

Finding a Home for Non-Saleable Milk

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Farms experiencing low milk prices coupled with recommendations from milk cooperatives to reduce milk production can leave a financial burden on what to do with excess milk. Feeding whole milk in place of milk replacer could be a positive financial and nutritional alternative to finding a home for non-saleable milk. Follow these guidelines to maximize whole milk's nutrient potential as another option to meet growth goals of calves to double their birthweight by 56 days of age.



Consider Pasteurization Prior to Feeding –

Like the sale of milk to humans, feeding unpasteurized milk to calves could potentially spread disease. Johne's disease, Mycoplasma, BLV, BVD, Staph aureus, Listeria, Campylobacter, E. Coli, Pasteurella have the potential to be spread from cow to calf through the consumption of unpasteurized milk. Proper pasteurization equipment, time and temperature are needed to reduce disease transfer. Visit with your veterinarian or nutritionist to design a protocol for your farm.

Review [Pasteurized Waste Milk Management Considerations](#) for proper steps to pasteurizing milk.

Start and Finish with High Quality Milk –

Start with the highest quality milk possible, if it is impossible to avoid using milk from the hospital pen or higher somatic cell count cows, then more emphasis to pasteurize should be considered. Once milk has been collected from the milking system, quick action should be taken to pasteurize, cool, store, or feed, to reduce bacteria load. As milk reaches room temperature and higher, bacteria double every 20 minutes. The use of preservation products like citric acid or propionic acid may help reduce bacterial growth to extend milk usage. Pay close attention to cleanliness of handling and storage equipment, as it can be a source of recontamination of high-quality milk. Take samples regularly to test the bacteria levels in milk, alerting you to any potential problems.

Feed to Meet the Needs of the Calf –

While this is the time to maximize the nutritional needs of the calf, the transition to whole milk should happen gradually to reduce digestive upset. While calves can consume onwards of 12 quarts of milk per day, this can happen over the course of 1-2 weeks. It is also important to take into consideration how milk is fed on individual farms to how much calves can consume; some feed twice a day, while others feed three times a day, mob feed, or automate feeding. Whole milk is very comparable to feeding a high-quality milk replacer with a 28% fat and 25% protein. If using milk from the bulk tank, the nutrient content will not vary much from day to day, although consider seasonal changes. However, caution is needed when hospital pen/fresh cow milk is being used. This milk is highly variable in nutrient content and often harder to balance consistently unless nutrient content is known.

It is important to consider whole milk on a dry matter basis when feeding. Whole milk is 87% water and 13% dry matter. If feeding a gallon of milk, this equation could be used: (reference, Cassie Yost, Penn State Extension Dairy Educator)

1 gallon of milk weighs 8.6 pounds x 13% dry matter equals 1.11 pounds of dry matter

However, to provide adequate nutrition, calves should be fed at least 5-6 quarts per day to reach a dry matter intake of 1.6 lbs., using 12.5% solids content of whole milk. (for use with large breed calves, small breed requires approximately 25% less). When factoring in weather elements, health and growth rate goals, more dry matter intake may be needed.

Remember Water, Starter, and Weaning –

While whole milk is 87% water, it does not meet the needs of what is required for the rumen to develop. Provide fresh, clean water daily and within 3 days of life to increase starter intake and stimulate rumen development. Decreasing the amount of milk fed over a 1-2-week period will help increase starter intake prior to weaning, reducing stress and limiting a growth slump of the calf. An average weaning age is 6-8 weeks but should be based on growth and consumption, targeting 56 days to double birthweight. If target growth rates are not being met, review current management program or extend milk feeding period.

Review [Leave No Calf Behind Factsheet](#) for calf growth benchmarks and feeding.

These are guidelines when considering the utilization of feeding whole milk to calves. This may look different on each farm, making it important for individual farms to visit with their consultants in this decision-making process for the financial and productive benefit of the calf and overall farm.

Visit: <https://www.extension.iastate.edu/dairyteam/calves-heifers> for more information on calf and heifer raising.

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