



DAIRY INFO

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Is a colostrum replacer right for you?

Colostrum, colostrum, colostrum. The virtues of this life-promoting substance have been thoroughly researched and communicated in the dairy industry for many years. Various studies have shown that successful passive transfer of immunity from colostrum is linked with reduced disease treatment and mortality rates, improved growth rates and feed efficiency, decreased age at first calving and increased first- and second-lactation milk production. But recognizing the importance of maternal colostrum and delivering a clean dose – at the correct time, volume, temperature and Immunoglobulin (IgG) level – are separate issues on most dairies. Could there be an easier and more consistent way to support newborn calf health and immunity?

Colostrum complexities: The Dairy Calf and Heifer Association's "Gold Standards" for newborn dairy calves recommend that colostrum should be:

- Fed at a volume equaling 10 percent of bodyweight in the first four hours of life. (For example, a 90-pound calf should receive 4 quarts of colostrum.)
- Free of manure, blood, debris and mastitis
- Disease-free
- Test for quality with a refractometer, colostrometer or IgG test

The Gold Standards go on to suggest that target bacteria count (also known as standard plate count) should be less than 100,000 colony-forming units (CFU) per mL. Calves that receive adequate amounts of high-quality maternal colostrum in a timely manner should have serum total protein equal to or greater than 5.2 g per dL or serum IgG of greater than 1000 mg per dL.

Research performed to evaluate the on-farm success of colostrum harvest and delivery indicates optimal colostrum management may be easier said than done. A study of 55 Pennsylvania dairy farms showed that colostrum IgG concentrations varied from 14.5 to 94.8 g per L. A similar study on a single Minnesota dairy showed a range of 14.5 to 132.7 g per L. The 'green zone' on a colostrometer – signifying quality colostrum – starts at 50 g per L.

Thus, the colostrum of many individual cows does not provide adequate IgG concentrations, even if the calf is fed colostrum at the correct time and volume. Routine monitoring and quality control measures are necessary to ensure quality colostrum, and some colostrum may need to be discarded in the process.

Harvest timing of colostrum relative to calving may be one contributor to low IgG levels. A study that specifically looked at IgG levels in the hours immediately post-calving showed that IgG levels decreased by 20 to 40 percent in the first six hours post-calving. That's part of the reason why the industry standard for harvesting colostrum in the first four hours has been established, even though it may be difficult to execute with every birth. Calves also rapidly lose the ability to absorb the antibodies in colostrum in the

first 18-24 hours of life, which is the other reason why early collection and delivery is important.

Keeping colostrum clean and free of bacterial contamination is another on-farm challenge. High levels of bacteria in colostrum – especially fecal bacteria from adult manure contamination – can result in fecal-oral transfer of critical disease-causing pathogens like *Mycobacterium paratuberculosis*, *Salmonella dublin*, *Cryptosporidium parvum* and other scours-causing organisms. High bacteria levels in colostrum have also been shown to interfere with IgG absorption.

University of Wisconsin researcher and calf expert Dr. Sheila McGuirk notes the following potential sources of bacterial contamination in colostrum:

- Inadequate udder preparation prior to collection
- Improper sanitation or malfunction of fresh-cow milking equipment
- Contaminated colostrum-collection pails or containers
- Inadequate cooling and storage of colostrum
- Mastitis from the dam
- Dirty feeding bottles, nipples or esophageal feeders

Colostrum can also be heat-treated to reduce bacteria levels, but this requires additional equipment, quality control measures and storage protocols.

A clean, convenient, consistent alternative: Clearly, harvesting and administering high quality colostrum requires diligence, proper decision-making and ongoing training for everyone involved in the process on a dairy. In the course of every freshening, there are multiple opportunities to damage the integrity of colostrum before it reaches the calf. Today, a viable alternative is available via colostrum replacement products. [Such] replacers derived from maternal colostrum provide IgG at levels comparable to those in excellent-quality colostrum as well as protein, vitamins and minerals needed by the newborn calf. Compared to colostrum, colostrum replacer is highly convenient and provides consistency in the following things:

- Quality – The same amount of IgG is fed every time to every calf.
- Quantity – Correct volume can be delivered to every calf, regardless of how much the dam produces.
- Quickness – Replacer simply needs to be opened, mixed and fed, increasing the likelihood it will be delivered in the critical four-hour window after birth.
- Cleanliness – Sanitary packaging and immediate mixing and feeding reduces the potential for bacterial contamination.
- Biosecurity – The likelihood of spreading vertically transmitted diseases like Johne's disease, BLV, mycoplasma, salmonella and cryptosporidium is greatly reduced.

Continued on reverse side. (Edited from an article by Dr. David Cook, Milk Products, as submitted to Progressive Dairyman)

Plan Ahead & Save!

It's time to start thinking and planning ahead for planting season 2016. The harvest of 2015 is winding up in many areas, even as we all prepare for the coming of colder weather and the onslaught of winter.

Be sure to take advantage of ordering your seed products for next year's planting. Early order discounts and cash discounts may be available. It is worth checking it out and making the most of any savings available. Ordering now can also help to better ensure you get the hybrids you want.

We can help you plan for the next season. So, let's plan ahead and be prepared. Call today. We can work together and move ahead with all your needs!

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A University of Minnesota study followed 497 calves from birth through 54 months old. Among several findings, it was noted that calves fed colostrum replacer were less likely to be infected with Johne's disease than those fed colostrum. It is important to choose a colostrum replacer that is derived from maternal colostrum versus serum, because colostrum-based products will actually mimic actual colostrum in antibody composition and nutrients. Cost is definitely a consideration. But saving the life of just one calf – and supporting the health and productivity of every calf – more than pays for the investment. Colostrum replacers were first developed to take the place of maternal colostrum when a dam was lost, ill or did not produce enough. Today, however, routinely using colostrum replacer may be a strategic decision to promote on-farm efficiency and consistency while ensuring passive transfer of immunity for every calf.

Your calves are the next generation of your lactating herd! Get them off to a great start... with W-S Feed products. We offer quality, research-tested milk replacers, calf starters/grower, management solutions and more.

START 'EM RIGHT... With W-S FEED!



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CHECK IT OUT!