

Guidelines and Amounts for Feeding Unpasteurized Milk to the Dairy Herd

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INTRODUCTION

As some dairy farms must continue to reduce milk shipped to the processing plant, some are considering feeding unpasteurized milk back to the herd. Before making this decision, it is important to talk with your farm's nutritionist to discuss needed adjustments for milk nutrients. The ration needs to be balanced properly with milk best incorporated into a TMR rather than in a component feeding system. There are several considerations to take into account which are summarized in the Feeding Unpasteurized Milk to the Dairy Herd fact sheet (<https://go.wisc.edu/242c74>). A farm must be able to efficiently store, handle, and incorporate the milk into the diet, among other considerations.

THE APPROACH

Nutritional modeling scenarios were run in AMTS software using compiled forage laboratory analysis results provided by Dairyland Laboratories and Rock River Laboratories. Milk was substituted in 5-pound increments while corn, soybean meal, or tallow was removed. Energy levels for metabolizable energy available milk production were kept within one pound of the base diet.

Table 1. Base diet (as fed and dry matter basis)

Ingredient	lb. as fed	lb. dry matter
Corn silage	59.4	21.0
Alfalfa silage	20.9	9.0
Ground corn or high moisture corn	11.4	10.0
Soybean meal (solvent)	5.3	4.8
Expeller soybean meal	3.4	3.1
Corn gluten feed	6.6	6.0
Fat	1.1	1.1
Vitamin /mineral mix	2.0	1.8
TOTAL	110.1	56.8

Below are some general guidelines for substituting milk based on energy equivalents, and should be used as a starting point for discussion with your nutritionist.

Table 2. Nutritional modeling scenarios summary. Milk inclusion and removal rates (based on energy equivalent only) are listed for four main scenarios: ground corn, high moisture shell corn, soybean meal, or fat removal.

Milk added (as is)	Ground corn 12% moist./ 88% DM (as is)	High moisture shell corn (as is)				Soybean Meal (as is)	Fat (as is)
		25% moist./ 75% DM	28% moist./ 72% DM	30% moist./ 70% DM	32% moist./ 68% DM		
5 lb	1 lb	1 lb	1.5 lb	1.5 lb	1.5 lb	1.5 lb	1/3 lb
10 lb	2 lb	2.5 lb	2.5 lb	2.5 lb	2.5 lb	2.5 lb	2/3 lb
15 lb	3 lb	3.5 lb	3.5 lb	4 lb	4 lb	4 lb	1 lb
20 lb	4 lb	4.5 lb	5 lb	5 lb	5-5.5 lb	5.5 lb	-----
25 lb	5 lb	6 lb	6 lb	6.5 lb	6.5 lb	6.5 lb	-----

LIMITATIONS

For smaller dairy farms, adjusting corn feeding amounts may be the only option. Protein and/or fat sources may be included in the grain mix. However, if the farm is able to change protein and fat sources, this would allow for reduction of more expensive ingredients and greater cost savings. There may be issues with moisture, feed hygiene, or other factors limiting milk inclusion. Models are not guarantees of performance. Any changes to the diet should be done gradually starting with small amounts and slowly ramping up, while monitoring intakes, production, animal health, and behavior.

SUMMARY

Feeding unpasteurized milk to the dairy herd could be a viable option for repurposing excess milk. However, there are many considerations that must be taken into account. After deciding this option is best for your farm, it is critical to work with your nutritionist. Ground corn can be replaced at roughly 1 pound for every 5 pounds of milk as fed. High moisture shell corn and soybean meal can be replaced at slightly more than one pound for every 5 pounds of milk as fed. Approximately 1/3 pound of fat can be replaced for every 5 pounds of milk as fed. These guidelines are strictly speaking on an energy equivalent basis.

Special thanks to Dairyland Laboratories and Rock River Laboratory for providing forage analysis used in the modeling scenarios. Data reflects 2019 samples for corn silage, alfalfa silage, and ground corn.

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