



# NUTRITION NOTES

Innovation + Research from Kent Nutrition Group

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## COLD STRESS MANAGEMENT FOR YOUNG CALVES

As winter approaches, it is important to place special emphasis on cold weather management of young calves. In a previous Nutrition Notes article, we indicated that in cold weather calves need more energy for body maintenance, depending on their age and their environment. During the first three weeks of life the maintenance requirement increases about 10% for each 10°F drop in temperature below 60°F. Even after three weeks of life there is an increase in maintenance requirement as the temperature drops under 40°F. If you consider the five-year average ambient temperature for the colder states as well as the warmer states; calves could experience cold stress 180 to as many as 247 days per year.

### RECENT UNIVERSITY FINDINGS:

Recent findings indicate how cold stress can affect future productivity of dairy heifers. Cornell University findings indicate that calves born during the winter months produced an average of 1,226 pounds less milk during their first lactation than calves born in the summer. The Cornell workers think this observation was mostly due to energy intake, but could not rule out the impact of differences in colostrum status or photoperiod.

Wisconsin work (USDA Forage Research Center/Wisconsin Veterinary Diagnostic Laboratory) studied the effect of feeding milk three times per day versus two times per day. Calves received the same total amount of milk replacer per day by the two feeding methods. For their first lactation, calves that were fed three times per day averaged 1,136 pounds more milk and calved 16 days earlier than calves fed milk two times per day.

Other Nutrition Notes articles have indicated the benefits of feeding Kent Milk Formula Winterizer or Milk Energizer to provide additional energy. With temperatures well below freezing this winter in many areas, the following feeding recommendations for Kent Milk Formulas will help with cold stress:

- Add 2.0 ounces of Milk Energizer per 2 quarts of 20/20 Kent Milk Formula mix that is fed two times per day.
- Feed 6 quarts per day of 20/20 Kent Milk Formula mix either as two 3-quart feedings or as three 2-quart feedings per day.
- Feed 6 quarts per day of 22/24 Kent Milk Formula Winterizer either as two 3-quart feedings or as three 2-quart feedings per day.

Several other management practices to follow during cold stress periods are:

- Ensure calves consume a minimum of three to four quarts of high-quality colostrum as soon after birth as possible, preferably in the first hour after birth. A good-quality colostrum replacer that will provide 150 grams of IgG should be fed if an adequate amount or quality of colostrum is not available.
- Dry the calf off as quickly after birth as possible.
- Provide dry deep bedding to keep the calf as warm as possible. Provide enough bedding to keep bedding dry and for “nesting” (bedding over the legs of the calf).
- Calf coats help keep calves warm and can be re-used.
- Provide proper ventilation for calves housed indoors but avoid direct drafts on the calf. Proper ventilation provides fresh air that helps reduce air-borne pathogens and ammonia.
- Feed milk replacer at consistent intervals.
- Feed milk replacer as close to body temperature as possible (102°F). If fed at less than body temperature, the calf must use energy to warm to body temperature.
- Offer warm water (102°F) 30 minutes after feeding milk replacer and at intervals during the day, if possible. Water is essential to start and keep the digestive tract working properly and to stimulate dry matter intake (starter).
- Get the calf on a good-quality starter as quickly as possible. 2.5 ounces of a good calf starter provides the same energy as 1 ounce of Milk Energizer or 1.5 ounces of a 20% fat milk replacer.

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