



by John Goeser

## Silage should not suck

**N**EW Year's Day brings about resolutions for many of us. Desiring to get fit, getting one's finances in order, or even a desire to cut back on a choice beverage are all common resolutions.

In my experience, watching others adopt and then drop these resolutions happens far too frequently. Abrupt changes in life or profession are the least likely to be upheld in my opinion.

While I'm not a motivational speaker, I believe a better approach is as follows: Wake up each day with a focus to carry positive energy, give thanks, and then reflect back and consider incremental ways to make each day better than the last. We can all aim to continuously improve upon some aspect of our professional or personal lives, or with our farming operations! I'll write more on this shortly.

### The desire to do better

Coming back to the desire to do better, I found myself in a jovial conversation a few weeks back with my friend and colleague Greg Johnson, a consulting nutritionist and Cornell University's dairy farm manager. Sharing consulting experiences, we each recalled examples where we weren't our best selves. I'll spare you and not describe the many ways that I can personally be better — just trust there are quite a few!

As Johnson and I conversed, we talked about looking to “embrace the suck.” This phrase comes from the book *Dare to Lead* written by Brené

Brown and encourages the reader to recognize faults, be humble, and then seek out opportunities to make self-improvements.

The bottom line for Johnson and I was that we found we shared a common virtue in desiring to get better every day and suck less. Going back to the dairy discussion, I propose many dairies can do the same.

I'm now to the point that I don't mind stating we need to embrace the suck with some fermented silages out there. While there are many systems and areas on dairy farms to delve deeply into and improve, one area that I promise we can still make great strides in is fermentation quality and forage preservation. Despite having decades of fermentation science and proven strategies to effectively preserve forages, I get called into dairy performance issues on a weekly basis that ultimately stem from undesirable fermentation outcomes.

My comments may seem harsh, and I'm admittedly a bit colorful and blunt at times, but only when I'm passionate about a subject. In this case, my passion stems from regularly finding situations where a dairy herd is suffering from less-than-optimal dry matter intake, rumen or digestive upset, milk or component production drops, transition cow health challenges, weight loss, and other clinical symptoms. It is disheartening when the realization is made that these issue(s) stem from poor fermentation.

While we've made great strides the past decade in fermenting and preserving feeds, there are still far too many haylages and silages under plastic that could be far better. To understand how we can do

better, we need to embrace what could have gone wrong.

When we pack and seal forages, bacteria and fungi begin breaking down readily digestible substrates like sugar and produce fermentation products like acids, alcohols, or other compounds. The goal with an efficient and effective fermentation is for the air to be squeezed and sealed out of the forage quickly. Then, fermenting microbes can yield lactic acid to rapidly drop the forage pH. Without any oxygen and when the pH in the silage drops below 4 to 4.5 quickly, the forage is effectively preserved for months and years to come.

### Keep the air out

While the silage is sealed, air needs to be kept out and plastic must be held down with adequate weight. Then, when the silage is opened back up, the face needs to be managed, aerobic exposure needs to be minimized, and rainwater or pooling water needs to be kept from soaking into the forage.

When any of these aspects aren't managed as well as can be, the forage becomes compromised and the outcome can be catastrophic. Forage quality erodes due to undesirable microbes or compounds present in the silage that negatively affect animal health like a foodborne illness affects the unsuspecting consumer.

Compromised forage quality following a less than ideal fermentation can take form in many different ways. Yeast and mold growth is typically a starting point to troubleshoot and can signify active spoilage and deterioration. Digging deeper, quantifying fermentation acid and alcohol concentrations can

shed some light upon the fermentation efficiency opportunities, with unbalanced fermentation acid levels or higher alcohol content in silages being indicative inefficient and even deleterious fermentation.

Enterobacteria growth can indicate poorly preserved forage, bird dropping contamination, or storage issues like water soaking into the feed. Delving deeper yet, we're on the cusp of better understanding how biogenic amine and other deleterious fermentation compounds like ethyl-lactate or ethyl-acetate relate to dry matter intake and performance.

### Cows often know better

While we still too often look at and smell silage ourselves to subjectively judge feed cleanliness, we can't see or smell much of what is described above. Dairy cattle are far more sensitive to smell and taste than we grasp. I'm willing to bet if dairy cattle could speak, they'd suggest their feed and forage sucks far more frequently than we would like to hear.

In closing, let's look for and embrace any opportunity to do better here. Agronomic inputs are expected to be extremely expensive this coming year, so we have added incentive to stretch every penny of feed costs. Corn silage and haylage represent sizable feed costs, thus we should embrace what cows might tell us and do what we can to improve upon preserving these valuable feeds. 🐮

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