type and nitrogen content, details of the area on which it was spread, and the quantity and the date of spreading.
- Exemptions for the recording of the actual spreading of organic manures are available for farms with low nutrient inputs. See the guidance for details on exemptions.

Other considerations

- The Soil Nitrogen Supply refers to the amount of nitrogen available in the soil for crop uptake. It is influenced by soil types, previous cropping, previous manure and fertiliser use and rainfall. This information is required when developing plans.
- The planned spreading of manures may affect your manure or slurry storage requirements.
- You will need to consider the features identified in your risk map, and how it affects the land available to you for the spreading of organic manures.
- You may consider exporting any excess manures from your holding, or importing additional manures, if you have identified any nutrient deficits. The import or export of manures also needs to be recorded.
- You may need to consider the impact of the closed periods for spreading on your NMP; this includes those relating to manufactured nitrogen (which apply from 1 April 2021), or those relating to organic manures (which apply from 1 August 2024).

Record-keeping

- The Welsh Government provides a digital workbook and templates within the guidance for the recording of Nutrient Management Plans; however, you can maintain your own records, provided the criteria of the regulations are met.
- Copies of Nutrient Management Plans must be stored for a minimum of five years, and must be made available for inspection if requested.

Detailed Guidance for Farmers and Land Managers and a Frequently Asked Questions document is available on the Welsh Government website:
gov.wales/land-management

Farming Connect Support

Farming Connect have a range of support that can assist you with nutrient management planning and optimising crop growth. This includes the Advisory Service, one-to-one surgeries, e-learning modules and accredited training. For further information, please visit the Farming Connect website:
gov.wales/farmingconnect

The Control of Agricultural Pollution Regulations Helpline

A dedicated Control of Agricultural Pollution Regulations Helpline, operated by ADAS, is available to support farmers and land managers with the requirements of the Regulations. The Helpline number is 01974 847000.

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Complete one or more of the following business e-learning modules from the comfort of your own home, at a time convenient to you:

E-LEARNING
- Collaborative and Share Farming
- Farm Benchmarking
- Farm Business Diversification
- Farm Human Resources
- Health and Safety
- Planning and Finance
- Precision Technology in Agriculture
- Rural Crime – Keeping your Farm Secure
- VAT

To see the full list of modules and the comprehensive user guide on completing e-learning modules, please visit **gov.wales/farmingconnectskillsandtraining**

"I found it such an easy way to acquire more knowledge, always pitched at just the right level and letting me learn at my own pace."

Wyn Williams, Llanfair Caereinion

Develop your skills, develop your business...

The skills funding application window is open from 09:00 on Monday 2 May 2022 until 17:00 on Friday 27 May 2022.

Throughout Wales, the most progressive farm and forestry businesses are tapping into the wide range of accredited training courses, all funded by up to 80%, available to businesses and individuals registered with Farming Connect.

There are over 80 training courses available with a network of approved training providers located throughout Wales.

In addition, we are pleased to announce the inclusion of eight new courses:

- **Cattle scanning** – aimed at non-veterinarians who wish to learn the art of pregnancy diagnosis for their own farm use or as a commercial enterprise.
- **Counterbalance forklift** – learn how to operate a counterbalance lift truck safely.
- **Trailer towing: on road** – introduced following the changes regarding trailer towing legislation.
- **PA1 + PA2f** – learn how to control weeds with a weed wiper used in conjunction with an ATV.
- **Environmental awareness, audit, and management for your business** – learn the tools to enable you to complete an environmental audit of your farm or land-based business.
- **Basic tree survey and inspection** – learn the relevant health and safety issues, as well as key legislation and risk assessments.
- **Planting and establishing woodlands** – aimed at anyone employed in planting and establishing woodlands.
- **Woodland management for conservation** – learn how to manage woodland where the primary aim is conservation for nature.

(If you are registering for the first time, and would like to apply for funding in the May application window, please contact Farming Connect before 5pm, Monday 23 May 2022.)

For a list of courses and/or support on how to apply, contact your local development officer or our Service Centre on 08456 000 813, or visit gov.wales/farmingconnectskillsandtraining

Llywodraeth Cymru
Welsh Government

FARMING connect
cyswllt FFERMIO
08456 000 813

PARTNERIAETH DIOGELWCH AR FFERMYDD CYMRU

WALES FARM SAFETY PARTNERSHIP

Working at heights

- Avoid or minimise the time spent working at heights – plan ahead, avoid wet or icy conditions, and always use safety equipment such as mobile elevating work platforms, scaffolds and fall prevention devices
- Reduce the risk of falls from large machinery such as combines by always using the access ladders, steps and/or standing platforms provided by the manufacturer
- All those working at heights must be trained, competent and use appropriate personal protection equipment (PPE)
- If you are not trained, or don't know what equipment to use, you should engage a specialist roofing contractor

DO NOT...

- Work on top of, or walk within two metres of, any uncovered fragile roof areas without using platforms with full guard rails, suitable safety harnesses, safety netting or other fall prevention or mitigation systems
- Work on any open-ended floors or platforms, if they are not protected with suitable guard rails

FARMING CONNECT MENTORS

15 hours of fully funded mentoring service

Farming Connect has an approved network of 65 mentors located throughout Wales.

A Farming Connect mentor can…

- ✓ Provide an independent, unbiased and confidential perspective
- ✓ Discuss your issues, concerns and aims for the future
- ✓ Provide a sounding board for your ideas
- ✓ Share their experiences with you, both successes and failures
- ✓ Challenge you to justify your proposals
- ✓ Help you identify problems and find solutions

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

INNOVATION AND DIVERSIFICATION WALES

Be part of the rural innovation and diversification success story...

15/06/22

Are you looking to diversify your farming business?
Would you like to explore how to improve business sustainability and profitability through innovation and technology?

Following the success of the first-ever Innovation and Diversification Wales event in 2019, this is a day out with a difference – a day no farmer or forester will want to miss!

Innovation and Diversification Wales will provide you with support, advice and guidance to improve your businesses and allow you to explore new ideas to improve profitability and sustainability.

10:00-17:00
Royal Welsh Showground, Llanelwedd

For more information, visit the Farming Connect website: www.gov.wales/farmingconnect, or contact:
fcevents@menterabusnes.co.uk

Cronfa Amaethyddol Ewrop ar gyfer Datblygu Gwledig
Ewrop yn buddsoddi mewn Ardaloedd Gwledig
European Agricultural Fund for Rural Development:
Europe investing in Rural Areas

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