DAIRY HERD HEALTH & PRODUCTIVITY SERVICE

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Be strategic with your autumn grazing

After an exceptionally dry summer for parts of the UK, many farms are looking to conserve forage stocks as they head into the winter. One way of doing this is to keep cows at grass for longer in the autumn. The question is how this can be done without storing up problems for later.

Over the past couple of months, we have received an increasing number of blood samples from cows on autumn grazing and the results have been quite telling. A significant proportion of the early lactation cows on autumn grazing have evidence of excessive negative energy balance. Some of the results have been extreme and we have been surprised by the number of cows with butyrate results that are indicative of clinical ketosis (over 3.0 mmol/l). These cows are the tip of the iceberg and represent an early lactation group that are struggling to achieve satisfactory intakes of grazed grass, with knock on effects of excessive body condition loss, poor fertility and reduced milk yields throughout the winter.

Whilst the autumn flush of grass can look plentiful, dry matter content is highly variable. This was illustrated by the last Grass Check report for 2020 (https://grasscheckgb.co.uk/), which showed October grass dry matter content ranging from 13 to 23%. That's nearly a two-fold range in autumn grazing dry matter! Measuring grass dry matter is relatively easy to do using a set of scales, a cup of water and a microwave – and is a useful tool for helping to decide when to house high yielding cows in early lactation.

As dry matter content drops, there is often little option other than to completely house early lactation cows. However, there is more flexibility when thinking about what to do with the mid-lactation cows. Severe negative energy balance is generally less common in mid-lactation cows and whilst we have seen plenty of mid-lactation cows on autumn grazing with evidence of excessive body fat mobilisation, the blood test results have not been as extreme as those cows in early lactation. For cows that are in good body condition and in calf, this is good news, as it offers the prospect of keeping these cows out at grass for longer. Some controlled body condition loss at this stage of production can be tolerated to preserve winter forage stocks, provided that the cows are not allowed to drop below body condition score 2.5 (on a scale of 1-5). Regular monitoring of body condition is necessary and cows should be housed once they reach body condition 2.5.

Of course, there are other ways that forage stocks can be preserved, with farms altering their culling decisions or keeping far off dry cows and youngstock at grass for longer. If you are feeding straw in the transition ration and have far off dry cows at grass, remember that straw should be fed for six weeks prior to calving to avoid a drop in intakes as cows move onto the transition diet.

For farms with access to by-products such as brewers' grains, then getting regular deliveries in place now to protect forage stocks is often more cost effective than paying over the odds to buy large quantities in late winter when stocks are low. Advanced planning now could avoid additional stress for both you and the cows in 2021! Once the cows are settled on their winter rations, then a metabolic profile can be useful to spot and address any nutritional issues early on.

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Treatment of clinical mastitis cases

Given the current issues surrounding the (lack of) availability of most of the intramammary antibiotic tubes used to treat clinical mastitis, it is worth considering what factors are likely to be important in treatment success rates. Clinical mastitis cure rates during lactation are often quoted as being around 30 – 50% in the UK. Research has shown that a number of factors are likely to affect cure rates following treatment for clinical mastitis (i.e. clots in the milk, sick cows), including the type of bacteria present and individual cow cell count. Bacteria such as *Staph. aureus* and *Strep. uberis* tend to have poorer treatment success rates, hence the importance of identifying the main causes of mastitis.

How long the infection has been present within the udder is also a major determinant of successful treatment. NMR data showed that cows with new udder infections (as measured by high cell counts) have approximately a 50% likelihood of being cured at the next milk recording. However, cows with a chronic high cell count for multiple months have only a 14% likelihood of being cured at the next recording. Overall, chronic infections are less likely to cure. Other factors affecting successful cure based on cell counts include age (younger cows have better treatment success rates), previous treatment, stage of lactation, number of quarters affected (more quarters affected equals lower success rates), higher cell counts and presence of internal abscesses in udder (i.e. lumps in the udder). A first lactation heifer with only one quarter affected has a much higher likelihood of cure compared to an older cow with multiple quarters affected.

The other consideration is: when is the right time to be treating the cow, especially for long-standing infections? The most recent NMR 500 herds dataset shows a median dry period cure rate of 77% (cows dried off with a high cell count, but then calving in with a low cell count), with the top 25% of herds achieving the target 85% of cows cured during the dry period. Admittedly, these are all based on cell count data (and so subclinical mastitis rather than clinical mastitis), but all of the data would suggest that treatment is much more effective during the dry period. Therefore, drying chronic high cell count cows off early represents the best chance of cure.

Whilst choosing the correct antibiotic is important, it is also key to recognise the involvement of these other factors in how well a cow will respond. Indeed, a recent systemic review in the Journal of Dairy Science by Nobrega *et al.* (2020) looked at 30 research trials on the treatment of cows with clinical mastitis using Critically Important Antimicrobials (CIA) such as cephalosporins and quinolones. They found no difference in treatment success rates for cows with non-severe clinical mastitis treated with CIA and non-CIA, and concluded that "CIA in general are not necessary for treating non-severe clinical mastitis in dairy cattle".

Mastitis is the main reason for treating adult dairy cows with antibiotics, and treating cows promptly with appropriate antibiotics is undoubtedly key. However, antibiotic resistance is a rare cause of poor response to treatment. The best approach remains to prevent cows getting mastitis in the first place, by reviewing mastitis control measures with your vet.

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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