

Nothing But The “Whole Milk” Truth



By Teresa Hanson, B.S.

Whole milk was designed by nature to be food for baby calves and sets the standard for neonatal calf nutrition, however, it does have limitations. Feeding whole milk to calves is a common practice in the dairy industry.

Organic producers are required to feed whole milk according to the organic standards and conventional producers have the choice to feed raw whole milk, pasteurized whole milk or calf milk replacer. The price of milk, cost of milk replacer, convenience and bio-security issues all play a role in how producers feed their calves. For optimum calf performance and health, producers should consider the fact that whole milk does have some nutritional short-falls.

Nutritional Value Of Whole Milk

Whole milk being fed to dairy calves not only can vary in quality, but is also significantly devoid of several key trace minerals i.e., zinc, manganese, copper, iron, iodine, cobalt and selenium, as well as being short of vitamins D and E.¹ Deficiencies in any one of these nutrients can compromise calf health and performance with significant negative economic consequences. For example, selenium deficiencies can lead to reduced bone and muscle development, poor appetite, slow growth and white muscle disease. Milk is an excellent source of basic nutrition, however, it is not designed to be a complete source of nutrients for an extended period of time. This is especially true when calves are experiencing a health challenge and need full nutritional support.

A Supplemental Strategy For Whole Milk

Crystal Creek® has two products that are useful in balancing the diet for calves being fed whole milk, whether pasteurized or non-pasteurized to address two categories of nutrition.

1. A Nutritional Supplement - Calf Milk Mate™:

Calf Milk Mate™ is a low inclusion (4 grams/day) daily nutritional supplement that provides:

- The trace minerals zinc, manganese, copper and iron needed by the calf when whole milk is being fed. They are all in the form of polysaccharide chelates. Polysaccharide chelates are over 90% bio-available to the calf, do not tie up other nutrients and reduce the risk of digestive upset that can occur with lower grade trace minerals. In addition, Calf Milk Mate™ contains supplemental cobalt and iodine for metabolic support.
- Selenium in the form of selenium yeast which is highly bioavailable.
- Vitamins A, D, E and C (young calves benefit from supplemental vitamin C).



2. A Digestive Support - Calf Shield®:

Calf Shield® is a powerful non-antibiotic digestive support that is added to the milk at each feeding and is designed to support optimum calf health and performance by:

- Reducing the risk of scours from gram(-) pathogens like E. coli, as well to reduce the risk from scours complicated by cryptosporidium and coccidiosis.
- Improving weight gain. Independent studies have shown up to an 18% improvement in weight gain when Calf Shield® is fed.
- Improving immune function

Milk Feeding Guidelines

- Feed milk at the proper temperature. Milk should be delivered to the calf between 102°F and 105°F. Every producer should have a thermometer on their farm to check the temperature of the milk. Feeding cold milk to the calf can result in scours.
- Consistency is imperative. If you are feeding milk two times a day, feed the milk at 12 hour intervals. A change in feeding times can result in a digestive upset or scours.
- Feed adequate amounts of milk. At three weeks of age, a Holstein calf should be getting one gallon of milk morning and night. At three weeks of age a calf should be introduced to grain. Hay should be introduced at six weeks of age.

4. Feed Calf Shield® and Calf Milk Mate™ for powerful nutritional and digestive support to the calf.



3. Sanitize equipment on a regular basis using an approved sanitizer for milk processing equipment.²
4. Routinely sample milk for bacterial counts. Producers should take a sample of milk before and after pasteurization, as well as a sample from the first, middle and last calf fed. These samples should be taken in sterile containers and frozen immediately, then sent to the lab. Refer to the chart below for Bacterial Count Guidelines.

Type of Sample	Total Bacteria Count (cfu/ mL)	Total Coliform Count (cfu/ mL)	Total E.Coli Count (cfu/ mL)
Waste Milk	1,000,000	No Guidelines	No Guidelines
Pasteurized Waste Milk	20,000	1,000	100

If you are experiencing high bacteria or coliform counts, make sure to check that the pasteurizer is working and being cleaned properly.³

Feeding whole milk can be an effective option for raising dairy calves when done correctly. To help your calves reach their full potential, follow the above recommendations. If you have any questions regarding feeding whole milk, please feel free to contact Crystal Creek®. Make Calf Milk Mate™ and Calf Shield® a standard part of your calf program - you will be glad you did.

Resources:

"Nutrient Data for 01078, Milk, producer, fluid, 3.7% milkfat." USDA National Nutrient Database for Standard Reference. USDA. Web. 19 Oct 2012.
 <<http://201.198.203.66/EIrral/componentesleche.html>>.
 Bentley, Jennifer. "Pasteurized Waste Milk Management Considerations." . N.p.. Web. 19 Oct 2012.
 <<http://www.extension.iastate.edu/dairyteam/sites/www.extension.iastate.edu/files/dairyteam/PasteurizedWasteMilkManagementConsiderations.pdf>>.
 "Bacterial Culture of Colostrum and Waste Milk." Wisconsin Veterinary Diagnostic Laboratory. N.p., 14 2012. Web. 19 Oct 2012.
 <http://www.wvdl.wisc.edu/PDF/WVDL.Info.Colostrum_and_Waste_Milk_Interpretation_Guidelines.pdf>.

Pasteurized Milk Feeding Guidelines

1. All of the recommendations listed in the Milk Feeding Guidelines also apply to pasteurized milk feeding.
2. Do not feed milk containing antibiotics, excessive blood or mastitis.²

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