

# Optimize Milk Efficiency to Maximize Income over Feed Cost (IOFC)

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→ **“Rumen-protected amino acids, such as AjiPro®-L, play an important role in improving milk efficiency, with its net IOFC benefit outweighing its cost.”**

High feed and/or low milk price often prompts dairy producers to look for avenues to reduce production costs. Often, the first step is a general instruction to reduce diet cost. **This attempt to minimize ingredient cost may be actually counterproductive and more costly to dairy producers.** As an example, reproduction cost could be reduced substantially if dairy producers didn't purchase semen when performing AI. However, a dairy producer would never attempt AI without semen because of its central role to reproduction efficiency. What if a similar phenomenon occurred in milk production by removing dietary ingredients in a temporary attempt to reduce ration cost?

The goal of producing milk is to maximize income over feed cost (IOFC). Maximizing IOFC depends on maximizing milk production from inputs (ration) given to the cow. Therefore, the primary goal is to reach the maximum milk efficiency (ME) potential, which is measured as Lbs. of milk produced per Lbs. of dry matter consumed. Many dairy cows have ME of 1.4-1.7. Yet, most could yield ME of 1.9 or greater. Diet formulation programs can be used to assess a herd's ME potential. But why is ME an important metric? If the diet cost is \$6.50 per day, milk price is \$13 per cwt, and herd ME is 1.6 with a diet energy ME potential of 1.9, **the dairy is missing an opportunity for \$2.15 increased IOFC per cow per day.**

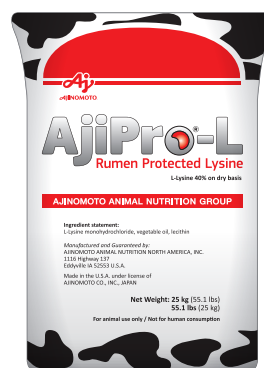
There are several management, environment and nutritional factors that can reduce ME of dairy cows. However, it is impossible to maximize ME if a dairy cow's amino acid requirements are not met. Because ME impacts IOFC, **maximizing ME is essential to maximizing IOFC.** Using \$6.5 diet cost per day and \$13 per cwt milk price, each 0.1 increase in ME is worth \$0.72 IOFC per cow per day. If an ingredient is pulled from a diet that is costing \$0.35 per cow per day but reduces ME by only 0.1 units, the cost incurred (\$0.72) is much greater than the reduced expense of \$0.35.

Therefore, it is crucial to evaluate the diet formulation and assess the value of dietary ingredients for dairy farmers. Rumen-protected amino acids play an important role in improving ME, with its net IOFC benefit outweighing its cost. A gap between the current ME and maximum potential ME of a herd indicates a potential economic benefit when a diet is balanced to meet a cow's amino acid requirement. Using rumen-protected amino acids, such as AjiPro®-L, to balance lactation diets can have positive effects on ME and improve IOFC even when milk price is low.

To assess the herd's milk efficiency (ME), please visit [www.AjiPro-L.com](http://www.AjiPro-L.com) for the milk efficiency calculator.

## ASSUMPTIONS

DMI (Lbs.)	55	Milk Efficiency	Milk Production	Milk Value	IOFC	
Feed cost per day	\$6.50	1.4	77.0	\$10.01	\$3.51	\$0.72 saving
Milk price (\$ cwt)	\$13.00	1.5	82.5	\$10.73	\$4.23	
		1.6	88.0	\$11.44	\$4.94	\$2.15 saving
		1.7	93.5	\$12.16	\$5.66	
		1.8	99.0	\$12.87	\$6.37	
		1.9	104.5	\$13.59	\$7.09	
		2.0	110.0	\$14.30	\$7.80	
		2.1	115.5	\$15.02	\$8.52	



**For a full assessment of your herd's milk efficiency (ME), please visit [www.AjiPro-L.com](http://www.AjiPro-L.com) for the milk efficiency calculator.**



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