Hendre Ifan Goch

Rhys Edwards

PROJECT: An integrated approach to understanding and managing lameness in sheep

LOCATION:
Bridgend

FARM:

Sector: Red Meat

Stock numbers & breed: 730 sheep *(Aberfield mules and Welsh mules)*

Farm size (ha): 91ha

Land management scheme: None

Lambing months: January and March

Grazing system: Rotational paddock system

Diversification & innovation: 5.5kW hydro generator, Farm park and trout fishery *(rented out as a wedding and events venue)*, Caravan and camping park, Slats sheep shed

FARM OBJECTIVES

1. To improve the carbon footprint of the farm
2. To improve animal health
3. To reduce production cost

Key take home messages:

- Take regular faecal egg count (FEC) samples in order to identify worm burdens early and treat accordingly
- Trace element deficiencies can significantly affect lamb performance, reducing daily liveweight gain (DLWG) specifically
- Keep on top of lameness to minimise impact on performance. Hendre Ifan Goch saw a steady decrease of lameness incidences throughout the project

The problem:

The flock of ewes at Hendre Ifan Goch are of very high health status, with farmers Rhys and Russell working closely with their vets to ensure the best possible health and welfare standards for their flock. Despite this, scald in lambs seems to be a recurring issue, having been detected for no apparent reason during the grazing season and affecting their performance.

Purpose of work:

1. Reduce lameness to improve lamb liveweight gains.
2. Investigate the environmental factors that influence the outbreaks of lameness in sheep; particularly incidences of scald in lambs during the grazing season.

What we did:

In June 2020, the lambs were weaned and FEC samples were taken from the lambs to check for worms. Lambs were drenched with Cydectin at the start of July. By mid-July, the lambs were weighed and were not doing as well as expected, with some only averaging 50g/day but no issues were seen with lameness. As a result of poor liveweight gain, FEC samples were taken fortnightly thereafter to monitor the worm burden.

Following further assessment, some of the smaller lambs were still not performing well, therefore blood samples were taken, and one lamb was sent for post mortem. A forage analysis was also completed on the grass.

For the 2021 season, lameness was monitored and was kept low until August. In August, the farm saw 20 lambs dying during the month, therefore one of the lambs was sent off for a post mortem to investigate the problem. For the 2022 lambs, it was decided to involve Philipa Page, a sheep specialist from Flock Health, to monitor lameness incidence and complete a mineral audit to identify any deficiencies which may impact lamb performance.

Outcomes:

No strongyles were identified in the FEC samples in June 2020, but lambs were still not performing as expected. After drenching with Cydectin, 40 out of 135 lambs were still losing weight. Another set of FEC samples showed a pathogenic strain of Coccidiosis, with zero Nematodirus or Strongyles present, therefore, all lambs were drenched against Coccidiosis.

By the end of July, the bigger lambs that were averaging 460g/day in terms of daily liveweight gain, were showing some instances of scald, but there were no instances in the smaller lambs. The blood samples returned with the majority of the lambs sampled having low cobalt levels in the blood, as seen in the results table below.

Table 1. Blood sample results for lambs at Hendre Ifan Goch in July 2020

TEST RESULTS			
Animal	Copper µmol/l 9.0-19.0	Vitamin B12 pmol/L > 221	GSH-Px U/mL RBC > 50
8437	10.8	L 150	>166
8624	16.8	L 170	>166
8550	11.9	333	>177
8093	10.0	L <111	>166
8348	14.8	>550	>144
8502	16.9	308	>148
8938	12.2	L 202	>161
8505	15.0	L 152	>152
8342	14.3	L 150	>166
8464	H 19.7	412	>137

This was unexpected, as the lambs are regularly drenched with a cobalt supplementation. The lambs were given a B12 supplementation injection following these results. Despite these results, from the records it showed that the lambs that had lost the most weight were not necessarily the lambs that were most cobalt deficient.

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The results from the post mortem showed a mixed worm burden, including the presence of Teladorsagia and Nematodirus battus. The gut damage following Coccidiosis, as well as the high worm burden, is most likely the cause of reduced growth rates. Another concern was the frequent weighing of lambs, in particular heat stress during the summer months and being away from feed for a period of time. The forage analysis completed on the grass the lambs were grazing at the time showed no true mineral deficiencies. During the 2020 season, lameness was not a huge problem, but reduced performance became more of an issue.

Lameness was monitored closely for the 2021 lambs, with incidences kept under 0.5% until July 2021, where lameness incidences started to increase with lambs demonstrating scald. There were no distinctive links between air temperature, weather patterns and lameness and grass sward lengths were ranging between 1,400-2,400kgDM/ha. During August 2021, approximately 20 lambs died for no obvious reason, therefore one lamb was sent for post mortem with the results showing notable lung damage with pleurisy.

In 2022, a trace element audit was completed, taking into account the supply of trace elements over a 12-month period. The results of the audit showed that there were no significant issues with the supply of the majority of the macrominerals, but the audit did highlight deficiencies in the supply of iodine and marginal deficiencies in selenium and cobalt when assessed against the dietary requirements for the class of stock.

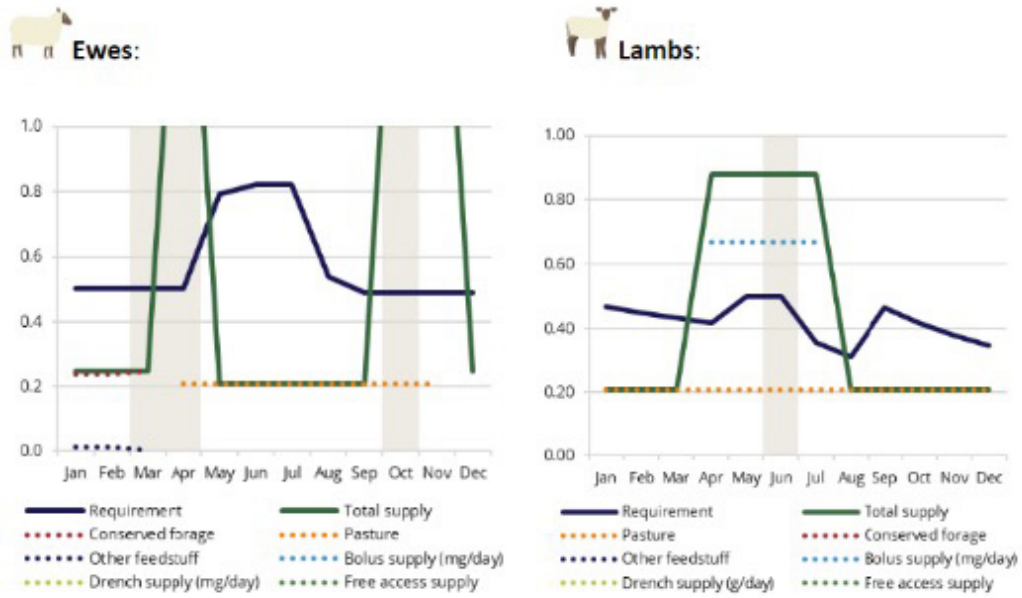

Figure 1. Iodine requirement and supply for ewes and lambs.

The above graphs show that the Iodine supply from the pasture is below the requirements for both the ewes and growing lambs. The current levels of supplementation given to the ewes via a drench or bolus were adequate for selenium and cobalt, but Iodine was not contained within these supplements. Therefore, it was advised a pre-lambing and pre-tupping supplement was used containing iodine, selenium and cobalt.

Some incidences of lameness were seen in the 2022 lambs with them being caught, investigated and treated, if needed, as soon as lameness was seen. Although a dry summer, the lambs have done well with approximately 80 lambs on the farm in October.

Research into practice /10 how to steps for your farm:

1. Take regular FEC samples to monitor worm burden
2. Work closely with your vet to solve unexplained health issues/deaths
3. Consider energy requirements and the supply of macrominerals
4. Investigate lameness as soon as its seen