



## What Is the Opportunity Cost of Feeding Highly Variable Ingredients?

Variation in the digestibility of the protein and amino acids contained in feed ingredients has a direct impact on production and profitability. One way to evaluate this impact is by determining the opportunity cost (the loss of potential profit) when feeding a poor quality, low digestibility, feed instead of good quality or highly digestible one. For instance, good vs. poor quality blood meal.

A 9-week trial was conducted at the Cornell University Ruminant Center to determine the impact that blood meal quality had on production. The poor quality blood meal contained 34% undigestible nitrogen (uN), this meant that only 66% of the nitrogen (N) in the blood meal could be digested and used by the cow while the remaining 34% was excreted into the environment. The good quality blood meal contained only 9% uN meaning that 91% of the N could be absorbed and used by the cow. The only difference between the two diets was the quality of the blood meal.

Blood meal quality quickly impacted the production levels of the cows (Figure 1). The average difference in ECM yield between the two treatments was 4.2 lbs/h/d.

The opportunity cost for feeding good quality vs. poor

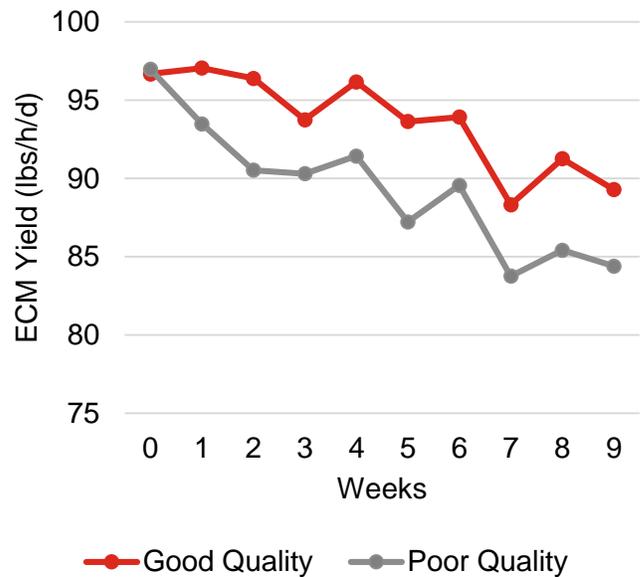


Figure 1. Impact of digestibility on ECM yield.

quality blood meal depends on milk price. For illustration, the researchers assumed a linear impact of digestibility on production, every percent reduction in digestibility decreased production. The possible opportunity cost for each 1% reduction in digestibility for a 500 cow dairy is shown in Table 1. **In this trial the difference in blood meal digestibility was 25%.** For more information on this trial refer to the Technical Literature document titled “*The Impact of Feeding High or Low Digestible Blood Meal on Dairy Cow Production.*”

Table 1. Opportunity cost based on milk price.

	Low	Intermediate	High
Milk price (\$/cwt)	\$12	\$16	\$20
Lost Profit (opportunity cost) due to 1% difference in digestibility (\$/month/500 cows)	\$302	\$403	\$504

To learn more about how variable your blood meal can be visit [kemin.com/usalysine](http://kemin.com/usalysine).



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1900 Scott Ave. • Des Moines, Iowa, USA 50317 • tel: 515.559.5100 • [www.kemin.com](http://www.kemin.com)

## References

1. Gutierrez-Botero M.M., Foskolos, A., Ross, D.A., Van Amburgh, M.E. (2014). Balancing for intestinal nitrogen indigestibility in high producing lactating cattle: One step closer to feeding a cow like a pig? Cornell Nutrition Conference for Feed Manufacturers, Syracuse, NY