

Probiotics help tackle SCC, cows begin cycling faster

MILTON DAIRY farmer Chris Wills says he began using probiotics in spring 2023 to address somatic cell count (SCC) grades when cows transitioned from their winter barn to lush spring pasture.

While the SCC issue was resolved, an unexpected benefit emerged - cows began cycling significantly faster.

In the second season on the program, Halter data showed cows were returning to heat just 24 days after calving—far below the national average of 42 days.

“The first season I used Rumicell just to the milking herd, cycling pre-mating was phenomenal,” says Wills.

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Wills had tried various products to fix his SCC issues but switched to Probiotic Revolution's Rumicell after reading about another farmer, John McCarty, who went antibiotic-free using probiotics. Rumicell com-



Probiotics not only solved a SCC issue but helped cows begin cycling significantly faster.

bines live yeast with carefully selected bacterial strains to support digestion and immunity.

He began with autumn calvers and carryovers

in May 2023. With 480 cows, most calving in spring, the cost of switching from a live yeast product was negligible, and the usual spring SCC

spike was greatly reduced, avoiding any grades.

Probiotic Revolution's Chris Collier points to research showing that feeding cows three

strains of probiotics 21 days pre calving as well as post-calving helped improved production as well reducing sub-clinical ketosis, which is strongly linked to several early lactation issues such as mastitis, calving difficulties, milk fever and post calving cycling.

Consequently in 2024, when Wills added SuperStart Lead Feed to his springer mob, his cows were cycling on average just 24 days post-calving, compared to 40 days for other farms in the district.

Collier emphasises that rapid post-calving cycling depends on cows avoiding metabolic issues.

“We're using nine targeted probiotic strains in SuperStart Lead Feed. If

cows have ketosis, milk fever, or retained membranes, cycling gets delayed but with these probiotics we must be firing up cows' production and intake to get them cycling so quickly.”

He shared cases where farmers under work pressure stopped feeding SuperStart to late-calving cows.

While early calvers cycled in under 30 days, the late ones blew out past 30 days and bore the brunt of calving and mastitis problems.

“It's easy to use in transition diets or water troughs, giving nearly every farmer the chance to improve mating outcomes.”

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Reproduction starts in the liver

CHRIS BALEMI

THE LIVER doesn't often get the attention it deserves.

Tucked behind the rumen and largely invisible to farm-level observation, it quietly carries the burden of converting nutrients, detoxifying metabolites, and producing energy in the form of glucose to fuel lactation. But during early lactation, when energy demands are highest and intake is lagging, the liver is often overwhelmed. When this happens, fertility can suffer.

It's time we looked at ketosis not only as a milk production or animal health issue, but as a reproduction issue too. Without a functioning liver, you won't get functioning ovaries.

The hidden chain reaction
During early lactation,

the cow enters a state of negative energy balance. She can't eat enough to support her output, so she starts mobilising body fat. This fat is converted into non-esterified fatty acids (NEFAs) and sent to the liver for processing. In a well-functioning cow, the liver turns NEFAs into usable energy or exports them as fat. Reductions in liver performance are a common problem across many herds during early lactation when maximum liver capacity is of utmost importance. In cows where the liver is not fully functional, NEFAs are not efficiently utilised, leading to the production of ketone byproducts such as beta-hydroxybutyrate (BHB) and acetoacetate. This is ketosis in action.

When this imbalance continues, the cow's immune system weakens, milk production drops,



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and ketosis, either clinical or subclinical, can set the cow up for fertility issues later on. Ketosis interferes with calcium metabolism and disrupts insulin signalling, which can lead to suppression of ovarian function, delayed estrus,

and an increased risk of early embryonic loss. **Ketosis isn't one thing**
Not all ketosis is created equal. Ketosis can be categorised into three nutritional causes:
• Type 1: Poor nutrition - Often from low

propionic acid or amino acid intake. These cows are not getting enough nutrients from their diet to meet glucose requirements.
• Type 2: Fat cows - Over-conditioned cows which have mobilised too much fat, overwhelming the liver.

• Type 3: Bad silage - High butyric acid from poor silage risks higher ketone levels due to higher butyric acid, a precursor for the ketone BHB.

In all cases, the liver's ability to oxidise fat and fuel the cow is compromised. But each type requires a different nutritional strategy to resolve it.

Fertility fallout
Why does this matter for mating? Because reproduction is an energy-intensive process. The cow must not only

resume cycling but also produce viable follicles, ovulate, support embryo survival, and maintain a pregnancy. All of that depends on glucose and, by extension, on a liver that is in good working order.

Insulin resistance, triggered by elevated NEFA and BHB levels, blocks ovulation and can delay return to oestrus. Progesterone levels are affected, and early embryonic death becomes more likely, leading to apparent failures to conceive or early pregnancy loss.

What you can do now
So, how do we set cows up for better liver function and reproductive success?
Feed for the liver, not just the rumen
Focus on propionic acid precursors (e.g.

maize, molasses, protected starches) and bypass amino acids to support gluconeogenesis in the liver. It's not just about energy, it's about the type of energy.

Use DCAD strategically
Consider a controlled negative DCAD (dietary cation-anion difference) approach pre-calving to improve calcium availability and reduce metabolic stress. Stable calcium levels in the blood support uterine recovery and ovarian function.

Target minerals that support the liver
Selenium, cobalt, and zinc play important roles in antioxidant activity and enzyme function. Liver health depends on it.

Test, don't guess
Monitor BHB levels in fresh cows to catch sub-clinical ketosis before it cascades into something worse. A cow with BHB levels above 1.2 mmol/L might look fine, but her liver is under strain, and her reproductive future is at risk.

Watch your silage
Don't assume good-looking silage is harmless. High butyric acid can depress appetite and spike BHB production, which are hallmarks of Type 3 ketosis.

When your cows aren't getting in-calf, it might not be about bull management, synchrony, or timing. It might be about the liver.

• Chris Balemi is founder of Agvance Nutrition
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