

Beef Logic

by R.A. (Bob) Long



Colostrum — important for the newborn

A critical time in a calf's life is the first 2-3 weeks after birth. During this period, the majority of death losses occur, most often due to either respiratory diseases or gastrointestinal infections (calf scours).

Cattle are a specie in which the newborn does not acquire adequate immune protection through placental transfer. This deficiency is corrected by early consumption of colostrum.

Colostrum (first milk) functions as a mild laxative, provides a supply of vitamin A and is a source of energy and protein to the newborn. Even more important is the immediate disease protection from colostrum's high level of antibodies (immunoglobulins).

Antibodies are proteins of large molecular size. They can only be absorbed through the calf's intestine soon after birth. The antibodies are taken into the body most efficiently during the first 20-30 minutes after birth. After 6 hours, absorption is impaired, after 24 hours, the opportunity to acquire protection has passed. By this time the digestive tract of the calf is functioning normally and, since the antibodies are protein in nature, they are broken down to amino acids and disease protection is lost. Therefore, calves must receive colostrum the first day.

Colostrum from first-calf heifers may be deficient in antibodies for certain diseases since young cattle may not have been exposed to as wide an array of disease as older cows. Therefore, if the calves from first-calf heifers are experiencing disease

problems, a drench of colostrum from an older cow can be of value.

Colostrum from other cows should be administered if the calf's dam can't provide milk for any reason. In cases of difficult birth, the dam may be too exhausted to stand; some cows may not allow their calf to nurse; and occasionally, a cow will simply



have no milk. Therefore, it's a good practice to collect and freeze colostrum from cows calving early in the calving season in order to have it readily available. When needed, the colostrum should be warmed but not heated since a high temperature will destroy the antibodies.

Whenever a calf receives colostrum other than by nursing its mother, it should be administered by a "calf feeding tube" (see your veterinarian). Force feeding calves with a bottle or a drenching syringe can result in liquid in the lungs, which is worse than no treatment.

Some beef cattle breeders have acquired colostrum from dairy herds or other beef cattle operations. Such material is certainly better than no colostrum, but the best source is the home herd since these cows have been exposed to the same diseases the calf will encounter. This may not be true of milk from other herds.

Antibody deficiency can occur in milk from cows that have not been dry for at least 30 days before the birth of a new calf. This can happen in poorly managed herds where calves are not weaned at 8-10 months of age and continue to run with their mothers. Under these conditions some cows allow their calves to continue nursing until their next calf arrives. Since there has been no "dry" period, the milk is not typical of colostrum and is deficient in antibodies.

Remember that the most economically important item in a cow-calf operation is a high percentage of live calves at weaning. Even though the breeding program has been successful, if calf death losses are high, any chance for profit is lost. Most losses occur from disease during the first 2-3 weeks after birth.

Calves are born without immunity; protection from disease must come from consumption of colostrum during the first few hours after birth. If for any reason the dam can not or will not provide colostrum, the herdsman must do so.



We Welcome Your Input!

Our Beef improvement section has been expanded to include more information for today's performance-minded breeder. Both "Beef Logic" by Bob Long and the "What's Your Beef?" columns serve as a forum for Angus breeders and industry experts to express their opinions on current issues and topics of breed improvement and performance programs.

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