

DECEMBER 2001 NEWSLETTER

The past year has seen dairy replacement animals bring record prices at auctions and sale barns. Anyone who has purchased either baby calves or springing heifers knows what I mean. Considering the value of these animals, we thought it wise to review how you get your calves off to a start to insure that they stay as healthy as possible.

Where disease control is concerned, we always suggest two main themes: maximize immunity and minimize exposure. The usual discussion involves use of vaccines and cleaning pens. It is time now to review the merits of colostrum use. Topics include colostrum collection, colostrum feeding, and storage.

COLOSTRUM COLLECTION AND FEEDING: The timing of colostrum collection after calving is more important than you might think. Prior to calving the udder is concentrating on producing a fluid high in protein, energy, and antibody protection for the calf. The plan is for the calf to eat that fluid as soon as possible after birth. Once the cow calves, her udder switches over to pure milk production. Milk production means one thing; dilution of colostrum antibody concentration and quality.

If we say that colostrum antibody levels are at 100% concentration at calving, what levels are they as time passes after calving? Assuming the cow hasn't been milked yet, antibody concentration in colostrum dilutes to 60% strength at 4 hours after calving, 45% at 12 hours post-calving, and 30% at 24 hours after calving. Once a fresh cow is milked, her subsequent milk produced has NO colostrum value to speak of.

The ability of the calf to absorb colostrum also decreases with time after birth. Obviously the calf is most able to absorb colostrum antibodies right away. By the time the calf is 12 hours old its ability to absorb antibodies is reduced by 50%.

As you can see, time is your enemy with respect to calf protection. If you were to wait 12 hours after a cow calves to milk her, her colostrum quality is cut in half and the calf's ability to use the colostrum is cut in half. You would have to feed a gallon of colostrum just to get the value of one quart of 'just fresh' cow colostrum.

What's the message? Vaccine use and timing are crucial to improving colostrum quality. Calving pen and calf housing sanitation are crucial to reduce exposure of calves to infectious 'bugs' in the environment. However you will help the calf the most if you concentrate on collecting colostrum as soon as is practically possible after calving. Immediately feed the calf one gallon of that colostrum with either a bottle, or a calf tube feeder. Be aware that the calf may not be very hungry at its next feeding. However it will eat normally at subsequent feeding times. Recommended fluid to feed for later feedings is a high quality milk replacer. We can review the definition of quality milk replacer with you as needed.

If you question the effectiveness of your colostrum feeding program, calves can be easily tested for adequacy of antibody protection. A blood sample drawn between 1 and 7 days of age can be inexpensively checked in our office to tell us if adequate colostrum absorption occurred.

COLOSTRUM COLLECTION AND STORAGE: Collection time for colostrum is crucial. Sanitation at collection also is an important point. Often the bucket used to milk mastitis cows is also used to collect colostrum. Be aware that bacteria causing mastitis, or bedding and other contaminants from udders and pens can contaminate colostrum and potentially cause scours or Salmonella problems for the calf.

Excess first milking colostrum can be easily saved frozen for other calves as needed. It is becoming common practice to store gallons of colostrum in freezer bags or ice cream pails. Frost-free freezers are not recommended for such storage. By definition these freezers go through mild thaw cycles to eliminate frost. Those cycles have proven damaging to colostrum antibodies due to repeated freeze/thaw/freeze cycles. A good old frosty freezer is still your best bet to insure good maintenance of colostrum quality.

When ready to feed frozen colostrum, a warm water bath is the best means to safely thaw the frozen product without damaging antibodies.

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