Accelerated Calf Development with Axcelera-C

By Maura Keller

For most dairy farmers and ranchers, accelerating calf growth and development, efficiently and effectively is top of mind. Here's why: Accelerated calves grow faster up to weaning and beyond. And having calves that grow at an accelerated rate results in more robust calves—all while saving management time, labor and monetary resources.

That's where AB Neo comes in. AB Neo, a division of AB Agri Ltd.—the UK's largest agri-feed business—understands the vital importance healthy, well-developed calves mean to the bottom line. In fact, the company believes that the neonate holds the key to switching on lifetime performance in animals.

As Ben Helm, commercial director at AB Neo explains, there are specific ways the industry can influence the development of neonates that will then enhance their lifetime yield and performance, recognizing that if the neonatal window is missed, opportunities to program the animal for higher lifetime productivity can never be recovered.

Founded in 2014, AB Neo's focus is on the development of Accelerators, a new product category that incorporates a unique high-lactose (40%) pellet technology. When offered to a neonatal calf (or piglet), it is proven to accelerate pre-weaning performance and beyond.

AB Neo's accelerator technology, Axcelera-P—the world's first accelerator for pigs was launched in 2014. A year later, the company globally launched Axcelera-C, the accelerator for cows. Axcelera-C is a very palatable high lactose pellet for calves using a unique "Neo-Tec" low temperature system to ensure all of the ingredients are processed gently and below 45 degrees C (113 degrees F)—the melting point of lactose.

As Helm explains, "Dairy farmers in the harsh continental European winters struggled to keep the liquid calf milk replacers offered to calves sufficiently warm and so often fed sub-optimal milk, which resulted in nutritional scours and poor calf development."

To address this problem, and to make life easier for European dairy farmers, a new way of offering milk to calves was developed that did not need mixing into a warm liquid, but could be offered as a solid—replacing

one of the winter liquid milk feeds each day.

"Because the calf is the most efficient life stage and accelerating calf development is the key to lifetime performance, Axcelera-C is now used in addition to the existing milk program to maximize intakes and calf performance," Helm says. "It has since been used by over 1 million calves."

Dairy farmers using Axcelera-C with their existing liquid milk programs and grains pre-weaning, are seeing profound results.

Not only are accelerated calves growing faster up to weaning and beyond, but farmers are seeing accelerated rumen development and weaning upon aggressive solid feed intakes from day four. In addition, calves that receive Axcelera-C suffer less from nutritional scours and require fewer veterinary interventions.

In addition to offering Axcelera-C, AB Neo's additional innovative product—OptiPartum-C replaces supplementary bypass fats and equips the lactating cow to utilize her ration more efficiently, unlocking more energy, thereby saving money on by-pass fats.

"It is proven to improve the bodyweight of lactating cows compared to just using fats and so enhances fertility and the next generation of neonates," Helm says.

At Its Core

So how does Axcelera-C make such a profound impact on calf growth and development? At its core, Axcelera-C addresses a fundamental limiting factor in calf nutrition and development.

"For the dairy farmer, it is best to think of Axcelera-C as 'solid milk' and it being the missing link between liquid milk and grains," Helm says. "The pre-weaning calf is at its most efficient converting feed into growth, so it makes sense to optimize energy and dry matter intakes however possible at this stage."

AB Neo team understands the challenges dairy farmers face when it comes to calf development. They recognize that, as dairy farmers, the primary goal is to ensure calves have sufficient energy to fuel their growth and immune system and to develop their rumen as efficiently as possible.

"Calves are no different from any baby animal in that they are very likely to be energy deficient," Helm says. "This means that if we are able to give them more energy over and above their current intakes, their short-term and lifetime performance will show an improvement. As such, more of the true genetic potential of a calf can be unlocked by providing them with more energy as a neonate."

When evaluating the growth potential of calves, it's vital to remember the limiting factors of liquid milk. Undeniably, milk is nature's perfect solution for providing calves with readily available energy that they can easily digest and utilize. It is higher in fat than protein and offers an abundance of lactose that lactose-loving calves can readily utilize.

"This means that the levels of milk we offer to our calves will impact their early performance," Helm says. "More energy equals better performance."

However, feeding calves milk is labor intensive and offering more milk requires more cost in management and feeding time, as well as the preparation of milk, cleaning bottles, maintaining equipment, etc.

"On larger farms or ranches there just isn't the time or the commercial opportunity to offer more milk," Helm says. "In addition, all milk enters the calf's abomasum and so feeding milk alone does nothing for rumen development.

And while farmers might offer calves grains from day four to encourage early dry matter intake required for rumen development, research indicates that even with the most palatable grains, calves will only start to intake grains much later.

"Calves will only typically start to intake grains after two to three weeks, not recognizing it as food and not possessing the enzymes to digest the starch and fiber in their first two to three weeks of life," Helm says. "Calves are designed to suckle milk, which is their best and easiest form of nutrition, while being a monogastric neonate. As such, by calves not eating significant quantities of grains for three weeks and little solid matter entering the rumen, we have lost three weeks of valuable rumen development time. In the U.S. on calf ranches where grains may not be offered until day 15, for simplicity Axcelera-C can be blended into grains from day 15."

"By using Axcelera-C, considered to be the third tool in calf development, farmers will experience more lactose earlier and accelerated rumen development," Helm says. "With Axcelera-C, farmers can offer calves more energy that doesn't limit, but rather stimulates early and greater dry intakes."

Today, Axcelera-C is being used by farmers to save labor and cost by achieving the combined benefits of providing more energy while accelerating rumen development through earlier dry matter intake—without changing the existing milk program and grains they are offering to their calves.

A Numbers Game

Thanks to Axcelera-C, realizing a two- to three-week gain on rumen development can offer dramatic improvements to the efficiency and effectiveness of traditional dairy farms. As Helm explains, the 40 percent lactose content in the Axcelera-C pellets means that it is recognized as early as day four by calves as "milk" and the animals will therefore readily consume it two to three weeks earlier than grains. With grains consisting of

starch and fiber, calves don't tend to recognize this as feed until week three.

This means that calves' solid feed intakes increase earlier, accelerating rumen development and energy intake so that calves reach their 3.2-lb dry matter intake. With Axcelera-C this produces heavier calves that can then be weaned earlier if that is the objective, saving labor, time and cost associated with liquid milk feeding.

Accelerated Energy & Growth

By providing calves with more energy earlier, it is not surprising to see improvements in calf performance prior to weaning as more of the calf's true potential is unlocked.

Farmers are seeing:

- Earlier dry matter intakes and weaning age
- Faster growth
- Stronger growth after weaning
- Reduced use of veterinary medicines

As Helm explains, calves present us with genetic potential that we can only fully exploit by working with them—giving them the correct inputs at the right stage in their life.

U.S. ranchers are mixing Axcelera-C (30%) with grains (70%) and offer the blend from day 15.

"This fits with the existing grains program to make it easy although calves will readily and aggressively eat Axcelera-C from day four as they recognise its 40 percent lactose formulation as 'milk,' Helm says.

As such, farmers and ranchers offer the Axcelera-C and grains blend until calves have consumed an accumulated total of 13lbs of Axcelera-C. This is typically over a three-week period from day 15 to day 35.

"Because of the accelerated rumen development and increased dry matter intake, calf ranches using Axcelera-C are able to save labor by weaning off liquid milk at day 45 (instead of day 62) by when they are consuming 3.2 lb of grains each day," Helm says. "The earlier extra energy that is delivered with Axcelera-C to calves is used for growth (an extra 13lb by day 70) and improved health with the noticeable reduction in nutritional scours and the use of veterinary medications. This delivers further cost savings while producing a more robust and faster growing calf."

Partners In Program

In Europe, Axcelera-C has already been used by over one million calves, with farmers seeing their calves' growth and development accelerated. Some farmers are also using it to wean at 35 days, producing more robust and faster-growing calves and reducing their overall cost of raising a calf. In the U.S., Axcelera-C is already being used on some of the largest calf ranches.

AB Neo prides itself on working with farmers and ranchers to help make their integration of Axcelera-C as seamless as possible.

"To make it easy to use, Axcelera-C is an adaptable nutritional tool that can be used flexibly to fit in with the existing system," Helm says. "This also makes it easy to see the benefits of accelerated calf development and growth, saving labor, calf milk replacer and management time spent feeding calves. It produces faster growing calves whose rumen and dry matter intakes are accelerated relative to standard 'milk and grains' calves."

Following the success on the first calf ranches, Axcelera-C is starting to be introduced in the U.S onto dairy units to accelerate calf development while saving on management time and labor costs.

"Wherever we take Axcelera-C onto dairy farms around the world, it is clear that calves are designed the same and respond to Axcelera-C in the same way," Helm says. "They recognize it as 'milk' which stimulates aggressive early sold intakes, accelerates rumen development and delivers more energy, earlier. As such, Axcelera-C goes beyond conventional approaches—presenting dairy farmers and calf ranchers with significant commercial and labor-saving advantages." ■