

% of activity relevant to the Poultry sector:

23% POULTRY ACTIVITY **361** BUSINESSES REGISTERED with Farming Connect are from the Poultry sector.

Demonstration Network

Wern Demonstration Site

Wern is a 486 hectare (ha) mixed farm. The poultry enterprise was established in 2011 and houses 32,000 Bovan Brown hens on a multi-tier equipment system.

Project 1 – Reducing Second Quality Eggs (concluded March 2020)



The project explored how second quality eggs can be reduced. The device used contained multiple sensors that measured the impact of force (G) that an egg experiences during transportation from the nest box to the tray.

The exercise demonstrated that, by using a device to identify high impact areas and then making simple adjustments to these areas, considerable financial savings can be made.

Adjustments included tightening conveyor belts, altering gradients, inserting plastic crash barriers at specific transfer points and reducing egg belt speed.

Based on an average graded egg price of approximately 86p per dozen, 1% seconds would equate in monetary value to 0.655p/doz. If each bird lays 26 dozen eggs, 1% seconds is equal to 17p per bird, which over a 32,000 bird unit would mean a saving of £5,449.6 per flock. Egg producers with graded second quality eggs at above 5% could particularly benefit from using a device such as this.

For more information on this project, click [here](#).

Project 2 – Controlling air, litter and water quality to enhance bird health and increase productivity (started in May 2020, ongoing)

The aim of the second project is to explore optimal environment conditions for free-range laying chickens i.e. air, litter and water to increase bird health and thus productivity and profitability. A combination approach is being applied to reduce bacterial loading by using non-infective bacteria to improve air, litter and water quality and introducing herbs and vitamins to the bird's diet to enable them to naturally manage red mite infestation and improve egg shell quality. In May 2020, a LoRaWAN sensor system and dashboard measuring ammonia, carbon dioxide, humidity and temperature was installed within the buildings. This will enable the farmer to modulate the delivery of the management plan accordingly.

Between 26/06/2020 and 21/07/2020, ammonia was measured at between 10-15ppm. One of the project aims is to reduce this to at least 5ppm in the new flock with the automated system. Bacterial swabbing was carried out in mid-July at Wern which allowed us to see what bacteria was dominating the sheds at that time and gave us ammonia readings. The flock depleted the shed on the 24/08/2020 and the new flock was placed on 10/09/2020.



On 25/09/2020 Osian cleaned out the belts in both sheds and again on the 2/10/2020. This resulted in ammonia levels dropping back down to below 5ppm, proving the importance of regular removal of faeces from the sheds. Next steps are to treat the environment according to results collected by the sensors.

EIP Wales

Reducing ammonia emissions from broiler chicken production

Background
The growing demand for chicken has provided viable diversification opportunities for a number of Welsh farmers. An inevitable consequence of any form of poultry farming is the production of ammonia, through the natural breakdown of urates within poultry manure. Ammonia emissions from poultry production can have a number of significant impacts on the environment, bird welfare, and broiler economics.
High levels of ammonia emissions are one of the main reasons for permits being refused, or for planned expansion being prohibited. Modern housing with better ventilation and heating along with improved litter has reduced ammonia emissions, however further improvements may be possible by using additives.
The use of ammonia-reducing additives, either applied directly to the litter or supplied to the birds via the drinking water, offers an additional means of further reducing ammonia production.

Project plan
Three different commercially available ammonia reducing additives will be tested. Each of the three additives will be used for one production cycle (2 months) on each farm.

The following variables will be monitored and recorded for each treatment:

1. Ammonia levels within the houses
2. In house temperature
3. Foot pad condition, hock and gait scoring
4. Feather condition
5. Litter condition
6. Mean bird liveweight
7. Flock mortality
8. Feed intake

The potential improvements in animal health/performance and reduction in ammonia emissions provided by additives are much talked about, and this project will help farmers assess whether they are a useful tool for them to employ in reducing ammonia levels on farm.

KE Hub

The following technical articles have been produced by the KE Hub:

- AGRICULTURAL INFRASTRUCTURE: PART 1 CLIMATE IMPACTS
- AGRICULTURAL INFRASTRUCTURE: PART 2 CLIMATE ADAPTATIONS AND MITIGATIONS
- PUBLIC GOODS AND FARMING
- TECHNOLOGICAL PROSPECTS FOR POULTRY LAYER PRODUCTIVITY

Webinars

27 WEBINARS HELD with **3,869** VIEWERS

Examples of webinars held include:

Pig and poultry market update

Nathan Ward from Kantar talked through some of the consumer knowledge and insights they have found, specifically looking at products associated with the pig and poultry industry.

Demo Farm Live – Wern

During the live event from Wern Farm poultry demonstration site, a range of experts discussed:

- How to identify impact and other benefits of reducing second quality eggs.
- Which measures are put in place at Wern to monitor air, litter and water quality.
- How we will be altering the environment to improve bird health and productivity.



Discussion Groups



12

POULTRY
DISCUSSION
GROUP MEETINGS

held with



88

ATTENDEES

A North Wales Poultry Discussion Group were visited by Energy expert Chris Brooks, Westflight Ltd, to help members understand their electricity usage and looking at reducing costs to improve efficiency.

Electricity cost has increased dramatically as the figures below show.

1990 – Electricity Cost £0.06 / kWh

2000 – Electricity Cost £0.10 / kWh

2019 – Electricity Cost £0.17 / kWh.

This is an increase of 70% in 29 years. The question was posed to the group – will your egg price increase at the same rate?

Each group member brought their latest utility bill to the meeting, and Chris went through the bill layout to highlight what they should be looking out for.

An average bill breakdown covers the following:

- Wholesale Cost 40.09 %
- Network Costs 25.16 %
- Social and Environmental Costs 13 %
- Other Direct Costs 0.65%
- Supplier Operating Costs 15.4 %
- Supplier Profit Margin 0.94%
- VAT 4.76%

Members were urged to look at day and night tariffs to see if they could induce efficiency savings by utilising the lower night time tariff. Peak usage times amongst the group businesses were discussed, focusing on what could be done to reduce these peaks.

Chris gave the group some take home messages to consider:

- Who is responsible for energy purchase on your farm?
- Beware of brokers, buying G=groups etc. Do your own checking.
- Choose at least two possible suppliers and negotiate.
- Calculate the actual cost per kWh.
- Check meter readings against invoices

If consideration is given to these points, then efficiency savings can be made.

Several members were keen to gain knowledge of usage in their own holdings and it was agreed to organise on-farm clinics to monitor and benchmark further within the group.

Agrisgôp

29 MEETINGS HAVE BEEN RELATED
TO THE POULTRY SECTOR



Some examples of group themes:

Setting up a
broiler enterprise



Ammonia
technology



Poultry muck



Chickens
and Covid



Surgeries

118 Surgeries Held

Key topics included:



Marketing &
Diversification



Energy review



Planning



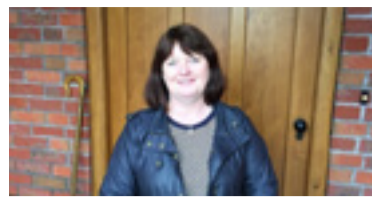
Succession



This energy review surgery opened our minds to future technologies in terms of electricity production in the poultry sector.

Mentoring

We have 4 Poultry Mentors on the framework



Click here for
Helen's profile



Click here for
Malcolm's profile



Click here for
Mark's profile



Click here for
Sian's profile

4% of mentees are being mentored on poultry issues (many include new entrants to poultry).

Topics discussed:

Setting up a free
range poultry shed



Health and safety
aspects of a poultry site



Small scale
poultry enterprise



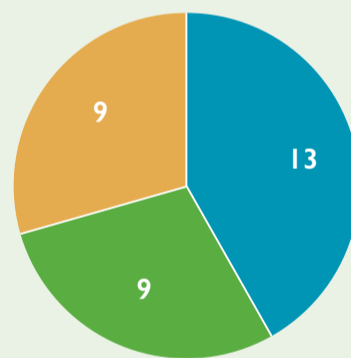
Diversifying into
egg laying poultry



Training

There have been 4 application windows between October 2019 and September 2020 with 878 instances of training delivered during this period. Of this number, 31 instances were from the Poultry sector.

Individuals trained
in Poultry Sector



■ Business ■ Livestock ■ Land

The most popular courses within each theme included:



BUSINESS PLANNING
AND DEVELOPMENT



RODENT CONTROL
ON FARMS

LEVEL 2 AWARD IN THE SAFE
USE OF PESTICIDES (PA1) & SAFE
APPLICATION OF PESTICIDES USING
HAND HELD EQUIPMENT (PA6)

E-learning

Some of the e-learning courses completed within this period relating to the Poultry sector:

Poultry
Vaccination



Poultry
Parasites



Injurious Pecking
in Laying Hens



Managing
Poultry Manure



For more information on e-learning, please visit the [website](http://www.gov.wales/farmingconnect).



www.gov.wales/farmingconnect