

The Value of Forage Analysis

By Jason Snavely

We're at a crossroads in the planning phase with the Bowman Plots (see the last three issues of *Quality Whitetails* for the complete story of this pair of plots in Pennsylvania). Although a few of our in-the-field decisions have changed, we've had a few overriding goals all along: 1) Improve the diversity and quality of deer forage with food plots; 2) Provide productive food plots year-round in an agricultural setting where crops are harvested at all the wrong times for deer, and 3) Provide a couple of plots that will increase harvest opportunities for the owner's 13-year-old nephew, Cody Bowman.

We recently received forage analysis results that tell us how we're doing with No. 1. Ongoing plans have No. 2 well covered. At this writing, we were scouting to lay the plans for No. 3. Here's a complete update on the Bowman Plots.

East Bowman

In the last update we showed a June 15 photo of the RoundUp® Ready forage soybeans just minutes after a RoundUp application. It appeared as though our calculated seeding rate, fertilizer, manure, and lime applications, weather forecasting skills, and strategic planting efforts were going to pay off! Considering the brush-choked appearance of the plot less than three months prior we were thrilled with the outlook. On August 18 (see the photo) Bowman East was a chest-deep, first-year food plot boasting an incredible stand of a variety of late-maturing forage soybeans. Clearly, our goal to maximize yield has been achieved, but what about forage quality?

Forage Quality Analysis

We wanted to know exactly what we were offering, so we clipped samples of the portions of the plant that were being consumed by deer and shipped them off to a lab. We have detailed records of the soil amendments and nutrients applied. However, we wanted to know how successful we were in transferring those nutrients to the plants, and thus to the deer. The results would not only be valuable data to collect but would also allow us



Cody Bowman, age 13, nephew of the landowner, stands in forage soybeans in the Bowman East food plot. The photo was taken on August 18.

to “grade” our fertility program on the first-year plot and make changes to our strategy next time around.

You don't need to be an agronomist to collect this valuable data from your food plots. Collecting a sample for a forage analysis takes about as long as collecting a soil sample, although the cost ranges somewhat higher than a soil test, depending on the lab you use and the results you desire. Both private labs and university extension labs offer this service. Although our lab's forage analysis report shows a lot of information, we will focus on a few

key parameters as examples in this article. Most forage analysis reports reveal much more than the few items I'm about to discuss here.

Total protein was 36.5 percent, which is good. We typically shoot for 30s to mid-40s, so we were happy. Total protein is a function of nitrogen levels in the plant. Considering that soybeans are a legume and therefore fix their own nitrogen, this depends on whether we properly inoculated the seed with the right bacteria to allow nitrogen fixation, especially considering we

were dealing with virgin soils that had not been farmed before (therefore there was less likelihood the appropriate bacteria were already present in the soil at adequate levels).

The lab report included this comment from the agronomist: “Really good for a first year plot in virgin soils!”

Acid detergent fiber (ADF) and **neutral detergent fiber (NDF)** are terms that refer to the cell walls within the plants. ADF is comprised of lignin and cellulose and NDF is comprised of lignin and cellulose as well but includes the addition of hemicellulose, which makes the plant much less digestible. Our ADF value was 24 percent, which is pretty good (it means 76 percent of the forage is digestible by deer). Our NDF value was 34.3, which again is good. In a nutshell, the lower these two numbers, the more digestible the forage.

We also wanted to know how our forage graded out based on the **macronutrients** in the plants (refer to the chart on this page for results).

As you can see in the chart, our results for calcium are a little lower than we would like, although this should be expected for a first-year plot. We know how to optimize calcium: by simply applying high-calcium limestone. This is a simple amendment, and we've already scheduled it into our management calendar.

The overall grade from our agronomist was an “A.” He reported that overall we have great numbers but recommended to improve the soils where we can.

“These are excellent numbers for what you had to work with.

Forage Analysis: Macronutrients		
	East Bowman (%)	Optimal value (%)
Calcium	.90	1.49
Potassium	2.82	1.28
Phosphorus	.51	.31
Magnesium	.48	.40

It's quite evident you are serious about deer!" he said in his report. "You would certainly get a good return on your buck using this forage as silage for cattle."

No thanks, we just do deer!

Scouting with Trail-Cameras

Trail-cameras are yet again proving to be an incredible tool for tracking our progress and scouting any potential "green lighters" for the season. In a very short period of time, the buck quality has improved on this farm, and our food sources are drawing them in for photos. Most importantly, we have noticed an increase in the number of bucks overall. The trail-camera on the soybeans in East Bowman has recorded nine unique bucks and it's still early in the season (see the photos on this page for a sampling).



and clover. Yes, if you have been following along, this was a minor last-minute change. However, we're confident our final decision will provide maximum tonnage when it's needed most. The rape and turnips will provide hunting-season attraction and nutrition during the cold winter months, and the perennial clovers will be available at spring green up for deer and turkeys.

I'm pleased to add that just at deadline for this issue in late August, some healthy rains followed our planting efforts. Needless to say, we have high expectations for year one at this farm.



West Bowman

Through spring and summer, the Bowman Plot West was a thriving mix of several different varieties of clovers, alfalfa and chicory. Although this plot was extremely attractive to local deer, our plans from the start have been to develop this field into a

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