

Summer Sheep profile

For ewes, rams and post weaning lambs blood sampling for trace elements can be invaluable in late summer.

- The focus at this time of year is on groups of ewe and rams to assess that they are in optimum condition for mating.
- For lambs it is of benefit to ensure trace element or disease problems are not affecting growth rates.

Samples to submit: Two lithium heparin (green) vacutainers are required from each sheep. A minimum of five samples from each group with a minimum of ten animals submitted in each test.

What information is required?

A Summer Sheep input form should be fully completed – one form for each group. Current ration details as well as approximate weights should also be provided. Please label all tubes clearly.

What will be analysed:

Protein: Albumin, Globulin

Trace Elements: GSHPx (Selenium), Copper, Vitamin B12

Glutathione Peroxidase (Selenium): Low selenium levels at mating time results in increased early embryonic mortality and so reduced ewe productivity.

Copper: Low copper results in poor wool growth in all ages of sheep and may be accompanied by poor growth rates, anaemia and fragile bones in growing lambs. Low copper levels may also lead to reduced immune system function.

Vitamin B12 (cobalt): Vitamin B12 is produced in the rumen from dietary cobalt. It is required by the enzymes which regulate energy metabolism. Cobalt deficiency in ewes is implicated in increased stillbirths and neonatal mortality.

Protein - Albumin and Globulin: Albumin and globulin levels reflect disease problems such as liver fluke, gut worm and Johnes disease.



Prevention and control - the DHHPS concept

The basic concept of the DHHPS is not to wait for trouble but to identify potential problems before they can be noticed on the farm.

Prevention is better than cure.

The benefits of teamwork

The DHHPS works on the principle that three heads are better than one. It provides the Sheep Farmer with a unique framework for co-operation between their local veterinary surgeon, specialist nutritionalist and staff at the University of Edinburgh Royal (Dick) School of Veterinary Studies. This combination of specialist knowledge and expertise can offer enormous benefits. Teamwork is the key to greater productivity and profitability.

If you wish to learn more about our services contact our office or visit our website.



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SHEEP METABOLIC PROFILES



DHHPS

Pre-lambing profile

There are long and well established practices for adjusting the nutrient content of sheep rations based on metabolic profile results.

Timing: Ideally blood sampling should be done 2-3 weeks before lambing is due to start. Earlier than this, sheep are not yet in the high risk period and so there is the potential that some energy problems could be missed. If the ewes are sampled later than this the opportunity to make nutritional adjustments for the benefit of the flock are limited.

Which sheep to sample: Groups of no less than five sheep in each category (triplet, twin and single carriers) should always be sampled. Our standard test encourages submission of samples from 20 sheep. Blood testing is still of benefit in flocks that do not scan as the same principles apply.

Bloods to submit: One green top vacutainer (lithium heparin) from each sheep is required.



What information is required?

A Pre-Lambing Sheep input form should be fully completed – one form for each group. If scanned, the samples should be grouped according to lamb numbers and the weeks to lambing noted, ration details as well as approximate ewe weights should also be provided. Please label all tubes clearly.

The bloods will be analysed for:

Energy: B-OHB
Protein: Albumin, UreaN
Minerals: Magnesium
Trace Element: Copper

Beta hydroxybutyrate B-OHB: is produced in the liver of animals in negative energy balance as they try to use body fat as an energy source.

Sheep in negative energy balance may develop pregnancy toxemia (also known as twin lamb disease) due to the combination of low blood glucose and the toxic effects of the ketone bodies produced by fat breakdown.

The treatment of pregnancy toxemia is often unsuccessful (only 33% survival in one study) so prevention is preferable to cure. Determining the B-OHB levels 3-4 weeks before lambing allows adjustment of the diet if necessary to minimise the risk of pregnancy toxemia and avoid the other problems associated with negative energy balance such as poor colostrum production. For ewes carrying a single lamb the advice may be to maintain or reduce the levels of concentrate feeding rather than increase.

UreaN is a marker of current protein intake. Low protein intake results in suboptimal colostrum quality and reduced milk production leading to reduced lamb growth rates. Low protein levels are also associated with reduced immune system function.

Albumin is a protein produced by the liver. Low albumin levels may be due to liver damage (e.g. liver fluke), blood loss (e.g. haemonchosis), prolonged disease or long-term protein undernutrition

Magnesium: There are no body stores of magnesium so low levels in the diet result in low blood levels without delay. Low magnesium can occasionally cause “staggers” in sheep (usually after lambing) but is most useful as an indicator of what may be happening with calcium, as magnesium is a co-factor involved with the regulation of calcium levels in the blood.

Copper: Low copper levels during late pregnancy can result in a failure of development of the nerve cells within the brain and spinal cord leading to “Swayback” (both congenital and delayed) in the lambs. Sheep are however very sensitive to copper toxicity and over supplementation is a real risk.

