



by John Goeser

# Feeding through frustrating forage

**T**HERE are countless times in life where we've had to encourage our own kids or teams we coach to put their heads down and push through a challenging situation. The challenges kids experience range in severity and can even seem insurmountable to them at times.

Whether short term and minor or enduring and really tough, working through challenging situations is no fun. The same can be said about feeding through less than stellar forage. While obstacles in life build character, there isn't much about poor forage quality that enhances dairy herd character or performance. There are, however, tricks and tips to feed through frustrating forage more effectively.

Challenging forage quality can be defined by both nutritional and anti-nutritional characteristics. The classic forage quality definition is structured upon nutrient content and digestibility. Forage quality goals are shown in the table.

While this month's column isn't about the goals, we'll be focused on how to feed and manage forage that is well off these benchmarks due to environmental conditions outside of our control. There are more than the usual number of forage situations like this out there this year. If your feed is in rough shape, you are not alone. Here are a few tips to help your dairy feed through substandard quality.

## Reduce particle size

As we've discussed in prior articles, forage physical attributes can be balanced against the nutritional and energy value. Fiber content and

digestibility are correlated. If the forage is woody with greater fiber content, fiber digestibility is likely also suboptimal. Hence, when grass or alfalfa is over mature, it really hampers feeding quality.

We can partly offset overly mature and woody forage by substantially reducing the forage particle size. If we're feeding poor quality hay, grind it finer. For haylage, consider adding haylage to the mixer first and pre-mixing to cut it up, or put together a premix with the haylage and grind it up prior to mixing with corn silage and the rest of the ingredients.

I'll never forget my friend and nutritionist Bill Reyes from Texas talking about changing out screens in the hay grinder relative to feed quality. We can feed forage that resembles tree bark if we grind it fine enough. Put this helpful tip from Texas feeders to use.

## Supplement as needed

When energy is lacking in forage, we're not only missing out on valuable energy in the diet and rumen, but we're also lacking microbial protein. The path to replace some lacking energy in the diet is fairly straightforward with more starch, sugar, digestible fiber, or added fat.

Added energy might not be enough, though. We likely need to boost microbial or bypass protein, and there are alternatively countless different nutrition strategies to supplement for lacking microbial protein. Consider adding high-quality rumen bypass protein or a research-backed feed additive technology known to stimulate microbial growth. Added

Forage quality goals			
	Alfalfa hay/haylage	Grass hay/haylage	Corn silage
Protein, % DM	> 20	> 15 to 17	N/A
Fiber (aNDF; % DM)	< 40	< 45	< 40
Ash, % DM	< 12	< 12	< 5
NDFD, % NDF		+ 5 units*	
StarchD, % starch			+ 10 units*

\*Note: + X units above laboratory average

sugar can help stimulate fiber digestion and microbial growth as well.

## Keep it clean

We dove into microbial challenges in the prior issue's Feeding Fundamentals column discussing microbial growth factors. Building upon that column and topic, if your forage is saddled with elevated bacterial or fungal colonies, eliminate the spoilage microbe potential at the source when possible. Combat mold, yeast, or spoilage bacterial factors in feed with targeted acid or preservatives mixed directly with the challenged feed. If yeast counts are high, make extra efforts to deface or remove feed just in time for feeding, but not sooner. Avoid exposing the feed to air.

If your haylage has some butyric acid and smell to it, do the opposite. It can help to deface and air out the feed prior to mixing. Butyric acid is quite volatile, which is why you smell it at very low concentrations in feed. We can reduce the odorous nature of the haylage by defacing the feed and airing it out for 12 to 24 hours ahead of feeding.

Lastly, remember that anti-nutritional characteristics in forages

come from fungal and bacterial origins. Mycotoxins are toxic compounds produced by fungal contamination, but spoilage yeast are also problematic. Bacterial contamination can also wreak havoc on the rumen and feed digestion.

Consider and monitor all of these contaminants, not just mycotoxins, and then put together a targeted nutrition strategy to deal with the issues. Mycotoxin binders, preservatives, beneficial yeast or bacterial probiotics or prebiotics, mannan oligosaccharides (MOS), or other ration additives and technologies can help. There is no one-size-fits-all feed additive solution, but a targeted feed additive approach can help your dairy feed through forage with feed hygiene issues.

Whether forage is frustrating due to nutritional or hygiene issues, we can feed through this challenged forage successfully just like our kids or their team can manage through challenging situations. In many cases, the process is far from fun, but we will endure! 🐄

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