BUILDING YOUR OWN
'DEER FACTORY'

Grow Better Forage In Your Deer Woods

Food plots and feeders aren't the only ways to give your whitetails a nutrition boost. Smart managers know that improving the natural food supply on their land can lead to more and bigger deer.

by Dr. James C. Kroll

As I write this, many parts of the South are locked in what is perhaps the worst drought they have experienced since the 1950s. It's a grim reminder of a fact no deer manager anywhere should forget: Forage is the single most important determinant of herd health.

Over the past year, ***WHITETAIL*** has brought you various strategies for boosting the quantity and quality of deer food on your hunting land. The most obvious of these is the implementation of a food-source program involving the use of year-round agricultural plots and/or supplemental feeding. But you also can do much to improve your forage with native vegetation. In fact, at Fort Perry Plantation, the magazine's own deer-management research facility in Georgia, we've enhanced the natural forage so that it goes hand in hand with food plots and direct feeding to maximize herd health and productivity.

Will this concept help your herd too? Sure! Let's see why and how.

WHAT *IS* DEER FOOD?

Other than acorns or other fruit that might fall to the ground, food produced too high for a deer to reach is of no use to a deer. The amount and quality of forage within roughly four feet of ground level determine how much time deer spend on your property, and these factors will influence both antler quality and fawn survival.

Green plants provide most of a deer's nutrition. However, not all are of equal value. Species such as Japanese honeysuckle, blackberry, raspberry, dogwood, white cedar and various maples can provide adequate nutrition, while red cedar, oaks and pines offer little. (Although oaks do produce acorns in season, the trees themselves hold little nutritional value for deer.) Weeds, or "forbs," are very important native deer foods as a group, and mushrooms provide valuable protein and phosphorus. Grasses, though, seldom are eaten in large amounts.

"Browse" is the term applied to the leaves and twigs of woody plants, whether they be trees, shrubs or vines. A given browse plant is categorized by desirability. First- and second-choice plants provide the bulk of a deer's diet, while third-choice plants are little more than "stuffing" to help the herd get through tough times.

"Mast" is the term used to describe the fruits of woody plants. Acorns are the classic example of "hard" mast, but there are others, including hickory nuts and pecans. "Soft" mast includes grapes, apples and other such fruits. Both types are rich in carbohydrates and fats and provide deer with needed energy during the cool season.

With the exception of browse, most of these items are present only during a limited portion of the year. Thus, day in and day out, browse is the staple of the native forage supply. And it is especially critical if you have difficulty providing deer with year-round food plots.

Actively growing plants generally are rich in protein, energy, minerals and vitamins. But not all grow actively for the same length of time each year. Some browse plants are determinant, meaning they put on virtually all of their growth in early spring to summer, while others are indeterminant, putting on new growth following each rainfall event during the growing season.

Although it is beneficial to have both growth types of browse plants on your land, the latter group clearly is more important in ensuring a season-long food source. Still, even determinant plants can be coaxed into producing more forage over a longer time frame. Again, actively growing plants are more nutritious, so if we can get plants to keep growing longer, we can provide the herd with more and better food.

One way is by mowing, provided the amount of growth removed isn't extreme. Through many years of work at the Institute for White-tailed Deer Management and Research, we have learned that a browse plant generally can recover if no more than half its aboveground volume is removed at any one time. We can't move deer off a browsing area when this limit is reached, so the key is to grow enough forage that utilization never exceeds 50 percent.

NATIVE FORAGE MANAGEMENT STRATEGIES

The amount of forage produced on your land is determined by three factors: sunlight, available soil moisture and vegetative type. Let's see how you can manipulate these to maximize production.

You obviously can't control how

(Continued)

much light reaches your property. What you can do is try to maximize the amount of sunlight that reaches the *forest floor*, which often means removing trees.

Aldo Leopold, the father of modern wildlife management, once noted, "The three friends of the wildlife are the match, the plow and the axe." Translation: in order to manage wildlife — in our case, whitetails — you must disturb the land. In fact, whitetails are what we refer to as a "disturbance" species, meaning they thrive in the lush growing conditions that follow a change in the forest or brushland.

In many areas, managing native vegetation is almost a "war." The plants grow so quickly that you must work to keep the browse low enough for deer to reach it. These actions can include timber cutting, brush control, soil disturbance, controlled fires or even the use of herbicides.

Regardless of how you control vegetation, the positive effects will diminish over time. For example, in Southern clearcuts, forage production usually declines rapidly after a few years as trees grow large enough to start shading out plants near ground level. It takes planning and effort to ensure an ongoing supply of quality forage for your herd.



*The author examines a stand of blackberry at Fort Perry Plantation, **WHITETAIL**'s research facility for deer management. First-choice browse species such as this can provide good nutrition for your herd, especially if you fertilize them regularly. Photo by Michael Skinner.*

Without tree shade or lack of moisture to limit forage production, in one year you can expect native plants to produce as much as 3,000 pounds of forage per acre. But of this, don't expect more than half to be deer food. To strike a balance between forage production and other considerations (including available deer cover), in most cases I opt for a

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etc.) allow more light to reach the forest floor, and thus produce more deer forage, than do hardwood stands. Years ago, we studied forage production in timber stands of various compositions and found that a mix of around two-thirds conifers and one-third hardwoods produced the best results. Thus, when forage yield is my first priority for an area, I like to manipulate stands so that hardwoods do not dominate.

In a study done by my graduate student, Ronnie Bane, we discovered that monthly applications of an appropriate fertilizer throughout the growing season can increase the palatability and production of deer food. Also, by using fertilizers, we were able to extend the growing season of native forages by roughly a month, providing a major forage boost at a time of year (fall) when woody plants otherwise would be far less digestible. Other researchers have reported similar results.

MANAGING FORAGE ON *YOUR* PROPERTY

As you develop an overall plan for creating a "deer factory" on your own land, I suggest you refer back to the August issue, in which we discussed how to arrange habitat elements for deer. Remember, the majority of your land can be in forage of one type or another, with the remainder in cover.



A browse line means deer are eating forage far faster than it's being grown. A manager's job is to keep enough good food within their reach. Photo by Leonard Lee Rue, III.

Our research at Fort Perry and elsewhere has proved that a well-planned, well-managed acre of year-round food plot can support from three to five deer. Thus, the amount of land you plant is determined by the number of deer you want to support and/or harvest.

However, I don't advise that you put *all* of your forage-management area into cultivation! The summer of 1998 showed why. I had what was probably the only summer food plot in my part of East Texas, but only because it was irrigated daily. What would have happened if my entire forage area had been in agricultural plots? I couldn't have kept them all alive. Ironically, it turned out to be a case of native plants in my area providing a vital "safety net" for the food plots, instead of vice versa.

In most areas, vegetation grows quickly enough that you do not want to have every acre of native forage in the same stage of development. For example, let's say you have devoted 70 acres to native forage. In most area, it takes about seven years for browse to grow above "deer height," so dividing that 70 acres by 7 yields 10 forage-management

