

## Subclinical Disease in Sheep



Proactive monitoring and investigation of subclinical disease is an element of farming and veterinary work which is often overlooked in the sheep sector, where frequently we only see investigations into such conditions after clinical cases have come to light, and animals have already been lost. By the time clinical disease has manifested, other animals in the group may have been suffering in a subclinical capacity for some time, the unseen cost of which cannot be recouped.

Unfortunately, the extensive nature of many sheep farming systems make monitoring for subclinical disease difficult, with scepticism about the financial return on doing so. However, a great deal of useful information can be obtained by sampling a small number of the right animals at the opportune time, while acting on such results appropriately can prevent clinical disease arising, as well as reducing the hidden costs of subclinical illness.

Take, for example, the nutritional management during the last trimester of gestation. Seventy percent of fetal growth occurs during this period, while the space-occupying nature of the growing lambs can reduce dry matter intake by a third. Rations can be formulated to match the resulting metabolic strain, but the ewes' true energy status cannot be established without proactive monitoring. As a result, diets are often only modified 'reactively' after cases of (potentially fatal) pregnancy toxaemia have already occurred. While frequent body condition scoring can give a rough guide to nutritional status, it is a late indicator of energy deficiency and also a relatively subjective method to work by.

When assessing the ewes' energy status, blood sampling five or more individuals from each prolificacy group for  $\beta$ -HB levels three weeks prior to lambing will indicate whether subclinical ketosis is present, and whether correction of the diet or management is necessary. If ignored, even ewes that do not lapse from subclinical ketosis into full-blown pregnancy toxaemia will suffer reduced quality and quantity of colostrum and suppressed milk yield, which will be reflected in poorer lamb liveweight gains.

Trace element imbalances can also lead to sub-par performance in the flock, although often supplementation must be done with care. For example, lack of iodine around tupping can reduce fertility as it plays a part in embryo implantation; however, excessive levels can have a detrimental effect on ovulation. Likewise, copper deficiency in ewes during mid pregnancy can result in untreatable 'swayback' lambs, but supplementation can easily lead to toxicity in some breeds with low toxic thresholds, Texels being the notorious example.

In weaned lambs, cobalt deficiency is often cited as a cause of ill-thrift and poor weight gain, regardless of apparently adequate nutrition. It is the key mineral in the synthesis of vitamin B<sub>12</sub>, an essential component of many enzymes involved in normal metabolism. While its deficiency can be attributed to low soil concentrations, diarrhoea caused by parasitic gastroenteritis can exacerbate the situation by reducing the gut's capacity to absorb vitamin B<sub>12</sub>. Sampling ewes for such trace elements (and others) six weeks prior to tupping, and lambs in the early-mid grazing season will allow an assessment of their levels, and whether supplementation would be beneficial.

No article on subclinical disease in sheep would be complete without the mention of gastrointestinal parasites. There is barely room here to broach such a huge subject, but to recommend undertaking regular faecal worm egg counts from the flock throughout the grazing season. With ever-growing pressure on the responsible use of anthelmintics, it is for the shepherd and their vet to decide what level of burden is likely to be production limiting, based on the flock's genetics, the farm's history, and the clinical picture. Of special mention here should be the bloodsucking *Haemonchus spp.*, which, while not causing true 'subclinical' disease, may appear from a distance to be asymptomatic until apparent 'sudden death' from anaemia and abomasal dysfunction occurs.

Above are just a few examples of subclinical disease in sheep; there are many, many more. However, the need to monitor for them before clinical disease appears is universal if flock profitability and welfare are to be maximised.