

## Feeding Calves for Cold Weather

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Though this winter is off to a slow start, you never know what tomorrow may bring. As temperatures decrease, a calf's nutritional requirements continue to increase. Ensuring you are providing adequate fat, protein, and calories to meet the needs of the calves is essential for proper calf growth and development.

The thermoneutral zone is the temperature range where a calf is comfortable. For calves less than 1 month old this is 15-28°C and expands to 5.5-28°C for calves over 1 month of age. Temperatures outside this range require calves to expend more energy to regulate their body temperature. If the energy calves receive is not increased during periods of cold weather, there will be less energy available for growth, development, and fighting disease. In extreme cases, calves will burn fat to keep themselves warm and may die due to starvation.

There are several ways to ensure that calves are getting adequate nutrition during cold weather. Some options include increasing the volume of milk replacer offered per feeding, providing more feedings throughout the day, or increasing the protein content of milk replacer. It is important to mix milk replacer according to the label directions. Increasing the powder mixed into the same volume of water can cause digestive disease.

Feeding whole milk provides more calories than most milk replacers for the same volume. However, it is important to note that even calves fed whole milk can starve in extreme conditions and performance and health can often be improved by increasing the volume fed during cold weather. In general, calves should be fed at least 8 L (large breeds) or 6 L (small breeds) of milk or milk replacer per day divided into 3 feedings. However, speak with your nutritionist and veterinarian to determine the appropriate feeding schedule for the calves on your farm.

Proper nutrition during cold weather should focus on milk or milk replacer for preweaned calves. Though older calves will consume some solid feed, very young calves will not consume adequate starter to meet their nutritional needs. These calves are often the most susceptible to disease and require adequate, easily digestible, liquid nutrition for maintenance, growth, and immune function. It is an error to expect these calves to consume more starter just because they are hungry.

Though appropriate nutrition is the key, ensuring calves thrive during inclement weather is about more than what you feed them. Providing adequate amounts of clean, dry bedding and keeping the calves clean and dry helps them deal with the cold. Providing adequate straw for calves to bed down in will raise the temperature around the calf by about 4°C.

Monitoring of the nutritional program should be done year round, but especially when the weather is cold. If monitoring weights, calves should double their birth weight by about 2 months of age. The health of the calves may also be a clue to the state of the nutrition program. Higher than normal incidences of respiratory disease or scours may indicate that insufficient nutrition is being provided.

Now is a good time to think about feeding calves for cold weather and make sure you are prepared should winter finally arrive this year. Speak with your nutritionist and veterinarian to set up a winter feeding scheme for your calves. Remember, this is the milking herd in 2 years so it's important to get them off to a great start now.