



Number of businesses registered:

12,615



Number of individuals registered:

26,538

Training

Courses	Number of individuals trained during this period
Emergency First Aid at Work	44
Book Keeping	41
Planning a diversification or new enterprise on a farm	19
Marketing your business	15
Business planning and development	12

E-learning

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

<p>FARM BUSINESS DIVERSIFICATION</p>	<p>VAT</p>
<p>COLLABORATIVE & SHARE FARMING</p>	<p>PLANNING & FINANCE</p>

Click [here](#) to visit the website.

Surgeries

64 SURGERIES held with **368** ATTENDEES

Key topics included:

Accountancy	Marketing and diversification
Planning	Business
Law	Agricultural Pollution
Rural Payment Wales	IT

During this period the most common topic was Agricultural Pollution. This is due to the new regulations being put into place by Welsh Government. Businesses want advice on how to complete the workbook therefore a series of one-to-one face to face surgeries were held across Wales. These surgeries looked at how to complete the workbook focusing on nitrogen loading calculations, nitrogen planning and slurry production.

Here's some of the feedback we have received from businesses following the surgery:

"The surgery gave me the information I need to comply with the regulations, as well as some advice and encouragement to move on and complete the workbook."

Mentoring programme



44 MENTEES MENTORED ON BUSINESS THEMES
127 NEW MENTEES DURING THIS PERIOD

The most popular topics applied for during this period were:

Tourism	ICT	Succession
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Demonstration Network

Utilising Farmax to make management decisions – Glanmynys Demonstration Site

A project undertaken at Glanmynys was establishing FARMAX, which is a software based on an assessment of the dry matter (DM) requirements of the livestock throughout the year compared with dry matter production. Fortnightly grass measurements have been undertaken at Glanmynys farm and inputted into the Farmax software. Figure 1 below displays 2022's growth and demand levels and highlights a pinch point in January and February and again between June and September 2022 (circled red).

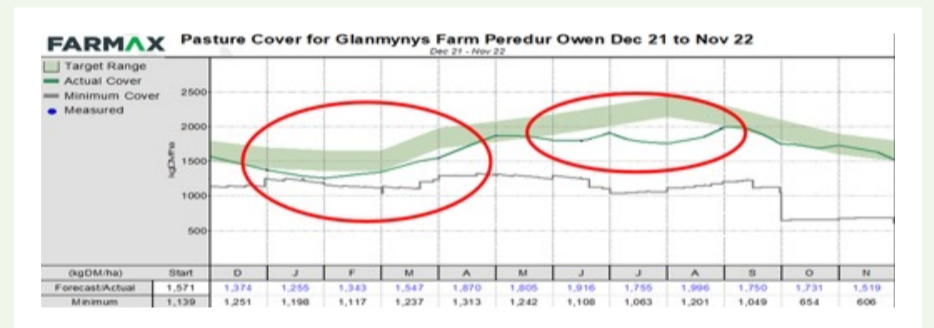


Figure 1. Pasture cover for Glanmynys between December 2021 and November 2022.

Having this baseline data, we can look forward to 2023. FARMAX is predicting two similar pinch points in the spring and summer, although they are not as profound as in 2022. Investigatory work was undertaken to identify a management decision that can alleviate these yearly pinch points. The best scenario identified was to send 840 ewes away on winter keep. The dry matter deficit from December 2022 through to March 2023 (red box) is eliminated as the grass will have an opportunity to recover. By weaning 2023 (red box), the supply dips below the target line due to closing an area out for silage, but from September 2023 (blue box) onwards, the supply remains on target.

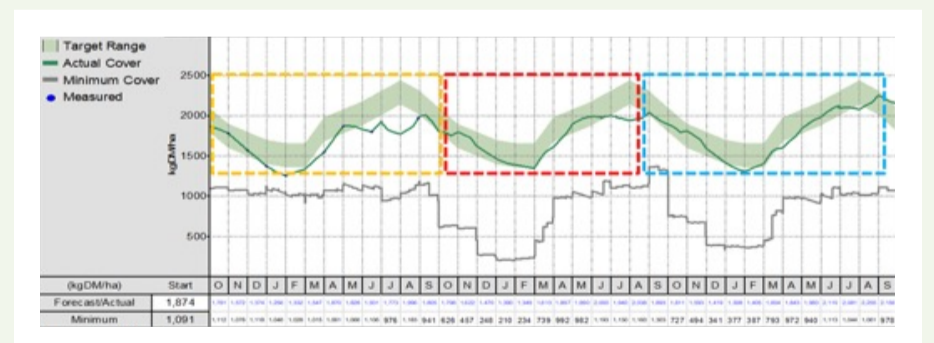


Figure 2. Pasture cover prediction at Glanmynys between October 2021-September 2024.

Sending ewes away on winter keep also forecasts improved body weight at tugging and weaning, as well as more lambs weaned and at higher weights.

Looking at the economics of this scenario, taking into consideration the improvement in animal output outlined above, the gross margin increases by £89/ha grazed after estimating winter keep at £1.50/ewe/week.

Having this ability to forecast and produce scenarios has given Carine and Peredur the confidence to send more ewes away on winter keep to reduce possible shortages. The most alarming find from the forecasting is how the management decisions undertaken now have a long-term effect and, in this example, it takes nearly two years to get to a point where the supply and demand level are matched.

The cost benefit of rearing your own dairy heifers – Gwern Hefin Focus Site

From AHDB research, the cost of rearing a dairy heifer on a UK dairy farm averaged at £1,800, varying from just over £1,000 to over £3,000 (including finance cost and re-investment). This project set out to determine what the total cost of rearing a replacement heifer would be at Gwern Hefin and is there a cost benefit to this compared to operating as a flying herd and generating income from beef cattle, as the farm currently does. The first step was to evaluate the current calf and youngstock facilities at Gwern Hefin to understand strengths and weaknesses and then make a plan to design new calf facilities in part of the new shed adjoining the rotary parlour. Secondly, understanding the cost of rearing heifers was critical to the whole project in order for the cost of rearing to be evaluated against the loss of income from the beef animals.

As already highlighted, there is a significant range in heifer rearing costs and it is also known that the risk of disease being brought into the herd is much higher when operating a flying-herd system.

The biggest rise in rearing cost occurs if replacement heifers don't calve by 24 months of age. This is critical for a block calving system, hence the importance of housing and feeding, as outlined above.

By following strict protocols, the following costs have been calculated for Gwern Hefin to rear replacement dairy heifers:

- Birth to weaning – £424/head
- Weaning to 12 months – £291/head
- 12 months to calving – £426/head

Total dairy heifer rearing cost – £1,141

These figures include all feed, labour, machinery, water, grazing cost and a conservative figure of £100/head for reinvestment/covering finance costs, but no calf value. It is also important to note, the figures are based on 2021/22 electric figures of 15p/unit.

The comparison then needs to be made with beef animals. In short, the rearing cost is the same as all animals should receive the same level of nutrition, labour etc.

The only differences are a saving of £35/head breeding cost for dairy heifers, but this is replaced with an average of £44/head for market fees and transport cost.

Therefore, heifer rearing costs would average at £1,141/head and beef rearing costs would average at £1,150/head.

From the figures outlined above, it is clear to see there will be very little loss of income, if any, from moving to rearing dairy heifers at Gwern Hefin.

The added benefit of a change in management system will also allow uniformity to be bred into the herd, utilising grazing land better and the risk of buying in disease as a flying herd eliminated. The ability to rear their own heifers at Gwern Hefin, rather than purchasing someone's second rate, surplus heifers will ensure a sustainable dairy future as they move to a tighter, more efficient spring calving block in the years to come.

Advisory Service

Number of business who have received support through the Business Categories of the Advisory Service during this period:



107 individuals received one-to-one support through the Business Categories of the Advisory Service during this period.



10 individuals within 5 Joint Venture groups received support through the Business Categories of the Advisory Service during this period.

Feedback from businesses on delivery of this Advisory service:

"The advice was very useful to demonstrate the efficiency of our business and being open to change parts of our farming systems for future requirements."

"Fantastic consultant, met all our requirements to fulfill application for NMIS. Highly recommend the service."

Knowledge Exchange Hub



NITROGEN AND AGRICULTURE – WHERE DO WE STAND?



LAND SPARING AND LAND SHARING – CONSIDERATIONS FOR FARMING WITH NATURE



CIRCULAR SYSTEMS IN AGRICULTURE PART 1: LIVESTOCK PRODUCTION SUSTAINABILITY

Discussion Groups



54 DISCUSSION GROUP MEETINGS
held with **291 ATTENDEES**



Reviewing energy costs on farm – Gwent levels dairy group

Energy costs are set to increase dramatically over the winter months for many businesses and are a worry to many farmers, especially in the dairy sector.

Chris Brooks joined the Gwent Levels dairy discussion group to discuss the topic in more detail at an on-farm event. A monitor had been installed at the farm the week before the meeting to record usage and identify patterns.

To begin with, Chris outlined a number of reasons which have led to the dramatic increase in prices over the last few months, including a shortage in supply and an increase in gas prices. This has caused energy costs to increase up to 250% from 17p to 60p.

He then went on to discuss how businesses can try to cope with this increase including performing a self-energy audit to identify where energy is being used, improving energy efficiency by reducing unnecessary energy use, and looking at the potential for renewable energy on farms.

Chris went through the data from the monitor which had been installed on the farm and had collected energy usage data for the previous week. He pointed out some key areas for further investigation to make energy savings based on the results. These included insulating immersion tanks and purchasing a heat recovery unit.

Following a farm walk, the group returned to discuss renewable options and focused mainly on the feasibility of solar panels on dairy farms.

Clinics



107 CLINICS TOOK PLACE DURING THIS PERIOD with
419 ATTENDEES

Personal Development Plans

173 PDPS WERE CREATED DURING THIS PERIOD



Webinars (relevant to Business theme)



38 WEBINARS OR EVENTS



Examples of webinars or events held include:

Control of agricultural pollution regulations January 2023 measures – what's new?

136 ATTENDEES

Diversification

31 ATTENDEES

Comparing on-site preservation techniques for fresh Welsh birch sap for use in artisan products by local businesses

The aim of this EIP Wales project was to trial three primary processing methods at four sites across Wales over 2021 and 2022 to determine their relative costs and benefits for use on-farm. The methods tested being: reverse osmosis (RO), a catering urn and an outdoor wood stove.

Key findings:

- Birch sap yield is generally positively correlated with tree size as indicated by stem diameter. However, yields of individual trees of a similar size varied from a few ml to > 10 litres, with no apparent correlation to any visible features of the tree or micro-site. Plots of the daily yields for individual trees suggests there is a low level of synchronicity in the timing of sap runs within the stand. In practice, overall sap yield can be dominated by the production from a small number of trees and it is difficult to predict which trees will be high yielding. This suggests a strategy of tapping many trees at the start of the season and abandoning those which are dry after a couple of days and perhaps moving taps to new trees.
- Wound healing following tapping was generally good, with external wound closure after 18 months. However, damage from wounding is proportional to wound size, which includes collateral damage from poor practices. These findings suggest tapping individual trees in alternate years would be beneficial, and care should be taken to follow guidance on the size and placement of taps.
- For birch tapping to be sustainable, the volume of wood rendered non-conductive by tapping should be less than 10% of tapping zone volume. It was estimated that a tree could be tapped between 6 to 10 times.
- RO is the cheapest and quickest means of concentrating fresh sap but does require an initial purchase of specialist equipment. Although RO is not able to increase sugar content beyond 5°Bx it will remove 70% of the water. For anyone tapping more than a handful of trees, it would be worth investing in RO and freezing the concentrate for subsequent further batch processing.
- Catering urns are cheap and can be obtained second hand. One of these set to 100°C will boil sap and remove water through evaporation. This is a slow process, however, the urn can be left untended for several hours. Heating the sap with electricity is relatively expensive but saves on staff time and for small volumes, the urn can be used for the whole process from fresh sap to syrup.
- Evaporating sap in gastronom pans on an outdoor wood-burning stove was found to be most efficient for processing larger volumes of sap. A wood stove is cheap and easy to construct but does require a suitable, safe outdoor space, full-time tending and a supply of fuelwood.
- All three methods of on-site processing of sap worked and it is difficult to identify an outright 'best' or most 'efficient' method. Which method would be cheapest and/or most efficient depends on the scale of production, what fuel, facilities and pre-existing equipment are available to the tapper. Input/output figures have been provided to enable a tapper to make their own judgement on the method they wish to employ.

Aspect of processing	Catering Urn	Reverse Osmosis	Wood-fired stove
Initial purchase cost of kit	£119-£161	£388-£500	£380 including new bricks, flue and evaporating pans
Ongoing running costs	Low? No recurring costs to maintain, and should last 5-10 years?	Replacement membranes: £114 x 2 (Pentair) £45 x 1 (RB5) + £1.20 each for pre-filters x 3 per season	Periodic replacement of heat-damaged components (blocks and grills)
Reduction in volume over average trial run	To 75% of start	To 29% of start (average)	To 89% of start
Approx. time to reduce volume by 1 litre	23 minutes	7 minutes	6.5 minutes
Approx. time to reduce 30 litre sap volume by 50%	~600 minutes depending on temperature setting. Plus 15-30 mins if sap processed from frozen	95-100 minutes depending on RO system	~180 minutes once fire running well
Average energy cost per hour	£0.45 (at £0.17 per unit) To £1.02 (at £0.34 per unit)	£0.01 - £0.03 Negligible	0 (if free fuelwood available) – £3.08 (2022 prices ~2x this)
Maximum sugar concentration achieved	28%	5%	30%
Supervision required during processing	Some at beginning & towards end	Some, mainly towards end	Regular checks every 30 mins throughout
Most efficient sap volumes for processing	~30 litres per urn	50 to 100 litres	150 to 200 litres

Figure 4. Comparison of results from the different sap processing systems.