BUILDING YOUR OWN
'DEER FACTORY'

Spring Food Plots For A Better Herd

When bucks are growing their racks and does are rearing fawns, it's critical to provide the best possible nutrition. Here's how to do it with a sound planting program.

by Dr. James C. Kroll

So it's cold outside, and it seems like a long time until fall. Deer might not even be the main thing on your mind these days. But now's the time to be planning an activity that could have a big impact on your hunting future: spring plantings of food plots.

Because food plots can aid in harvesting deer, most hunters only think of planting them in the fall. But as David Morris notes on Page 20, we at ***WHITETAIL*** have found that year-round nutrition is the real key to having high numbers of big deer on private land. In fact, the No. 1 reason for our great success at Fort Perry Plantation, the magazine's facility for management research, is the nutritional program there.

After years of study — much of it conducted on this 2,000-acre tract in Georgia — we now know more than ever about setting up and executing food-source management programs that yield great results. Follow what we've learned there, and elsewhere, and you too can have a food-plot program that pays huge dividends.

WARM-SEASON NEEDS

Throughout spring and summer, which we term the "warm season," whitetails have far different physical needs than during fall and winter. Whether your herd is in the North or South, you can do a lot to help it with warm-season food plots.

Protein is the greatest nutritional need in spring and summer. It takes a lot of protein for a doe to nourish unborn fawns and then produce enough milk (up to a gallon a day) to get them to weaning age in late summer. A study done by my staff at the Institute for White-tailed Deer Management and Research showed a major decrease in body weight and stored fat in does that had nursed fawns during the summer versus those that already had lost theirs.

Bucks also have high nutritional demands at this time. Protein is critical to growing antlers, and the process also robs the skeleton of large amounts of phosphorus and calcium, which then must be replenished through the diet.

Nearly all native habitats fall short of providing deer with the protein they need for maximum growth throughout the warm season, making food plots especially important. But the trick is to select a planting program that's both affordable and effective in your area.

GETTING STARTED

Before you rush out to buy seed, many questions about your land must be answered. Even if you've heard of a good forage plant that's known to do well in your *area*, it might not grow anywhere on your *property*.

Most plants are adapted to specific site and soil conditions; some do well on dense clay soils, while others must grow on droughty, sandy soils. Even the land's slope (degree of tilt) or aspect (the direction in which it slopes, such as north or south) will influence plants' occurrence and growth rate. You must learn your site-soil conditions and match forage varieties to them.

How can you do this? There is no substitute for experience, and the best place to find it is in a state or federal conservation agency. In every county in the United States, there are extension agents and soil scientists to help the public make selections for summer agricultural plantings. Many of these folks work almost daily with local stockmen and dairymen in managing forages. Such advice is available free of charge, so why not take advantage of it?

KNOW THE CONDITIONS

Be realistic about the conditions under which you're trying to produce deer forage. For instance, if you get less than 25-30 inches of rainfall annually, you face greater challenges with your warm-season plantings, even though cool-season plots might work quite well for you. (Soil dries out more rapidly when warm than when cold.) If you do not know the rainfall patterns and amounts for your area, ask a representative of the local Agricultural Extension Service or Natural Resources Conservation Service (formerly known as the Soil Conservation Service).

The NRCS publishes soil surveys for almost every county in the United States. These books are free and contain much information. Inside you will find climatic conditions (including rainfall patterns), recommended plant varieties and individual soil maps for the entire county. Soil types are overlaid with aerial photographs of the county, including one that shows *your* land. By consulting the table of soils in the book, you can determine a location's suitability for plantings, growing limitations and probable solutions to various site-related problems.

Using the soil tables and the aerial

photo of your property, it should be easy to pick the better food-plot locations. In general, good warm-season sites are those with adequate soil moisture late in the growing season. That's why *I favor sites in lower elevations, with some clay content to the soil.*

"Perfect" soil is made up of equal portions of sand, silt and clay. Clay tends to hold moisture better than sand, yet too much clay makes water unavailable to plants. Bottomlands tend to have higher clay and silt content than upland soils and remain wetter throughout the warm season, but they can be too wet in winter.

Because soil properties are crucial in growing forage, I'm amazed at how many landowners and hunters balk at expending the little effort and expense to soil test their food plots. The same resource professionals mentioned above will gladly aid you in getting a good soil test performed. Just collect a small bag of topsoil, take it to the soil-testing lab in your area and wait for the results. The cost is no more than $15 to $20, and it's the best money you'll ever spend on food plots.

In fact, you often can *save* money by testing your soil. For instance, for several years running, a good friend dutifully applied 400 pounds per acre of 13:13:13 fertilizer to his food plots, at a cost of about $40 per acre per year. When I finally convinced him to conduct a soil test, he found that he only needed 50 pounds of phosphate fertilizer: a savings of $30 or so per acre! Had he maintained his applications as before, he not only would have kept wasting money but eventually would have had a toxic level of phosphorus in his plots, and very little would have grown there.

HOW MANY & HOW BIG?

In the August '98 issue, I looked at the concept of "landscaping" for deer. While this sounds complex, all it really involves is taking the layout of your property's cover, food and water resources into consideration in developing a management plan. In trying to determine the best locations for food plots, you need to consider how deer move — or how you *want* them to move — around your land.

How much land should you plant? As David Morris notes in his feature on Page 20, at Fort Perry we have approximately 12 percent of our acreage in food plots. We need this amount of forage production because we want to carry as many big, healthy deer as possible. While you might not be able to devote this much land to food plots, the idea is to plant as much as you can.

Our research shows that every acre of productive year-round food plot can support 3 1/2 deer in prime condition. With this in mind, use your hunting land's deer density and management goals to determine your forage-production needs.

No food plot should be smaller than 1/4 acre, in order to avoid such problems as over-utilization by deer and shading from adjacent trees. And try not to put all of your eggs into one basket; if you're going to plant 20 acres, you might scatter four 5-acre plots around your land, rather than planting a single 20-acre field.

WHAT TO PLANT?

We must be very careful in writing about the "best" cultivated forages for deer, as the mere mention of some plant variety has been known to precipitate a run on North America's seed dealers. For example, in the February '98 issue, David noted that iron-and-clay cowpeas are one of *our* primary warm-season forage varieties at Fort Perry. The next thing we knew, readers were trying to plant cowpeas in Montana! Unfortunately, the plant is not well-adapted to that part of the world, and such plantings ended in failure.

Plant varieties poorly suited to your specific needs can't make up for all that's wrong with a deer herd. It's easier and cheaper to change your

WARM-SEASON FORAGE VARIETIES

GEOGRAPHIC LOCATION	PLANT VARIETY	SOIL ADAPTATION	SEEDING RATE (PER ACRE)	PLANTING DEPTH	RECOMMENDED PLANTING TIME
North	Wheat	Heavy/Clay	1 1/2 Bushels	1/2-1"	Aug.-Sept.
North	Rye	Upland/Dry	1 1/2 Bushels	1/2-1"	Aug.-Sept.
North	Oats	Upland	1 1/2 Bushels	1/2-1"	Aug.-Sept.*
North	Red Clover**	Most	12-15 Lbs.	1/4-1/2"	Aug.-Sept./May-June
North	White Clover**	Clay	3-6 Lbs.	1/4-1/2"	Aug.-Sept./May-June
North	Alsike Clover**	Most	4-6 Lbs.	1/4-1/2"	Aug.-Sept./May-June
North	Alfalfa**	Upland	15-20 Lbs.	1/4-1/2"	Aug.-Sept./May-June
North	Austrian Winter Pea**	Most	20-30 Lbs.	1/2-1"	May-June
North	Green Peas	Upland	30-35 Lbs.	1/2-1"	April-June
South	Iron-and-Clay Cowpea**	Upland	60-90 Lbs. (disked) 35-40 Lbs. (drilled)	1/2-1"	April-June
South	Long-Season Soybean**	Most	60-75 Lbs. (disked) 40-50 Lbs. (drilled)	1/2-1"	April-June
South	Lablab**	Drier, Basic	15-20 Lbs.	1/2-1"	May-June
South	Annual Lespedeza**	Various	25-30 Lbs.	1/2-1"	March-May
South	Alyce-Clover**	Upland	10-20 Lbs.	1/4-1/2"	March-June
South	American Jointvetch**	Bottomland	5-10 Lbs.	1/4-1/2"	March-June
South	Hairy Indigo**	Upland	10-20 Lbs.	1/4-1/2"	May-June
South	Peanut**	Upland, Sandy	60-80 Lbs.	1-1 1/2"	Dec.-March
South	Honeysuckle	Most	Sprigs/plants	3-4"	March

*Cold-hardy varieties also can be planted April-May.
**Legume (inoculate with appropriate nitrogen-fixing bacteria from seed dealer)

These are some varieties with which the author has had success in the warm season. However, always get local advice before settling on the one(s) you'll plant on your deer land. Chart by Polly Dean.

plan *before* seeds go into the ground!

North vs. South

Plants that grow well in the cool season in the South tend to do well in the warm season in the North, but unfortunately, the opposite is not true. The accompanying chart lists several deer-forage varieties that have weathered years of testing.

Even with this table, however, you need to diversify your plantings. The right approach is to spend your first year making small test plots of several varieties under the varying site and soil conditions of your property, as this will allow you to develop a "prescription" planting formula for your land.

Timing of planting is far more important in spring than in fall. In the South, plots should be planted by mid-May. If you plant later, the plots will be destroyed by deer, and/or there will be too little rainfall to establish the crop, and/or weed competition will hinder growth.

Northern areas, conversely, often have late frosts that destroy or set back summer plantings, so it's common to plant too early. Using cold-hardy varieties such as forage oats offers more flexibility, allowing you to plant earlier to take advantage of spring rains.

To illustrate how Southern and Northern warm-season food-plot strategies can vary, let's look at two good examples: Fort Perry (Georgia) and Muy Grande Ranch (Michigan). Each program is well-suited to the environment in which it's used.

Fort Perry's food-plot program has involved researching many plant varieties, with varying degrees of success. We use a no-till system that allows us to have high-quality forage available year 'round. ("No-till" simply means planting through an existing crop without disking it under, a process that minimizes the gaps between warm- and cool-season plantings.)

While no-till planting requires expensive equipment, in some areas special programs have been set up to give private land managers access to the machinery on a "loaner" basis. The plant varieties we use at Fort Perry also can be used in traditional till-type plantings.

We begin by planting iron-and-clay cowpeas or soybeans, which grow well in most Southern soils. They do have problems dealing with extremes in soil moisture, though, so we avoid using them in very wet bottoms or on dry, sandy uplands.

After planting (either by drilling or broadcasting and then disking in), we often topseed with alyce-clover, a tropical variety of "pseudo-clover" that grows quite well in hot weather. In fact, the hotter it gets, the better! In very wet soils, where alyce-clover doesn't perform well, we instead sometimes plant jointvetch (*Aeschynomene*), a variety long used for cattle grazing in Florida.

All of these plants are legumes, so they demand a special fertilization strategy. Legumes make their own nitrogen through a symbiotic relationship with bacteria on their roots. (You apply these bacteria by adding inoculant to the seed before planting.) If you apply inorganic nitrogen (ammonium nitrate or ammonium sulfate) to legumes, you'll get the best crop of crabgrass and weeds you've ever seen!



Net-wire cages, supported by posts, can show just how much of your forage is being consumed. It's especially smart to use such exclosures when testing new plants. Photo by Gordon Whittington.

Other varieties we have examined include alfalfa, lablab, lespedeza, honeysuckle and hairy indigo. Of these, honeysuckle and alfalfa seem to show the most promise in broad areas of the South, while lablab, an Australian legume, has proved to be highly productive in areas with a dry climate and higher soil pH (such as many parts of Texas).

Alfalfa traditionally hasn't done well in the South, largely due to acidic soils, but such new varieties as Apollo and Alfagraze have performed well so far. Even so, we suggest that you Southern readers wait until we complete our testing before you invest in these varieties.

Deer like honeysuckle, and in the South it grows for much of the year, yielding large amounts of nutritious forage. We've been studying it for three years now, and while we have yet to release our full findings, it thus far seems a good candidate on sites to which it's adapted.

Michigan's Muy Grande Ranch has soils derived from glaciation: sandy, with low fertility and little ability to hold moisture. In short, Muy Grande is best suited to no-till plantings. This method permits the buildup of organic matter, an important factor in moisture-holding capacity.

Also, we often have killing frosts as late as May, making for a short growing season. As a result, we use cool-season plantings designed to survive the winter and keep growing through summer. Rye and wheat are excellent for this.

We plant red clover along with the cereal grains in the fall. Because white clovers (e.g., ladino) don't do well on droughty soils, we limit them to Muy Grande's scarce clay areas, where soil moisture is higher.

But the real secret here is early-spring planting. We found that we can plant cold-hardy oats as soon as the snow melts, if not a bit earlier, as they can take weather as cold as 10 degrees Fahrenheit. Because the toughest stress period for bucks in Michigan is just before spring greenup, having oats up in April significantly boosts buck survival and antler growth.

We follow up with a May planting of clovers, alfalfa and rye. And again, those residual crops from fall help out on through summer, even though they would have a hard time making it through June in the hotter South.

CONCLUSION

Don't be afraid to ask questions before you start your food plots. Begin with tried-and-true plants, then test others. Over time, you'll develop a highly effective warm-season program tailored to your land. Then, settle back for years of greater enjoyment of your herd and better hunting!