

WILDLIFE TRENDS

SOUTHEASTERN EDITION

April 2001

Volume 1, Issue 4

White-tailed Deer Nutrition: Spring and Summer Food Crops

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In previous issues of *Wildlife Trends* we have emphasized the importance of nutrition to quality deer management. We have stressed the point that, in many areas of the South, natural forage falls short in providing whitetails their minimum energy and protein needs. Although we have suggested using raw, whole soybeans in free-choice feeders as an effective means of supplementing our inadequate natural forage, cultivated food plots continue to remain very important.

While many hunters and landowners plant high-quality winter foods to supplement the diets of their deer, many of these same people often ignore the nutritional needs of deer during the late winter, spring and summer months. Generally, late winter and late summer are periods of stress when fewer nutrients are available for southern deer. As a consequence, this "off-season" period is a time of special needs. This is the time of antler growth for the bucks, and for the does, the time of gestation, fawning and lactation. This crucial time in the annual rhythm of the white-tail should not be overlooked or ignored if quality deer management is the objective.

While late winter, spring, summer and early fall are times of special nutritional needs for southern deer, it is also a time filled with pitfalls. Pitfalls that lead to potential failure for those of us growing food crops for deer and other wildlife. Keeping in mind that late

freezes, droughts, diseases, insect pests, and especially competition from weeds and grasses make it very difficult to produce good warm-season crops for deer, I offer the following suggestions for some of my favorites.

Soybeans

There is probably no better warm-season forage to plant for deer than soybeans. Soybean foliage or leaves are high in protein, and the soybean seed is extremely high in protein and in digestible energy. Soybean plants are

browsed heavily by deer from sprouting through seed production. And herein lies the problem with this premium warm-season forage. In many areas deer populations are so high that soybean plants are often killed by very early overgrazing. Unless deer density in the area to be planted is low to moderate, large plots (of 5 to 10 acres) may be necessary, and they may need to be protected with temporary high-voltage electric fencing to allow the crop to become established.

There are many varieties of soybeans to choose from, but it is best to select a late-maturing variety or a variety bred for forage production. You would do well to consult with your local county extension agent or with forage specialists at land-grant universities for information on varieties for your area.

Planting dates vary from late April to mid-June, depending on the bean variety and planting location. Soil tests should be conducted to determine lime and fertilization rates. Generally speaking, soybeans should be fertilized with 200 to 300 pounds per acre of 0-20-20 fertilizer. Note that there is no nitrogen in this fertilizer. Since the soybean is a legume, fixing its own nitrogen, supplying nitrogen to competing weeds and grasses can

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be avoided by using a nitrogen-free fertilizer. Plant soybeans on a well-prepared, firm seedbed. Seeding rates vary between 35 to 70 pounds per acre, and the seed may be broadcast or planted in rows. A planting depth of about one inch is recommended, and inoculation of the seeds with proper bacteria is also recommended.

Cowpeas

Cowpeas are annual legumes, like soybeans, and produce high protein forage during the warm season. It has been our experience that cowpeas are not often browsed by deer until they reach a certain stage of maturity. However, when this stage



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is reached, deer may direct their attention to these plantings and eliminate them in a matter of a week or so. Obviously, this could defeat the purpose of supplying high-quality forage throughout the summer season. As with soybeans, there are many varieties of cowpeas. We have used Iron-clay mostly, but Catjang, Wilcox and Tory are also good varieties.

Recommended planting dates range from about May 1 to July 1. Soil tests should be conducted for proper liming and fertilization rates. Usually, 100 pounds per acre of 0-20-20 fertilizer is adequate. Again, note that this is a nitrogen-free fertilizer, as cowpeas are also nitrogen-fixers, and you do not want to provide competing weeds and grasses with nitrogen. Cowpeas should be broadcast at a rate of 50 to 70 pounds per acre on a firm seedbed and covered to a depth of about one inch. Inoculation is recom-

mended. Temporary electric fencing around the crop may also be required.

American jointvetch (*Aeschynomene*)

American jointvetch is a warm-season tropical legume that is highly palatable to white-tailed deer. American jointvetch plantings can produce large quantities of high-quality forage during summer months. I really like this plant, but like many others it has its drawbacks. Seed cost is high, and successful establishment of jointvetch plots often requires intensive cultivation and herbicide use. Germination and early growth is slow. The stand may fail or, if successful, prove to be quite expensive.

Jointvetch is tolerant of wet soils but is *not* suited to very sandy soils.

Liming and fertilization rates should be determined by soil testing. In the absence of a soil test, 300 pounds per acre of 0-10-20 fertilizer is recommended. Planting dates vary from the first of March to the first of June. Care should be taken to avoid frost, but jointvetch should be planted as early as possible to ensure that the seeds mature before the first frost of the fall season. Jointvetch should be broadcast at about 15 pounds per acre on a well-disked, firm



Clover plantings improve soil and are a favorite food of deer, turkey and quail.

seedbed and lightly covered with a drag or harrow.

Alyceclover

Alyceclover is a good, warm-season clover for deer. This plant grows well under a variety of soil conditions and can withstand moderate drought in the spring or summer. Like other legumes previously discussed, alyceclover is high in protein. It may also withstand heavier grazing than soybeans or cowpeas. Alyceclover must be replanted each year.

Alyceclover plots should be limed and fertilized according to soil tests. Generally, 200 to 300 pounds of 0-17-17 fertilizer per acre is adequate. Alyceclover should be planted between May 1 and July 1 at a broadcast rate of 20 to 25 pounds per acre. It should be planted on a well-prepared seedbed and lightly covered using a drag or harrow. The seed should be inoculated.

Corn

Corn is planted throughout the South for white-tailed deer, and whole kernel corn is an excellent energy source for deer from early fall through winter. In areas where mast producing hardwoods are in short supply, or where there are none at all, corn can be very important to deer for building stores of winter fat. Corn is a high energy food but a food *low* in protein. Corn alone does not come close to satisfying the minimum year-round protein needs of deer for maximum body and antler growth.

Many varieties of field corn are suitable to plant for deer. So again, you should let your particular soil and weather conditions influence this decision and choose a variety suited to your area and type of soil. Corn plots should be soil tested for precise liming and fertilization rates. Usually, 300 to 400 pounds per acre of 17-17-17 fertilizer is adequate at planting. Planting dates ideally are mid-March to mid-April for most varieties. Corn may be broadcast at 12 to 15 pounds per acre and covered about one inch. Better results are obtained, however, by planting in rows 36 inches apart and cultivating the rows for weed and grass control. This also allows for side-dressing with ammonium nitrate when the corn plants are about knee-high. Side-dressing is done by dropping a line of ammonium nitrate about the diameter of a pencil along the entire corn row.

An excellent companion crop to plant with corn is velvet beans. The beans are planted among the corn stalks or rows and the bean vines will climb up the corn stalks as they grow. The combination of corn and velvet beans results in a high-quality summer forage from the beans while the high-energy corn seeds are being produced for the fall and winter. The corn stalks provide protection for the young bean plants and also provide a means for the terminal buds to grow out of reach of browsing deer.

Because of reduced production, velvet beans have been in short supply recently and have become quite expensive as a consequence. Still, corn and velvet beans are a really good combination summer and fall deer forage and seed crop.

Obviously, many warm-season crops are available as deer plantings, but of the legumes, the bean family and clovers remain the best because of their protein and energy content. The crops discussed here are some that I have personally used with varying success in the past. Currently, I plan to devote more attention to the corn/velvet bean combination on my personal property.

Whatever one may choose to plant as a deer nutritional supplement in the warm season in the South, be prepared to be completely engaged in the many requirements that go into the making of a successful crop. It can be challenging, but the results can also bring unequalled rewards.

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