FrontLine®
Information for Today's Agri-business Professional

Is there value in feeding colostrum more than one day?

We know a lot about the importance of delivering clean, high quality colostrum to calves in the critical first 24 hours of life. It is within this critical window that calves can absorb highly protective immunoglobulin G (IgG) directly into the bloodstream without IgG molecules being digested.

But is there value in feeding colostrum *beyond* that first 24 hours? A mounting amount of evidence suggests that there is.

Researchers have noted that, although the pathway to the bloodstream closes after the first day, antibodies remaining in the digestive tract after colostrum feeding may also provide some local protection against enteric viral infections and diarrhea-causing bacteria. Those maternal antibodies may also support the development of intestinal villi, which can positively impact the animal's ability to digest feed and absorb nutrients for the rest of its life.

It also is important to remember that, in addition to IgG, colostrum provides many more substances that are of value to the calf. It contains other immunoglobulins and immunity- enhancing molecules, as well as vitamins, minerals, growth factors and hormones. Colostrum also contains enzyme inhibitors that allow antibodies to escape digestion and be absorbed by the calf.

There have been research trials performed on dairy calves to evaluate whether or not feeding colostrum beyond the first day of life is beneficial. One study conducted on three California calf ranches, showed that calves fed a supplemental colostrum powder with IgG for the first 14 days of life had less diarrhea and required fewer antibiotic treatments, compared to calves that received the supplement without IgG, and those that received no supplement. Grain consumption and weight gain over the first 28 days of life also were statistically higher for the colostrum-supplemented calves.

A second study, performed by Swiss researchers, compared calves that were fed colostrum for 6 feedings over the first three days of life, to calves that received colostrum only for the first feeding after birth, and calves that received no colostrum. They found that at 8 days of age, calves in the extended-colostrum-feeding group had enhanced absorptive capacity in their digestive tracts, with intestinal villi that were greater in circumference, surface area and height.

We will likely see more research in this area. But given what we currently know about colostrum, and the results of existing studies, it appears there is value in feeding colostrum beyond the first day of life. There is no evidence to suggest the practice harms calves; however, their disease resistance or digestive system development and growth could be optimized.

First-milking colostrum will contain the highest concentration of beneficial factors, but transition milk harvested up to 72 hours after freshening will continue to be higher in solids, fat, protein, vitamins and immunoglobulins, compared to standard milk. Colostrum also need not make up the whole feeding, as adding just 100 to 200 mL (one half-cup to one cup) of colostrum to milk or milk replacer per day can provide 5 to 10 grams of IgG/day, depending on its IgG concentration. Colostrum replacer powder also can be used instead of fresh colostrum, provided it is derived from colostrum. Serum-derived colostrum replacers and supplements would be devoid of many of the beneficial maternal factors found in colostrum and colostrum-derived colostrum replacers.

Prolonged colostrum feeding for the first 10 to14 days should be considered when feeding or receiving calves which may have been deprived of quality maternal colostrum to help support a positive start in life.

Milk Products
The Milk Replacer Source®

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