November Newsletter 2019

British Cattle Veterinary Association Conference

This year's BCVA Congress was held last month over 3 days in Southport. Not unexpectedly, TB featured heavily. Some blood tests based on antibodies are showing promise in detecting TB, but it is likely to be some time before APHA adopts them in favour of the traditional skin test. Some of these blood tests are now commercially available, but others are still research tools only at the moment.

Medicine use was also a major theme. Catherine McLaughlin from the Responsible Use of Medicines in Animals (RUMA) informed us that as an industry, we have hit our antibiotic reduction targets 2 years in advance, with critically important antibiotics now only making up a fraction of 1 percent sold. In herds with mycoplasma problems, autogenous vaccines have anecdotally been helpful in reducing medicines use, but being bespoke products, they cannot claim proven efficacy.

Todd Duffield from Ontario Veterinary College presented some compelling research on the benefits of pain relief, especially for calves undergoing disbudding. Once the local anaesthetic wears off, non-steroidal drugs (such as Metacam or Ketofen) prevents many of the pain-associated behaviours, and leads to better growth rates. Calves receiving pain-relief immediately after birth also are more likely to have better growth rates and lower disease incidence. The evidence for routinely giving non-steroidal drugs to cows at the time of a normal calving are mixed, however, with cows given these pain-killers pre-calving more likely to have a stillbirth, and when given immediately after calving they are more likely to have retained foetal membranes. Common sense dictates that cows undergoing a difficult assisted calving or caesarian still require pain-relief however.

There were updates from Pete Orpin on the National Johnes Action Plan - it is already the most successful voluntary arrangement worldwide, and is likely to be be implemented on most dairy farms now that it is a Red Tractor requirement. For beef suckler farms, an annual test and cull policy is likely to be the best way forward. The BVD Stamp It Out campaign has also reached over half of the cattle numbers it set out to achieve. We have been ahead of the curve at Orchard, but funding is due to come to an end at the end of 2020, and we still have a few places left. Please get in touch if you'd like to take part.

Finally, there was an interesting talk By Chris Hudson on how "big data" from many different sources is influencing how we give advice and make decisions, and how artificial intelligence may be used to collate this into a useable form. I even got involved in a little bit of computer programming myself, producing a report writer to make use of calf weight data. It still needs some tweaking, but watch this space!

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Sub-Acute Rumen Acidosis (SARA)

As the milk yields of cattle have increased over recent years, the energy density required to sustain production has also had to increase. Cows are ruminants, and have evolved towards the slow bacterial breakdown of relatively indigestible forages as a means of sustaining themselves. It comes as no surprise that when a palatable, rapidly fermentable feed is introduced to an ill-prepared rumen environment that the delicate balance of the rumen environment may be easily upset.

Definition and causes

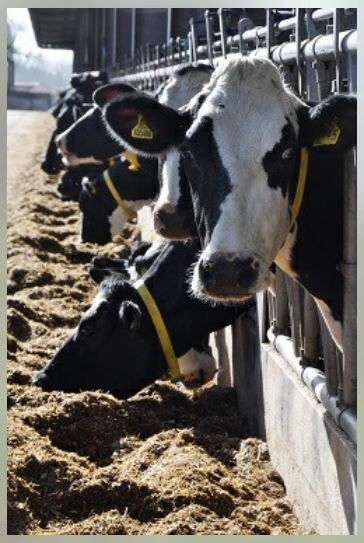
Inadequate chopping or mixing of straw promotes ration sorting, which may precipitate sub-acute ruminal acidosis. SARA is best described as a transient decrease in rumen pH, towards acid away from neutral. It differs from acute acidosis in that the rumen is normally able to 'recover' without outside intervention and is unlikely to bring about immediate critical illness. This does not mean it is a disease without economic consequence; the financial impact of SARA on a herd can be substantial, yet these losses are often insidious and frequently go un-noticed. SARA occurs when organic acids, such as volatile fatty acids (VFAs) and lactic acid, are produced by the rapid breakdown of feeds that overwhelm the natural buffering capacity of the rumen. These acids are normally removed via the finger-like papillae that line the rumen wall, or are neutralised by bicarbonate, which is naturally present in abundance in bovine saliva. The length and absorptive capacity of ruminal papillae increases with exposure to starch / concentrate diets, but they take 4-6 weeks to adapt. This is why increasing the concentrate portion of the diet should always be done slowly, and why SARA is more frequently identified in post-calving transition cows.

The formulated 'on paper' ration can give an indication as to the relative risk of SARA. Broadly speaking the lower the amount of physically effective fibre from forages in the diet, the higher the risk. Formulated rations with any of the following characteristics would be considered as potential risks for SARA:

- Less than 35% neutral detergent fibre (NDF).
- Low NDF from forage (<23%)
- High overall starch (>15%) or sugar (>7%), or combined starch & sugar (>18%)
- Low forage to concentrate ratio (<40:60)

SARA may still occur in grass-based systems, particularly around turnout in Spring, when lush, rich pasture lacks insufficient fibre and the assumption that this is not a disease of grazing cattle is false. It is important to emphasise that it is perfectly possible to feed more 'pokey' rations provided suitable consideration is given to the feeding management, ration presentation and particularly day-to-day consistency.

Diet presentation



Although the formulated ration obviously has great bearing on the relative risk of SARA, the physical structure of the diet and the method of feeding is equally, if not more, important. The greater the load of concentrate delivered to the rumen in one go, the quicker and further the fermentation and the lower the pH will drop.

Sub-acute ruminal acidosis is a subtle, yet costly, disease that is common in the high producing dairy cow. Prevention is primarily done by ensuring that there is adequate functional fibre available to the rumen, attempting to reduce the challenge to ruminal flora by reducing the loading of rapidly fermentable feedstuffs and providing periods of adaptation to these more concentrated diets