



ACROSS THE NATION, the predicted total tract digestibility of this year's corn silage is down. High-producing cows have less energy to glean from the 2013 crop.

Stay ahead of the corn silage curve

This year, the story is fiber levels and digestibility. Unfortunately, fermentation time may not improve the crop.

by John Goeser

CORN silage season for this year is all but done. Shredlage, BMR hybrids and starch digestion have been hot topics throughout the last 12 months. However, they may not be the major players in your dairy's performance. In the interest of helping you quickly determine how best to manage and feed this year's crop, I'll share with you something I've noticed.



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This factor is so strong that a dairy I support dropped several pounds per cow across 1,000-plus cows when starting to blend some 2013 corn silage to feed with last years. This is more than I would have expected, and other nutritionists have told me they are seeing similar trends.

Fiber is at the forefront

This year's hot topic in many areas is going to be fiber (NDF), both amount and digestibility.

Throughout the course of the summer, many have asked what I thought of this year's silage. In years with either stressful or advan-

tageous growing conditions, I have a fairly good handle on predicting crop quality. However, this year was extremely variable.

To gain an understanding of this year's crop and forecast performance implications, I broke out regional corn silage NDF (neutral detergent fiber), starch and NDF digestibility (NDFD) information relative to 2011 and 2012 silages. To fully understand the crop quality, we need to:

1. Look at NDF level.
2. Evaluate starch.
3. Consider more realistic NDFD estimates.

Digestibility the lynchpin

I used David Comb's TTNDFD prediction (Total Tract NDF Digestion) to forecast how much fiber high-producing cows will actually digest. An average TTNDFD is 42 percent, and high-quality silage is 48 percent or greater, assuming NDF levels are similar.

The 2011, 2012 and 2013 crop averages for various regions in the U.S. are shown in Figures 1 and 2. Values from 2011 were included as a benchmark, as last year's silages were drought stricken in many areas.

This year, fiber levels in the Midwest and East (Figure 1) are greater and starch levels lower. To make matters worse, TTNDFD estimates have also dropped by around 15 percent. What does this mean?

There is more fiber and the fiber is less digestible, both of which reduce energy levels. If you are feeding 60 pounds of corn silage

at this quality, the lower energy in the 2013 crop, on average, would equate to around 4 or 5 pounds less milk due to fiber alone.

Keep in mind I have also seen wide variation across the Midwest and Eastern U.S. Some dairies and nutritionists are reporting lower yields but better digestion. It will be important to keep a close watch on your silage quality as your dairy feeds through the year.

The story is slightly different for the Western U.S. (Figure 2). Grain levels (starch) are greater this year and fiber levels are lower, which should mean more milk. However, similar to the rest of the U.S., TTNDFD measures are down by around 10 percent, which wipes out potential milk gains from greater grain. Cows cannot gain as much energy from the fiber in this year's crop relative to last year's harvest. I forecast that 2013 corn silage will support very similar milk production on average compared to last year for Western dairies.

Dug a little deeper

When I started seeing this year's crop quality drop with early silage summaries, I also contacted nutritionists and consultants from across the U.S. to evaluate the silage in one more concrete way.

The nutritionists and consultants sent old and new crop samples to our laboratory. We measured total corn silage digestion (in vitro DM digestion) for composited 2012 and 2013 corn silage samples that represented the Eastern and Western U.S., as well as the Midwest.

We found slightly slower and less overall whole-plant (dry matter) corn silage digestion (Figure 3). The 2012 and 2013 corn silage TDN (total digestible nutrients) estimates based on this project would be roughly 64.0 percent and 61.5 percent, respectively. The lower TDN corresponds to about 2 pounds less milk if feeding 60 pounds corn silage. Essentially, high-producing cows have slightly less energy to work with when feeding 2013 corn silage.

Lastly, I offer a few considerations. Often, we consider corn silage quality to get better with time as the crop ferments. The improvement is primarily due to grain protein breaking down and starch digestibility improving. If this year's crop is lower quality due to fiber and fiber digestibility issues, the situation will not improve with fermentation. I have avoided discussing starch digestibility here.

In addition, keep in mind that your corn silage may be very different from that discussed. Work closely with your nutritionist and consulting team to assess corn silage quality. If 2013 silage is indeed poorer, your consultant will be able to offset lower starch levels with added grain. Lower digestibility can be mitigated with supplemental digestible fiber ingredients (such as corn gluten feed, soy hulls or wheat midds) or by using other research-proven additives to improve TMR fiber digestion. 🐄

Figure 1: Eastern U.S. — Energy levels are lower with starch and fiber changes

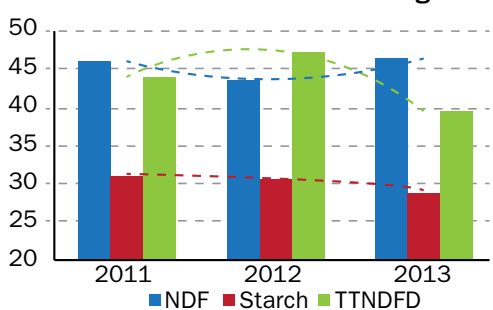


Figure 2: Western U.S. — Despite greater grain and less fiber, digestibility is down

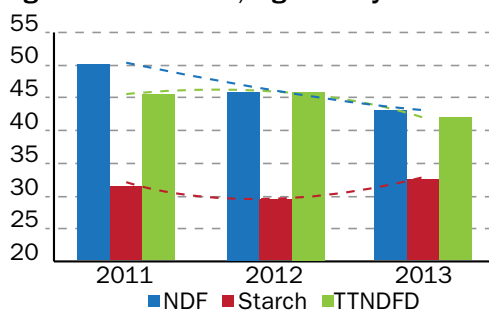


Figure 3: This year, slower and lower digestions have been seen

