



# Colostrum Considerations

For newborn calves, colostrum replacers and supplements may provide a life-saving immunity boost.

by **Kindra Gordon**, field editor

**A**t calving season, you've got a newborn calf looking a little cold in the 10° F weather. It looks like he's been up and suckling, but is there anything else you can do to help give him a little extra energy?

Providing one feeding of a colostrum supplement may provide the boost the calf needs, suggests Beth Saxton, national sales manager for APC Consumer Products, which offers a line of colostrum supplements and replacers under the brand name Lifeline®.

In another scenario, if a calf hasn't had any colostrum yet, she recommends providing one feeding of a colostrum replacer to provide all the nutrition needed for newborns.

Saxton underscores a message many producers have heard before: Getting colostrum into a calf as soon as possible after birth is essential.

She explains, "A calf is born with absolutely no immunity; there are no

antibodies circulating in the bloodstream. Colostrum is the only source of antibodies to the calf."

The most critical time period for getting colostrum antibodies into a calf is during the first four hours of its life — when the gut wall is open and the antibodies can be absorbed into the bloodstream. After those first few hours, the gut lining begins to close. By 24 hours absorption into the bloodstream is no longer possible, Saxton explains.

Saxton further explains that newborn calves who receive enough colostrum achieve successful passive transfer — which equates to better immunity, reduced treatment and mortality rates, improved gains and growth, and some research has suggested a decreased age to first calving.

Despite colostrum's importance, research suggests many newborn calves are not getting enough. Saxton cites a Nebraska study that shows 20% of newborn calves are not getting

enough antibodies in their first hour of life. A national study showed similar results with a range of 11%-33% of calves not receiving enough colostrum for successful passive transfer to occur. Thus, in certain scenarios, providing calves a colostrum supplement or replacer can be beneficial to give them an extra immunity boost.

## Supplement vs. replacer

Colostrum supplement and colostrum replacer are two different products to be used in different situations. Both products contain immunoglobulin (mainly immunoglobulin G, or IgG), which provides immunity to the calf, but in differing amounts.

Colostrum replacers contain 100 grams of globulin protein or more, as well as a full profile of fat, carbohydrates, vitamins and minerals.

"This replaces maternal colostrum in a single feeding," Saxton explains. "After one

## Plan ahead for healthy calves

A good rule to follow for keeping newborn calves healthy is to keep the calving area — and all equipment — clean, advises Beth Saxton. This includes having clean bottles, nipples and buckets ready for those situations when a calf needs a supplemental feeding of colostrum.

Saxton, who is national sales manager with APC Consumer Products, which offers a line of colostrum products under the brand name Lifeline®, says preparation for calving season should also include having colostrum alternatives on hand, whether that means purchasing colostrum from a dairy and freezing it or having commercial products at the ready. Additionally, keeping scours and respiratory treatment products on hand can allow for timely treatment of sick calves.

Keeping calves warm and dry can go a long way in boosting calf survival. In instances where electricity is available, a heated, indoor

area may be needed to warm some newborn calves. Otherwise, putting a cold calf in a pickup to warm up might be considered. Many producers will put cold calves in a bathtub with warm water. Saxton says a shower with continuous running water may warm calves up even faster.

Once calves are warm and dry, get colostrum into them as soon as possible.

When dealing with a disease outbreak, consider moving the herd to a new area if possible. Another option is to segregate sick cows and calves to avoid nose-to-nose contact and prevent further transmission to the herd.

Lastly, work closely with a veterinarian to establish a herd health program and herd testing protocols to resolve any scours or respiratory issues among newborn calves.

"It's a good investment," Saxton concludes.

feeding of a colostrum replacer, a calf does not need to be given any other colostrum."

Colostrum replacer should be used in situations when calves have not received any colostrum from their mother, she adds. She also notes that the higher the grams of globulin protein the replacer contains, the more protection you are providing.

A colostrum supplement typically contains at least 50 grams of the globulin protein, and may contain some fat and carbohydrates, but does not contain a complete nutritional profile with vitamins and minerals.

Saxton advises a colostrum supplement should be given to help bridge a calf's needs, giving the calf a little extra colostrum boost. For example, a colostrum supplement works best in situations where a calf has nursed, but at 8-12 hours of age may need extra nutritional support because of harsh weather or because the dam is thin or a first-calf heifer.

Saxton explains that research has indicated colostrum of first-calf heifers is not as high in nutritional quality, so colostrum supplements can be beneficial to their calves.

### What product when?

As a rule of thumb, Saxton provides the following guidelines to help decide when to use a colostrum replacer and when to use a supplement.

- ▶ For calves born in harsh winter conditions, provide one feeding of colostrum replacer if the calf is down and hasn't received any colostrum yet, or if you are unsure. If you know the calf has received some colostrum from its mother, you might still give one feeding of colostrum supplement to provide an extra shot of nutritional help to survive the cold weather.
- ▶ Calves born in stressful situations due to calving difficulty are six times more likely to get sick and are more prone to die in the first 96 hours. Additionally, a calf that is born into a challenging environment — such as an unclean area or in extreme

heat or cold — is going to be stressed and needs extra support. Saxton suggests using one feeding of colostrum supplement eight hours after the first feeding of mom's colostrum or one feeding of colostrum replacer as soon as possible after birth, depending on how the calf looks.

- ▶ Twins or abandoned calves won't receive enough or any colostrum unless you intervene. Use one feeding of colostrum replacer to provide all the nutrition needed for these newborns. Additionally, because first-calf heifers often have low-quality colostrum, consider feeding a colostrum

supplement about eight hours after the calf has nursed from its mother.

- ▶ For high-value calves from registered stock, embryo transfer or show animals, Saxton suggests feeding a high-level colostrum replacer one time as soon as possible after birth so you know with certainty that the calf will receive the highest levels of nutrition. Additionally, consider providing a colostrum supplement as a second feeding 8-12 hours later.



**Editor's Note:** *Kindra Gordon is a freelance writer and cattlemaster from Whitewood, S.D.*