



# TEST OR GUESS

## Deliver the nutrients your herd needs and not the stuff it doesn't.

by Shauna Hermel, editor

**I**s your feed bill causing you heartburn? Do you have an animal performance issue that could be nutrition-related?

Testing feedstuffs is not a new solution for producers who want to efficiently use available feedstocks or to discover a nutrient deficiency, toxicity or imbalance causing performance issues. However, it is an underused tool, and there are testing advances that beef cow-calf operations and feedyards alike could be using to greater advantage.

ServiTech Laboratories provides expertise in available options and how a cattleman might initiate some testing.

It's important for cow-calf producers and feeders to know what they are storing in the fall and what they're taking out as they feed. They need to formulate a ration meeting the animals' needs without any of the toxins they don't need, says Ryan Hassebrook, ServiTech director of business development.

While each customer has different requests, the majority of testing is nutrient-based to make sure the ration presents all the different nutrients the animals need "to meet the high performance demands that we're asking of them," says ServiTech's Key Feed Accounts Specialist Robin Cox. That includes everything from crude protein (CP) and crude fat to acid detergent fiber (ADF), neutral detergent fiber (NDF),

starch, sugars, nonfibrous carbohydrates ... The list goes on.

In addition, ServiTech offers testing for performance antagonists, such as mycotoxins, nitrates and prussic acid, for example.

### Nitrate testing

Testing for antagonists is on a case-by-case basis and dependent on the year and what stresses took place as those forages grew, Cox says. "Some years we don't do as much testing on those, and then other years we're covered over with that."

Following the drought of 2021,

producers tested more forages for nitrates, she observes. Once you bale hay with a high level of nitrate, the nitrate doesn't dissipate over time.

It's critical producers test forages that could be high in nitrates to avoid a toxicity that could reduce performance or cause death, Cox says. Testing can also be used to salvage the forage by diluting it with other feedstuffs to an acceptable level.

"The normal cycle is to turn nitrate into a nitrite, then turn it into ammonia and make protein from it," says Cox of the cow's ability to use an acceptable level of nitrate. "They normally would take nitrate in; it's just when it's such a high level, it stays at the nitrite level and causes deprivation of oxygen in their blood. As long as

*Continued on page 68*

### Growing the business of knowing

Analyzing feedstuffs is a major business for ServiTech, says Ryan Hassebrook, director of business development for the company more well-known for its crop services business. With three laboratories located across the High Plains — in Hastings, Neb.; Dodge City, Kan.; and Amarillo, Texas — testing services and support personnel are accessible to folks in cattle country.

The company's feed-testing services include

business from 19 of the top 20 feedyards in the country, as well as cow-calf producers, dairies and feed manufacturers.

"I work to make sure our feed customers are taken care of well, understand their testing and are given the tools to better use their data," says Key Feed Accounts Specialist Robin Cox, who started with the company as a lab technician and worked her way into a customer-facing role.

you dilute it and feed it a little bit at a time ... they can still eat high-nitrate [feedstuffs] — just in moderation.”

How do you know you’ve diluted a high-nitrate feedstuff enough?

“My moniker is test or guess,” Cox says, noting she actually uses the hashtag #testorguess on social media. With the high dollar amount invested in animals, she emphasizes, it’s not worth it to guess when you can get a nitrate test for less than \$15.

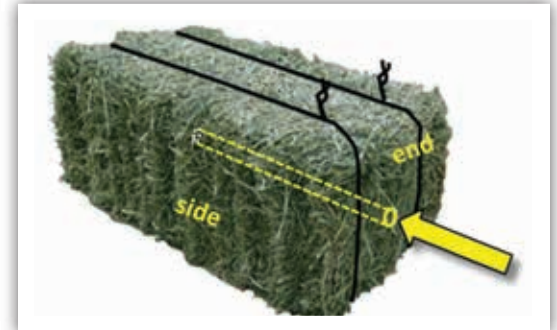
### New analysis

The drought also affected the nutrient profile of common feedstuffs cattlemen are feeding this winter.

“There’s a lot of talk about how this year’s corn silage probably isn’t going to have the quality that it usually [does],” Cox says, noting starch availability is affected by the corn’s growth cycle. “It really kind of comes down to how hard that kernel was in what was harvested



To sample hay for testing, insert the probe 12-18 inches into the bale, going against the direction of the packing, recommends Robin Cox. For square bales, that means inserting the probe into the small end; for round bales, insert the probe into the curved side.



PHOTOS COURTESY OF ROBIN COX

this year. If they didn’t get a good process on that, then even within the silage pit, it’s not doing the job to break it down as well.” Starch availability might be lacking when folks open their pit to feed.

The gold standard for feedstuff analysis is wet chemistry, but it gets expensive to run all the different tests needed, says Cox. “It used to be that a person would test for just a crude protein and an ADF, an acid detergent fiber, and a calculation would be used on just that fiber

number to provide TDN (total digestible nutrients) and energies.”

Over time research has shown there are more variabilities with ADF, and ADF is not in a constant relationship with NDF as first assumed.

To get a better value of the feedstuff, the industry began using relative feed value (RFV) “for things way more than it was designed to be used for,” says Cox, explaining the test was just meant for use with alfalfa.

Now, there is movement to RFQ — relative feed quality, which takes into consideration dry-matter intake and the variability between the NDF digestibility of the sample.

“Just because it had a high NDF doesn’t mean it’s not digestible,” Cox emphasizes.

“Now if you were to try to run all the different tests that you would need on wet chemistry, people couldn’t afford to do that,” says Cox.

Near-infrared spectrometry (NIR) has replaced wet chemistry analysis, allowing producers to run 25 tests for what it would cost to run three wet chemistry analyses.

NIR has improved, she says, “and the key to that is the calibration based on the depth of library of the wet chemistry.”

### Get a proper sample

The base for any good analysis is a good sample, Cox says, noting that when lab reports don't match producer expectations, 75% of the time the error is in sampling. It is important to get a representative sample.

“We recommend any forage that's baled to be probed,” she says, adding that it is best to get 15-20 different subsamples throughout your “lot,” whether that be a cutting of hay or a truckload of hay from a particular area. “When you compile all of those cores all together, it gives you a good representation.”

Though each nutritionist has their own requests, feedyards will regularly test new ingredients as they come in, they'll test individual ingredients to formulate ration changes, and they'll spot-check rations on a regular basis to analyze the nutrient profile and whether the feed is being mixed well.

Requests by cow-calf operations vary as much as the operations themselves. Nebraska farmer-feeders may desire the same type of testing as the larger feedyards, while ranchers in West Texas are testing native grass pastures. The same sampling procedure applies.

“Again, have a representative sample,” she says. “Get 15 to 20 different hand grabs from within the pasture.”

It's important those samples represent the whole grazing area.

“Unfortunately, the poop doesn't get spread everywhere,” Cox says, noting the highest concentration of nutrients ends up where cattle

lay down and around waterers. A sample representing the whole pasture helps the cattleman buy the minerals their herd needs and save their money on those they don't.

### The next step

Beyond analyzing the feed going into a ration, Hassebrook encourages cattlemen to take it to the next level — using test results to evaluate soil needs to improve next year's crop and analyzing the manure for its nutrient value as a fertilizer.

“Instead of looking at manure as a liability, [turn] it into an asset that can help improve — whether it's their own crop or a neighbor's crop — from a fertilizer standpoint,” he says.

Livestock are key to sustainable and regenerative agriculture, Hassebrook says. “As we look at putting cover crops out in the field and using those as a grazing source in the fall, our team is more than

willing and able to help farmers begin to develop a plan for cover crops and then discussing grazing as a component of managing that cover crop as we move forward.”

To begin testing, Hassebrook advises producers to contact ServiTech Labs through its website, [www.ServiTech.com](http://www.ServiTech.com), or call one of the laboratories.

“We can send you the sampling supplies that you need,” Hassebrook offers, adding that company agronomists spread across their service area can help.

Turnaround time depends on how long it takes to get samples to the lab, he notes, adding that drop boxes located around their service area help speed the process. Samples received by 3 p.m. can generally be turned around by 4 p.m. the next day.

Having feedstuffs analyzed for nutrients or toxins takes the guesswork out of formulating rations. ■