

Don't Stop Testing Forage

Not knowing the nutritive value of what is going into your cattle during tough times is not that much different than a pilot flying blind through a thunderstorm.

by Ed Haag



PHOTOS BY PATTY HAAG

The temptation to cut what seems like unessential costs is always greatest during a downturn in cattle prices, but curtailing forage testing could end up costing you a whole lot more money than the price of analyzing samples.

This doesn't just apply to hay being purchased — an obvious expense incurred to make sure that one is receiving real value for one's money — but to all forage being consumed by one's herd.

Don Nelson, Washington State University Extension beef specialist, points out that the cost of feeding a herd represents the single highest financial outlay associated with raising beef calves. Knowing exactly how much forage and supplements each animal should receive is particularly important in times when profit margins are narrow.

"If you are feeding more than is required, that is a waste," he says. "And if you are

shorting your cows nutritionally, that is going to come back to bite you in reproduction or performance."

He adds that not testing forage is false economy at best.

"Your object should not be saving a few dollars on forage tests, but on optimizing the efficiency of your operation at the least cost," Nelson says. "By not testing, you are rejecting something that can help you accomplish that task."

Jane Parish, associate Extension/research professor, Mississippi State University, agrees.

"Sampling is a valuable tool when it is used properly," she says. "What the producer needs to focus on is an increased level of management, using forage sampling to improve efficiency and actually lower production costs."

Protein: High cost of not knowing

There is a great deal of value in knowing the precise nutritional status of the forage being fed, Parish says, noting that a visual evaluation can be misleading, and the consequences of miscalculating and underfeeding can be significant.

She points out that this is particularly true of protein, the most costly of the major feed ingredients, and the one that is the most typically overfed or underfed. When too much protein is fed, the ration cost is too high. When not enough protein is fed,



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► **Above:** Forage testing makes sure the right hay goes to the right animals.

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animals do not gain at the desired rate.

Parish cites, as an example, the negative effect poor-quality hay can have on cow and heifer performance.

"When we see the protein in our forages drop below 8%, the cattle just can't eat enough to satisfy their requirements," Parish says, explaining that the rumen bacteria responsible for digesting forage — starved for protein — cannot maintain adequate growth rates. As a result, forage intake and digestibility is reduced. Without some type of protein supplementation, animal health and reproductive performance are likely to be compromised. Parish explains that for this reason alone every cutting of hay should be sampled and tested.

She adds that there is another advantage to testing forage, especially during the growing season or soon after.

"We recommend that our producers buy their feed supplements during the seasonal lows, most often in the summer and early fall," Parish explains. "If they are going to buy their supplements and they need to know how much to buy, then they will have to have some idea of their forage quality."

To those who are concerned that the nutritional loss between summer testing and winter-feeding could be the cause of errors in a feed formulation, Parish has the following observation.

"With good storage you will have minimum quality and minimum quantity loss," she says. "For example, if you tested the

forage right after you harvested it, and got it into a barn right away and [it] was protected from the weather, there shouldn't be much difference between what you see in the test value and what you end up feeding."

Links in a chain

For Nelson, one of the most important aspects of forage testing is the pivotal role it plays in helping formulate a complete and well-balanced ration. He stresses that an absence or deficiency in even a single nutritional component can have a serious effect on profitability.

"The chain is only as strong as its weakest link," Nelson says. "So if you have a deficiency, it is going to show up in something that is counterproductive relative to performance and profitability."

In order to avoid overlooking that single critical nutritional component that could, in its absence, create a potentially damaging imbalance in a herd's diet, Nelson recommends having one's primary forage tested for protein and total digestible nutrients (TDN), as well as for relevant minerals and vitamins. "They all have to work together as part of a system," he says. "Knowing what you have and what you need begins with the results of a forage test."

Parish says that sampling and testing forage are only the first steps in formulating

an appropriate ration for beef cattle. Once the results are returned, she says, it is important they be physically matched to the hay lot

harvested from the field and cutting of origin.

She notes that while some producers go to all the trouble to forage-test each cutting, they don't follow through to feeding, preferring instead to base their formulation criteria on an average of all the forage tests. She believes this practice diminishes the value of the individual tests and eliminates

any opportunity for a producer to take economic advantage of the nutritional variations between forage lots.

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The more the better

While Parish recognizes that testing one's forage plays a key role in formulating cattle rations, she also sees it serving another important function.

"The forage test not only tells you what you need to feed your livestock, but it is also a good benchmark for determining how well you have done with your forage production," she says. "For instance, if you see that your TDN or crude protein levels are lower than you want them to be, you need to go back and look at how you managed that crop and what caused it to be where it is."

Parish adds that this kind of analysis is only possible when each test can be traced back to a specific field rather than representing an aggregate of all fields. She says that, in general, the more accurate and specific the test-related information is, the more effective it will be in helping to improve the overall efficiency of the operation.

"We have found that the more detailed you can be, the more valuable the data," she says. "When you know more, there are fewer surprises."

For that reason, Parish recommends keeping a log of events and conditions that might have an effect on forage quality and the corresponding test results. These entries would range from recording weather events to documenting production practices to listing particulars pertaining to cutting, baling and irrigation.

Again, stressing detail, Parish suggests tailoring the forage sample log to the unique needs of one's operation.

"If you have some different management areas, it makes sense to keep specific notes for each one," she says. "That way when you get your forage test results they can be matched,



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not to the herd in general, but to different populations in the herd — like your mature cows, your weaned calves and your growing bulls.”

Parish concludes that by knowing the exact quality of a forage-tested hay or silage lot and then using that information to match that forage to the appropriate recipient group, a producer can maximize precious feeding resources in an economic downturn.

Responding to the unpredictable

Kevin Sedivec, North Dakota State University Extension rangeland specialist, agrees. “If a producer tests his forage and knows its nutritional value, then he can blend his feed more effectively,” he says, pointing out that forage testing contributes directly to better feed utilization. “This is particularly important in a cattle market that is experiencing a downward rather than an upward trend and margins are tight.”

But for Sedivec the benefits of forage testing don’t end at reduced input costs. He says that forage testing has an important role to play in helping maintain body scores, cow performance and overall herd health. He cites, as an example, the producer’s need to

know the precise feeding value of all hay or silage lots in order to correctly respond to external stressors and their higher nutritional demands.

“You could have fed hay that was 7.5% protein with a TDN of 55% in a mild winter like last year [and] you would have probably been fine,” Sedivec says. “In cold winter with lots of snow like this year, those same cows on the same feed would have been deficient.”

He adds that a failure to respond to deficiencies in forage in a timely manner can lead to health and production consequences that will span well into the future.

“Cows that have received poor nutrition in pregnancy have weaker calves and higher calf mortality due to conditions like scours,” Sedivec says. “Then there is the issue of trying to breed back thin cows. You never catch up, and it just keeps costing you more money.”

For Sedivec, the answer is simple. As it applies to forage sampling, the beef producer who fails to test every lot of hay or silage he produces and use that knowledge to better understand what is going into his cattle is clearly an individual who is penny-wise and dollar-foolish.



Core samples

Jane Parish, associate Extension/research professor, Mississippi State University, has a warning for those collecting forage samples.

“The test is only as good as your sample,” she says. “If you just go out there and pick off the top of a bale or two, that may not [be] representative of that forage. You must have a good sampling method.”

Parish adds that one of the most accurate methods involves taking a core sampling. “That means you are starting at the surface burrowing into the bale with a special forage probe,” she says. “That means you are sampling several slices of the hay.”

She notes that it makes sense to check with your Extension agent/educator. It is not uncommon for Extension offices to lend out forage probes to those wishing to take a sample of their hay.