

Cold Weather Calf Care

Ryan Breuer, DVM, NW IA Dairy Specialist, Iowa State University Extension and Outreach

As temperatures drop, steps must be taken to provide increased energy to growing calves. When temperatures drop to less than 60 degrees, a calf is below its “thermal neutral zone”. The thermal neutral zone is the temperature range [60-75°F] where a calf does not need to spend extra energy to stay warm or to cool itself. Therefore, in cold weather, calves must be supplied more calories or they will use their energy to keep warm instead of for growth.

Calves are only born with approximately 3 to 4% body fat – NOT much to spare in cold weather. Standard milk replacer diets (8 - 10 oz of a 20:20 milk replacer powder in 2 quarts of water) will NOT provide enough energy for warmth AND growth to calves in cold weather.

Below are options to add energy to keep your calves healthy and gaining in the cold.

- Increase caloric intake by adding a third feeding when below the thermal neutral zone. (Ex. 7am, 12pm, and 7pm feedings) In weather below 0°F add two extra feedings. (Ex. 7am, 11am, 3pm, and 7pm)
- Switch to a milk replacer that has a higher fat content or add an additional fat supplement to a pre-existing milk replacer. Remember to follow on-label instructions when adding solids to a liquid diet.
- Provide fresh warm water shortly after each milk/milk replacer feeding (within 15-30mins) to all calves from birth to weaning. The colder the weather, the warmer the water calves will tolerate. When calves are laying down their water should be removed so that it will not freeze.
- Provide fresh, clean calf starter/grain to calves every day. When it is cold, calves will eat more to obtain adequate energy for growth and to keep themselves warm. Starter is another excellent way to provide a fat/energy source to calves during cold weather.
- Bed calves with deep, dry straw to nest in – deep enough to cover the calf’s legs completely.
- Blankets/Calf Coats help prevent heat and energy loss, especially to the younger and smaller body weight calves.



If a calf is not fed enough calories in cold weather, it will use the energy that it should be using for weight gain, and use it instead to keep warm. Cold temperatures are an especially dangerous, life-threatening situation for calves under 2-3 weeks of age because they consume less starter. In young calves that are not getting enough energy, starvation will occur. Starvation causes body systems to shut down to preserve energy. The first system to shut down is the immune system. Too few of calories to calves will lead to more illness, in addition to poor growth/weight loss.

Do not increase the recommended amount of milk replacer powder to mixing water ratio. If calves receive too many total solids in a feeding they will become dehydrated. Too many solids in a feeding are like eating a piece of salted ham without having the ability to get something to drink afterwards. Again, provide plenty of fresh warm water after each feeding.

Whether the weather is cold, or beautiful, we must remember the 5 “C’s” and diligently follow the basics regarding getting calves off to a good start.

- Colostrum
- Consistency
- Comfort
- Calories
- Cleanliness

It is also encouraged to revisit calf health protocols to ensure calves are receiving the best care we can give them:

- Work with your veterinarian on a vaccination protocols for dams and calves.
- Provide a clean calving area and prompt removal of calf from dam.
- Dip navel with either Chlorhexidine solution or a 7% Tincture of Iodine. It is important to use these solutions because it contains agents which help to dry the navel, thus preventing the invasion of environmental pathogens.
- Practice good colostrum management, which includes feeding 1 gallon of quality colostrum or a colostrum replacer containing at least 150 grams of IgG antibodies within 6 hours of birth. Your veterinarian can help you determine if calves are receiving adequate levels of passive immune transfer.
- Dry calf hair coats to prevent heat loss.
- Minimize exposure to moisture and manure in calf housing – provide clean, dry bedding.
- Provide adequate ventilation.
- Clean calf feeding equipment daily – bottles, nipples, buckets, etc.

By making feeding adjustments and changes to calf care in cold weather, producers can maintain growth as well as raise these winter calves into healthy, more productive lactating adults. As cold settles on us, remember to spend a little more time and effort on the pre-weaned calves so that they can fulfill their potential to be the great milk producers of tomorrow.