LIVESTOCK

April 2021 – July 2021

Demonstration Network

Cefngwilgy Fawr: Improving herd health through the use of technology

Maintaining herd health and reducing infectious diseases are major drivers in improving the efficiency and profitability of suckler herds. Calf health is one area in which Edward and Kate Jones, Cefngwilgy Fawr, are keen to address following cases of pneumonia in their calves in past years. Pneumonia is caused by a range of factors which include: infectious agents (pathogens), housing environment, management and the immune status of calves. It is estimated that pneumonia can cost up to £82 per affected suckler calf, with costs rising significantly when subsequent treatments are required.

The suckler herd at Cefngwilgy Fawr consists of 50 Limousin-cross and British Blue-cross cows which are mostly spring calving, which calve indoors and are then turned out to pasture.

This project focuses on improving the monitoring of calf health and ensuring early interventions to reduce disease incidence and antibiotic use on-farm. An ear tag which measures calf activity and temperature has been placed on the spring-born calves to monitor their health. Initial trials on the system have shown that it can detect disease approximately two days prior to the appearance of clinical signs. This enables targeted antibiotic usage and has the potential to improve growth rates and reduce calf mortality as disease is detected early. Through improved productivity, the carbon footprint will also be reduced. The housing environment will also be monitored through the use of on-farm sensors and LoRaWAN technology.

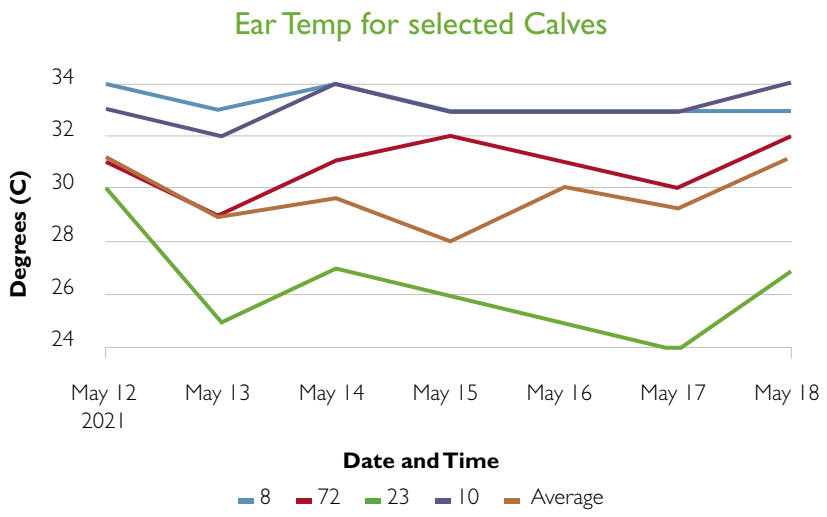

Figure 1: Ear temperature for selected calves.

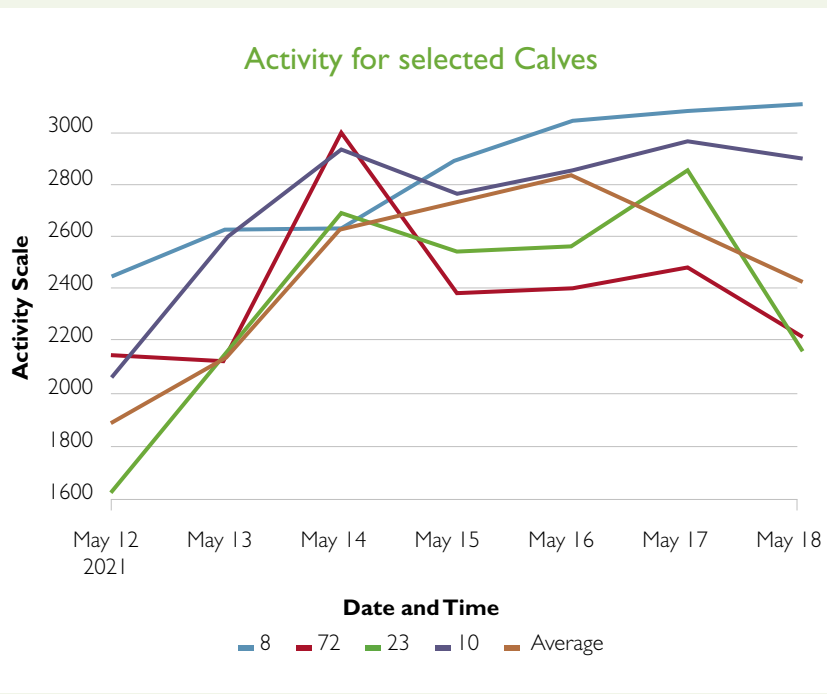

Figure 2: Activity for selected calves.

Bryn Farm: Reducing night time calvings

Aled Potts from Bryn farm, Tremeirchion manages a 90 cow all year round calving herd that is currently transitioning into an autumn block calving herd. He aims to calve his herd in a 12 week block from the end of July onwards. Unlike many large block calving herds, Aled will be required to look after each task more or less himself including the intense period of calving.

Too many cows calving at night between 20:00 and 4:00 can be an additional problem as the farmer faces worry and stress during a time of day that they should be resting. The more cows that calve during the period around both milkings and in-between during the daytime will make it easier to quickly milk and feed the post-partum cow, also ensuring quality colostrum is fed to the calf as soon as possible. This focus site project will look at key nutritional changes that can be made to reduce problem cows during the dry period and also investigate the effectiveness of manipulating dry cow feeding times to reduce night time calvings.

During June, the first 30 cows were dried off ahead of the upcoming calving period. All cows are bolused with a dry cow bolus and treated with a suitable dry cow antibiotic treatment. Blood samples will be taken from a sample of cows to gain a picture of mineral and metabolic status of the dry cow group. A closed-circuit camera system has been installed in the close-up calving pen to record signs of calving ahead of the reducing night time calving project. The first group of dry cows entered the project pen beginning of July and will only have access to forage and feed from 16:00 until the following morning's milking. This restriction can easily be done by closing a small gate in the top right-hand corner of the pen. Far off dry cows will be fed consistently in the afternoon between 14:00–16:00 to condition the cows' behaviour to feed during the early evening and overnight.

Wern: The effects of ventilation in a Dutchman Poultry Shed

At Wern demonstration site, a project is investigating how to regulate and monitor litter moisture and air quality within the poultry sheds through the use of non-infective soil bacteria. The following have been used to monitor conditions inside the poultry sheds throughout the project:

- Real time sensors to measure air quality and gas production
- Bacteriology to identify and analyse levels of disease-causing bacteria vs non-infective Pruex stabiliser bacteria
- Analysis of moisture content in litter

Wern have seen the following since introducing the non-infective bacteria:

- Drying up of litter
- Significantly reduced levels of ammonia
- Prolonged periods between mucking out due to litter being dryer and lighter
- Reduced levels of disease-causing bacteria within the sheds due to a dominance of Pruex non-infective stabiliser bacteria
- Improved air quality for staff working in the buildings

When pop holes were forced to shut in the winter due to risk of bird flu, the entire airflow of the barn changed instantaneously. Cold weather during the winter months provided more challenges to regulating air quality in the building. The building needs to be kept warm enough, but sufficient air needs to be expelled from the building to prevent the build-up of harmful gases and odours. With the pop holes being closed, this changed the ventilation in the shed, where wet air was being dragged in through the gaps by the pop holes. By improving the air quality, a reduction in the amount of cold wet air being vented into the building was achieved and the litter was kept drier as a result.

Litter that was nearer to the sprayer units was extremely dry and moisture levels were low in the areas that had been successfully sprayed with the non-infective stabiliser bacteria.

If bacteria can successfully be distributed across the whole shed with the correct ventilation, moisture levels in the litter can be reduced further to provide the birds with a healthy environment. More litter samples will be collected to analyse the moisture levels in the shed with the pop holes open and ventilation regulated correctly.

EIP Wales

26 APPROVED LIVESTOCK PROJECTS WORKING with **173** FARMERS AND FORESTERS

EIP WALES
Cydweithio er Ffyniant gwledig
Collaborating for rural success

Improving the sustainability of goat meat production in Wales by investigating the efficacy of recommended wormer dose rates

Anthelmintic resistance is a growing problem for goat farmers not least because there is no published recommended dose rate for the anthelmintic treatment of goats. Instead, the recommendation is to double the dose but this presents problems with exacerbating resistance as well as potential poor efficacy due to the different way that goats metabolise toxins compared to sheep. The farmers in this EIP Wales project are looking to develop better protocols for treating their goats based on faecal egg counting, larval speciation and regular veterinary advice to ensure that animals are treated appropriately at the right time with the right product.

The group were aware that there is a lot of misinformation circulating with regard to treating goats for internal parasites and therefore they worked with Kate Hovers, MRCVS, to produce this factsheet.

Knowledge Exchange Hub

- COLOSTRUM MANAGEMENT FOR THE BEST START IN LIFE
- EXTENSIVE LIVESTOCK TRACKING: STEWARDSHIP, SECURITY AND SOUNDNESS
- GASTROINTESTINAL ROUNDWORMS IN CATTLE – CONSEQUENCES, CAUSE, AND CONTROLS
- METHODS FOR PREDICTING CALVING AND REDUCING NIGHT-TIME BIRTHS

Webinars

19 WEBINARS HELD with **346** VIEWERS

Examples of webinars held include:

- The use of bolus technology to improve conception rates, calving period and herd health at Moelogan Fawr
- Business planning for profitable pig production

E-learning

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

- EYE DISEASES IN SHEEP
- JOHNE'S DISEASE IN CATTLE
- RAM HEALTH
- BODY CONDITION SCORING

Click here to visit the website.

Training

Courses	Number of individuals trained during this period
Lion Training Passport – Security, Biosecurity & Egg Handling	14
DIY AI	28
Cattle Foot Trimming	24
Safe Use of Sheep Dip	12
Safe Use of Vet & Med	13

Advisory Service

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

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

5 groups made up of 17 individuals received support through the Livestock Categories of the Advisory Service during this period.

Feedback from businesses on delivery of this Advisory service:

"This service was second to none, well explained and delivered even during covid restrictions. It will be a benefit to our business as we can work with our vets closely to come up with the best flock health plan and adhere to it, being able to proceed in confidence that we are using the correct products to drench against specific worm burdens. Farming Connect can be proud to have offered such service and the business is extremely happy to have taken part."

Discussion Groups

Members of Grŵp Defaid Yr Ynys, invited Philippa Page of Flockhealth Ltd to discuss production limiting diseases. Most group members have discovered incidents of "iceberg diseases" within shearlings they buy in at the end of summer. Each member relayed their own strategy of flock replacements and what biosecurity steps they took when introducing new sheep onto the farm. Most gave an initial treatment of orange/purple group anthelmintics, scab treatment and fluke treatment, and then kept them separate to the existing flock until post-lambing. Philippa was impressed with the biosecurity measures undertaken by the members. Her only suggested improvement would be to seek a single farm to source their replacements in future.

Specific diseases and their production limiting effects were discussed.

Maedi Visna – A viral disease that causes the ewe to 'waste away' or develop severe pneumonia. There is no treatment, therefore culling diseased animals is necessary. Blood testing will identify the disease.

Johne's – A common disease, with a recent Hybu Cig Cymru study showing that up to 50% of Welsh flocks had been affected by the disease. Ewes lose condition and become very thin. No treatment exists, but ewes can be vaccinated to avoid contracting the disease.

OPA (Ovine pulmonary adenocarcinoma/Jaagsiekte) – An extremely infectious disease that's transferred via colostrum and saliva. Post mortem is the most effective way of identifying the disease. This disease has affected the flock of more than one group member, with one case leading to a loss of 14% in that flock.

Border Disease – Another disease that has had a detrimental effect on group members flocks, leading to losses at lambing time (via abortions, weak and unthriving lambs). Blood testing will identify the presence of the disease, but as yet there is no vaccination or treatment.

To conclude, steps to reduce the risk of disease introduction were discussed, with members keen to utilise the support available from Farming Connect to blood test their flocks. Members noted that their awareness of "iceberg" diseases had increased significantly following the meeting.

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