

Carefully Evaluate Both Cost and Income When Fine-Tuning Your Ration

By Steve Martin, MS, PAS, Owner/Nutritionist, DNMCmilk

→ **“The economic evaluation of the improved diet comes when comparing the change in feed cost with the increase in milk income. If there is an increase in feed cost, it must be considered as an investment with an expected return.”**

Dairy producers and nutritionists know the value of striving for the last few pounds of milk from their herd. Maybe the gains in milk production come from improvements in cow comfort, better forage quality or better rations. In any of these cases **the goal for increases in milk production is enhanced revenue.**

In a real sense, dairy production is using the cow to convert raw materials in feed to high-value and nutritious dairy products. When looking at a well-managed corn silage pile, barns of neatly stacked alfalfa hay or a bay full of beautiful flaked corn the dairy producer sees glasses of milk, slices of cheese and ice cream. The bills are paid when considering the cost of these feed ingredients compared to the value of the milk sold. Consequently, **every feed decision should be evaluated in terms of the potential impact on Income over Feed Cost (IOFC).**

One way to increase IOFC is to be sure that the diet is fine-tuned for maximum production. If maximum milk flow is to be realized, the nutritionist must consider the details of balancing for and supplying the correct amino acid levels- primarily, lysine and methionine.

When considering one of the most technical portions of building the diet, we are sure to take advantage of the rumen's ability to convert feed protein into microbial protein rich in amino acids. This process happens in every ruminant from bison to high performing dairy cows. The difference comes when the last few pounds of milk can only be realized when microbial protein is augmented by the addition of ingredients rich in rumen protected amino acids.

Looking deeper into this combination of microbial protein and bypass feed protein is really the essence of balancing for amino acids. If the genetic progress in the modern dairy cow is to be challenged for maximum milk production, the rumen with **maximized microbial protein still needs to be augmented with bypass feed protein.** It would be an error to focus on maximizing microbial protein and ignoring bypass sources, as well as the inverse. Both supplies of valuable amino acids flowing out of the rumen must be maximized and well-balanced. The hard work comes when asking, how can we augment this microbial protein?

Using ingredients that are rich in rumen protected lysine like AjiPro-L and various sources of methionine is a way to increase the supply of these key nutrients. Supplying these extra building blocks for milk protein in a diet that is also rich in energy will result in increased milk production.

The best ration modeling is done with strong economics in mind. Depending on the current status of the protein formulation in a diet and current ingredient costs, there may be an increase in cost to augment the protein flow. This is, however, not always the case. One such opportunity to manage cost and nitrogen efficiency at a dairy is to **lower the crude protein but improve the amino acid balance.** In any case, the economic evaluation of the improved diet comes when comparing the change in feed cost with the increase in milk income. If there is an increase in feed cost, it must be considered as an investment with an expected return.

In the attached ration comparison example, **14 cents/cow of extra feed cost was invested.** To increase the amino acid flow, AjiPro-L and a commercial methionine source were added to the diet.

	Comparison Rations	
	Base Diet	+ Lys & Met
Milk production, Lbs per cow per day	80.0	82.0
Butter fat, %	3.55%	3.55%
Milk protein, %	3.10%	3.12%
Energy corrected milk (ECM), Lbs per day	81.9	84.1
Dry matter intake, Lbs per day	52.0	52.6
ECM feed efficiency	1.58	1.60
Feed cost, per Lbs	\$0.12	\$0.12
Feed cost, per cow per day	\$6.24	\$6.38
Gross income, per cow per day	\$13.47	\$13.84
Income over feed costs, per cow per day	\$7.23	\$7.46
Return on investment compared to base diet:		2.74
Butter fat price /Lbs.		\$2.60
Milk protein price /Lbs.		\$2.03

In the modeled example, the extra nutrient flow not only increases milk, but a slight increase in milk protein is noted. Also noteworthy is a very small increase in intake. The investment resulted in an **increased milk revenue of 37 cents/cow.** After the 14 cent investment is paid, the increase in IOFC is 23 cents/cow. This nice increase in income offered a **return on investment for the dairy producer of 2.74:1.**

Every ration balancing project has a few goals in mind for the dairy. One of these may be to adjust for ingredient contracts or forage inventories. Other goals may be to maintain current production with fewer ingredients, improved nitrogen efficiency or feeding logistics. The most interesting though, may be to supply higher levels of amino acids to support higher levels of milk production. In any of these cases, considering a rumen-protected lysine product such as AjiPro-L can help the formulator and the dairy producer meet their combined goals. Using a simple mathematical tool like IOFC will be the best way for the dairy producer to evaluate the ration change from a true economic perspective.

For more information on AjiPro-L, please visit www.AjiPro-L.com or contact technical representatives.



AJINOMOTO ANIMAL NUTRITION NORTH AMERICA, INC.

Technical Representative
AjiProTech@ajiusa.com

Sales Representative
AjiProSales@ajiusa.com



GARCO Contact
Email: customerservice@gladwinaread.com
Phone: (800) 323-0878

