

# Comparing “Forage” Soybeans

By Jason Snavelly

By the time this article reaches your mailbox, many food plotters will already know their plans for warm-season planting. However, it’s not too late to make a change or addition, and if your plans currently include a traditional “grain” or “field” variety of soybean, you need to think seriously about altering your plan. Recently developed “forage” varieties of soybean are far more suited to deer management applications.

Conventional agricultural soybeans were bred for maximum bean production and to have one main, combine-friendly stem. They were also bred to mature early to facilitate commercial harvest. In contrast, forage varieties are designed to remain in a vegetative stage longer, and therefore produce significantly more leaf and stem tonnage over a longer period of time.

Forage varieties are bred for delayed flowering. Why is this important? Those of you who grow clovers, alfalfa and chicory know that palatability declines as those plants mature, and mowing can return the plant to a more nutritious growth stage. With forage soybeans, which have an “indeterminate” growth strategy, plants continue to produce new growth very late in the season.

Soybeans require most of their moisture during the flowering period. The earlier you plant them and the quicker they mature, the less susceptible they are to dry summer weather. Herein lies the problem for those of us who are interested in feeding whitetails year-round. Earlier forage soybean varieties fixed this problem, but bean yield was lower. Modern forage soybeans offer extended forage production and *also* produce a respectable soybean yield for late season attraction.

When I was first introduced to forage soybeans three years ago, I was blown away. I was on a magnificent property on the Eastern Shore of Maryland, and being a skeptical wildlife biologist, I had to do some testing. I pulled plants from a side-by-side trial of a conventional agricultural soybean and a forage soybean. The first thing I noticed was the incredible difference in both underground root mass and above ground leaf/stem mass. The forage variety, a Roundup Ready® variety called Big Fellow, was far out-competing the agricultural soybean in the same soil conditions, only a few feet apart. Leaves of the forage soybeans were much larger than the agricultural soybean leaves. I was immediately thinking about



In tests, forage soybeans have out-produced conventional soybeans in total biomass. The small soybean leaf in this photo is a conventional soybean variety. The large leaf is from a forage soybean variety.

Oklahoma conducted tests on sandy soils with a pH of 4.8. Only two inches of rain fell during the hot, dry testing period. The top three products in biomass were forage soybeans. Two of those varieties, Whitetail Thicket and Large Lad, produced 2,000 lbs./acre. Cowpeas and a different brand of Roundup Ready soybeans came in at around 1,100 lbs./acre, and lablab came in well under 500 lbs./acre.

If you’re wondering about the cost of forage soybeans, research conducted by Marcus Lashley and Craig Harper at the University of Tennessee reported the total costs for seed, lime,

how much high-quality nutrition this product could offer does during lactation/fawn rearing and bucks during that critical antler growing period.

I eventually found much of the real data I was looking for. Dr. Rebecca Atkinson, a beef forage specialist from Southern Illinois University, reported yields up to 9.6 tons per acre on a dry matter basis and 29 percent leaf protein in forage soybean varieties. Dr. Twain Butler of the Noble Foundation in

## FOLLOW THE BOWMAN PLOT

To show you a snippet of how we make decisions when it comes to food plots, from the initial design phase right through calling a taxidermist, we will follow a specific food plot and provide regular updates in *Quality Whitetails*.

The Bowman Plot is located in Columbia County, Pennsylvania, on a farm that was recently purchased. The farm encompasses 250 acres of rolling agricultural land with large stands of mixed hardwoods, some evergreen/conifer stands for thermal cover, with early successional habitat mixed throughout. The previous owners were absentee landowners, and trespassing and poaching is common. This region of Pennsylvania experiences heavy hunting pressure, and deer numbers are low on this property. The few bucks observed at early trail-camera setups were yearlings, with an occasional 2½-year-old. To sum up, it’s the perfect fixer-upper!

The Bowman Plot is located very close to the center of the property. The field has been fallow for some time, but it should not be difficult to whip it into shape. There are additional fields and potential food plots located around the Bowman Plot, giving us the flexibility to use this plot for intercepting deer en route to larger feeding plots.

In the next few issues I will detail key characteristics that will steer us towards cultivar selection including acreage, soil pH, nutrient requirements, topography, soil characteristics and of course, our ultimate goal for the plot. Stay tuned!



fertilizer, herbicide (glyphosate), as well as man and tractor hours for a typical “co-op” agricultural soybean to be \$175/acre. Those same costs for forage soybeans were reportedly \$185/acre. Considering the difference in production and other advantages of forage soybeans, they are well worth this slight difference.

**Planting Strategies**

Anyone who has planted large-seeded, warm-season annuals has dealt with the tough decision of when to plant. Soil temperatures really need to reach 55 to 60 degrees for the go-ahead to plant. In early planting experiments on our research and demonstration facility in Pennsylvania, soybeans planted in late April sometimes took up to two weeks to emerge. For that reason, early May is considered more conservative for planting in the North. Target temperatures will be reached earlier in the Mid-South and Deep South.

As with other nitrogen-fixing legumes, it’s important to inoculate forage soybeans with the appropriate bacteria, and ensure the inoculant is not expired. This is especially important if there is not a history of soybean crops in the selected field.

Another successful strategy for wildlife is to plant a mix of Roundup Ready forage soybeans with Roundup Ready corn. We



Most forage soybean varieties have proven to be highly preferred by deer in field tests, but they also stand up to browse pressure better than conventional soybeans.

have also experimented with various ratios. Although some experiments of a 1:1 ratio have shown great results, 3 to 5 pounds of corn mixed with 40 to 50 pounds of soybeans, per acre, makes a great plot for deer.

Finally, as with anything planted for deer that is highly nutritious and palatable throughout the growing season, forage soybeans need to be protected from over-browsing in areas with high deer densities. Although we have seen great results even after being over-browsed, severe pressure on young seedlings prior to plant establishment can result in a failed plot. If

your deer overbrowse your plot, consider adding additional plots, increasing the size of existing plots, and/or reducing deer density. Additional options like electric fencing, plastic deer-proof fencing, and repellents used in early stages of plant growth should also be considered.



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