



FrontLine®

TECHNICAL INFORMATION FOR
TODAY'S FEED PROFESSIONAL

Good Colostrum Is Clean Colostrum

Absorption improved by cleanliness

Colostrum is vital to having a consistently healthy calf. A high quality colostrum program is achieved by following these three steps.

1. **Collection** – Collect the first milk from the udder of a cow that has been on a good nutrition program, is properly vaccinated and has had a dry period of at least 30 days. This first milk is the true colostrum. Each milking after the first is considered transitional milk.
2. **Storage**- Unless the colostrum is fed immediately to a calf, the colostrum needs to be stored. This can be done in a refrigerator (at less than 40°F) for up to 48 hours. It can also be stored in a non frost-free freezer for up to one year. It is best to store colostrum in containers of 2 quarts or less in volume to assure adequate surface area to get the quickest cooling.
3. **Feeding** – Feed at least 4 quarts of colostrum to a typical newborn Holstein calf within the first 4-6 hours of birth. This assures adequate volume getting to the calf while the greatest efficiency of absorption is still occurring in the calf's gut.

Recently, research coming out of the University of Minnesota is indicating that there is another key component – cleanliness - to having a good quality colostrum program. Dr. Sandra Godden's research has focused on pasteurization of colostrum. In her research she has shown that colostrum can be effectively pasteurized when heated to 140°F for 60 minutes in a batch pasteurizer. An interesting finding she has also found in her research is that when colostrum is pasteurized, the absorption of IgG from colostrum to the calf is more efficient.

Bacteria May Interfere With Absorption

Dr. Godden has hypothesized that the bacteria in colostrum may actually interfere with the absorptive mechanism for IgG uptake. With fewer bacteria blocking the IgG absorption, the efficiency of colostrum absorption is greater and IgG levels are higher using the same colostrum.

The take home message for a dairyman is that cleanliness becomes very important to maintaining a high quality colostrum program. To achieve clean colostrum, make sure the following is occurring:

1. Proper udder preparation before milking colostrum.
2. Equipment is properly cleaned and sanitized before colostrum is collected.
3. Proper cooling or freezing is implemented as soon after collection as possible.
4. Feeding equipment is properly cleaned and sanitized before feeding colostrum.

Want to see how you are doing? Take a sample of colostrum just before feeding to the calf from your tube feeder or bottle that you will use to feed and check it for total bacteria count at a local lab or with your creamery. The goal for unpasteurized colostrum is to be less than 100,000 cfu/ml. The lower this number is, the better for your calf! A good colostrum program now includes making sure your colostrum is clean colostrum!