



Tool Predicts How Forage Will Feed

TTNDFD can estimate the amount of fiber cows will digest

by Fae Holin

Figuring out how well or poorly a silage or hay will feed – before dairy cows do – has always been a challenge for producers, nutritionists and forage-analysis labs.

But a relatively new tool, called total-tract NDF digestibility (TTNDFD), seems to be accurately estimating forage value, says John Goeser, director of nutritional research at Rock River Labs, Watertown, WI.

Rock River is, at this point, the only lab to offer this forage-quality estimate as part of its advanced analysis package, and it's been difficult to explain in layman's terms how it works, Goeser says.

"The folks who do understand it are very excited, and performance



Dave Combs

has tracked very well with this metric."

Developed by Dave Combs, University of Wisconsin dairy scientist, TTNDFD incorporates three pieces of information needed to

accurately assess how a cow will use the fiber in a forage.

"And that's how much of the fiber is digestible, how fast the fiber digests and how long that cow holds that fiber in her digestive system," Combs says. "By using those three terms together, we can come up with what we call a digestibility, or how much of the fiber will be digested, within that specific cow."

The test gives more information about fiber than comes from the

30-hour or 48-hour NDF digestibility numbers commonly reported by labs, he says.

"The first thing that any producer would want to know is, when I sample this forage, is it going to feed as I expect it to? Or is there something different about this forage that's going to make it better-utilized or more poorly utilized? The TTNDFD test can give you that," Combs says.

"The other thing that's unique is that the TTNDFD test is a digestibility coefficient, so ration-balancing programs could use that number in part to calculate more of an energy value of the forage – the TDN (total digestible nutrient) or NEL (net energy lactation) value of the forage."

A TTNDFD number can be used to predict how much milk production can increase or drop if forage NDF or NDF digestibility changes. It can also monitor production responses when changing rations or the types of forages in a ration, Combs adds.

Goeser, who used to do consulting work, used the test to explain why a large dairy herd dropped in milk production by 5-8 lbs/cow/day. "We had two corn silages that were similar when looking at the fiber level and the starch level. By looking at the fiber digestibility through TTNDFD, that helped explain where the performance loss was."

Hay growers could use TTNDFD to compare two lots of hay with similar relative feed values (RFVs) or relative forage qualities (RFQs), Goeser says.

"If we had the TTNDFD number, that would give us even more information to assign additional value to the hay with the higher TTNDFD. Then we could market that towards high-producing, high-performing animals and save the lower-quality hay for other animals."

Combs has put more than 15 years of research into developing the concept of the tool. Now he's conducting feeding trials "so we can measure fiber digestion totally independently of our lab tests and then predict fiber digestion with our TTNDFD assay and simply see if the two methods match," he says. "So far, in four out of four trials, they've matched pretty well."

For more about TTNDFD, visit www.rockriverlab.com. ♦