

Corn silage disconnects

EACH day, there is a new opportunity to learn and improve. Over the past few months, this has proven true for me as I've been learning from agronomy and animal nutrition thought leaders during presentations, podcasts, and webinars. The topic up for discussion has been the past two silage crops and the unique corn silage quality outcomes. To use the phrase coined by Corey Geiger in a recent *Hoard's Dairyman Herd It Here* podcast episode, last year's corn silage is a "tricky beast."

With corn going in the ground for 2023, this topic should be in our rear-view mirror at this point. However, what we've experienced and learned coming out of 2022 will have an impact on management practices and sampling programs for 2023. The notable agronomic and silage quality characteristics that have shown true for some in back-to-back years include:

1. Growers continue to hit the 65% whole-plant moisture target.
2. Healthier plants are equating to green stalks right up to harvest for silage, and wetter stalks are hanging onto moisture.
3. The grain has been drier than the green plants would indicate, usually two-thirds to three-quarters milkline with advanced kernel maturity.
4. Laboratory analyses indicate that many samples have substantially lower starch digestibility.

Talking with Todd Schaumburg, an experienced agronomist, has me convinced that our silage harvest timing strategy should evolve in 2023. As noted above, we've been observing and speaking to less digestible starch in silage from a nutrition perspective. Schaumburg and his consulting team have helped further explain why this is showing up in silage analysis.

More advanced milkline

Year in and year out, their team notes tasseling date for growers and then begins intensely monitoring whole-plant moisture, targeting around 65% in the silo. In 2021 and 2022, with advanced seed genetics, crop protection, and agronomic practices, Schaumburg commented that

they were getting to 65% moisture in new ways, with healthier corn plants hanging onto moisture like never before. They found that drier kernels were needed to "soak up the moisture."

During a recent webinar together, Schaumburg showed two striking pictures of corn at harvest. The first picture showcased healthy, green plants from soil to tassel. The second picture detailed the ears broken in half, showing advanced milkline and kernel maturity. The latter image stuck out to me. I won't forget the set of ears in the back of his truck broken in half and



Kernel milkline is not necessarily a good indicator of whole-plant moisture.

kernels at two-thirds to three-quarter milkline despite the green plants. Todd and I believe this situation will be more prevalent in years ahead. The assumption that 65% moisture corresponds to one-half milkline is going up in smoke, and strictly monitoring moisture to target your silage harvest is no longer adequate.

According to Schaumburg, we should key in on several items to optimize harvest timing in 2023. First, record the date that your cornfields tassel, then mark 45 days after that date and circle a week to 10-day window to begin monitoring moisture and kernel maturity. While 45 days post tasseling has been tried and true for time to silage maturity, this window could stretch out to 60 days with healthier plants and rainfall. Schaumburg's team has noted that this is another disconnect that complicates harvest timing.

Next, monitor whole-plant moisture like we've done for years. Lastly, add

kernel maturity to your harvest timing checklist. With a solid game plan, your harvest timing will be excellent.

In the silo

Bringing this article from the field to the silo, there's another disconnect in silage quality that's shown up in feed analyses at feedout. In a review of the Rock River Laboratory silage quality database, moisture and starch trend together in silage. For example, 65% to 70% moisture silage will carry less starch than 55% to 60% moisture when averaging across the entire set of submitted samples. Yet, database averages can be misleading, and experience has shown that moisture and starch are sometimes disconnected.

Working with several dairies analyzing both silage moisture and quality numerous times per month, we've found that moisture and silage quality can disassociate in the silo. For example, in one case, silage moisture remained at 64% to 65% for several months while feeding out a large pile. At the same time, the feed analyses showed a 4 to 5 percentage unit improvement in starch content. This is enough starch to pull out a couple of pounds in supplemental corn grain, which is significant.

I'd long held the belief that starch content and moisture are connected in silage. While some farms use silage moisture test results as a proxy for nutritional changes and quality testing, I now advise caution with this approach. Keep in mind that the silage quality could just as easily drop at the same moisture. This is likely due to field-to-field variation in hybrids and growing conditions.

Take these newly recognized silage disconnects into account with your harvest and feeding plans. Don't assume moisture forecasts quality. ●

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