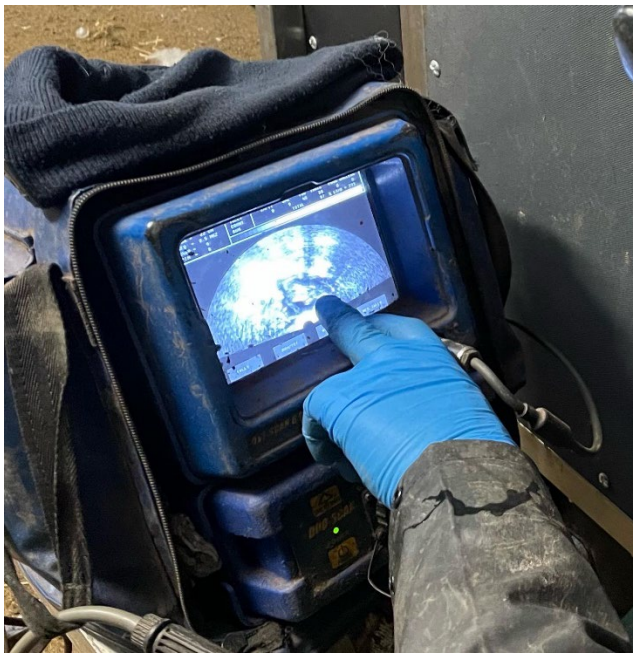
DAIRY HERD HEALTH & PRODUCTIVITY SERVICE

Newsletter 2024, Q1 Feb 2024

## Ewe Nutrition in Pregnancy

Undoubtably the nutrition of the pregnant ewe can have a major impact on ewe and lamb health, and thus future productivity in the flock for the coming year. With 75% of lamb growth occurring in the last 6 weeks of pregnancy, getting it right at this stage is critical. Problems can result in twin-lamb disease, reduced lamb birthweight, lack of colostrum quantity and/or quality, and high levels of perinatal mortality. Perinatal mortality is a major cause of lost productivity in UK flocks, and ranges from 10-25%. 5% or less is achievable on many farms.

Ultrasound diagnosis of pregnancy and foetal number (scanning) is typically performed at day 60-90 of pregnancy, and allows identification of barren ewes, early detection of poor reproductive performance and the tailoring of nutritional management of ewes according to foetal number being carried.

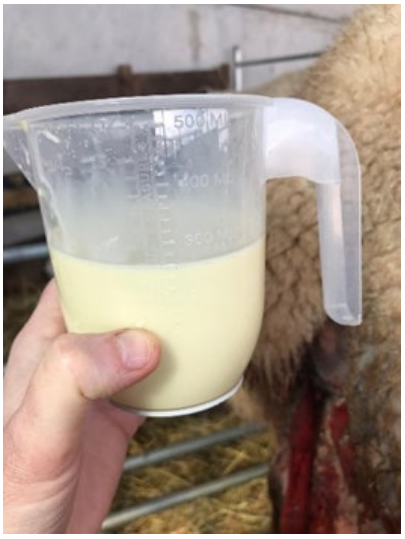


The energy requirements for an 80kg ewe carrying a single lamb at 18 weeks of pregnancy are approximately 13.9MJ. Compare this to an 80kg ewe carrying triplets at the same stage of pregnancy, needing approximately 18.5MJ: a considerable difference of nearly 5MJ! Dietary protein requirements of the triplet-carrying ewe are also significantly greater than the single carrying ewe in the later stages of gestation.

Feeding ewes according to the number of lambs being carried is a solid start. Ensuring that the ration and/or its management is going to plan is the next step, and this can be done by carrying out a DHHPS Pre-Lambing Blood Test.

**Blood sampling sheep in late pregnancy can give you a rapid, cost effective and objective measure of nutritional management, before it is too late.**

With the blood test results and written report back within the week, any necessary adjustments can then be made to the diet or its management, to meet or more precisely match the pregnant ewe's requirements.



Blood testing is one way to check ewe ERDP requirements are being met. A shortage of ERDP can result in poor colostrum quality.

The DHHPS standard Pre-Lambing sheep test costs £200 for up to 20 sheep. At least 5 ewes should be sampled from each group. Our standard test includes analysis for BOHB, Urea-N, albumin, magnesium and copper. For more information or to access our sheep testing forms, please call the DHHPS office, or look at our website.

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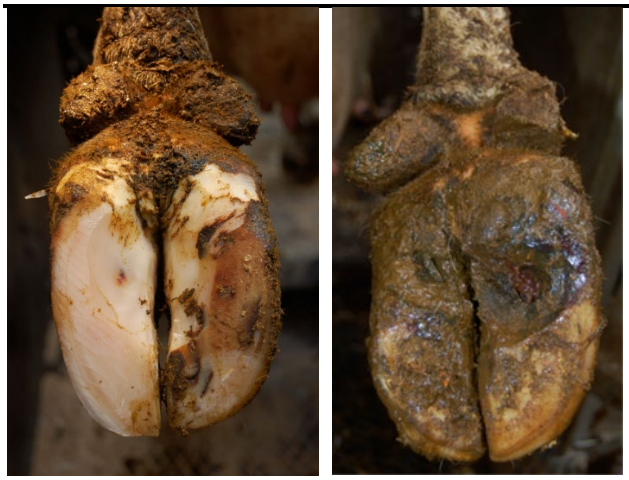

## Protecting against solar ulcers

It has long been established that the transition period represents a period of significant risk for claw horn disease in dairy cows. The softening of the ligaments in the run up to calving, combined with negative energy balance in early lactation, leave cows vulnerable to foot lesions, such as solar bruising and ulcers.

Whilst there is still some debate as to the optimal frequency of routine foot trimming, inspecting feet regularly to ensure that toe length and foot balance are optimal is an essential part of any lameness prevention programme. That said, despite implementation of regular routine foot trimming on many farms, lameness continues to be the leading welfare problem affecting dairy cows worldwide.

A recent study undertaken by the University of Liverpool sought to understand how certain cow factors influence the development of claw horn disease in herds that routinely foot trim all cows twice a year at dry off and 60 days calved (https://doi.org/10.3168/jds.2023-23965).

In this study, cows across four farms were examined during the dry period, at calving and during early lactation. The first key finding was that foot angle and heel depth were not predictive of the development of claw horn disease. This is perhaps not surprising, given that routine trimming aims to ensure that foot balance is maintained for all cows in the herd, hence minimising the impact of foot angle and heel depth on disease risk in cows where the feet are already "well maintained".

Interestingly, the risk of a sole lesion in early lactation was strongly related to cow body condition, digital cushion thickness and sole horn thickness at the time of calving. Thin cows (under body condition score 2.5 on a scale of 1-5), cows with a thinner digital cushion and cows with a thinner sole at calving, were at significantly increased risk of developing solar bruising or a solar ulcer in early lactation. Given the current debate as to the optimal depth of the sole, erring on the side of caution and preserving sole horn thickness when routinely trimming feet would seem prudent at this stage. Do not forget the risks of over trimming!

The importance of body condition and digital cushion thickness in the development of solar bruising and ulceration in this study is impossible to ignore. These findings reinforce the need to minimise body fat mobilisation during the transition period. Unfortunately, by the time changes in body condition score are identified, it is likely that digital cushion thickness has already been affected. Spotting excessive negative energy balance and taking action early is therefore an essential part of any lameness control programme.

One way of achieving this is through routine metabolic profiling of the herd. We regularly identify excessive negative energy balance in the run up to calving and in early lactation, which left unchecked, leaves cows at risk of excessive body condition loss. The impact of this on fertility performance and disease risk is well established, with this new study from the team at Liverpool yet again highlighting the close association between poor body condition and digital cushion loss with solar ulcers and bruising.

To reliably identify problems with negative energy balance, we would typically recommend sampling cows in the last week of pregnancy, at 10-20 days calved and at around 100 days calved. As always, please do not hesitate to call before taking blood samples if you want to discuss your specific needs.