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**PRESS ARTICLE****FOCUS ON FEED EFFICIENCY PUTS RUMEN FUNCTION IN THE SPOTLIGHT**

The efficiency with which feed is converted into milk has a massive impact on dairy unit profitability, and with margins under pressure, optimising rumen function has become a top priority during 2016.

"Managing feeding to minimise acidosis, optimise rumen fermentation and drive forage fibre breakdown is absolutely critical if you want to improve overall feed efficiency," states Dr Derek McIlmoyle, AB Vista's Technical Director for GB and Ireland.

Adjusting rations to minimise the time rumen content spends at low pH is particularly important, claims Dr McIlmoyle. Below pH 5.8, fibre digestion and fermentation efficiency are both compromised as the increased acidity disrupts key microbial populations. Under pH 5.5, cows are considered to be suffering from sub-acute ruminal acidosis (SARA).

"At this point, populations of fibre-digesting microbes are severely reduced," Dr McIlmoyle explains. "So tackle fundamental issues such as inadequate fibre or a poor balance between energy and protein as a matter of priority.

"If the diet doesn't contain sufficient digestible and structural fibre to balance rapidly fermentable starch and sugars, or enough protein to support maximum microbial growth, then fermentation efficiency will be undermined."

In addition, Dr McIlmoyle recommends limiting in-parlour feeding to 2 kg/cow/milking to help avoid overloading the rumen with too much starch, as well as switching to a digestible fibre-based concentrate when grazing. If the risk of SARA is still high, including a slow-release lithothamnion-based rumen conditioner will help maintain a more stable rumen pH.

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"The fibre-digestion microbes in the rumen are also very sensitive to oxygen, yet large volumes of oxygen can be mixed in with the feed consumed each day," Dr McIlmoyle continues. "This introduces aerobic conditions that are less than ideal, particularly when rations already combine high levels of starch and high D-value forages.

"In situations like this, rumen function will often benefit from a metabolically active live yeast to absorb the excess oxygen and optimise conditions for fibre digestion."

Dr McIlmoyle also highlights the importance of good transition management. This will ensure the rumen reaches optimum efficiency as quickly as possible after calving.

"Just remember that the biggest gains come when all of these strategies are combined to really push rumen performance to its absolute limit," he highlights. "Together, the individual benefits can add up to make a substantial difference to both overall herd feed efficiency and subsequent profitability."

Ends

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## **REAPING THE REWARDS OF MAKING FEED EFFICIENCY THE PRIORITY**

For Northern Ireland dairy farmer Andrew Reid, optimising rumen fermentation efficiency is an integral part of a feeding strategy that's seen annual yields hit 10,000 litres/cow, with butterfats at 4.11% and all on a system using grass as the primary forage.

"The only way to keep yields this high and maintain butterfats is to make sure the rumen spends as much time as possible working as efficiently as possible," he explains. "At this level of production you simply can't cut corners, and we've found that in addition to paying close attention to the balance of the ration, using a live yeast and slow release rumen lithothamnion-based conditioner have been absolutely essential.

"We're also aware of the potential for any mycotoxins in the feed to undermine cow health and performance, so we include a ruminant-specific mycotoxin de-activator

as an insurance to help ensure the cows are always working at maximum efficiency."

Based at Laurel Hill Farm, Lisburn, in County Antrim, the 200 Holstein Friesians are fed as one group during lactation, with the year-round total mixed ration (TMR) based on a combination of grass silage, straw, soyabean meal, maize meal and soya hulls.

Nutrition advice is provided by Gareth Anderson from Farmgate Nutrition, who also analyses silages monthly to ensure rations can be quickly adjusted to maintain a consistent nutrient supply to the cows. Together with Andrew, his father Nelson and two full time employees, it's a team that has steadily fine-tuned the herd's nutrition over the years to optimise rumen function and feed efficiency.

"We also put a lot of focus on the dry cows – I believe a good transition is key to producing a 10,000 litre cow," Andrew continues. "Dry cows are fed a high volume, low energy density ration formulated to optimise the rumen ready for lactation.

#### **Farm facts – Laurel Hill Farm**

200 cows

100 ha grassland

Year-round TMR

3-4 cuts grass silage

Rolling 12-month average:

- 10,000 litre/cow
- 4.11% butterfat
- 3.29% protein

Year-round calving

392-day calving interval

Replacements reared on-farm

Milking ration (M + 36 litres/cow):

- Grass silage-based TMR
- Live yeast (Vistacell)
- Slow release lithothamnion-based rumen conditioner (Acid Buf)
- Mycotoxin de-activator (Ultrisorb R)
- 52:48 forage-to-concentrate ratio

Dry cow ration:

- No-slurry haylage, straw, meal
- Live yeast (Vistacell)

"That includes the yeast and mycotoxin de-activator to ensure conditions in the rumen are already as stable and efficient as possible when we need the cow to perform post-calving."

To keep potassium levels low and minimise milk fever problems, haylage for the dry cows is made from pastures that receive no slurry. There's been just one case of milk fever in the past two years, and the number of displaced abomasums is down to 3 per 250 calvings.

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"Be more efficient before you push for expansion, that's our strategy. So we'll push for better yields before increasing cow numbers, whilst also improving fertility and keeping on top of health problems.

"You've invested for years in genetics capable of producing 10,000 litres and above, so why not invest a little more in the feeds and supplements needed for the cow to deliver that performance. Getting the nutrition wrong for these higher genetic merit cows by cutting corners will cost us much more in the long run."

Ends

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