

Knowledge Exchange Hub

 **ANTIMICROBIAL RESISTANCE (AMR): CAN PRECISION TECHNOLOGIES HELP?**

 **AIR POLLUTION: REDUCING AMMONIA EMISSIONS BY ADAPTING LIVESTOCK MANAGEMENT APPROACHES**

Demonstration Network

Rhiwaedog: Evaluating the benefits of heat detection technology to provide gains in suckler cow fertility

The aim of the project at Rhiwaedog is to tighten the calving periods into two blocks of eight weeks (February-March and May-June) and to reduce calving interval to 'one live calf' per 365-375 days.

Firstly, the bulls were fertility tested. Results showed that they were healthy and able to produce a viable semen sample. The Mocoall collars were then deployed on two bulls which successfully detected which cows had been observed bulling. When scanned, the majority of the cows were identified as being in-calf 35 days or more. Cows that were not detected bulling within one month were examined; four were synchronised with two confirmed in-calf so far. A few cows have also been treated for ovarian cysts which would have not been detected without the use of this technology.

In general, cows have become pregnant promptly and those calving later have been brought forward where possible. Some of the cows have been delayed from bulling until April to bring them in line with the rest of the herd. Some of these cows may also need to be culled, particularly if they are challenging to get in-calf, or if they have other problems concurrently.

The predicted calving index for 2021 suggests that the calving index will be reduced by 13 days as a direct result of using Mocoall Heat technology. The project will continue to determine whether further gains can be made in the future.



Figure 1. Bull with Mocoall Heat collar with cows at Rhiwaedog.

Mountjoy: Selecting for efficient genetics in a spring calving herd

The herd at Mountjoy was dried off during February. Will Hannah provided some final season figures and notes saying that this has been the best season for cow performance since changing to block calving. This has been somewhat down to the favourable weather of last year as the farm managed to cut their earliest ever first cut silage that also helped the herd's performance and health of the cows.

Performance figures include:

- 6,924 litres average on 1.1 tonne of cake
- 518 kg Milk Solids
- 4,770 litres from forage
- 47 cases of mastitis, slightly up on last year: 7.8 cases per 100 cows (national average 50 cases per 100 cows)
- 38 dry cows tubed
- 8% of the herd empty after 12 week period
- End of season culls averaged at £500 between mart and slaughterhouse
- 2021 replacement rate will be 16.6%

Mountjoy has been focusing on significantly reducing antibiotic usage at drying off. Only 10% of cows are dried off with antibiotics through selective dry cow therapy. This reduction in antibiotic use has resulted in a saving of £1,350 for the farm. This teamed with a well-planned drying off routine and has been hugely beneficial for the business.

Bryn: Focusing on beef enterprise

The key objective at Bryn Farm is to improve suckler herd efficiency. Figure 1 shows the calving pattern in 2020 was tighter than in 2019, with most of 87% of the calves born in the first six weeks (77% for 2019). By further improving cattle body condition score and nutrition, the aim is to further improve on this next year. The farm is also considering calving three weeks later which will give the cows more rest time and hopefully lead to further tightening of the calving period.

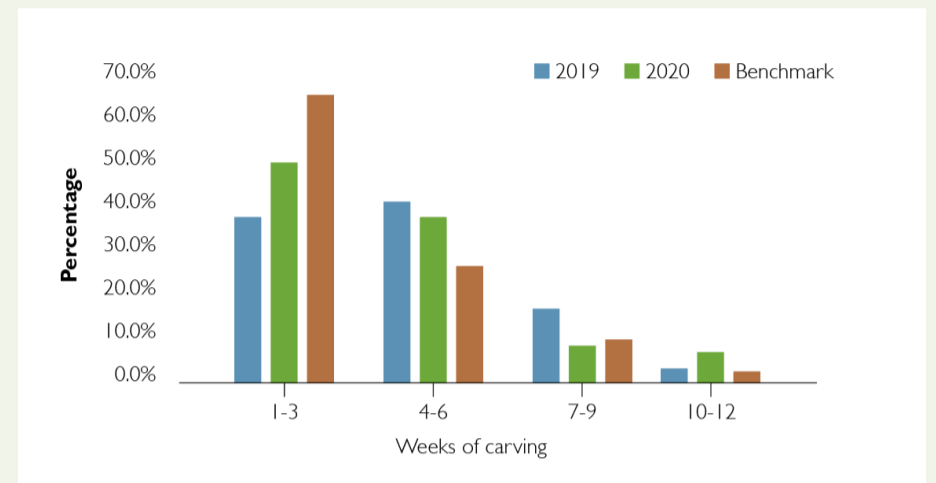


Figure 2. Calving pattern at Bryn Farm in 2019 and 2020 versus industry benchmark.

Since becoming a demonstration farmer, Huw Jones began finishing bulls as bull beef as opposed to selling them as store cattle. As a result of receiving guidance from Farming Connect as a part of the demonstration site project, he will receive a profit of £3,500 by selling 19 finished bulls in 2021. This has been calculated by incorporating the following information:

- Feed blend costs of £250 per tonne (10 tonnes utilised)
- Rolled barley at a cost of £150 per tonne (20 tonnes utilised)
- Plus straw costs
- Beef price of £3.70 per kg and carcase weight of 330 kg = £1,200 per head
- Gross profit = **£3,500**

The project will continue to assess beef enterprise performance and identify key areas to improve business profitability and sustainability.

Webinars



45 WEBINARS HELD

with



1,949 VIEWERS

Examples of webinars held include:

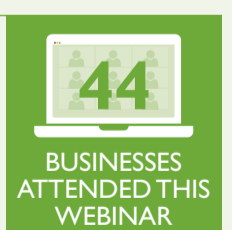
09/02/2021: Why are trace elements important in sheep?

Experienced vet, Joe Angell of Wern Vets discussed what particular trace elements are important in the sheep sector.



23/02/2021: Dairy sheep farming – a new approach in Wales

Agriculture consultant, James Holloway, and New Zealand sheep producer, Ian MacDonald, joined Farming Connect in exploring the feasibility of establishing a dairy sheep industry in Wales.



30/03/2021: Is your handling system the best system for handling stock?

Consultant Miriam Parker, of Livestock Wise discussed livestock handling systems, focusing on making handling systems quicker, safer and easier.



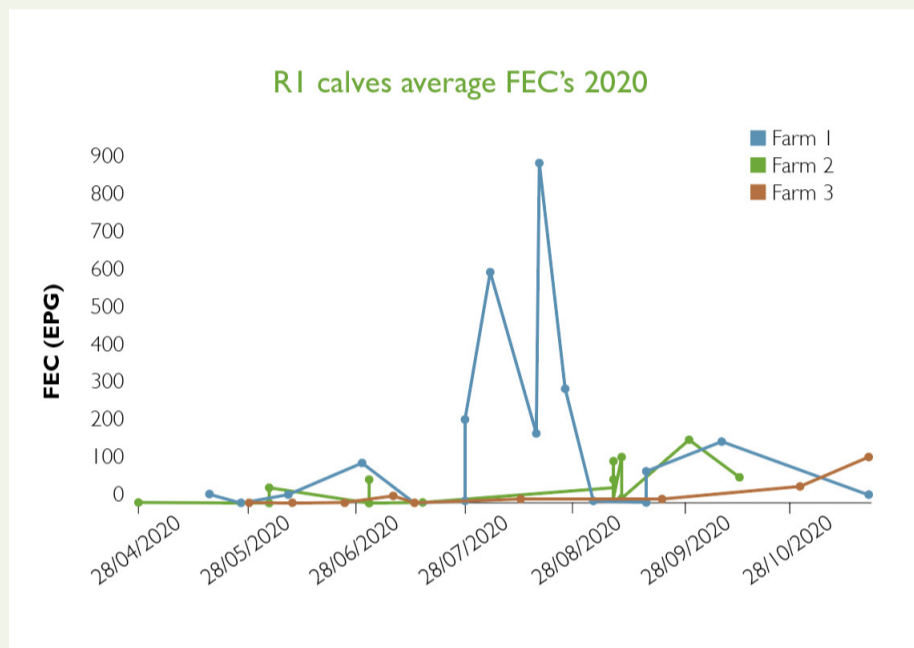
 **26 APPROVED LIVESTOCK PROJECTS WORKING**
with
 **173 FARMERS AND FORESTERS**



Improving the diagnosis and treatment of gastrointestinal roundworms in cattle

Three dairy farmers in Ceredigion are running a three year EIP Wales project which is investigating whether routine treatments of roundworms in their dairy youngstock need to be reviewed because of concerns of anthelmintic resistance.

Faecal egg count testing on the three farms in 2020 showed huge variation between the farms. In particular farm 3 had a much lower parasite burden resulting in a substantial reduction in anthelmintic treatments highlighting the benefit of regular testing.



Farms 1 and 2 undertook Faecal Egg Count Reduction Tests (FECRT) to check the performance of the anthelmintics being used. Results below 95% indicate that the treatment is not performing as expected and indicates that resistance may be an issue. Farm 3 did not have egg counts high enough to be able to perform this test. For both farms the macrocyclic lactone group (Ivermectin and Moxidectin) showed poor levels of efficacy, while benzimidazoles and levamisole were fully effective.

Wormer (group)	Farm 1		Farm 2	
	% Reduction	Yr Tested	% Reduction	Yr Tested
BENZIMIDAZOLE Oral (1 BZ)	100%	2019	96%	2020
LEVAMISOLE Oral (2 LV)	98%	2020	98%	2019
IVERMECTIN Injectable (3ML) – 1	81%	2019	44%	2019
IVERMECTIN Injectable (3ML) – 2	62%	2020	57%	2020
IVERMECTIN Pour-On (3ML) – 1	–	–	8%	2019
MOXIDECTIN Injectable (3ML)	–	–	86% (?)	2019
MOXIDECTIN Pour-On (3ML)	80%	2020	20%	2020

The group will continue monitoring FEC levels and additionally, work will be carried out to check the species of worms present on the farms and how the different species are responding to treatments at different times of the year. This will help to inform treatment choices.

Advisory Service



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



18 groups received support through the Livestock Categories of the Advisory Service during this period.

Discussion Groups



North Pembrokeshire Suckler Beef Group – Suckler cow and calf management at calving

Discussion began with guest speaker Dr Alex Corbishley, of the University of Edinburgh stating the importance of body condition score (BCS) on calving and fertility. BCS has a significant impact on the number of weaned calves per 100 cows put to the bull. BCS should be 2.5-3 at calving to avoid issues with ability to calve and calf vigour, as thin and over-fat cows are more likely to have assisted calvings.

Alex then discussed the importance of minerals and trace elements to calving success. A cow's requirements for calcium and phosphorus are generally met from grazed grass, but magnesium may need to be supplemented, to help avoid milk fever and staggers. An imbalance of calcium and magnesium at calving can also contribute to slow calving syndrome, so Alex encouraged the group to check that they feed a suckler cow mineral rather than a product for finishing cattle.

Discussion also focused on how colostrum is an important factor in calf mortality in beef herds, with Alex referencing a study in which 500 calves were blood tested showing those that did not receive enough colostrum within four hours after birth were twice as likely to die or need treatment. Risk factors for poor colostrum absorption were being twins, the dam being a heifer, difficult calving, intervention given to find teats, being bottle or tube fed the dam's colostrum and being bottle or tube fed artificial colostrum. The group was surprised at the last three risk factors as it showed that although help was given, it is not the help the calves need.

Finally, Alex looked at what farmers can do at calving time to improve survivability, including paying particular attention to heifers and thin and twin carrying cows as they are significantly more likely to need help; not moving cows before calving; not risking colostrum supply and trying to ensure the calf receives enough colostrum.

E-learning

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

EYE DISEASES IN SHEEP		JOHNE'S DISEASE IN CATTLE	
BIOSECURITY AND QUARANTINE		AFRICAN SWINE FEVER	

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

Training

Courses	Number of individuals trained during this period
Safe Use of Sheep Dip	15
DIY AI	11
Safe Use of Vet & Med	11
Cattle Foot Trimming	10
Rodent Control on Farms	4

