

Ration mixing, additives and buffers, and monitoring are all key to controlling condition

Is it time your herd took the 'acid' test?

Sub-acute ruminal acidosis is costly and largely unseen. Here are some pointers on spotting the problem, as well as some tips on tackling it – once and for all – and reducing its impact on your milking herd's and business' performance.

text Rachael Porter

Clinical acidosis is rarely seen in UK dairy herds, but the less severe sub-acute ruminal acidosis (SARA) is common among early and mid lactation cows, according to KW nutritionist Richard Wynn. Unnoticed by many, he estimates that SARA could be costing the UK dairy industry £25m each year. "One of the challenges is that there's little information on the actual incidence and the cost of SARA in this country, and that makes it much easier to overlook," he explains. "Where figures are available from a range of feeding systems elsewhere in the world, multi-herd studies have shown incidences ranging from 11% to 26% in early and mid lactation cows.

"A combined German and Dutch study in 2004, for example, found 11% of early lactation cows to be experiencing SARA, rising to 18% in mid lactation. And a 2008 report from Iranian farms using TMR feeding found the incidence as high as 28%."

Fermentable rations

There's also the tendency to feed increasingly fermentable rations as yields increase over time. But unless alternative feed ingredients are used, or other actions taken, the risk of SARA increases. Even cows fed mainly grazed grass can be at risk. Trial work in Ireland with grazing cows fed low amounts of concentrate found rumen conditions were 'normal', in other words non-SARA, in only 47% of cows.

"Based on these figures, it's possible that 20% of early and mid lactation dairy cows in the UK could be experiencing SARA," continues Dr Wynn. "And with DairyCo estimating 1.81m cows in the UK, that's around 168,000 cows that could be losing around 1.5 litres/day to SARA, worth £68,000/day (at 27ppl) to the industry as a whole, and equivalent to £25m each year."

And the total cost is undoubtedly much higher once treatment costs and the impact on cow health and culling rates are taken into account.



Ration roulette: don't leave it to chance. Check your ration and your cows regularly for indications of SARA

SARA is implicated in reduced fertility and a higher incidence of lameness, along with an increased susceptibility to mycotoxins and pathogenic bacteria. These can all result from an acidic rumen environment.

In addition to depressed milk yield, the main symptoms of SARA include poor cudging, loose dung, variable and low feed intakes, poor fibre and grain digestion (indicated by quantities of either in the dung), and sometimes low butterfats.

Correctly formulating rations to produce the right balance of energy release in the rumen is the first step in helping to keep SARA under control. But just as important is accurate and thorough ration mixing to ensure cows actually eat the planned ration.

Recent data from Frank Wright Trow indicates that only 15% of rations are actually consumed as formulated, with 73% of farms failing to mix the ration correctly and 54% showing signs of cows sorting out the finer feed ingredients (usually the concentrates) in preference to longer chopped forage.

"It's also important to be aware of ration changes that could increase the risk of acidosis, such as inconsistent use of different silage cuts, or maize grains becoming more digestible as time in the clamp increases," adds Dr Wynn.

"Pay close attention to the chop length of straw to minimise sorting (aim for 5cm), and include a moist feed or liquid feed if rations are dry or unpalatable. Both will help mask unpalatable feed ingredients, bind finer particles to the forage and promote consistent intakes. And make sure the ration contains enough structural fibre to stimulate rumen function and promote cudging. This is essential to ensure good production of saliva."

PAL scores

If forage fibre levels are low, or silage potential acid loading (PAL) scores high, Dr Wynn recommends adding extra chopped straw to the ration, as well as switching some of the energy to digestible fibre feeds like sugar beet feed and soya hulls. If starch is needed, use slower release sources like maize meal or caustic soda-treated wheat (sodawheat), and take care if feeding concentrates in the parlour – the high intake rates mean less saliva is produced per mouthful, creating less buffering in the rumen.

"And if the risk of SARA is high, include a rumen buffer to help stabilise rumen pH," he says.

"A live yeast can also be added to enhance rumen function, but where SARA is occurring the combination of both a rumen buffer like Acid Buf

Alkalisising product is a useful tool for tackling SARA

Home-grown farm feeds specialist FiveF has developed an 'alkalizing' complementary compound feed product to help producers control winter acidosis.

When added to damp forage sources, AlkabupHa rapidly releases ammonia to neutralise excess acid in the diet. The company says that including it in the diet will improve rumen performance and boost dry matter intake, as well as contributing extra protein and macro minerals.

"High quality, well fermented grass and maize forages often produce high levels of lactic and other fermentation acids and this is very challenging nutritionally for the cow," says the company's Malcolm Graham. "But by feeding this product they can now produce diets with much lower underlying acidity and 'kickstart' a chain of events that will improve animal performance and health."

The alkaliser is actually 90% protein, but also contributes significantly to the

calcium and magnesium requirements of the animal.

"Its formulation ensures excess acids in the diet are quickly turned into ammonium salts, which are then metabolised as a highly effective rumen degradable energy and protein source. This improves rumen function, as well as helping to reduce the requirement for high protein feed ingredients like soya and rape meal," explains Mr Graham.

He adds that the amount of the feed additive required depends to a certain extent on the pH, moisture level and fermentation acid content of the dietary forages.

"But in general terms, the ideal feeding level will be between 500g and 1,200g per cow per day. The maximum recommended amount is 1,500g per day with other animals rationed pro rata to feed intake, body weight and acid load risk.

"It is simply mixed into the ration like any other feed ingredient and can be



Malcolm Graham

fed out immediately. The acid load reduction effect will develop over a couple of hours at the feed barrier."

The net cost of using the alkaliser is between 5p and 15p per cow per day, after allowing for the underlying protein and mineral value it contributes to the diet.

"And this is before the benefit of any increased forage and feed intakes are factored in with regard to both performance and overall health," adds Mr Graham.

and a live yeast, such as Vistacell, is important.

"Many KW customers are now routinely using a combined yeast-plus-buffer

Tom Halton: keeping a close eye on his cows and their ration



product, such as Vistacell AB, throughout early and mid lactation, with the typical 1.5 litre/cow milk production response worth around 40p/day. For a cost of just 11p/cow/day, that's a great return on investment, not accounting for the other benefits such as cow fertility, health and longevity."

Sub-clinical signs

The 'fuel' going into Tom Halton's cows was too rich and although a serious acidosis problem wasn't obvious, the sub-clinical signs were there. "We saw the odd cow with 'bubbling' muck, but the big give away was the fact that the cows simply weren't milking as well as they should have been on the ration that we were feeding them," he says.

With the advisory support that comes with being part of the KW Compass Programme, Tom set about tackling the sub-clinical acidosis problem in his 600-cow herd, based at Rode Farms near Congleton in Cheshire, with help from nutritionist Michael Marsden.

"We took a close look at the ration and the cows. We examined mix quality and now ensure that the straw is incorporated properly. We add it to the mixer wagon first and at the end of mixing it's chopped to the length of a short pencil, which is

ideal. It's not too short so it provides the 'scratch factor', but it's not so long that the cows can 'sort' the ration either. And we also add a yeast product – Vistacell – at a rate of about 50g per cow per day." Cows also have free access to tubs of bicarbonate of soda: "The cows' uptake is a good indicator of how the ration is performing and whether or not SARA is rumbling in the background. Cows will eat more of it if there's an acidity problem.

"So when we see that happening, we take another look at the ration and the cows," explains Tom.

Today the cows are looking well and Tom says that he's seeing the milk yield and performance that he expects to see from the TMR.

"The cows are cleaner too. They tend to swish their tails a lot if they're suffering with SARA, which flicks muck up on to their backs. So again, we do keep a close eye out for dirty cows."

He stresses that there's no one solution when tackling acidosis and SARA. "We've taken a combined approach – looking at the ration's structure as well as its ingredients.

"Monitoring is also vital too and this means watching the cows, their ration, their muck, and milk output." |