

CALVING EASE

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GOOD COLOSTRUM MANAGEMENT

How well is your colostrum management program working? What quantitative measures are you using? Are you meeting quality goals? Good management requires regular evaluation of how well programs are working.

GOAL #1: Colostrum without contaminants.

Blood and mastitis are the easiest forms of colostrum contamination for which we can screen. Too much blood? Our rule has been, "If it's brown, dump it down." Drawing foremilk will detect clinical mastitis. A CMT paddle will help pick up severe subclinical cases that might be discarded as well.

Bacterial contamination takes more time and money to evaluate. We recommend sampling of colostrum just before feeding a calf. With a milk sample bottle, draw off 1/2 a bottle directly from the nursing bottle or esophageal tube feeder. Date the bottle. Freeze it. When convenient take or send the frozen to a milk laboratory. Ask for both quantitative (how many 1,000's) and qualitative (which kinds) bacterial results. Colostrum program evaluation looks for especially low numbers of coliform bacteria. These are the bacteria that come predominantly from environmental sources such as milking, storage, and feeding equipment.

If the herd is being screened for Johnes disease, the farm may wish to set an Elisa score level at which colostrum will not be fed to herd replacement calves.

GOAL #2: Nutritious colostrum.

We measure nutritive value in terms of dry matter, protein, and energy levels. Colostrum is 25 percent dry matter. That's double the value for plain whole milk. Compared to whole milk colostrum contains 338 percent more protein and 86 percent more fat. This is true for heifers as well as higher lactation cows. Non-contaminated colostrum delivers much more nutrition per quart than does whole milk or milk replacer. Even when no high antibody colostrum is available for a calf's first feeding, low antibody colostrum can still give a calf the nutritious start she needs. That's why many farms feed 3 and 4 feedings of colostrum before switching to milk or milk replacer. Feeding heifer colostrum or second milking from cows on days 2 and 3 adds a lot of energy in cold weather, too. Good dry cow management for the entire dry period is essential for dams to produce good quality colostrum during the last ten days prior to calving.

GOAL #3: Colostrum rich in antibodies.

Just looking at colostrum in a bucket is a very unreliable way to estimate antibody concentration in it. Thickness and color have very little connection to antibody content. Three somewhat more reliable ways to estimate this concentration are (1) lactation number of dam (2) volume at first milking, and (3) specific gravity of colostrum.

In general, heifer colostrum is less likely to have high concentrations of antibodies than that from second and higher lactation animals. However, the range for each lactation group is very wide. Roughly estimated, heifer colostrum is likely to be in a low range about 2/3rd's of the time. In contrast, cow colostrum is likely to be in an acceptable range about 2/3rd's of the time. In general, the greater the volume at first milking the lower the concentration of antibodies. Using a 5-gallon pail as a standard, 1/2 or less of a pail at first milking is more likely to have an acceptable antibody concentration than a greater amount.

In general, milk with a higher specific gravity has a higher concentration of antibodies. The only practical way to measure colostrum specific gravity on-farm is a Colostrometer®. This glass instrument breaks easily and must be kept clean. It does not measure precisely. However, it's the only tool we have today that will allow on-farm estimation of antibody content accurately enough to exclude the lowest concentration colostrum. When a Colostrometer® is available we recommend testing heifer colostrum. Experience suggests that about 1/3rd of the heifer colostrum will be acceptable for first feeding to herd replacement calves.

GOAL #4: Antibodies end up in calf's blood.

Antibodies are very important components of colostrum. But, in order to help the calf get off to a good start, the antibodies must end up in the calf's blood stream. Bleed and test.

Midland Bioproducts makes a "pass/fail" cassette test that measures the antibody IgG directly. A whole blood sample may be used. An effective colostrum management program should have 80 percent positive results when blood is sampled between 36 and 96 hours of age.

Use a refractometer. This can be used either on-farm or in a laboratory. Blood samples may be spun in a centrifuge or allowed to sit undisturbed at room temperature for 24 hours. Either way, blood serum will rise above the clot. A serum sample is placed on the refractometer's optic surface for direct reading of blood serum total protein. This is an indirect measure of blood antibody concentration. This method is reliable enough to identify the calves with the lowest antibody levels. An effective colostrum management program should have 80 percent of the results above 5.0 and 50 percent above 5.5.

CALF FEEDERS' TIP

Cold weather often makes textured starter grains clump up in grain pails. We have found that a three-prong gardening tool works well to loosen up this grain. The prongs are far enough apart to avoid clogging. And, only a quick twist of the wrist is needed to make the frozen grain loose enough to be eaten easily by calves.

If you know of someone that doesn't currently receive **Calving Ease** but would like to, tell them to **WRITE** to **Calving Ease**, 11047 River Road, Pavilion, NY 14525 or to **CALL** either 585-591-2660 (Attica Vet Assoc. office) or 585-343-8128 (Offhaus Farms Office) or **FAX** (585-591-2898) or **e-mail** steadley@servtech.com. A limited number of back issues may be accessed on the Internet at www.calfnotes.com and clicking on the link, Calving Ease. PLEASE NOTE THE NEW WEB SITE ADDRESS FOR CALF NOTES.