

# The 5C's

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Successful calf management can be summed up in five words:

Colostrum, Calories, Cleanliness, Comfort and Consistency.

This list is courtesy of Dr. Sheila McGuirk of the University of Wisconsin.

## Colostrum

Colostrum is the first milk given by a dairy cow following birth. It is rich in fat and protein and has immunity elements. Colostrum is given to newborn calves in the first 24 hours of life.

## Feeding Colostrum

Wash your hands before collecting colostrum

Cleanly collect colostrum from the cow. Prepare the udder as you would for milking and collect the colostrum in a container that has been washed with hot water and soap.

Feed calves three to four litres of colostrum as soon as they are born. Calves should be fed an additional two litres of colostrum within eight hours of birth. Bigger breeds, such as Holsteins, need at least four litres of milk right away and smaller breeds, such as Jersey, need at least three litres.

Continue feeding transition milk for three days, as it is very rich in nutrients and energy that will benefit the calf.

Clean and disinfect feeding nipples, bottles or tubes after each use.

## Colostrum Quality

Colostrum should look like and have the consistency of melted vanilla ice cream. Runny, thin colostrum or colostrum mixed with blood indicates poor quality, so use only good quality colostrum that has no evidence of blood or serum. Colostrum from cows that have been treated or have mastitis should not be used.

Colostrum from Holstein cows should be thick and off-white in colour, and have a high antibody content. If your herd is targeting Johne's control, colostrum should come from pre-selected "colostrum donors" who are young cows without Johne's infected relatives.

To test for quality, use a colostrometer

Calves with total protein concentration of greater than 5.5 g/dL have received adequate colostrum. Testing can occur from six hours after the first colostrum feeding to one week of age. Your veterinarian can do random blood tests, which is good feedback on your colostrum management.

Colostrum samples can be sent for testing. Bacterial counts should be less than 100,000 cfu/mL. High bacteria counts are associated with poor colostrum absorption in the calf. Colostrum may also become a source of infection.

## More on Colostrum Management

## Calories

Calories are very important to calves because they're needed to grow and remain healthy. Calories for young calves come from the milk or milk replacer and calf starter. As external temperatures decrease in accordance with the seasons, the amount of milk or milk replacer you feed needs to increase.

A website by Dr. Sam Leadley, a veterinarian from Attica NY, has milk/milk replacer feeding charts to calculate if you are feeding enough milk/milk replacer for the weight of the calf and the outside temperature. Visit this link to make sure you are feeding enough for those cold temperatures. Est. Gain Preweaned Calves

When feeding calves, it is really important to remember that a calf needs 2000 calories a day maintain current weight &ndash; not grow &ndash; at 20°C temperature. Additionally, a calf uses 400 calories to process feed, which means a calf needs to eat at least 2400 calories per day just to maintain its weight.

The concept of feeding a calf 4 litres per day is based on a feeding program from the 1950s. At that time, milk was expensive to feed to calves and farmers were encouraged to transition their calves to a cheaper, grain&ndash;based diet. A lot more is known nowadays about calf nutrition, the importance of milk and feeding calves correctly for temperature. Feeding a calf 4 litres per day in cold temperatures is starvation.

If you fail to increase calories in accordance with the weather, calves won't grow and will get sick as they will use all energy from the milk or milk replacer just to keep warm. Cold weather and lack of energy are stressors for the animals.

When calves are a couple of days old, they should be offered a small quantity of calf starter. By the time they are ready to wean, they should be eating 1 kg (2 lbs) per day. Feeding in Cold Weather

## Added CMR Feeding in Cold Weather

Water should be offered to calves free choice all the time. Research shows that as a calf's water consumption increases, so does its calf starter intake. Calves on an accelerated feeding program must have water available, as the concentration of milk powder is higher. More about Water

## Feeding Calves More Milk

## Cleanliness

When the calf is born, it needs to have a clean, dry, well-bedded and draft&ndash;free environment. This is very important to the overall well&ndash;being of the calf as it is the best prevention of future health problems. By reducing bacteria in the calving area, you're giving the calf the best possible start in life.

Clean and disinfect feeding nipples, bottles or tubes after each use. This will help to reduce the spread of disease among calves.

The following links have more information about the importance of cleanliness:

[Cleanliness in Rearing Young Animals](#)

[Using Bleach as a Germicide](#)

[To Wash or Not To Wash](#)

[Comfort](#)

In order for a calf to be healthy, it needs to be comfortable. Comfort for a calf is being well&ndash;bedded, warm and in a properly ventilated area. Ensuring the comfort of the calf means it will be healthier and will have a better average daily gain.

If you are unsure whether or not bedding should be changed, kneel on the bedding for 20 seconds. If your knees get wet, the bedding should be changed or added to.

[Environment "Comfort" for Young Animals](#)

[Cold Weather Bedding](#)

[Calf Diseases and Prevention](#)

[Consistency](#)

Calves are creatures of habit and like the same routine day after day. They want to be fed the same feed at the same time each day. Feeding waste or pasteurized milk may pose challenges as they will not be the same at each feeding. Milk replacer is generally more consistent, except when you are switching between batches of feed. Therefore, it is always a good idea to blend milk powder from the current batch to the new batch, which will result in fewer digestive upsets and less diarrhea in the calves.

To blend milk replacer, start with 75% of the old powder and 25% of the new powder. Mix that ratio for two feedings. Then switch to 50% old, 50% new for two feedings, followed by 25% old powder and 75% new for two feedings. Finally, use 100% of the new powder. It is a little more work but the calves will respond better.

[Raising Calves the 5c&rsquo;s of a Healthy Start](#)

Trouble Shooting Calf Health Conerns

Disease Prevention