by John Goeser

Speaking a new yield language

MY EFFORT to learn the Spanish language has been a long and arduous task. As I work with more and more native Spanish speakers throughout the world, the long-term goal is to learn to speak their language so we can more easily work toward improving profitability in their agribusinesses.


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Coming out of graduate school, I had a solid academic and scientific background. However, I quickly recognized the need to learn the language of those I was aiming to work with.

My late father, Craig Goeser, quickly helped me understand this premise as I was seeking to get my feet on the ground professionally. This new language was not literal but was figurative in nature, as I needed to determine what terms and discussion points resonated with those I was working with each day. I needed to drop my academic verbiage and learn to communicate in meaningful seed genetics, agronomic management, animal nutrition, or hybrid and variety terms.

These days, similar to how my smartphone app has been teaching me Spanish, I've been working with agronomists, growers, and forward-thinking dairy producers to teach and speak a new "yield language" when evaluating seed genetics, agronomic, and harvest decisions.

The new yield language

Yield is easily understood and drives many decisions. Historically, yield has been defined as bushels or tons per acre. These yield measures are relatively straightforward to benchmark compared with other key performance indicators (KPI) on farms.

More tons do not equate to optimal dairy performance, though. Without needing to run projections, most dairies today recognize that high-tonnage crops don't always equate to optimal quality. For example, letting your corn go to black layer elevates the starch content and yield, but the whole-plant silage feeds about as well as tree bark due to the poor fiber digestibility.

Milk2006 sought to take quality into account and redefined yield as milk per acre. This 2006 language revolutionized and resonated with the industry. In fact, more than 15 years later, milk per ton and milk per acre are still common terms in agronomy or seed industry evaluations. However, the dairy industry and nutritionists have moved beyond Milk2006, so a new language is again warranted.

The next generation of forage yield language needs to balance between yield and quality, such as we discussed in the February 2017 *Hay & Forage Grower* article titled "Managing the yield and quality trade off." In that article, I recognized that maximum economic return per acre did not correspond to maximum dry matter yield. The article's focus was alfalfa, but the same can be said for corn silage, sorghum or sudan silages, and many other forages.

This all came full circle recently when reviewing yield versus quality with a cutting-edge dairy. For this dairy, the highest-yielding fields exhibited some of the lowest-quality feedstuffs. The dairy followed my lead, and we combined yield and quality into a new yield measure — total digestible nutrient (TDN) yield.

You can work with your nutritionist to calculate total digestible nutrients using today's advanced nutrition measures. Think of this like Milk2006 on steroids. Ensure your nutritionist's TDN accounts for fiber and starch digestibility. Then, with a TDN yield estimate per acre in hand, expand your partial budgeting to account for crop inputs per acre and efficiency.

Balance yield against inputs

Think of TDN yield like the number of miles to your destination on a road trip. The TDN yield, or your trip destination, is an end goal but tells you nothing about how efficiently you got there.

For example, pouring a couple hundred more dollars into achieving 300 bushels per acre of corn may win bragging rights in the county; however, it does not mean that acre was the most profitable. It likely wasn't. While yield and economic return are absolutely correlated, profit-minded farms will divide crop input costs per acre by total digestible nutrients (TDN) yield to estimate cost per ton of TDN.

Consider running through this math with your agronomist, nutritionist, and crop advisers. You can add other items to the new evaluation language to hone in on your farm's goals, such as doubling down on fiber digestibility. At the end of the day, it's about balancing total digestible nutrient yield against crop inputs.

Evaluate the whole picture

This new TDN yield and cost per ton of TDN yield language can be applied to evaluate all of the different purchase or management decisions that influence your forage crop. We often compare and contrast seed genetics; however, crop inputs such as fungicide or fertilizer can be evaluated more appropriately with the new language discussed here.

Consider strip or test plots to put your new language to use and make better economic decisions with your forages. Again, we must evaluate seed genetics, crop inputs, agronomic management, and harvest decisions to determine the complete picture.

This circles back to my example of learning Spanish, or learning a more practical and economically geared language to speak on your farm. The goal in both situations is the same. We can continue learning together and improve communication by speaking the same language, all in the name of more easily making the right decisions and improving agribusiness performance.

For a 500-cow dairy feeding a high-forage diet, there is roughly $250,000 invested in corn silage alone each year. Your farm can find ways to lessen the cost per ton of TDN by learning to use a new yield language, and this will, in turn, lessen feed costs and improve your margins.

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