BUILDING YOUR OWN
'DEER FACTORY'

Growing Deer Food In The Cool Season

When the weather turns cold, whitetails undergo stress that affects their ability to rear fawns and even grow antlers. But with the information presented here, you can do something to help your herd through the tough times!

by Dr. James C. Kroll



No other recent topic has caused as much debate among biologists, landowners and hunters alike as the question of what to plant for whitetails. You hardly can discuss management with anyone these days without hearing incredible claims about one plant variety or another! Whom should you believe, and how do you separate fact from fantasy?

Through a decade of study at Fort Perry Plantation, ***WHITETAIL***'s own facility for deer research, we've devised a food-source management strategy that can help your land support higher numbers of bigger, healthier deer. If you have enough year-round cover, the number of deer you can have on your property will depend largely on how much of the right food you can provide.

Very few deer habitats — even those in heavily agricultural areas — meet the species' dietary needs every day of the year. Thus, you almost certainly need to supplement your land's forage base. This strategy must take into consideration both the warm and cool seasons, supplying *what* deer need *when* they need it.

This not only elevates your land's productive capacity (or "carrying capacity," as it's often called), but it also allows you to hold those deer fairly close to the prime food sources most of the time. This increases your control of the herd, because the more effectively you can provide deer with everything they need, the less need they will have to go elsewhere.

Many of you have been planting cool-season food plots for years. Your No. 1 goal probably has been to facilitate harvest, rather than to provide high-quality nutrition. But you can do both if you put your food sources in the right places, select the right forage varieties and then follow up with needed plot treatments.

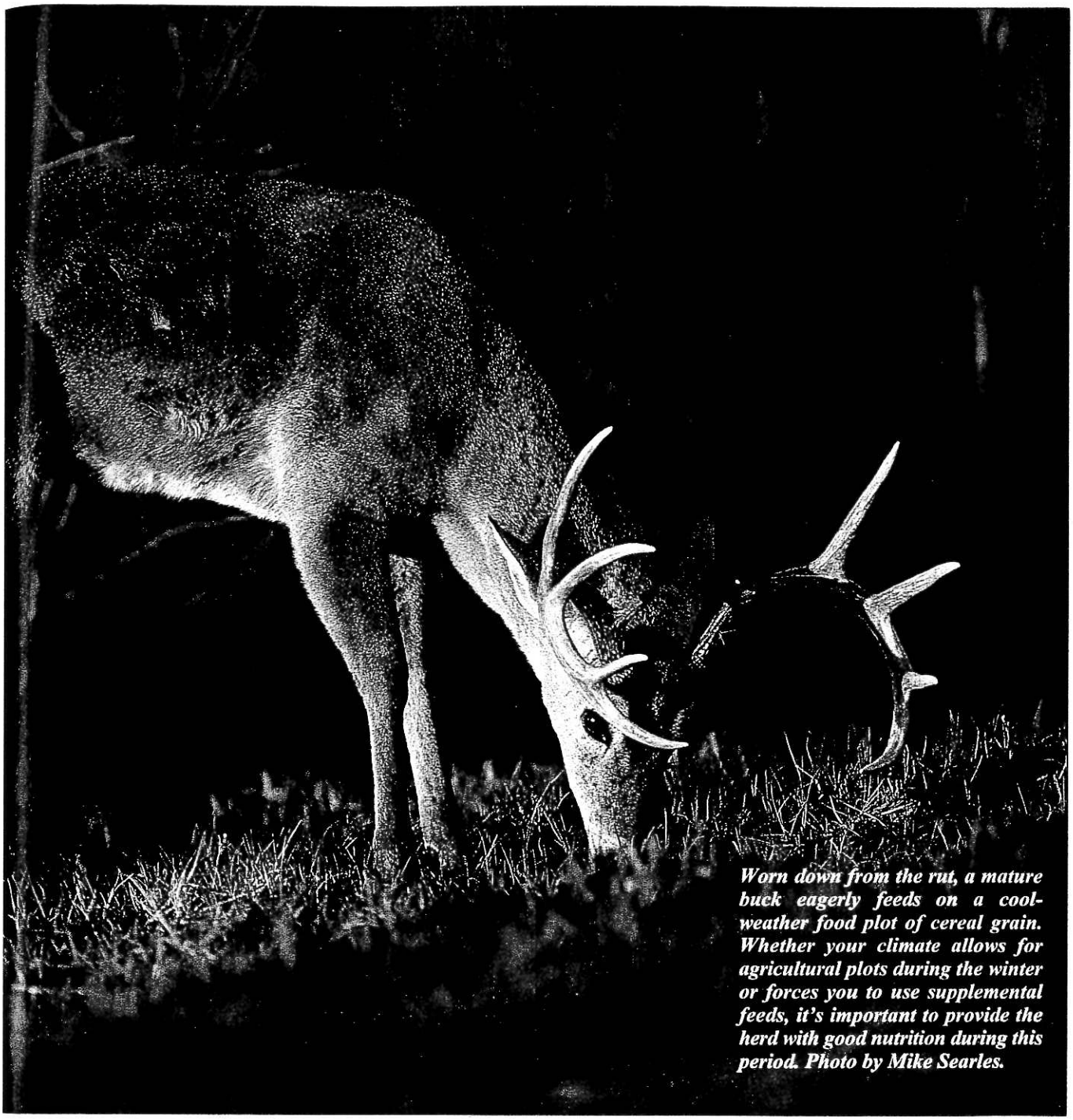
What follows is a primer on how to do all of this. It's by no means the last you'll be reading about cool-season supplements in these pages, but it should help if you've had trouble establishing cool-season food plots or have never given them a try. We'll be bringing you a lot more on this subject, including details of how to implement a food-source program that can *greatly* boost the productive capacity of your land.

COOL-SEASON STRESS

Fall and winter obviously can be very stressful for whitetails. In the South, this isn't the toughest period — summer is — yet it still must be dealt with. North of the old Mason-Dixon Line, the cool season clearly is the most stressful time for deer.

There are two basic factors to consider in developing a cool-season planting program. First, you should adopt one that allows you to get as much energy (in the form of stored fat) into your deer as early as possible each fall. Second, you should try to provide additional forage through the harsh winter months, which is quite difficult to accomplish in areas with significant snowfall and cold temperatures.

We've been conducting research on deer forage at the Institute for White-tailed Deer Management and Research since 1978. In so doing, we've learned that no single plant variety will grow everywhere within



Worn down from the rut, a mature buck eagerly feeds on a cool-weather food plot of cereal grain. Whether your climate allows for agricultural plots during the winter or forces you to use supplemental feeds, it's important to provide the herd with good nutrition during this period. Photo by Mike Searles.

the whitetail's geographic range. But a number of types of plantings can pay dividends if you match the right plants to your climate and soils.

The trick is not to make the common mistakes and to do your homework before you start planting.

HOW MUCH OF MY LAND SHOULD BE IN FOOD PLOTS?

The acreage you need to plant depends largely on the number of deer you want to support. With normal deer densities, you could devote as much as 50 of every 80 acres to forage production, with most of the remaining 30 acres in cover. You'd probably have most of that forage acreage in native plants, with a lesser amount in food plots.

A general rule of thumb is that an acre of good *year-round* food plot will support five deer. For example, let's say you have year-round food plots on 3 percent (2.4 acres) of every 80 acres on your land. If these plots are productive, they should support about 12 deer, even without much use of native vegetation.

(Note that this is by no means the upper limit of what effective food-source management can do. At Fort Perry, we have a much higher percentage of the land in year-round plots, allowing us to maintain even higher numbers of healthy deer.)

WHERE SHOULD I PLANT?

This is one of the most common questions asked by landowners and hunters. You might find it useful to refer back to my August feature on "landscaping" for deer, in which I discussed arranging the habitat features on your property.

I use a basic habitat management unit of 80 acres, and I try to provide

everything a deer needs within each 80-acre block on a property. This suggests that *at minimum*, you need one food plot for every 80 acres.

Where to put your plots depends on what you're trying to accomplish, as well as the lay of the land. First, look for existing openings big enough for plantings. As many of you know, an old field or right of way can make an effective plot. In general, try to avoid areas with much slope, as they're prone to erosion.

Plots should be placed adjacent to cover or travel corridors, making access easy for deer. Also, orient the plot to take advantage of sunlight. A narrow plot running north-south with trees on both sides is a bad idea, because the only time direct sunlight can reach the crop is around midday. (This problem is compounded by the presence of evergreens, which block a much higher percentage of winter sunlight than do leafless deciduous trees.)

Soil quality is also a key. This is where the Natural Resource Conservation Service (NRCS), the former Soil Conservation Service, can be quite helpful. Every county in the U.S. has a soil survey either completed or under way, and your local NRCS office can supply you with one of these for free.

A soil survey is a series of maps and explanations about the soils in your area. Each soil type in your county has been delineated on an aerial photograph, so all you have to do is locate your property among the series of photos and then find the exact spot you want to plant. Included in the report is information on the potential productivity of each soil type and recommended crops.

Always locate your plots on the most productive soils available. While productivity can be measured in many ways, the most important are *soil nutrients* and *soil moisture*.

Upland soils tend to be drier than bottomland soils. The higher the soil moisture, the higher your crop's yield potential. On the other hand, bottomland sites tend to be too wet for plots during the cool season, so I recommend you plant on your best *upland* sites at this time of year.

Generally, sandy clay loams are the best soils for food plots. Too much sand or clay will result in relatively poor performance.

Landowners and hunters often complain they have "no place to plant a food plot." Seldom is this really the case. For example, while the Fountain Creek Hunting Club in East Texas is on a commercial pine plantation with very few openings, the members have ingeniously taken advantage of every right of way, roadside and small forest opening to implement one of the most effective planting programs in that area.

SIZE & SHAPE OF PLOTS

The size of your plots depends on several factors. One, of course, is the total amount of forage you need in order to keep your herd on a high nutritional plane. Another is the efficiency of farming; a small plot takes nearly as much time and effort to plant as a larger one does but provides far less total forage.

If I have a choice, I opt for irregularly shaped plots over those of rectangular or square shape. While this is largely a matter of esthetics, deer also seem to feel more secure in irregularly shaped plots. And it's usually easier to fit such a plot into the existing landscape. Of course, preparing, planting and maintaining irregularly shaped plots is somewhat less efficient than for rectangular or square plots. But ultimately, of course, the land will dictate plot size and shape.

WHEN SHOULD I PLANT?

From the old Mason-Dixon Line northward, I suggest you plant cool-season plots in late August or early September. South of there, planting time should be from mid-September to mid-October.

PLANTINGS FOR THE COOL SEASON

The author has had good success with all of the following forage varieties. Your final selection should be made after consulting with a local seed and feed dealer and/or your extension agent:

CEREAL GRAINS

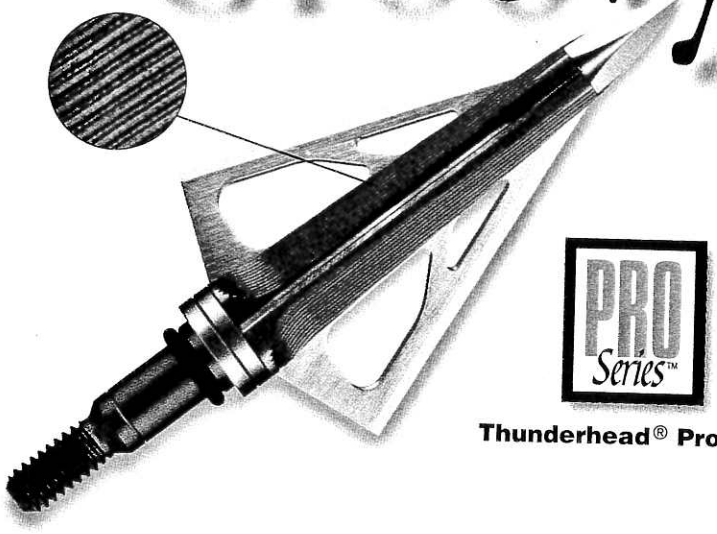
Oats (cold-hardy)
Wheat
Rye

LEGUMES

Red clover
White clover
Alsike clover
Arrowleaft clover
Alfalfa



Groovy.

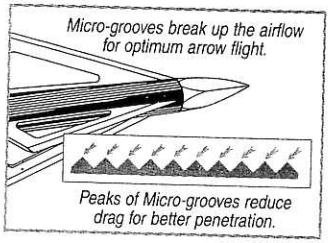


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DOING IT RIGHT

One of my biggest challenges is to get landowners and hunters to plant plots in the proper way. Haste makes waste, and it also guarantees failure! So, before you succumb to the temptation to just throw out some seed, take the time to do it right.

Your first step should be to collect soil samples from each plot site. Your local NRCS office or extension agent can supply you with proper bags for soil testing. Take composite samples from several spots around the plot, then mix them in a bucket. Collect the top six inches of soil, without plant roots or debris. Then, after mixing the samples, fill the bag and label it carefully, because you need to be able to relate the results back to specific plots.

The soil laboratory will conduct the analysis in a week or two for a nominal fee (usually less than $15). This is the best money you'll ever spend in developing good food plots. The resulting report will give you measurements of the soil nutrients, such as nitrogen, phosphorus and potassium (potash). It also will include soil pH, which is important to plant growth and nutrient availability. You want a soil pH of 6 to 8. If your soil is too acidic (that is, pH too low) the report will include a recommendation for addition of agricultural limestone to "sweeten" the soil.

Other recommendations will include exactly how much nitrogen (N), phosphorus (P) and potash (K) to add. Fertilizers are labeled with three numbers, which represent N, P and K, respectively. For example, a fertilizer labeled 20-10-15 would have 20 percent nitrogen, 10 percent phosphorus and 15 percent potash, with the balance (55 percent) in inert ingredients. Your local seed and feed dealer can supply you with a mixture that fits the recommendation as closely as possible.

Site preparation is your next important consideration. Just as with a garden, you're not going to get a big crop if you allow weeds to compete with what you're growing. Fortunately, weeds seldom are a big problem in the cool season, and some offer good forage themselves.

There are three ways to plant a food plot: till, low-till and no-till.

Tilling involves turning over the soil with a disk or tiller to expose bare mineral soil. *Low-till* involves

using a specialized machine to plant seed through an existing crop or sod. *No-till* refers to simply spreading seed over the current crop or sod.

While each of these methods has its advantages and disadvantages, I seldom use no-till. When I do, it's only in areas I can't reach with conventional farming equipment. At Fort Perry, we've moved away from tilling in favor of low-till planting. Because it lets us plant cool-season crops right through warm-season plots, we can grow forage every day of the year; we don't have to plow under one crop to plant the next.

5 STEPS TO BETTER PLOTS

1. Ask all of the right questions before settling on locations for your food plots.
2. Check with local plant professionals to determine which forage varieties are best for your land.
3. Test the soil and follow the recommendations for treatment.
4. Plant at the right time and at the right depth.
5. Follow up with fertilizer as needed.

Most of you probably will opt for tilling, as you already have access to that type of equipment. In tilling your food plot, first spread the recommended fertilizer and lime (if needed), then disk or till the soil well. Then, spread your seed at the recommended per-acre rate.

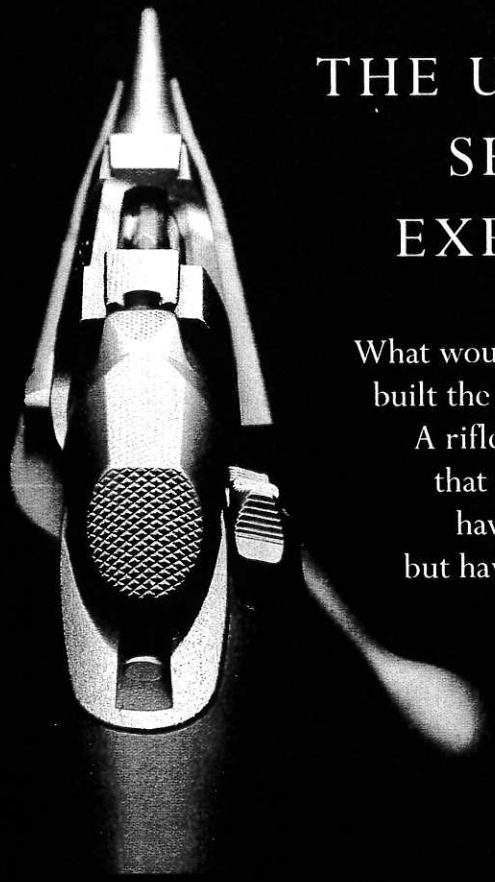
Finally, cover the seeds, being careful not to plant them too deeply. Doing so is one of the most common of planting mistakes. I recall an instance in which a fellow called me to complain that his food plot hadn't come up. In questioning him, I found he'd disked in tiny clover seeds to a depth of a half-foot. No wonder he never got a crop!

CHOOSE PLANTS WISELY

Your choice of plants obviously has a great impact on how effective your cool-season forage program is. So, before you plant, investigate which varieties are likely to do best in your specific situation.

Don't be afraid to seek local help on this question. Your NRCS office

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and county extension agent are there to help at no charge, so take advantage of their knowledge. Initially you might find them a bit reluctant, as they're more accustomed to working with livestock than wildlife. But they'll get into the act if they see you're serious about your wildlife planting program.

While I clearly don't know where your land is, I can make some general suggestions regarding cool-season plant varieties, based on our research. But first, let me point out that you *always* should plant combinations of plants. This gives you a hedge against crop failure and virtually guarantees you'll establish an effective plot.

Regardless of geography, for the cool season I recommend a mixture of cereal grains and legumes. Cereal grains include wheat, oats and rye. (Rye grass, though often planted for deer, normally isn't considered to be a grain.) Legumes are a large family of plants and include such plants as clovers, peas, beans and vetches.

Some cool-season plants almost never fail when properly planted in the right geographic locations. And they don't cost an arm and a leg. However, there are distinct regional differences to keep in mind.

In the North, reliable cool-season legume varieties include red, white and alsike clovers, along with alfalfa. (Ladino and regal clovers are white clover cultivars.) Cereal grains include (in order of preference): cold-hardy oats, wheat and rye.

Cold-hardy oats have emerged as a real boon to Northern plantings. I originally didn't recommend oats in that region, as they were susceptible to winterkill, but plant breeders now have produced varieties that will tolerate very cold temperatures. This is good news, for in every study I've done, oats are more attractive to deer than any other cool-season planting.

Among cool-season legumes for the North, I prefer red clover. But I also plant alfalfa, which has proved to be most attractive to deer and grows for much of the year. It's a biennial, so a single planting can last for two years. The problem is that alfalfa needs a neutral to basic soil (pH of 7 or higher), which can't be achieved economically in all areas.

In the South, I prefer mixtures of cold-hardy oats, rye and arrowleaf

clover on upland sites, with wheat and white clover on wetter sites. You can't lose with these combinations.

One word of caution is in order regarding planting oats in the South, though. While each fall thousands of bushels of "Bob" oats are planted for deer in this region, as far as I'm concerned, this largely amounts to a waste of effort and money. "Bob" oats are easily killed by cold weather and have been bred to yield seed, not forage. Forage oats grow longer into the spring, are cold-hardy and stand up to grazing much better.

In order to mix large-seeded cereal grains with small-seeded legume seeds such as clovers, you'll have to broadcast the cereal grains, disk the seeds in fairly deeply, then top-seed the legumes and *lightly* drag a small amount of dirt over the top (no more than one-quarter inch). I like to use a piece of chain-link fencing for this, pulling it behind a tractor or ATV.

FOLLOW-UP TREATMENTS

Just because you planted a food plot properly doesn't mean you're finished. A follow-up fertilization program will bring great rewards. I like to top-dress cool-season plots with ammonium nitrate (about 100 pounds per acre) in late winter, then again in early spring. This causes a rapid spurt of growth — especially in spring, when both bucks and does have very high protein needs.

DEALING WITH DORMANCY

All crops go dormant in cold, snowy weather. If this is the problem you face, your best bet is to get your deer as fat as possible before winter sets in.

By planting a fast-growing cereal grain (oats or rye) in late August, along with a clover for the following spring, you can accomplish just that. Also, I recently learned a little trick to get the bucks into great shape in early spring: I plant forage oats as the snow melts, sometimes right through the snow. (This isn't easy, as the ground often is still frozen.) A drill can be used when the top few inches of soil have thawed a bit.

* * *

Again, this is just a primer on cool-season plantings, aimed at getting you off to a reasonable start this fall. Next month, we'll look at another cool-season option, useful either in combination with food plots or alone: supplementing the herd's diet with high-carbohydrate feed.

