Food Plots for White-tailed Deer

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INTRODUCTION

Planting food plots for wildlife has long been used by landowners in Texas as a means to supplement the diets of wildlife during times of stress or during periods of the year when nutritious native forage may be deficient or lacking in the environment. They are also used to concentrate wildlife species such as white-tailed deer or turkeys for hunting or viewing. There are many misconceptions about food plots and their role in wildlife and habitat management. Food plots should never be planted as a substitute for native forage or to artificially increase populations of wildlife above the carrying capacity of the land. Planting food plots will not make up for improper range management, overgrazing by livestock, excessive stocking rates, low reproduction, or poor native habitat for white-tailed deer.

Annual food plots are expensive to develop and maintain and require a long-term commitment on the part of the landowner. Will the economic investment in materials, equipment, seeds, fuel, and labor translate into a significant measurable return? To what extent will the overall health of your white-tailed deer population, the size of individual animals, antler development, or improved habitability of the land for deer result? Landowners must weigh these and other considerations before undertaking development and planting of food plots for white-tailed deer. Once the decision has been made by a landowner to develop food plots, a comprehensive plan must be developed to address long-term goals and objectives. Food plots that are poorly planned, incorrectly planted or located in the wrong place will ultimately fail. The following guidelines are presented to assist landowners who want to plant food plots for white-tailed deer with information about why, what, when, where, and how to plant them.

White-tailed Deer Habitat: White-tailed deer habitat in Texas is varied. Deer occur in riparian bottomland hardwoods, wooded uplands, prairies, and wetlands. Their primary food is forbs (weeds/broadleaf herbaceous plants) that supply higher levels of digestible protein. When forbs are not available, deer rely on the leaves and twigs of browse (woody) plants. Green forage during the winter period is available primarily from winter forbs, winter grasses, and small grain crops. Winter browse for white-tailed deer is critical. Mast (acorns, pecans, etc.) is also an important dietary component during the fall and winter. Browse during the spring and early summer is more abundant and digestible than at other times of the year. Extremes in temperatures and unpredictable rainfall patterns often result in extended periods of drought, cold winters and/or hot summers. These periods of extremes may result in short supplies of forage during the spring and late summer-early fall period. To be effective, food plots should target these stress periods of the year.

Deer often adopt food sources within their home ranges that are planted as cultivated crops. Crops such as peanuts, wheat, oats, milo, sorghum, truck crops (fruit, watermelons, cantaloupes, peas, etc.) and vegetable gardens receive use when available. Multiple use of these croplands by domestic livestock and wildlife is often compatible. Heavy use, on the other hand, may result in severe depredation by wildlife and become unacceptable to landowners.

Why plant food plots for deer? Planting food plots specifically for white-tailed deer in Texas is an increasing practice today for many landowners and land managers. Food plots should be considered only as a "hedge" against the climatic extremes and their effect on native plants. White-tailed deer are selective feeders, preferring highly digestible foods. Deer feed within their home range and select specific plants that are palatable and highly nutritious. Deer will typically eat certain preferred native plants when they are available, even if food plots are present. Plant composition in their diet changes throughout the year depending on availability, stage of growth, palatability, and distribution. Deer in Texas will benefit most from food plots during the spring and fall when their nutritional requirements are greatest. Food intake for deer increases during these times of the year as bucks are growing antlers and accumulating fat for the winter, does are nursing and weaning their young, and fawns are shifting their diet from milk to solid foods. If deer become totally dependent on food plots or supplemental feeding, serious problems are occurring in the habitat and deer or livestock numbers should be reduced.

Where deer are confined on high-fenced ranches, development of food plots should be strongly considered. In most cases, deer density levels will exceed the carrying capacity for the native range. Food plots will receive heavy use and will help provide nutritious forage throughout the year. Deer numbers should be reduced through a program of proper harvest management, or native habitat degradation will occur.

What should I plant in a deer food plot in Texas? Food plot plantings can be divided into several categories including warm season, cool season, annual or perennial plants, with each having different growth periods, management requirements, or nutritional benefits for whitetailed
deer. Food plots must be designated as either warm season or cool season. A complete food plot program should have plots designated for both seasons of the year. Many of the cultivated **annual cool season forage plants** or grasses such as **oats, wheat, rye, and ryegrass** may be planted in **cool season food plots** for deer for availability during the late fall to early spring period. Crude protein content ranges from 15-20%. Studies have indicated that deer may consume oats more readily during the early winter and shift their preference to wheat later in the winter. Planting of both oats and wheat may be more beneficial than selecting one over the other. Most varieties of oats are not as cold tolerant as some varieties of winter wheat.

As wheat and oat food plots mature during March and April, plants will receive limited grazing use by white-tailed deer. Other wildlife species such as turkey, quail, doves, songbirds, and small mammals will continue to feed on seeds that fall to the ground. Mature stands of wheat or oats may be lightly disked back into the soil to a depth of 1-1 1/2 inches following a good rainfall event during May or June for additional short-term grazing by white-tailed deer. Under good moist soil conditions, an additional month of grazing can be obtained from wheat or oat food plots before high summer temperatures kill these cool season plants.

Cool season varieties of clover and vetch (legumes) such as Yuchi arrowleaf clover, Cherokee red clover, armadillo clover, subterranean clover, hairy vetch, and Austrian winterpeas are also used by white-tailed deer. Legumes must be inoculated for good nodulation of plant roots and proper nitrogen fixation. With proper cultivation and management, many of these varieties are

reseeding and can be managed for crops for several years without replanting. Consult with your county extension agent for varieties suited to your area and soil type. They have often conducted "trials" on new varieties. Late summer mowing and light cultivation of food plots planted to reseeding annuals will help increase soil contact by seeds and improve stands. Where possible, plant a variety of these forage plants in the same or separate food plots to extend use by deer and other wildlife species. Some landowners are also beginning to experiment with plantings such turnips and beets as winter forage for deer. The key is to experiment to maximize forage production with a variety of food plot items.

Warm season annuals such as millets, milo and other sorghum varieties, and legumes (beans, cow pea varieties, black-eyed peas, singletary peas, Catjung peas, soybeans, and lablab) may be planted after the danger of frost passes to **warm season food plots.** Varieties of dry land alfalfa, a warm season perennial legume (comes back from the roots each year) or other grazing type varieties of alfalfa may also be planted. Legumes have 20-30% protein content and fix nitrogen into the soil. Planting a variety of these forages will increase the success of a food plot program. A combination planting of 2/3 legumes and 1/3 grain sorghum is recommended for most warm season food plots.

Food plots may also be planted to **native perennial forb** species. Illinois bundleflower, Maximillian sunflower, bushsunflower, and Engelmanndaisy are eaten by white-tailed deer. These deep-rooted native plants are adapted to relatively low rainfall and a variety of soil types found in Texas. Combination plantings of these native perennial forbs is recommended. Engelmanndaisy is a cool season plant that should be planted in late summer or early fall. It can also be interseeded into an existing stand using a no-till drill. To plant Illinois bundleflower, Maximillian sunflower, and bushsunflower, begin seedbed preparation the summer and fall prior to a scheduled spring planting. Literature is available from the Natural Resources Conservation Service on how to establish and manage these native perennial forbs. These and many other native plant seeds are now available from commercial seed companies. There are now several varieties of bundleflower showing great promise in field trials. Contact Texas Cooperative Extension for more information.

When do I plant food plots for white-tailed deer in Texas? Warm season planting of sorghum and legumes should be done in the early spring when soil temperatures rise and seeds will germinate. The danger of a freeze should have passed prior to planting. Planning for soil preparation activities well in advance of anticipated planting dates is a must for successful food plots. When possible, warm season food plots should be **cultivated during late summer or early fall of the year prior to planting** by deep double disking. Some varieties of peas can be planted into early summer if soil moisture is adequate for germination and plant growth. Fall planting of **cool season** annuals should be conducted during late September and October when soil moisture is adequate and before soil temperatures begin to drop. Specific planting date information for selected forage plantings and locally adapted varieties is also available from seed dealers, Texas Cooperative Extension agents, or the Natural Resources Conservation Service (NRCS).

Where should food plots be located and how many do I need? Food plots should be located near cover used by deer. Deer prefer to feed in areas where escape from predators or other

disturbances can be achieved quickly. Placement of food plots should take into consideration the location of dense brush or other escape cover, the terrain or topographic features on the land, drainages or water courses, the distance from property lines, and the location of soil suitable for cultivation. First, look for any existing or previously cultivated fields for food plot development. Clearing new locations for food plots is expensive and may be cost prohibitive. Food plots should ideally be long and narrow. Larger food plots may be irregular or kidney shaped with some brushy cover. It may also be desirable to provide a small watering device within the brushy cover.

Knowledge of soil types is necessary in locating sites for food plots. Soils must be capable of growing plants you select for planting. Local soil map books are available from the Natural Resources Conservation Service to assist you in selecting good soil types for planting food plots. Be sure the crops you plant are compatible with the soil properties of pH, drainage, texture, permeability, available water capacity, and depth. Avoid cultivation of soils on slopes or those prone to water and wind erosion. Food plots should be located in areas accessible to the highest density of deer on the property. Well traveled deer trails, watering areas, and other high deer use areas will give you a clue about where to locate a food plot. Food plots located near surface water sources such as creeks, rivers, ponds and stock watering tanks may increase visitations by deer. Placement of food plots near the center of your property may influence seasonal movements of deer during the stress periods of the year. Studies indicate that deer regularly travel a half-mile to visit food plots. One set of food plots per section (640 acres) should be sufficient.

The number and size of deer food plots planted depends on the size of the ranch, habitat type, deer density, capital investments and equipment, and your overall goals and objectives for habitat enhancement. Food plots smaller than 5 acres may be over-utilized by moderate to high deer populations. Therefore it is recommended that a food plot be a minimum of 5 acres. Food plot acreage may range up to 10% of the total ranch acreage, but one to five percent is usually sufficient. Separate cool and warm season food plots should be established. Warm season food plots should be larger than cool season plots. Where deer densities are high, larger food plots may be required to provide enough forage for deer and in an amount sufficient to do them any good. A number of smaller plots distributed over a greater area may be desirable, but increased costs for fencing, plowing, and planting may result. Deer may also devastate small food plots during early growth stages of plants. Fencing sufficient to exclude deer during this time is often necessary to allow for initial establishment and growth. Livestock should be excluded. Deer can easily access food plots fenced with standard livestock fencing materials. Net wire fencing may exclude fawns and should be avoided. The bottom strand of barbed wire should be 18 inches off the ground. The top two strands should be at least one foot apart.

Where feral hogs are present, it may be necessary to exclude them by using heavy-gauge cattle panels or high-voltage wires on the lower portion of fences around food plots. Hogs can also be trapped, hunted, or otherwise dispatched to reduce damage to food plot plantings.

Cool season annuals (wheat, oats, rye, etc.) can also be overseeded during the late fall into tame pastures containing species such as coastal bermudagrass by using a minimum-tillage drill and proper fertilization. This practice can be used in pastures where early haying is not likely or in

those used strictly for grazing by livestock. Overseeding may reduce initial growth of tame grasses during the early spring. Grazing by livestock on overseeded pastures may also limit growth of winter annuals for use by wildlife. Adequate fencing to exclude livestock is required. Another option is to overseed strips of winter annuals adjacent to field border edges or brush lines. Deer and other wildlife species often feed near escape cover and along these "edges" within their home ranges.

How do I plant a deer food plot? Planting successful deer food plots requires using the right equipment, properly preparing the seed bed, controlling weeds, and getting a rain when you need it. The best source of information about how to plant can be obtained from local farmers and ranchers who have experience in crop production in your area. An understanding of the principals of dry land farming is imperative. Farming procedure information is also available from the NRCS and Texas Cooperative Extension.

There is no substitute for a good seedbed. The soil seedbed should be well cultivated, weed free, firm, moist, and fertilized. An initial deep plowing is recommended on land not formerly cultivated or that have been out of cultivation for an extended period of time. A soil test should be made prior to planting a food plot to determine the amount of fertilizer or other additives needed in the soil. Fertilizer improves palatability of plants and improves the odds that a good stand of your plantings will be established. Seeds should be planted at the proper depth according to planting specifications and with the proper equipment. Most food plots can be planted with seed drills or broadcast spreaders. Broadcast plantings should be followed by a roller or drag to insure contact with the soil to improve germination. Row or skip-row crop planting techniques should be used for some crops such as sorghum or lablab to allow for cultivation and weed control. Small seeds such as legumes and ryegrass should be planted no more than 1/4 to 1/2 inch deep. Larger seeds such as wheat, oats, peas, or beans are planted at 1 to 1 1/2 inch depths. Use of pre-emergent herbicides and cultivation may be required to get a good stand on some forage plantings.

Warm season food plots should be double-disked during the **late summer and early fall of the year prior to spring planting.** Lightly disk the food plot again 30-45 days prior to planting 1 to 1 1/2 inches deep to reduce weed growth and help accumulate soil moisture. A final light disking 1 - 1 1/2 inches deep just prior to planting will complete soil preparation.

Cool season food plots should be lightly disked 1 to 1 1/2 inches deep 30-45 days prior to a late summer or early fall planting date. Disk lightly again 1 to 1 1/2 inches deep just prior to planting.

Where can I get seeds for white-tailed deer food plots? Most of the forage crop seeds such as legumes, sorghum, clovers, and vetch are available form local seed dealers, farm and ranch stores, or feed stores located throughout the region. In the planning process, locate seed sources well in advance and shop around for the best price, seasonal availability, and quantities you require. Check seed bag tags for seed germination tests and the percent of pure live seed. Use locally adapted varieties, and where possible, obtain seeds produced in or close to the area where they will be planted. Costs of these varieties may be considerably lower than those magic seeds you read about in the magazines. Seeds produced in other states or from great distances away

may not perform as well, regardless of advertising to the contrary. Check with the Natural Resources Conservation Service, Texas Cooperative Extension, or Texas Parks and Wildlife Department for the name and location of local seed dealers.

Deer Food Plots and Other Wildlife: Food plots planted specifically for white-tailed deer will also benefit other wildlife species in Texas. Rio Grande turkeys will graze winter wheat during the winter months and eat seed heads of mature plants in the spring. Turkey, bobwhite quail, mourning doves, songbirds, small mammals, and a variety of other wildlife species also eat seeds from warm and cool season plantings. Large food plots may also provide short term grazing for livestock.

CONCLUSION

Planting food plots for white-tailed deer or any wildlife species is not a solution for deficiencies in the habitat or improper land management practices. In some cases, only marginal returns can be expected. In Texas, food plots for white-tailed deer may provide nutritious forage during short periods of the year when climatic extremes occur. Lack of timely rainfall or adequate soil moisture may influence establishment of annual white-tailed deer food plots. If food plots are planted, both cool and warm season plots should be developed. Planting native perennial forbs may be more cost effective over the long term. Proper planning and soil preparation is necessary to successfully grow food plots. Food plots should be located near cover and in areas frequently used by deer on good soil-type sites not subject to erosion. Fertilization increases palatability for plants. Overseeding tame pastures during the fall can provide forage for wildlife with minimum soil cultivation. Always use recommended equipment, seeding rates, and planting depth instructions for selected plantings. Then, pray for rain!