DAIRY HERD HEALTH & PRODUCTIVITY SERVICE

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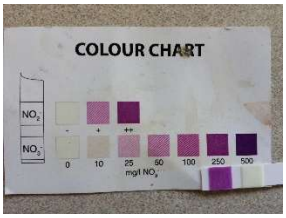
Introducing our new staff member: Katie Davison

Originally from Scotland, Katie joined the DHHPS team from New Zealand at the start of April. Katie has spent the last 15 years working as a dairy vet in the Waikato, alongside farming 810 Friesian cows with her husband. Prior to joining the DHHPS, Katie was running her own mixed vet practice in New Zealand, which is still looking after lots of dairy cows and small animals. Katie enjoys all aspects of farm work and working with farmers to improve productivity and profitability on farm. Outside of work, Katie is generally kept busy with her two children and their various sports and musical activities.

Coming from New Zealand and moving into the May/June period (start of winter), we always have concerns in New Zealand about nitrate toxicity in cattle. During this time, many farmers start to graze new fast-growing annual and permanent pasture. Frosty mornings and overcast days are the greatest risk for nitrate outbreaks when pasture has been unable to photosynthesise.

High levels of nitrate and nitrite in plants are the primary cause of acute nitrate poisoning in cattle. Rapidly growing plants in rich nitrogenous soils are most dangerous. When this grass is consumed, the nitrate enters the rumen where the microbes convert nitrate to nitrite, and then ammonia. When high levels of nitrate are consumed, the conversion of the nitrite to ammonia occurs at a slower rate than the reduction of nitrate to nitrite, leading to a build up of nitrite in the rumen. Nitrite is able to easily enter the bloodstream through the rumen, and converts ferrous hemoglobin to ferric methemoglobin, which cannot carry oxygen. The signs of nitrate toxicity are a direct result from a lack of oxygen, and you will often see rapid breathing and frothing, tremors, difficulty standing/ weakness and gasping for air as the animals are suffocating. The results of nitrate poisoning can be very dramatic, with animals often giving no warning and collapsing suddenly. Death is imminent without veterinary treatment, and so prevention is very important through on-farm testing of grass.



As we move towards silage time in the UK, it is important to remember that silage can also be a source of nitrate toxicity. Some environmental conditions (particularly drought) cause nitrates to accumulate in plants fertilized with nitrogen, even at recommended rates. By taking precautions, you can fertilize at recommended rates for maximum production of silage crops without fear of nitrate issues.

Any suspect feed should be tested for nitrate levels before feeding. The silage can also be tested at harvest to determine if nitrates are a cause for concern. When stored forages contain more than 1,000 ppm NO_3-N, intakes must be managed to avoid elevated methemoglobin levels in the blood and other toxic effects.

Remember inhalation of even a small amount of nitric oxide (NO_2) from the ensiling process can result in serious and sometimes permanent lung damage. If suspected exposure to nitrogen dioxide or nitric acid has occurred you should seek immediate medical help. For further information:

https://www.nfuonline.com/updates-and-information/silage-pit-safety-advice-on-storage-and-handling/

Fertility in spring block calvers

It has not been an easy spring so far, especially for those spring block calving herds who have struggled in the wet weather with poor grass growth and reduced grazing intakes. Unsurprisingly AHDB Forage for Knowledge has shown that UK grass growth rates in 2024 are well behind last year and the 5 year average, and spring calving cows have been struggling to meet their nutritional requirements from grazed grass. Given limited stocks of good quality silage on many farms, cows have lost body condition in early lactation, which will potentially cause problems later on.

With calving now finishing in many spring block calving herds, attention now switches to getting cows back in calf. The aim is to have 80% of cows calved within the first 6 weeks of the calving season, and this requires that 75% of cows are back in calf by 100 days in milk (termed the 100 day In Calf Rate – similar to the 6 week In Calf Rate, which is the number of cows in calf during the first 6 weeks of mating). Less than 10% of the cows should be barren at the end of breeding, sometimes called the 200 day Not In Calf rate. Having a tight calving block means that workload is concentrated at key times through the year, with maximum grass utilization in the spring.

Undoubtedly, the key is to ensure that the cows are fit, healthy and cycling by the start of the breeding season. There are many factors that contribute to this such as nutrition, genetics, infectious disease status and cow management.

Key current actions for spring block calvers:

- Check body condition score in the milking cows to ensure that cows are in body condition score 2.5 – 3.5 (on a 5 point scale). Individual thin cows should be examined for potential diseases such as lameness. However, if more than 10% of the herd are below BCS 2.5, then action will be needed to ensure that cows are maintaining or improving body condition prior to mating.
- Blood testing the cows will provide rapid and objective evidence of what the cows think of their current diet. With calving finished in most spring block calving herds, blood testing now focuses on the milking cows – and we have seen a number of herds still struggling with their current energy balance in cows over a month calved due to the poor grazing conditions. Correcting this is key to preventing cows losing too much body condition prior to mating.
- If cows are continuing to struggle at grass, then options include either A) some concentrate feeding in the parlour and/or B) buffer feeding with quality forage to help maintain intakes.
- Pre-breeding checks by your vet will help identify cows with uterine infections (“whites”) or cysts, and should be undertaken in all cows at 3 weeks calved in block calving herds to ensure that cows are clean and cycling prior to mating.
- Start heat detection 35 days before the planned start of mating, so that any non-bulling cows can be identified early and flagged for veterinary examination. Over 85% of the cows should have at least one observed heat by the planned start of breeding.
- Heat detection aids such as tail paint can help when used correctly, but do not replace twice or ideally three times a day paddock observations.
- Although they will usually have higher conception rates, don’t forget about bulling heifers. Aim for most heifers to calve at the start of the calving period to give them longer to recover prior to re-breeding.

There is a limited window in spring block calving herds to get cows back in calf which will affect milk production next year. Take action now to get as many cows back in calf as possible.