



Healthy Beginnings

Health during the first several weeks of a calf's life can lay the groundwork for its productivity

Health status from birth up to the first 70 days of a calf's life lays the groundwork for success in gains, reproduction and milk production. Getting a calf started right is important for its own success – and the entire dairy.

“Just like a newborn baby, the calf is born with very little immune system,” says Steve Hayes, DVM, consultant with DAY 1 Technology. “Calves have a lot of challenges with early-life diseases, such as pneumonia or diarrhea. Being healthy will keep them growing and not fighting these diseases.”

Dr. Hayes works as a consultant for calf facilities and helps strengthen their management and nutrition programs. The most important day in a calf's life is its calf's birth, followed by the next two weeks of life. At birth, calves can obtain the foundation of a strong immune system when they consume good quality colostrum. The following two weeks are critical periods where the new calf will confront disease challenges and test its new immunity.

Plan for a good start

A commitment to healthy calves starts first with a clean environment, Dr. Hayes notes. A contaminated environment will overwhelm the newborn's immune system. Next, producers should be ready with good colostrum to achieve passive transfer of antibodies.

"The concentration of antibodies should be at least 50 grams per liter of colostrum," Dr. Hayes says. "To collect, store and feed this colostrum, we should use clean equipment, bottles, nipples and tube feeders and feed in a safe manner."

Most producers know how to describe a "good" colostrum program, he notes. Life is busy on a dairy, and many



Steve Hayes, DVM



Bobbi Brockmann

Research shows investment and attention to calves will pay off in increased milk production for first- and second-lactation heifers, increased growth rate and reduced time to breeding, according to Jennifer Trout, DVM, technical services veterinarian with AgriLabs.

times execution of the plan falls short. The downside of a sick animal may be more than a temporary setback. Lasting effects of pneumonia, for example, can limit an animal's ability to respond to future stresses.

"If it doesn't have good passive transfer of colostrum, death is one potential outcome, high costs in treatment another, and then there's reduced production – meaning the animal isn't growing and is not achieving what it has the ability to do," Dr. Hayes says. "If we don't feed the animal right, research suggests that they won't milk as well or come into lactation as soon if we limit their nutritional growth."

Bobbi Brockmann, calf specialist and director of sales and marketing for ImmuCell Corporation, notes the industry's nutritional recommendations for calves are higher than in previous years. The added milk and ration requirements are giving today's calves extra energy to grow.

The energy balance in a newborn calf is delicate, Brockmann notes. Not getting enough nutrition, especially in cold weather, can mean calves are just scraping by, maintaining their weight rather than getting on a rapid growth curve and developing a strong enough system to fight disease.

"Similarly, we tell producers to be very cautious when vaccinating young calves," she says. "The wrong vaccination too early can pull resources away from body function, and pulling from stored nutrient sources can be dangerous for young animals. You can avoid this vaccination stress by using antibody products that provide immediate immunity."

When developing the young calf vaccination program, it's critical to only use products compatible with colostrum and that are USDA approved for the age of the animal. A renewed focus on the health of young calves can help explain challenges veterinarians may see in the mature cow herd, Brockmann says.

"Having consistent involvement in those calves can be less frustrating to the veterinarian in the long run," she notes. "When there's a problem with the cow herd, he's probably not seeing the whole story, which starts with the calves."

Inheritance

Getting a calf off to a good start begins well in advance of birth, Dr. Hayes says. A good nutrition and vaccination program for the dam will help transfer maternal antibodies to the calf. Depending on the environment, the local veterinarian may recommend specific vaccines at birth, colostrum supplements or replacers.

"The biggest issue I tend to find is people just aren't doing a good enough job of cleaning the equipment," Dr. Hayes says. "They clean the calf equipment like they are doing dishes for their family, and that's not adequate for calf operations. They should clean like they do for their bulk tanks. Keep nipples, tubes and pails just as clean."

Not even the best vaccination and colostrum program can overcome the initial challenge of being born into a poor environment, notes J Hall, owner of Hall's Calf Ranch in Kewaunee, Wis.

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“Don’t take a step backward before you go forward,” says Hall, who raises about 28,000 calves a year coming from up to 24 different dairies in the area. “Most all of the time, whenever I call a producer about one calf, he’ll come back and say he was born in the freestall barn or his mother had mastitis. When the cow is sick, the calf has a problem too. It connects.”

Hall’s typical strategy is to recommend the use of the dam’s milk to provide at least six quarts of colostrum within 30 minutes of birth, a scours preventive bolus, and then another two quarts of colostrum two hours later. Preventing scours caused by *E. coli* and coronavirus are Hall’s immediate concerns.

Help your customers keep details top-of-mind for calving success:

- Check inventory of detergents and disinfectants
- Evaluate and replace all equipment (buckets, bottles, nipples, brushes and tubes)
- Assess supply of colostrum replacers and supplements

“If a calf gets a rough start, his immune system is compromised its whole life,” Hall says. “It’s the cow that gets mastitis first, and the heifer that has pneumonia. They get sick quicker, and they are the ones you’ll always be working on.”

Future gains

“Every dairyman is used to having the milk inspector come,” Dr. Hayes says. “But, we don’t have a calf inspector who would monitor nutrition, the cleanliness of equipment, take samples of milk for total plate counts and measure solids.”

Dr. Hayes notes these tasks are commonly done on a dairy, but consistency for every calf born is key. Veterinarians and producers should periodically review records to see what their average growth rates are from time of birth to feeding. Standards for morbidity, mortality, growth rates and more are available from the Dairy Calf and Heifer Association, which producers can check and compare against their own records.

Focusing on calf health will no doubt pay off later, but every operation must find a balance of intensity that works for them, notes Jennifer Trout, DVM, technical services veterinarian with AgriLabs.

“It’s not easy to decide what path to take, because they all involve a fair amount of work,” Dr. Trout says. “Decide what caliber of calves you’re going to have, lower scours and respiratory disease and have preventive and proactive management as opposed to fire-engine reactivity.”

To confirm if your calf management program is working correctly, try using blood serum total proteins to determine if passive transfer of antibodies is successful on an operation. Supplementing proteins and nutrients can help make sure calves receive the bioactives they need for a good start, she says.

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Getting all the elements right every day, every time may sound like a simple task, but day-to-day life on a dairy can disturb even the best plans. There’s a lot going on in a dairy operation, she says. Sales representatives can act as consultants – helping to ensure producers and veterinarians have everything they need in place for excellent calf health.

“Don’t go out and try to sell them something,” Dr. Trout says. “If they are complaining about increases in respiratory disease, ask about their ventilation. Without looking like a know-it-all, provide something more than just products.” ■