

Reducing reliance on anthelmintics for ewes around lambing through more targeted treatments

Background

Worming ewes around the time of lambing is still a practice carried out by the majority of UK sheep farmers. The reasoning for the practice is that as ewes approach lambing, their immune system wanes, and this allows the worms in their gut to produce a lot more eggs. These eggs are then passed out in their dung, contaminating pasture which is then grazed by their lambs

However, spring is also a time when a high proportion of worms on a farm are likely to be inside the ewe's gut, having been dormant there over the winter. This means that a blanket treatment of all ewes with a wormer could be highly selective for anthelmintic resistance (AR). To mitigate this concern SCOPS has recommended that at least 1 in 10 of the fittest ewes are left untreated.

As the incidence of AR increases across UK sheep farms there is a need to further reduce the number treated, but we need to provide sheep farmers with evidence based advice on how to target those ewes that are most likely to produce the highest levels of contamination. There has also been concern over the blanket use of moxidectin 2% LA in ewes at lambing and this has resulted in SCOPS and Zoetis agreeing new guidelines on the use of this active. A headline of that advice is that not all ewes should be treated and underlying that is a need to target only those ewes producing high levels of contamination.



Project Objectives

We know that not all ewes produce the same amount of contamination. Faecal Egg Counts (FECs) vary between ewes around lambing and factors involved includes body condition (BCS), nutrition, age and litter size, together with a genetic element linked to the strength of the ewe's immune response. The aim of this project is to engage in detailed monitoring in commercial flocks to see if we can identify those ewes producing high levels of contamination and therefore minimise the proportion treated around lambing without compromising lamb performance. The objective is to distill this to provide practical guidelines for other producers to adopt.



Techion - FECPAK faecal egg counting kit



This project, which runs from early 2020 to mid 2022 involves a group of 6 farms across Wales, including upland, organic and lowland flocks. The group have been working together for several years, in particular on the use of body condition scoring of ewes as a flock management tool and KPI. They are also engaged with SCOPS principles and aim to reduce their reliance on anthelmintics (wormers) through monitoring and management. Since it is accepted that ewe nutrition

and BCS have an impact on the peri-parturient rise (PPR) in egg output by ewes, the group wanted to investigate this further to see if they can minimise the number of ewes treated **and** levels of contamination on pasture by identifying and targeting those ewes whose immune response is most likely to wane around lambing. The operational group also includes Zoetis Animal Health with Techion, Biobest and APHA involved in supplying the testing, together with FECPAKs on each farm for routine monitoring.

Methodology

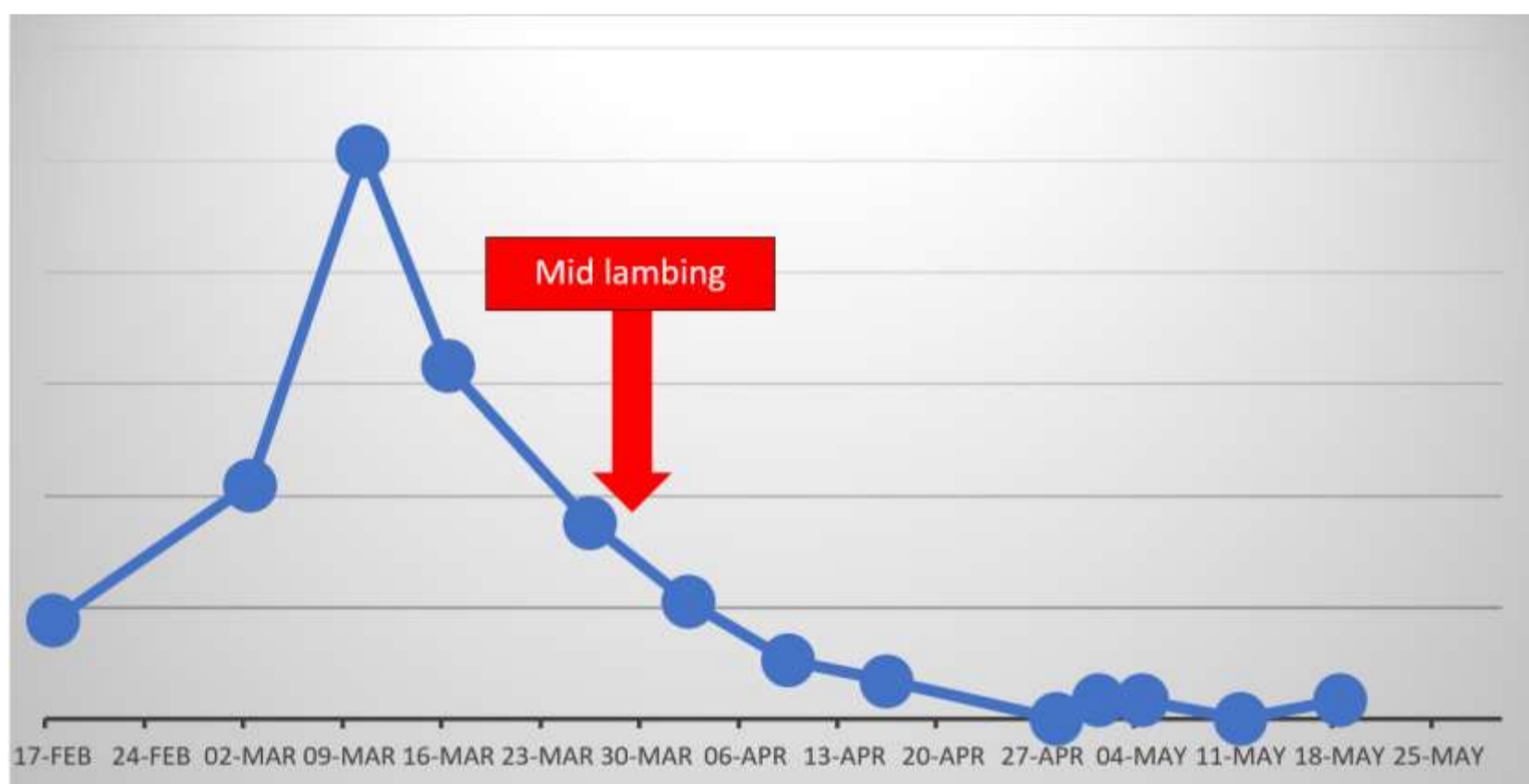
In this first year, the farms have monitored a group of twin bearing ewes from about 6 weeks from lambing until 8 weeks after lambing. The group are sampled for FEC on a weekly basis to provide an overall picture of the peri-parturient rise in terms of magnitude, timing and duration*. Within those groups they have also identified 10 'sentinel' ewes on each farm and these have had FEC samples and saliva swabs taken on 5 occasions: 2 before lambing, one at / close to lambing and 2 more at about 4 and 8 weeks post-lambing. The saliva swabs are analysed for an antibody (IgA) which is an indication of how strong the ewe's immune system is. Despite the issues associated with the COVID 19 situation, most samples have been collected, with the exception of serum which had to stop when vets could no longer attend non urgent visits.

Body condition and weight have also been recorded where possible and all the ewes in the monitor group were in good (BCS 3 or over) condition at the start. Ration recommendations based on forage analysis and/or feed available outdoors as appropriate were provided for each farm to minimise any risk of a nutritional restriction in the run up to lambing.

Lamb 8week weights are being recorded because these have been shown to be an important KPI for lamb performance in previous work carried out by this group. FECs are also being measured on the farms to give an indication of contamination levels on the pasture these lambs are grazing.

Results to date

The project has only been running a short time, but data collected so far highlights that there is significant variation both between farms in terms of the extent, timing and duration of the peri-parturient rise. There is also confirmation of large variations between individual sentinel ewes within farms. Currently we are looking at the trends in FEC, BCS and antibodies in saliva. The variations in the early results indicate that there is huge scope to minimise the number of ewes treated on these farms provided we can identify them in a practical and repeatable way..



Example: FEC counts from one of the project farms for the monitored mob of ewes scanned with twins. Only ewes in BCS <3 were drenched around the time of lambing.