

# CALVING EASE

December 1996 (Revised Jan '04)

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## Winter Feeding

Why be concerned about feeding calves during the winter season? Can't the calves just eat more calf starter when it's colder? That way they have more energy to burn to keep warm. Good answer. But, that applies only to calves that have made the change from "pre-ruminant" to "ruminant." That is, these calves have been eating grain for a couple of weeks and are up to 1 to 2 pounds daily. Yes, they can increase their starter intake to take care of the extra energy demands of cold winter weather.

What about younger calves? Some of them have not yet figured out that starter is food. Some have not yet located the pail in which we feed the starter. Some of them have just begun eating starter - only a cup or two a day. These are the "pre-ruminants." They cannot depend on grain to supplement the energy from their milk.

Just when do we need to be concerned about these younger, milk-dependent calves? What kind of weather? How cold? Scientists tell us that calves are neither too warm or too cold in the temperature range of about 50 to 80 degrees F (12 to 25 C). They call these temperatures "thermoneutral." Sort of a low-stress comfortable environment for calves.

As outside temperatures fall below 50 degrees F. calves must begin to adapt by burning more energy to keep their bodies warm. Remember, a healthy calf keeps her body core temperature at about 101 to 102 degrees F. regardless of the outside temperatures. As outside conditions reflect lower and lower temperatures the energy devoted to keeping warm goes up. Some estimates of extra energy needed indicate about a 32 percent increase between 55 and 25 degrees F. That's not energy that can be used to gain weight or maintain the immune system. That's just the extra needed to keep the calf's body core temperature above 101 degrees F. Due to the immune system kicking into full gear, sick calves may need an additional 20 percent energy beyond that need to keep up their body temperature.

Common Western New York weather for at least January and February ranges from mid-teens to upper-twenties F. Not that there can't be exceptional times where it's zero at night and never above lower-teens during the day. But the average winter conditions suggest planning feeding for around 20 degrees F. Nutritionists recommend

approximately one-third extra energy for this outside temperature compared to the thermoneutral range of 50-80 degrees F.

## **Practical Alternatives**

For larger, ruminant calves most of us just try our best to keep the starter buckets from running out of grain. As the weather gets colder, the heifers eat more. Lots of us experience great weight gains under these conditions.

For smaller, milk-dependent calves it's an entirely different story. We have to get more dry matter into them to meet the increased energy needs caused by the cold weather. The two most common ways to get more dry matter intake are (1) increase the amount of fluid fed, or (2) increase the concentration of nutrients keeping the amount of fluid constant.

Let's look at these choices. One way to increase dry matter intake from milk or milk replacer is to feed more of it. The one-third increase needed when temperatures drop to 20 degrees F. means feeding an 90 pound calf 2.4 quarts twice daily rather than slightly less than 2 quarts fed during the fall. This is about 1 1/2 cups more per feeding.

The second choice applies mostly to those farms feeding milk replacer. By increasing the amount of powder and keeping the liquid quantity constant we can get higher energy intake at a constant 2 quarts per feeding. For every 10 pounds of powder you usually mix per feeding, this one-third increase means changing that to 13 pounds per feeding. On an individual calf basis, this one-third increase means adding 2 2/3 cups of powder rather than 2 cups to the water each feeding.

How about extended periods of really cold weather? Although we find it hard to schedule, the only effective solution we have found for very young calves and zero weather is a mid-day feeding. This feeding is only for calves under two weeks of age. We feed about 1 1/2 quarts extra (that's about a 33 percent increase over the 4.5 quarts daily normally fed during winter). Nutritionists recommend an extra 33 to 46 percent energy for the 0 to -10 F range compared to 30 degrees F. We have experienced some scours problems when we tried to cram all this extra feed into the regular two daily feedings during these extended very, very cold times.

## **Is There a Limit On How Much Extra Milk-Based Energy to Feed?**

Probably your experience is the same as ours. If the calves get plenty of energy from the milk or milk replacer they begin eating starter later and/or eat less starter. Drackley and others from the University of Illinois at the American Dairy Science meetings in 1996 reported research findings supporting this observation. They found that to maintain health and get acceptable weight gains in Jersey calves housed in hutches in Illinois

winter weather they did need to feed an extra 50 percent energy (milk replacer reconstituted at 12.5% solids and fed at the rate of 12 % of body weight) compared to summer feeding rates (12.5% solids at 8% body weight). Feeding more energy than this neither improved health nor achieved better weight gains. The addition of extra fat or milk-replacer powder beyond their standard winter level either delayed or lowered starter consumption. Since we want to encourage starter consumption for early rumen development, that's not a strategy we want to use with our 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** [sleadley@frontiernet.net](mailto:sleadley@frontiernet.net) or [pams91@2ki.net](mailto:pams91@2ki.net). A limited number of back issues may be accessed on the Internet at [www.calfnotes.com](http://www.calfnotes.com) and clicking on the link, Calving Ease.