
SUBCLINICAL DISEASE IN SHEEP

Sheep are silent sufferers at the best of times but help with is at hand with the use of some strategic blood profiling carried out in conjunction with your vet. The sampling of as few as just 5 sheep from a group is all that's needed to provide a huge amount of information upon which to make informed decisions on what they do, or more often than not, don't need.

What is subclinical disease? These are the subtle shortfalls in productivity that can be measured statistically eg by recording and comparing lambing percentages, lamb survival rates, weaning weights, slaughter weights etc but which otherwise go unnoticed. Lameness would be an example of clinical disease but poor growth rates would be an example of subclinical disease.

The causes of subclinical disease can be categorised in exactly the same way as the causes of clinical disease.

1. Nutritional
2. Environmental/Physical
3. Infectious
4. Parasitic
5. Chemical/Drug related
6. Managerial
7. Genetic

To illustrate how blood profiling can elucidate some of these problems here are a few examples.

Energy status is assessed by BHB - this is a ketone that is produced by the body when too much body fat is being mobilised due to energy deficiency. This would be a key indicator of whether your body condition score management was on target or not and most critically in late pregnancy would be an early warning of twin lamb disease.

Blood urea provides an estimate of the over, or under, supply of rumen degradable protein - shortage is performance limiting while over supply may be expensively unnecessary.

Albumin provides a long term assessment of undegradable protein status.

What about micronutrients? These most importantly involve the major elements calcium, magnesium and phosphate and the trace elements copper, selenium, iodine and cobalt.

Calcium and magnesium deficiencies are common in late pregnancy and early lactation so early detection of subclinical disease can allow remedial action before clinical disease strikes - often in spectacular fashion.

Copper, selenium and iodine deficiency is quite common especially on higher ground but even more common is over supplementation. Profiling will reveal where you are on this scale. Copper is measured directly in the blood while selenium and iodine are assessed indirectly by measuring GSHPX thyroxine (T4) respectively. Cobalt may be deficient in weaned lambs at grass - this is measured using vitamin B12 (cyanocobalamin)

As part of the "health profiling" we may assess anaemia and liver damage. Both of these may be indicators of parasitism especially fluke. GLDH measures damage to the liver itself as is the case with acute early stage fluke or interestingly with over use of copper - an example of chemical damage. GGT on the other hand measures bile duct damage from adult fluke.

When blood profiles come back normal then it may be concluded that the factors responsible for your problems may be environmental or managerial. Farmers are often annoyed with “normal” results - perhaps they should be happy - you may have ruled out lots of expensive fixes and homed in on a cheap one eg not bothering with the extra doses of wormer, flukicide, or mineral that simply wasn't needed. Discuss the timing of some profiles with us - a suggested scheme would be 2-3 weeks into prelambling rationing and 2-3 weeks pre lambing itself. Lactational status could be assessed late and summer and winter regimes could be assessed in addition. Used in conjunction with a health plan this information may be the best you've had in a while.