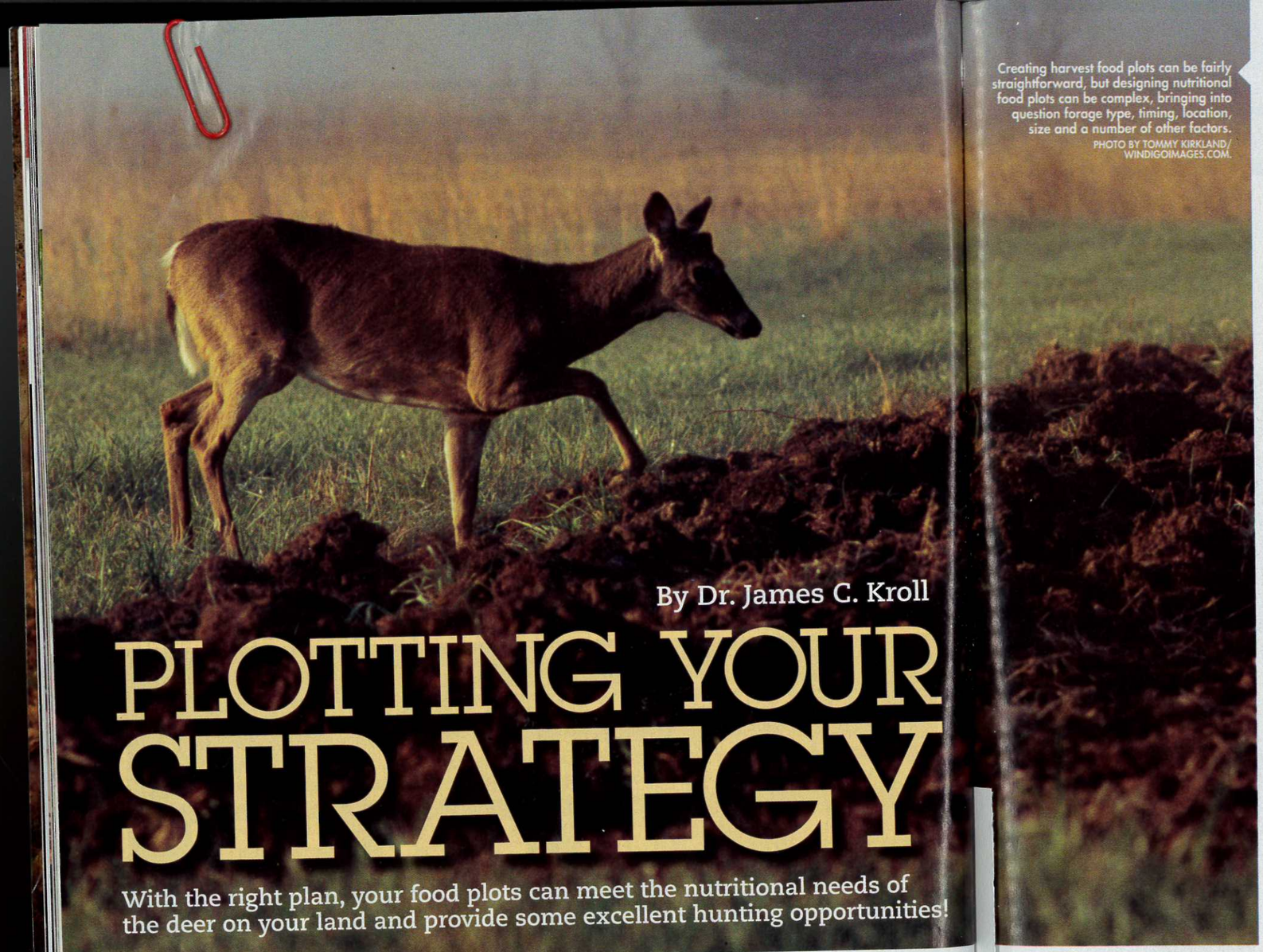


Creating harvest food plots can be fairly straightforward, but designing nutritional food plots can be complex, bringing into question forage type, timing, location, size and a number of other factors.

PHOTO BY TOMMY KIRKLAND/ WINDIGOIMAGES.COM.

By Dr. James C. Kroll

PLOTTING YOUR STRATEGY

With the right plan, your food plots can meet the nutritional needs of the deer on your land and provide some excellent hunting opportunities!

When I began my work in deer management, here in eastern Texas hunting clubs practiced what I referred to as "50-50 food plot management." They planted 50 pounds of feed oats and spread 50 pounds of fertilizer per acre! Not exactly what I would call good deer forage management. I remember the first time one of our clubs planted clover along with the oats. I went home and had an "adult beverage" to celebrate.

We've come a long way since those days. Over the last 10-15 years, planting of cultivated forages for whitetails has become common. Pick up any outdoor magazine and you are likely to find an article either about some new plant variety or sage advice about growing food for deer. In this article, we will take food plot management to a new level! If you have been confused about what to plant, when to plant and where to plant, read on.

WHY FOOD PLOTS?

The purpose of deer food plots is two-fold — to improve nutrition (nutrition plot) and to bring deer to the gun or bow (harvest plot). Each involves different strategies and different planning. The vast majority of folks planting food plots are doing so to improve their chances of harvesting a deer. There is nothing wrong with this motive, especially in a world where deer populations often are out of control and need serious reduction. Harvest plots are fairly straightforward, while nutrition plots are bit more complicated.

The purpose of a nutrition plot is to provide vital nutrients for your deer when they need them. Deer require a host of macro- and micro-nutrients, including protein (amino acids), calcium, phosphorus, zinc, copper, selenium and others. After 40 years of research, I have come to the conclusion bucks and does might as well be different species. Bucks and does prefer different habitats within the same general area and tend to avoid being together in the same place (except during the rut).

We annually conduct hundreds of necropsies (animal autopsies) on deer. We conduct these as part of what we refer to as "health checks." In order to obtain a valid analysis of herd condition, we must conduct two such studies — one in late winter and another in late summer. What we have learned is that when bucks are fat, does are skinny, and when does are fat, bucks are skinny. In late summer, what are your bucks doing? They are laying around, "picking their teeth" and bragging to each other about what they did last rut. What are your does doing at that same time? They have lost a great deal of weight and have little in the way of reserve body fat, because they have to produce from 12-72 ounces of milk a day for their fawns. Come late winter, however, those same does are fat and the bucks have lost as much as 30 percent of their body weight.

You have to develop a food plot strategy that delivers as much supplemental nutrition to your herd as possible for your situation, on a 365-day basis. That is a tall order in many areas. At Turtle Lake Club in northern Michigan, we have up to 12 feet of snow and temperatures dropping to the serious negative digits for up to four months. At Dos Gringos Ranch in south Texas, the summer temperatures reach the 100s and we go sometimes for months without rainfall. A food plot strategy must deal specifically with these limitations.

SEASONAL AND VARIETY PREFERENCES

The nutritional needs of a deer vary by season and according to sex and age. We have known for a long time deer have definite species preferences in native forages. Biologists classify browse plants into three categories: first, second and third choice. First choice browse often are referred to as "ice cream" plants, due to their high attractiveness. However, deer depend more on second choice species than first choice. Third choice plants are those a deer will eat under only two conditions: 1) when there is nothing else to eat, and 2) when they need supplemental fiber to offset a highly digestible diet. In the case of the latter, plants that are easily digested often cause rumen problems such as acidosis. To offset this, deer actively seek fibrous foods to stimulate their rumen.

As with native forages, deer have definite preferences for food plot varieties. Yet, a particular variety may be highly attractive at one time of the year and totally ignored at another. The best example is from a study we conducted in the late 1980s on variety preferences. My graduate student, Dr. Billy Higginbotham, conducted the first exhaustive tests on food plot varieties in the South. We used our "salad bar" experimental design to measure how and when deer used different varieties. We randomly laid out replicated 10- by 20-foot test plots and planted them to pure varieties. We quickly discovered, in the South, deer tended to prefer cereal grains (most notably oats) in the fall, but shifted feeding first to annual, then to perennial clovers as the winter and early spring developed. Then, deer switched back to the cereal grains in spring. The reason turned out to be simple. Deer need large amounts (about 30 percent of consumed nutrition) of protein, carbohydrates, calcium and phosphorus — the last two elements in a 1:1 or 2:1 ratio. Cereal grains are high in energy through water and alcohol soluble sugars and phosphorus, while the legumes are high in calcium and protein. This does not mean deer will eat only cereal grains at one time and legumes another. Rather, we plant these varieties in combinations, so deer have access to a completely balanced diet. Since some varieties are perennials, we also plant perennials (clovers and chicory) and annuals (cereal grains and annual clovers) in pure seeded plots, but right next to each other.

TOO MUCH, TOO EARLY

We have conducted dozens of studies on the nutrition of native forages throughout the year. In most areas, browse plants can be classified into two groups: indeterminate and determinate. The former are vines in most cases, which tend to add new growth when conditions are good. The determinate forages tend to put on rapid growth in spring, then turn woody and less digestible as summer ensues. During the spring and early

summer, both types of plants are highly digestible and nutritious. Your deer will do perfectly well feeding on these native species.

However, when you plant a spring food plot, you introduce a new classification to deer foods — the "ice cream" plants. What good does it do for you to plant something that will draw your deer away from perfectly nutritious native forages, to obtain more nutrients than they ever could use? It is a lot like placing two plates of food in front of a young child, one with a balanced meal and the other with strawberry ice cream. The child will eat the ice cream, shortchanging himself on critical nutrients.

Last summer, I took part in a 19-city tour of the Midwest and Northeast. I was surprised to hear most landowners were unaware of the importance of fall plantings. Most folks wanted me to tell them what to plant in the spring! Yet, our studies clearly have shown fall plantings are far more important then spring plantings. If I had a limited budget, I certainly would focus on a fall planting. Why? This is a critical time for bucks and does, and the more nutrition we can store in our deer in the late summer-early fall, the more likely we are to have them come out of the winter in good condition.

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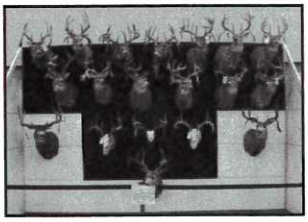
SUMMER NEEDS

What about later in the summer, where in many locations native forages are no longer nutritious? There are two things to consider. First, if you plant varieties that are not as attractive when conditions are good, yet will provide more than adequate nutrition in hard times, your deer will do much better. Varieties such as chicory, red and white clovers and alyce-clover are such plants. The problem with such plantings lies in the tendency of weeds such as native grasses to compete with summer crops. Over the last few years, we have focused our research efforts here at The Institute for White-tailed Deer Management & Research on herbicides, which remove weeds but have little effect on our food plot varieties. Working with herbicide authority Dr. Jimmie Yeiser, we now have several effective chemicals (glyphosate, fluazifop, etc.) that will kill only grasses and competing weeds. To grow warm season food plots requires far more skill than fall plantings; and, in most areas I tend to discourage planting anything in the spring.

LOCATION

The process of deciding where exactly to place food plots on your land is called "food plot siting." Where you place your plots is a very important decision, although I understand there are times when such decisions are limited. Our research has clearly shown the minimum management unit size for whitetails is 80 acres. We never could get deer to occupy less than 80 acres, no matter how good we made their habitat. So, I recommend at least one food plot per 80 acres, even if you only have 40 acres (take into account your neighbor's land). A food plot on top of a dry hill is a very poor place to put a food plot. Always try to locate your plots in lower elevations, but at the same time where they will not be flooded. This gives you the best mix of soil moisture and nutrients. Further, food plots should be located adjacent to cover (both summer and winter), so your deer feel comfortable feeding there. Lastly, we recommend at least 2 percent of the unit (about 2 acres) be in food plots. A well-managed plot will support 3-5 deer.

Successfully supplementing your deer's diet with food plots involves a several critical factors. Among these are proper location, what varieties best provide year-round nutrition, how your climate affects production and availability and strategies to assure the deer have what they need, when they need it. All of this might be referred to as "advanced" food plot management, but paying attention to these details will pay off in a better harvest, a more productive resident herd and bigger antlers.



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