DAIRY HERD HEALTH & PRODUCTIVITY SERVICE

Newsletter 2020, Q3 Aug 2020

DHHPS Membership has blood testing in block calving herds covered!

As usual at this time of year, the DHHPS office has received several enquiries from vets, nutritionists and farmers asking about what testing protocol they should follow and the costs involved when carrying out metabolic profiling in block calving dairy herds.

DHHPS blood testing membership typically entails sampling throughout the year, but the aim of the membership package is to allow flexibility of testing.

The standard DHHPS 17 cow blood testing protocol in an all year round calving dairy herd is:

- 7 freshly calved cows (10 – 20 days calved)
- 5 mid lactation cows (80 – 120 days in milk)
- 5 "close-up" dry cows (within 10 days of calving, but not at the point of calving)

Block calving herds often start testing dry cows in the month before calving, followed by freshly calved groups once calving starts. Typically, testing is carried out every month throughout calving.

It makes sense for blood sampling to be targeted in a block calving herd before calving even starts – with a real focus on the "close-up" dry period.

Metabolic profile blood testing is a very useful tool to have in the box as it can be used to double-check if the nutrition and management is going as planned at this critical time in the run-up to calving. Block calving herds only get one chance to get it right - and if problems are identified, appropriate and effective changes can be implemented early in the season.

A testing protocol for an August block calving herd is outlined, which of course can be altered to best fit the needs of any dairy unit testing.

August Block Calving Herd - Metabolic Profile Blood Testing Protocol

July

Test dry cows in the month before calving starts:

- 6 x "far off" dry cows at 1 month off calving
- 6 x "close up" dry cows (within 10 days of calving: first cows due to calve at the start of the block)

August

Once calving starts:

- 5 x "close up" dry cows
- 7 x fresh calvers 10 – 20 days calved
- 5 x late lactation stale cows (last cows to calve)

September

- 5 x "close up" dry cows
- 7 x fresh calvers 10 – 20 days calved
- 5 x cows at one month calved (first cows to calve)

October

- 5 x "close up" dry cows,
- 7 x fresh calvers 10 – 20 days calved
- 5 x cows at two months calved (first cows to calve: now at peak)

November

- 5 x "close up" dry cows
- 7 x fresh calvers 10 – 20 days calved
- 5 x cows at two months calved

Potentially, another metabolic profile can be carried out in December, if cows are still calving at this time.

Testing can also be carried out at other times of year from January to June if problems are occurring such as disappointing milk production or disease issues.

The most cost effective way for a block calving herd to carry out the above or similar testing regime would be to sign up for DHHPS blood testing membership**.** Our current cost for DHHPS blood testing members is £680 + VAT per year, charged at £170 every quarter.

In herds that calve all year round, the blood testing schedule can of course also be flexible. For example, if transition dry cow management is identified as a problem, then testing groups of six "close up" dry cows every 6-8 weeks may be more appropriate.

Please do not hesitate to contact the DHHPS office via email or telephone for tailored testing advice for any unit.

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Cobalt deficiency in lambs

Cobalt deficiency is a common cause of ill-thrift in growing lambs in the late summer and autumn, as many areas of the UK have soils that are deficient in cobalt. In contrast, cobalt deficiency in cattle is rare in the UK. However, there are a number of other causes of ill-thrift in growing lambs such as parasitic gastroenteritis (PGE), and so veterinary laboratory confirmation of cobalt deficiency is essential.

Cobalt is required for the manufacture of Vitamin B12 by the rumen micro-organisms. Vitamin B12 in turn plays key roles in energy metabolism in all animals, but especially in ruminants due to their requirement to use propionate from the rumen to make glucose.

Clinical signs of cobalt deficiency (termed "pine") are relatively non-specific and include:

- Ill-thrift and failure to reach target growth rates. Severely affected animals are pot-bellied, empty and emaciated.
- Affected lambs often have a watery discharge from their eyes, with tear staining on the face.
- In advanced cases, the mucus membranes of the eye are also pale or white.
- Cobalt deficient lambs are more susceptible to infections such as PGE.
- Severely affected lambs may also develop Ovine White Liver Disease as a result of fatty infiltration of the liver, which results in signs of liver failure and death.

Diagnosis of cobalt deficiency in growing lambs is not straightforward. Unfortunately, the association between soil cobalt levels, pasture concentrations and animal status is not straightforward and cannot be relied on. There is also considerable variation in cobalt levels dependent on pasture species and stage of maturity. Therefore, forage mineral analyses might give a guide as to the potential for problems to develop, but cannot be relied upon.

- Serum Vitamin B12 levels assess short-term intakes of cobalt from the diet. However, values will rise within days of cobalt supplementation, and yarding of animals for more than 4 – 6 hours prior to sampling can artificially elevate serum Vitamin B12 levels. Individual animal variation is high, and at least 10 animals must be blood sampled to provide an accurate assessment.
- The DHHPS Summer Pre-mating Sheep Test is designed to monitor the most common causes of ill-thrift in sheep: either disease issues or trace element deficiencies. Serum Vitamin B12 is included as part of this package.
- Overseas, liver samples are commonly taken by liver biopsy and analysed for liver Vitamin B12 levels, which provides a guide to limited body storage of cobalt. However, liver biopsies are expensive and invasive to perform.
- Often the only way to definitively diagnose production-limiting cobalt deficiency is to undertake a controlled supplementation trial. Half of the lambs are supplemented with cobalt (even tag numbers), and half are not (odd tag numbers). The growth rates of the two groups are then compared.

There are a number of products available for cobalt supplementation, and the choice of which product to use will depend on cost, ease of administration and duration of supplementation. It should be noted that most concentrate feedstuffs contain sufficient cobalt, although these are not routinely fed to lambs at grass. Whilst convenient, free access mineral tubs and buckets do not provide long-term reliable intakes of cobalt.

Oral cobalt drenches are relatively cheap, but given the lack of cobalt storage in the body, they need to be repeated at fortnightly or monthly intervals. Intraruminal boluses provide longer-term supplementation, but are more costly. Both short-term and long-term Vitamin B12 injections are also available, and discussion with your vet is necessary to determine which product is best for your circumstances.

DHHPS services during COVID-19

We continue to operate as close to normal a service as possible during the current coronavirus situation, including blood sample analysis and reporting. DHHPS@ed.ac.uk is the best way to contact us, and this email address is monitored daily.

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