LIVESTOCK

December 2021 – March 2022

Demonstration Network

Forest Coalpit Farm: 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.

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 10 versus nine animals. To draw further conclusions as to the effect of forage on meat quality, a larger dataset would be required.

Ffosygravel Farm: Evaluating the potential satellite pasture measurement in a managed grazing system

Satellite imagery offers a potential tool for measuring grass to aid farmers in decision-making regarding grass allocation and utilisation. Measuring grass using hand-held devices and walking the fields is extremely time-consuming, and one of the main barriers to farmers wanting to collect data on grass growth. This technology offers the option of collecting the data without needing to set foot in the field. Every additional tonne of DM utilised per hectare is worth £334 per annum to dairy farms, highlighting the benefits of accessing this data to inform management decisions.

A significant amount of the grazing platform at Ffosygravel farm, in North Ceredigion, is on sloping land. The effectiveness of satellite imagery in predicting grass quantities (Average Farm Cover) available in paddocks through the season was trialled using the Ruumi tool.

Overall, the satellite imagery measurements gave a good representation of the Average Farm Cover, with an average difference of 82 kg DM/ha (Figure 1). However, the individual field covers showed more variation between figures that affected grazing management decisions. More research needs to be carried out to look at the effect of slopes on satellite readings, which could have a bigger impact on the accuracy.

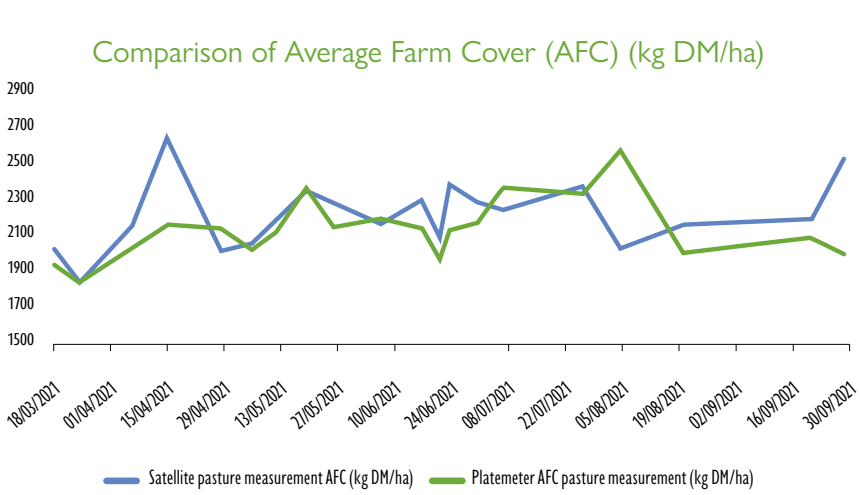

Figure 1: Comparison of the average farm cover measurements from satellite software and platemeter readings from 18 March to 2 October 2021

EIP Wales

Reducing ammonia emissions from broiler chicken production

The UK is committed to a 16% reduction in ammonia emissions by 2030, compared to levels in 2005, and therefore a lot of attention is focused on the poultry sector. The use of additive products supplied via the drinking water, currently used mainly to improve gut health and flock performance, has been suggested as an additional means of reducing ammonia emissions from poultry houses.

Between 2020 and 2021, two commercial broiler farms in Wales took part in a project to evaluate the performance of three different additive products.

They used the following three products, each for one complete broiler flock cycle on each farm:

- Biocomplex from Ekogea (a product derived from marine algae)
- Herban (a product based on oreganum essential oil)
- Searup from Olmix (a product also developed from marine sources)

The key findings:

- Ammonia emission factors (kg per bird place per year) were very similar in both control and test houses, with no significant difference.
- There was no significant impact on litter condition.
- There was no significant difference in the performance parameters of the birds.

Whilst the project did not provide evidence that the three products had an overall impact upon ammonia emissions, it highlighted some potential difficulties in calculating ammonia emission factors. Both farmers involved now have ammonia monitoring systems in place in one house, and plan to continue to use these for their own additional studies. These may incorporate the use of alternative application methods, including in-house fogging, feed-based use and litter treatments.

Management Exchange

William Sawday's Management Exchange, December 2021

Topic: Regenerative Livestock Farming
Country: UK

Figure 2. William Sawday who completed his management exchange program in late 2021.

Will completed his management exchange program in late 2021. Will had clear aims for his management exchange and during his visits, developed a better understanding of the core principles and benefits of regenerative farming. Will also had a desire to understand the optimal and desired outcomes of these systems, as well as the dynamics between soil, plant, animal and human health, and how to improve these through regenerative farming.

From the experiences and knowledge gained during his travels, Will has implemented changes to his farm, and is already seeing benefits following his participation in the Management Exchange Programme.

Knowledge Exchange Hub

- CRYPTOSPORIDIUM AND LIVESTOCK AS ZOONOTIC RISKS
- METHODS OF PREGNANCY DETECTION IN DAIRY CATTLE
- THE IMPACT OF HERBAL LEYS ON THE HEALTH AND PERFORMANCE OF GRAZING LAMBS

Advisory Service

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

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

98 individuals within 26 groups received support through the Livestock Categories of the Advisory Service during this period.

Feedback from businesses on delivery of this Advisory Service:

"Very Good"

"Very useful information"

Discussion Groups

Members of a Pembrokeshire Sheep discussion group had taken part in a colostrum project during the previous lambing period; this meeting reviewed the outcomes of the project.

The group were joined by Fiona Lovatt, Flock Health, who ran the project. Fiona explained that there are three major factors to lambing success: protect, plan and prevent. Ewes should be fit and well fed, fully vaccinated, not lame, and dagged and clean for the 'protection' element. For 'planning', forage should be analysed and a quality diet formulated; maximise colostrum and minimise stress for new-born lambs and monitor colostrum quality and transfer. 'Prevention' focuses on hygiene, ensuring sufficient shelter if outside, or a clean, dry, draught-free shed, plenty of fresh bedding, cleaning and disinfecting all equipment and turning out as soon as possible.

Fiona said there are two vital parts to colostrum – immunoglobulins and energy. New studies have shown that ewe colostrum is now different quality than previously thought: instead of colostrum being 20g IgG/litre at lambing, 26.5g is thought to be a more accurate figure. A 4kg lamb requires 20g IgG as quickly as possible, for adequate passive transfer of antibodies, so farmers should follow the above mantra and ensure all lambs receive 50ml/kg of colostrum as soon as possible up to a total of 200ml/kg within 24 hours.

The key findings of the colostrum project showed that ewe colostrum is of good quality, especially compared to powdered colostrum products. In fact, the study showed that even poor colostrum was of a better quality than powder. Thin, old ewes with single lambs had poorer colostrum than others in the project, as did those with dead lambs, and ewes that were harder to strip. The project found that feed is very important, with ewes that had more feed space producing better quality colostrum, as did those that were supplemented appropriately. Protein levels in silage was important, as ewes fed silages with higher crude protein produced better colostrum. Fiona said getting feeding right is possibly the most important factor affecting colostrum quality, and urged the members to have their silage analysed to help formulate the most appropriate rations for their ewes.

Fiona did say that care needed to be taken when drawing conclusions from the project, because many of the factors influencing the results were seen at a farm level, rather than at sheep level.

FCTV – Lambing

The FCTV episode we'll be visiting and bringing you the latest news on some of the projects within our network of demonstration farms, including reducing incidences of prolapse and mastitis, as well as assessing colostrum quality in the flock.

Click here to view the episode.

Webinars

18 LIVESTOCK WEBINARS HELD with **480** VIEWERS

Examples of webinars held include:

- Calf-rearing and reanling contracts pros & cons
- Feeding the ewe in preparation for lambing
- Top tips for feeding your beef cattle over the winter
- Pre-lambing ewe health

Animal health & welfare workshops

40 WORKSHOPS held with **522** ATTENDEES

Examples of workshops held:

- Antibiotic resistance
- Youngstock Health
- Sheep Lameness
- Lambing Losses Part 1: Abortion and Nutrition
- Lambing Losses Part 2: Post lambing losses from birth to weaning

E-learning

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

- LAMBING – THE BASICS
- EWE NUTRITION
- LIVER FLUKE MANAGEMENT
- CATTLE LAMENESS

Click here to visit the website.

Training

Courses	Number of individuals trained during this period
DIY AI	62
Cattle Foot Trimming	48
Safe Use of Sheep Dip	24
Safe Use of Vet & Med	19
Rodent Control on Farms	15

Cronfa Amaethyddol Ewrop ar gyfer Datblygu Gwledig: Ewrop yn Buddsoddi mewn Ardaloedd Gwledig
European Agricultural Fund for Rural Development: Europe Investing in Rural Areas
Llywodraeth Cymru Welsh Government