



Nutrition needs data-driven decisions, fueled by economics

OFTEN I compare a 500-cow dairy's investment in corn silage to that of a 100-acre property or a tractor. The reason being, there is easily \$250,000 invested in each of those items. After the initial shock wears off in the conversation, I next pose the question, "Have we invested as much time and effort in researching, planning for, and optimizing the \$250,000 investment in corn silage like we would with a land or tractor purchase?"

The answer in many cases is no.

While corn silage represents a sizable portion of feed costs, over the past few years I've learned that we should expand this metaphor well beyond corn silage. There are major costs on farms, all wrapped up in the herd's diet, which have staggeringly little data tied to them. Now, with a few years of experience under my belt and connections to a growing number of leading dairies, I better understand what is possible.

Nutrition needs more data

If we use our production costs as a road map for where we should invest in data, then the amount of nutrition data we empower nutritionists with should meet and exceed what we have with other cost centers on farms, such as reproductive or veterinary programs and costs. Yet, for many, there is an economically unbalanced amount of data on farms to help drive our decisions.

In conceptualizing this article, I reached out to Gary Sipiorski, the co-author of the Money Matters column in this magazine. I think the world of Gary, with his experience

and teaching proving extremely valuable for our industry. Heading into 2023, Gary noted that purchased and grown feed cost could account for 50% to 60% of gross income . . . and that might even be climbing more. This is unsurprising but still staggering. It fit the call's narrative, as I further explained I intended to compare and contrast the amount of data we have in the major cost centers on the farm with the relative cost it accounts for.

The first set of business observations highlights that purchased and grown feed will account for more than 50% of costs on farms that buy their feed. The 50% ratio would be lower for farms that raise their own crops. Rolled up in that 50% number would be some fuel, machinery, repairs, and maintenance charges. In this analysis from the veteran banker, Sipiorski noted that:

- Cropping expense comes it at 8%.
- Labor and family living, 16%.
- Return on assets, 12%.
- Interest, principle, and depreciation, 10%.

Note that veterinary, reproduction, and vaccination program costs account for less than 5% each. As a point of information, the return on assets also could be considered net farm income.

Let's contrast the costs with data available in the veterinary, reproduction, and vaccination program area versus feed. To say the least, there is a disconnect between nutrition and herd health. About 85% of the data on our farms arrives via daily records, pedometers, ear tags, and many other sensors or data sources contributing thousands of observations to facilitate

breeding or herd health decisions. Yet, the costs in these areas represent less than 5% of gross income.

Traditional feed sampling programs typically generate five to 15 samples or nutrition observations, 15 to 30 moisture measures, and recipe and feeding records in feed management software each month. We then rely on our experienced nutritionists to read the herd and make dietary adjustments, and nutritionists are excellent in this regard. However, there is comparatively very little data available to them to guide animal nutrition decisions relative to what we have and use to make decisions in herd health, reproduction, or veterinary programs. In my opinion, this represents a major economic opportunity for business-minded dairies to step up and take charge, further empowering your nutritionist.

Think about this like you would in empowering your breeder with a new activity monitoring system. Following the farm's investment in these new sensors, there is a steep change in information available to help the breeder make decisions. The net outcome is often dramatically improved reproduction program performance.

I see this transition happening in animal nutrition in the coming decade. We can supercharge what your nutrition program is capable of and make your dairy money by generating magnitudes more nutrition data.

Early leadership

To acknowledge credit where due, note that we are following in Bill

Weiss and Norm St-Pierre's footsteps here. Their work at The Ohio State University has provided the foundation for dairies and nutritionists to think outside the box with nutrition data. They've highlighted where there are sizable opportunities in nutrition. We're just now moving their research further into practice by building out better nutrition databases. With growing data available, your nutritionist will help your dairy capitalize on hidden feed cost opportunities.

There will likely be new tools bolted to these databases as well in the future. Intriguing research findings shared by Cornell University researchers Jorge Barrientos-Blanco and Kristen Reed also suggest next level nutrition data could equate to about 3 pounds energy-corrected milk per cow.

Ultimately, feed costs will continue to be a focus for our industry. At the same time, we should be excited about what lies ahead. As we better balance data available in each cost center on the farm relative to the cost percentage of income, we will empower more economically impactful decisions. I believe this is another step in the path toward economically sustainable dairy farming. 🐄

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