Feeding Calves in Cold Weather

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The coldest months in Colorado are upon us. At this time of year seemingly normal calves can be found unexpectedly dead. When the diagnosis at necropsy is starvation, it does not make sense. How can diligently fed calves die of starvation? Feeding calves in winter can be tricky in Colorado. During periods of severe or prolonged cold, feeding adjustments must be made or calves can be lost suddenly.

Calves are most comfortable at 50 or 60 degrees F. Lower environmental temperatures and wind chill factors result in "cold stress". Energy to generate body heat comes from food or stored body fat. If calves are not fed more during periods of cold weather, they will burn body fat and lose weight. Once body fat stores are consumed, the calf can become hypothermic. Signs of hypothermia include depression, weakness, loss of appetite, and, obviously, cold extremities. These calves will die, if not warmed and fed. Necropsy reveals emaciation or "starvation".

Standard Feeding Recommendations

Unbeknownst to many, our typical dairy calf feeding programs are not targeted for optimum energy consumption. Given their choice, most young calves would consume milk at about 25% of body weight per day in 6-8 feedings and grow rapidly. For labor/management reasons calves are fed only twice daily. If a volume of 25% BW were provided in only 2 feedings, calves would routinely develop bowel disorders, or simply reduce intake. To avoid bowel disorders each milk feeding is about 5% BW, so twice daily feeding results in a daily total intake of 10% BW. With this regimen the calf is not consuming to appetite and so begins to eat dry feed early in life. Ultimately, this allows lower feeding costs and earlier weaning. This earlier development of rumen function ultimately benefits the calf.

Potential for Problems

Unfortunately, there are some loopholes in this typical calf feeding program. For the first several weeks, before dry feed intake is substantial, calves are relatively underfed. In cold weather they are at an increased risk of inadequate energy intake. This is compounded by the convention of feeding 2 quarts per feeding, which amounts to about 8 pounds per day. This is adequate for an 80 lb. calf, but only 8% BW for our larger 100 lb calves. Further, many milk replacers are formulated for economy by incorporting only 10% fat, equivalent to 2% milk fat when reconstituted.

Use High-Fat Milk Replacers

Use milk replacers with 20% fat to provide calves with extra energy, especially during winter. Reconstituted by label directions, this will equate to 4% fat milk.

Increase Feed Intake

Increase dry matter intake by 10% for every 10 degrees F that the daytime high is below 32 degrees F. When daytime highs are below 7 degrees F, feed the excess in a third feeding to help prevent digestive upsets.

Increase Fat Intake
Add a commercial fat supplement to spike energy levels of your milk or milk replacer. There are dried supplements made to mix specifically with liquids. Tallow or liquid vegetable oil do not mix well with liquids. The fat should add to and not replace the starter.

Keep calves clean, dry and draft-free
Use plenty of bedding in hutches. Deep, clean, dry straw in a good tight hutch will help keep well-fed calves warm. Sand, sawdust or shavings are good bedding bases but should be supplemented with straw in cold weather.

Encourage starter
Get calves to eat a well-balanced starter as soon as possible. Ruminating calves are not as easily cold-stressed as calves consuming only liquid feed. Starters are much better at developing the rumen and providing energy for warmth and growth than hay. Calves should be eating at least 2-3 pounds of starter per day at weaning.

Offer plenty of water
Offer calves water at least once a day in winter. Water is necessary to promote starter intake and rumen development, and maximize the benefits of nutrients in extra milk replacer.

Minimize changes
Once a calf is on a higher energy liquid diet, continue that diet until weaning. Feeding changes can cause digestive problems.