

# Plant Materials for Wildlife

## A Resource Guide

Detailed information  
on plant materials for  
Wildlife Habitat Improvement





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This resource guide is intended to be used by NRCS Field Offices to supplement the field office technical guide (FOTG) regarding plants that are suitable for wildlife. It was extremely difficult to develop this information to be a valuable resource for the entire region. It will be necessary to tailor this information to fit the needs in each state. Therefore, it is recommended that the user(s) refer to the Field Office Technical Guides in their state for more specific details. In addition, this information is provided on a diskette for the state specialists to customize, simply by adding plant materials that are adapted and recommended for improving wildlife habitat in their state. Users can also contact the state resource specialist (i.e. biologist, Plant Materials Center personnel, plant materials specialist). It is also available on the Jimmy Carter Plant Materials Center homepage at [www.ga.nrcs.usda.gov/technical/pmc/pmc.html](http://www.ga.nrcs.usda.gov/technical/pmc/pmc.html).

The NRCS Plant Materials Centers and Plant Materials Specialists in the Southeast Region have prepared a description of plant materials that should be considered for wildlife habitat. The plant materials technology includes information on native and introduced grasses, legumes, trees, shrubs and vines that are recommended for improving wildlife habitat.



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This resource guide serves as a tool for selecting plant materials for wildlife. The guide is a description of plant materials that should be considered for improving or creating wildlife habitat. The plant materials technology includes information on native and introduced grasses, legumes, trees, shrubs and vines that are recommended wildlife. The guidelines in this document are to be used by NRCS Field Offices to supplement the field office technical guide (FOTG) regarding plants that are suitable for wildlife habitat. This guide is an evolving document that will be updated as new information is available and as new plant materials are developed and tested.

The resource guide is divided into five sections. The first section is quick pick for wildlife, the second is a description of native warm season grasses, third, using native warm season grasses, fourth, planting guide for wildlife and last, the plant adaptation map.

**Rev. 1 March 2006**

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## ***INTRODUCTION***

The NRCS Plant Materials Centers and Plant Materials Specialists in the Southeast Region have prepared a description of plant materials that should be considered for improving or creating wildlife habitat. The plant materials technology includes information on native and introduced grasses, legumes, trees, shrubs and vines that are recommended wildlife.

This information is intended to be used by NRCS Field Offices to supplement the field office technical guide (FOTG) regarding plants that are suitable for wildlife habitat. It was extremely difficult to develop this information to be a valuable resource for the entire region. It will be necessary to tailor this information to fit the needs in each state. Therefore, it is recommended that the user(s) refer to the Field Office Technical Guides in their state for more specific details. In addition, this information is provided on a diskette for the state specialists to customize, simply by adding plant materials that are adapted and recommended for improving wildlife habitat in their state. Users can also contact the state resource specialist (i.e. biologist, Plant Materials Center personnel, plant materials specialist). It is also available on the Jimmy Carter Plant Materials Center homepage at [www.ga.nrcs.usda.gov/technical/pmc/pmc.html](http://www.ga.nrcs.usda.gov/technical/pmc/pmc.html).

**QUICK PICK FOR WILDLIFE**

PLANT MATERIALS	USE
<b>GRASSES</b>	
Maidencane (Halifax)	Duck, Geese
Marshhay Cordgrass	Quail, Turkey
Brown top Millet	Songbirds, Quail, Dove, Duck, Deer
Dove Proso Millet	Songbirds, Quail, Dove, Duck
Switchgrass	Quail (Cover and Nesting Areas) and food
Eastern Gamagrass	Quail (Cover), Turkey
Big Bluestem	Quail (Cover and Nesting Areas)
Yellow Indiangrass	Quail (Cover and Nesting Areas)
Little Bluestem	Rabbit, Quail and Turkey (cover)
Virginia Wildrye	Deer, Quail, Turkey (cover, escape and food)
Rye, Wheat, Oats	Quail, Dove, Turkey, Deer, Rabbit
Japanese Millet	Duck, All birds
Grain Sorghum	Quail, Turkey, Songbirds
Brown top millet	Quail, Deer, Duck
Sesame	Quail, Songbirds, Dove
Corn	Deer, Turkey, Quail, Dove
Coastal panicgrass	Dove, Quail
Chufa	Deer, Turkey, Hogs, Rabbit
Egyptian Wheat	Songbirds, Quail
Pensacola or Tifton 9 Bahiagrass	Quail, Turkey
<b>LEGUMES</b>	
Aeschynomene	Deer, Duck, Quail, Dove
Alfagraze Alfalfa	Deer, Rabbit, Turkey
Buckwheat	Quail, Pheasant, Dove, Turkey, Duck, Deer
Alyce Clover	Deer, Turkey, Rabbit
Bigbee Berseem Clover	Deer, Turkey, Rabbit
Cherokee Red Clover	Deer, Turkey, Rabbit
Osceola Ladino Clover	Deer, Turkey, Rabbit
Redland II Red Clover	Deer, Turkey, Rabbit
Regal Ladino Clover	Deer, Turkey, Rabbit
White Clover	Deer, Turkey, Rabbit
Durana Clover	Deer, Turkey, Rabbit
Patriot Clover	Deer, Turkey, Rabbit
Birdsfoot Trefoil	Quail, Dove, Duck, Rabbit, Deer
Yuchi Arrowleaf Clover	Deer, Turkey, Rabbit
Apache Arrowleaf Clover	Deer, Turkey, Rabbit
Burclover	Quail, Turkey
Korean Lespedeza	Songbirds, Quail
Partridge Pea (Lark Selection)	Quail, Turkey, Songbirds
Hopefield selection trailing wild bean	Quail, Turkey, Songbirds
'Lathco' Flatpea	Quail, Pigeon, Dove, Grouse, Turkey, Pheasant, Deer,
Button Clover	Quail, Turkey, Deer
'Au Ground Cover' Caley Pea	Deer
Kobe Lespedeza	Songbirds, Quail
Perennial Peanut	Deer, Turkey, Rabbit
Quail haven reseeding soybeans	Quail
White Sweetclover	Quail, Dove, Mallard duck
Sunflower (common Aztec)	Quail, Dove

*Plant Materials for Wildlife*

Beggerweed or Tickclover	Quail, Turkey, Deer
Common Ragweed	Quail Turkey
Subterranean clover	Quail, Turkey, Deer
Iron Clay Pea	Deer, Turkey, Quail, Songbirds
Annual Lespedeza	Quail
Hairy Vetch, Common	Turkey, Quail
Common Ragweed	Quail, Turkey
Beggerweed or Tickclover	Quail, Deer
'Quail Haven' Soybean	Quail
Velvetbean	Deer
Austrian Winter Pea	Quail, Deer
Butterfly Pea	Quail
Hairy Lespedeza	Quail
Slender Lespedeza	Quail
Thin Pod Wild Indigo	Quail
Rabbit Bells	Quail
Scurfpea	Quail
<b>TREES</b>	
Black Locust	Deer, Quail, Turkey
Honey Locust	Deer
Chestnut	Deer, Turkey
Oak ('Gobbler' Sawtooth, Dwarf Live, Running,	Squirrel, Deer, Turkey, Quail
Hickory (Bitternut, Mockernut, Shagbark, Pignut)	Squirrel, Deer, Turkey, Quail
Black gum	Turkey, Quail, Songbirds
Dunstan/Douglas Chestnut	Deer, Squirrel, Turkey
Chinese Chestnut	Deer, Squirrel
Hackberry	Turkey, Songbirds, Quail
Blackgum	Turkey, Wood ducks
Big O Crabapple	Deer, Small mammals
Wild Pear	Deer, Turkey
Wild Persimmon	Deer
Plums	Quail, Turkey, Deer
Eastern Red Cedar	Cover, Hedgerow, Blackland Prairie only
Hawthorne	Turkey, Quail, Songbirds
Black Cherry	Quail, Songbirds
Huckleberry	Quail, Deer, Songbirds
Red Mulberry	Songbirds, Quail, Deer, Squirrel
Flowering Dogwood	Songbirds, Deer, Squirrel, Turkey
Sweetgum	Songbirds, Quail
American Beech	Squirrel
Sugarberry	Quail
<b>SHRUBS</b>	
Sesbania	Ducks, Quail, Game Birds
Mayhaw	Waterfowl, Turkey, Quail, Songbirds
Wax Myrtle	Quail, Turkey, Songbirds
Allegheny Chinkapin	Deer, Squirrel, Turkey
Sand Pear	Deer
<b>HERBS</b>	
Benne or Sesame	Quail, Game Birds, Doves
<b>VINES</b>	
Wild Grapes	Songbirds, Quail, Turkey, Deer
Virginia Creeper	Quail, Turkey, Songbirds
Green Brier	Deer, Quail, Turkey



## **NATIVE WARM-SEASON GRASSES**

### **Big Bluestem - *Andropogon gerardii***

Big bluestem is a warm season, rhizomatous, perennial bunch grass 4 to 6 feet tall. Leaf blades are long and flat. Seedheads consist of 2 to 3 distinct racemes on top of the stem and resemble the toes of a turkey's foot which suggests another common name, turkeyfootgrass. Livestock prefer it to most associated grasses during early stages of growth. The large amount of top growth makes it ideal as a cover and nesting areas for small game and birds. Recommended varieties are 'Kaw' and 'Rountree'.

### **Coastal Panicgrass - *Panicum amarum* or *amarulum***

Coastal panicgrass is a warm season grass that is rhizomatous, perennial and salt spray tolerant. It has numerous medium textured, erect stems 3 to 7 feet in height. Foliage is primarily green but it will have a bluish color on the leaves that will be 3/4 to 1 inch wide and 12 to 20 inches in length. Fair quantities of firm, good seed are produced and are eagerly sought by doves and quail. The somewhat open nature of the foliage lends itself to nesting cover for some bird species. Recommended variety is 'Atlantic'.



### **Eastern Gamagrass - *Tripsacum dactyloides***

Eastern gamagrass is a robust warm-season rhizomatous perennial grass that grows from 5 to 9 feet in height. Leaf blades are flat, 12 to 24 inches long and 3/8 to 1/2 wide, and have a pronounced midrib. The robust vegetation makes a very good habitat for several wildlife species. Recommended varieties are 'Pete' and 'Iuka'.



### **Little Bluestem - *Schizachyrium scoparium***

Little bluestem is a warm season bunch grass that is perennial and grows between 2 and 4 feet in height. Leaf blades are flat and are from 6 to 10 inches long and 1/8 to 1/4 inch wide. It is an important forage grass that is grazed readily by livestock and deer. Small game such as rabbit and quail can be found in stands of this grass. This grass is sometimes misidentified as broomsedge (*Andropogon virginicus*). Recommended variety is 'Cimarron'.

### **Maidencane - *Panicum hemitomon***

Maidencane is a rhizomatous, perennial, warm season grass that grows 2 to 6 feet tall. Leaf blades are 8 to 12 inches long and approximately 1/2 inch wide. Rhizomes are thick, 1/8 to 1/4 inch in diameter. Deer will eat the foliage especially in the early spring when it is just emerging and is tender. The thickness of the vegetative top growth makes it a very good escape cover for small game animals. Livestock will readily graze the plant when they have access to it. Recommended variety is 'Halifax'.

**Marshhay Cordgrass - *Spartina patens***

Marshhay cordgrass is a rhizomatous perennial, warm season grass that is from 1 to 4 feet tall. The leaf blades are long, narrow and usually rolled inward, giving the plant a wiry appearance. Mature plants turn a grayish color. Plants grow best on firm mineral soils and tolerate moderate salinity. Marshhay cordgrass is the most important forage plant on adapted sites. It provides forage for cattle, muskrats, and wild geese. Recommended varieties are 'Flageo', 'Sharp', and 'Avalon'.



**Switchgrass - *Panicum virgatum***

Switchgrass is a warm season, rhizomatous, perennial grass that ranges in height from 3 to 6 feet. It is a bunch grass with flat leaf blades about ½ inch wide and 30 inches in length. It is a good cover plant for birds and some small game. Birds will eat the seeds, which are produced on an open panicle that is about 10 inches long. The following varieties are recommended: 'Alamo', 'Blackwell', 'Cave-In-Rock', 'Kanlow', 'Miami', 'Stuart', 'Wabasso', and 'Shelter' ('Cave-In-Rock' is best for wildlife).

**Virginia Wildrye - *Elymus virginicus***

Virginia Wildrye is a cool season perennial bunch grass that grows from 3 ½ to 4 feet tall. Leaf blades are wide and flat while the leaf sheath is rounded and smooth and almost as long as the internodes. Plants grow principally on moist soils in woodlands and along drainageways that overflow occasionally. It does well on light textured soils that have good internal drainage. Virginia wildrye is readily grazed by all livestock and deer, particularly during fall, winter, and spring.

**Yellow Indiangrass - *Sorghastrum nutans***

Yellow Indiangrass is a rhizomatous, perennial warm season grass. It attains heights of 3 to 7 feet. Flat, narrow (at the base), sometimes hairy, leaf blades are 10 to 24 inches long. It is relished by all livestock and provides high quality forage when green. The seedhead is a panicle of 6 to 12 inches in length with golden bronze to yellow seed. The tall growth and high seed production of this grass make it good for wildlife food and cover. Recommended varieties are 'Lometa', 'Cheyenne', and 'Rumsey'.

## **INTRODUCED GRASSES**

### **'Chapingo' Mexican Teosinte - *Zea mexicana* var. *mays***

'Chapingo' is an annual warm season grass species native to Mexico, and similar to corn in general vegetative appearance. It stands 10 to 15 feet in height, is coarse and branching at base, and has sword shaped (long-pointed) leaf blades. Clusters of slender "ears" (seed pods), containing 3-8 very firm seed, are produced in the upper leaf axils. Shattered seed will voluntarily germinate the following year. The germplasm of this plant was released by the Brooksville, FL Plant Materials Center. Mexican Teosinte provides food and habitat for wildlife such as quail, dove, turkey and deer. The shattered hard seed provides late season food for the wildlife.



*Chufa Planting*

### **Chufa – *Cyperus***

Chufa is a type of giant nutsedge, a variety of yellow nutgrass. It is widely adapted in the South and is easy to grow. It is best suited for use in sandy or loamy soils. Wildlife does not eat chufa leaves, but they relish the nutlets which grow on chufa roots. Chufa is planted primarily for turkeys.



*Chufa Nuts*

### **Corn - *Zea mays***

Maize or Indian corn is an annual, erect plant having a thick stem leaf, 8 to 10 feet tall. Forage digestibility is high. Major uses are silage and grain. Turkey, deer, blackbird, bear, squirrel, and raccoon eat the seeds. Seed are drilled in wide rows at 12 to 20 lb/A in March-May.

### **Egyptian Wheat - *Sorghum bicolor***

Egyptian wheat is a type of grain sorghum. It is not an outstanding grain yielder, but it has loose heads, which allow birds easy access to the grain. Egyptian wheat is an especially good choice for quail. The seed shatter over a fairly long period of time, thus providing an extended period of food availability. Furthermore, the 6 to 10 foot stalks tend to lodge easily, providing cover for quail while they are feeding. This gives the birds a sense of security and protection from avian predators. Deer will not consume large quantities of Egyptian wheat.



### **'Dove' Proso Millet - *Panicum miliaceum***

'Dove' Proso Millet is a quick maturing, summer annual grass. This millet grows up to 4 feet tall and the seed matures in about 90 days from time of planting. 'Dove' proso millet is primarily a dove plant with potential for bob-white quail. It was released by the Jimmy Carter Plant Materials Center and is commercially available.



**Browntop Millet - *Panicum ramosum***

Brown top millet is an extremely valuable plant for doves, quail, or ducks. Timing of planting can be an important consideration with brown top millet because seed mature about 60 days after germination. Brown top is a heavy seed producer. It is used as quail and dove food when planted on upland, or duck food when planted and flooded.

**Grain Sorghum - *Sorghum vulgare***

Grain sorghum is used in wildlife food plots. Most modern sorghum hybrids will provide excellent high energy food for quail and doves. If sorghum is planted over a large area, strips should be mowed for food patches at one-month intervals during fall and winter to give the birds access to the grain. Sorghum is quite sensitive to soil acidity. If the pH is lower than 5.6, lime should be applied and worked into the soil before planting.

**Japanese Millet - *Echinochloa frumentacea***

Japanese millet can be grown for all birds, but it is especially well suited for ducks. It can be grown successfully on well - drained soil in all zones, but it can also tolerate flooded soil as long as part of the plant is protruding from the water. Most varieties mature within 80 to 90 days, but it is possible to use varieties that mature in 120 days.



**'Pensacola' bahiagrass - *Paspalum notatum***

Pensacola bahiagrass was released by the Jimmy Carter Plant Materials Center in Americus, Georgia. It is a perennial warm season grass that is used primarily for pasture, wildlife, hay, and erosion control. The seeds are eaten by turkey.

## **SMALL GRAINS**

**Rye - *Secale cereale***

**Oats - *Avena sativa***

**Wheat - *Triticum aestivum***

Small grains (rye, wheat, and oats) are annual cool season bunchgrasses with shiny, dark green smooth leaves, which grows 2 to 4 feet tall. Rye is more tolerant of soil acidity than wheat or oats. Although varieties differ, oats generally are more cold sensitive than other small grains and can be winter killed some years. Wildlife species such as deer and rabbits will eat the young foliage. Dove, quail and turkey will utilize the seed.

## **HERB**

**Sesame - *Sesamum indicum***

Sesame (Benne) is a tall annual herb, growing from 4 to 6 feet tall. After blooming the seed pods shatter, releasing oily seeds in great quantities. The seeds are eaten by all game birds, especially quail. The seed produced is available in great quantities during September throughout the South. It is a source of food for both game and non-game birds.

## **NATIVE LEGUMES**



***Aeschynomene - Aeschynomene americana***

*Aeschynomene* is also known as American jointvetch or deervetch. It is a reseeding annual legume. Most suitable for moist fertile soil, it is more tolerant of extremely wet conditions than drought. Plants are 3 to 5 feet high when mature and have an extremely high nutritive value. *Aeschynomene* can be planted for deer, ducks, quail, and dove. Suited for deep south.



**Beggarweed or Tickclover - *Desmodium paniculatum***

Beggarweed is an erect, perennial legume. Stems are woody at maturity, but die back to the ground each fall. The seeds are borne on terminal panicles late in the summer. Seed mature in jointed pods in mid-fall. Seed production averages 400 to 600 pounds per acre. The plant is adapted climatically to most of the southeastern states except the high mountains, Lower Peninsula Florida, and the drier regions to the west. It is best suited to moderately fertile soils with good drainage but good water holding capacity. Uses include seed production for quail food and deer browse.

**Hopefield Selection Trailing Wildbean – *Strophostyles helvola***

Hopefield Selection is an annual trailing native legume similar to 'Quail Haven' but is adapted to a wider range of soils and foliage is not as palatable to deer. Hopefield Selection provides a food source for turkey and quail during the winter. It was developed at the Jamie L. Whitten PMC in Coffeeville, Mississippi.



**Partridge Pea - *Cassia fasciculata***

Partridge Pea is an excellent quail food. It is an annual legume and provides cover for quail as well as other small wildlife. Partridge pea produces a large quantity of hard seed, and once a stand has been established in an area there will usually be a good deal of reseeding year after year. The soil must be disturbed in late spring to promote reseeding. The area should be disking or burned in late winter or early spring. Because of its hard, durable seed, partridge pea provides food for quail over a long period of time. Also attracts beneficial insects.

**Lark Selection Partridge Pea - *Chamaecrista fasciculata***

Lark Selection Partridge Pea is an annual native legume that originated from collections made in the Arkansas Delta. Larke Selection's advantage over 'Comanche' partridge pea is later seed maturity. Its seed matures in late summer making it available for quail and turkey over winter. Reseeding is enhanced with a light disking in the spring. It is adapted to a wide range of soils.

## **INTRODUCED LEGUMES**

**LEGUMES SHOULD BE INOCULATED WITH APPROPRIATE INOCULANT AND LIMED TO PH OF 6.0.**

### **'Alfagraze' Alfalfa - *Medicago sativa***

'Alfagraze' is a grazing type alfalfa for the Southeast. It was released by the University of Georgia Agricultural Experiment Stations. Alfalfa is an erect growing perennial legume with many leafy stems growing from large crowns at the soil surface. It can grow to 3 feet tall or more under proper conditions. It has compound leaves with three leaflets. Flowers are normally purple. Alfalfa should be grown in well drained soil. It can tolerate some drought conditions. 'Alfagraze' can provide summer long forage for deer, turkey, and rabbits.

### **Alyce Clover - *Alysicarpus vaginalis***

Alyce clover is a warm season annual legume from the tropics of the old world. It can grow 1 to 2 feet tall. It has unifoliolate leaves and pink flowers. It is adapted to well drained sandy soils. It grows best in the gulf coast area. Alyce clover is slow to establish, however, it is utilized by deer, turkey, and rabbits in late summer and early fall. It is recommended for coastal counties in Georgia, Alabama and Mississippi only.



### **Arrowleaf Clover - *Trifolium vesiculosum***

Arrowleaf clover grows to a height of 24 to 60 inches. Hollow stems are purple and become very hairy and fibrous near maturity. Flowering normally occurs from late May to July. Commercially available varieties are 'Amclo', 'Meechee', and 'Yuchi.'

### **Austrian Winter Pea - *Pisum sativum subsp. arvense***

Austrian winter pea or winter pea is a cool season annual legume. It has glabrous viney stems from 2 to 4 feet long. Blooms are rose to purple colored. It is adapted to well drained loam or sandy loam soil.

### **'AU Ground Cover' Caley Pea - *Lathyrus hirsutus***

'AU Ground Cover' is a cool season annual legume. It was developed by the Jimmy Carter Plant Materials Center and Auburn University. It produces winged viney stems up to 4 or 5 feet long. It has pairs of linear shaped leaves and bluish-purple blooms. Seed pods are rough and hairy. It is normally grown in wet clay soils and loams. It does best in Coastal Plain and Blackbelt regions. Caley pea can be utilized as a food source by wildlife. It can also attract insects, which are subsequently utilized by wild birds.

**Birdsfoot Trefoil - *Lotus corniculatus***

Birdsfoot trefoil is a perennial legume that offers foliage and seed for quail, dove, ducks, rabbits and deer. It will grow under a variety of soil conditions including poorly drained, lowland, or acid sites. It is drought resistant, salt tolerant, and very slow to establish, usually taking a full year. It is not well adapted to the Coastal Plain. Commercially available varieties include 'Georgia One', 'Cascade', 'Mackinaw', and 'Kafo.'

**Button Clover - *Medicago orbicularis***

Button clover is a cool season annual legume. It produces fine stems from 2 to 5 feet long which grow very close to the ground. It has small yellow flowers which develop into a coiled spineless seed pod. Once seeds have matured, button clover will volunteer for several years. Button clover has a wide soil adaptation and can grow on loam or clays in most upland sites. Inoculated seed should be planted at a rate of 15-20 lbs./Ac to a depth of ¼ to ½ inch. Button clover seeds are utilized by wildlife and the plant attracts insects which can be consumed by wild turkey and other birds.

**Burclover - *Medicago polymorpha***

Burclover is a cool season annual legume. Its prostrate stems grow to about 2 feet long. Small yellow flowers develop into spiny burs. Burclover is adapted to the upland soils of the Piedmont and Coastal Plain. Burclover attracts insects, which can be consumed by wild turkey and other birds. Varieties include 'Serena' and 'Circle Valley.'



**Crimson Clover - *Trifolium incarnatum***

Crimson clover is native to southern Europe. It is grown as a winter annual from the Gulf Coast region, except the peninsular of Florida, to as far north as Maryland, southern Ohio, and Illinois. Crimson clover is regarded as one of the most important winter annual legumes for the South.

It will grow under a wide range of climatic and soil conditions and has many uses. Crimson clover is tolerant of medium soil acidity and will thrive on both sandy and clay soils. It will grow on calcareous soils and does not like poor drainage. Commercially available varieties include 'Tibbee', 'Dixie', 'Au Robin', and 'Au Sunrise.'

**Common Vetch - *Vicia sativa***

Common vetch is a cool season annual legume. It has pinnately compound leaves and produces long viney stems. Common vetch usually produces purple or white blooms. It is adapted to upland well drained soils. It does best in lower Coastal Plain areas. Common vetch can be a food source for bobwhite quail, turkey, and rabbit. It also attracts insects, which are subsequently utilized by many types of wildlife. One variety is 'Cahaba White.'





**Hairy Vetch - *Vicia villosa***

Hairy vetch is a cool season annual legume. 'Americus' and 'AU EarlyCover' were released from the Jimmy Carter Plant Materials Center in cooperation with the University of Georgia and Auburn University, respectively. Hairy vetch has pinnately compound leaves and produces viney stems over 4 feet in length. Hairy vetch normally produces a dense cluster of purple blooms. 'Americus' is a late maturing variety while 'AU Early Cover' can bloom 3 weeks before other hairy vetches. The species is adapted to upland well-drained soils. Hairy vetch can provide a food source for bobwhite quail, turkey, and rabbit. It also attracts insects, which are subsequently utilized by songbirds, quail and turkey.

**Annual Lespedeza**

Annual lespedeza includes Korean lespedeza, of which there are several varieties, and striate lespedeza. Korean is best adapted in the upper part of zone 2 and in zone 3, while striate lespedeza is the best choice for the lower part of zone 2 and for most of zone 1. Annual lespedeza is an extremely useful species to plant for quail food.

**Kobe Lespedeza - *Lespedeza striata***

Kobe is an annual warm season legume. Kobe was introduced from Japan in 1919. It branches freely, attaining a height of 1-2 feet, with blue-purple flowers. Kobe has long narrow leaflets. The growth habit of Kobe is more erect than Korean lespedeza. It is larger and coarser than common lespedeza. Kobe is well adapted to upland loams, including sandy loams, and low-lying, more poorly drained soils of the Coastal Plain and Piedmont. In the mountain areas, it is often killed by frost before seeds mature. Kobe can supply cover and food (seed) for bobwhite quail.

**Korean Lespedeza - *Lespedeza stipulacea***

Korean lespedeza is an annual warm season legume. It was brought to America from Korea in 1919. The leaves have three broadly obviate leaflets, and the small flowers are bluish-purple. At maturity the leaves turn forward so the tips of the branches resemble small cones. Korean has broad leaflets and smaller stems and seed than Kobe. The growing habit of Korean is prostrate to erect. Korean varieties often attain more height than Kobe lespedeza. Korean is the earliest maturing annual lespedeza. Korean is mostly adapted to the northern 2/3 of the Southeast. Korean lespedeza can provide food (seed) for turkey and bobwhite quail. Commercial varieties are 'Climax', 'Summitt', 'Yadkin', and 'Rowan.'

**'Lathco' Flatpea - *Lathyrus sylvestris***

'Lathco' was developed by the Big Flats Plant Materials Center, Big Flats, New York. Flatpea closely resembles the perennial sweetpea and is related to the common garden pea. It is a climbing, perennial, warm season herbaceous legume that will attain a height of 6 to 7 feet if support is available. Flatpea is drought tolerant, and does well on low fertility sites. It is not adapted to wet sites. The seed must be inoculated with legume inoculant. 'Lathco' provides good cover for deer and small game species. Quail, pigeons, doves, grouse, pheasant, and turkey are known to utilize the seed. 'Lathco' is adapted to the cooler regions of the area.



**Perennial Peanut - *Arachis glabrata***

Perennial peanut is a perennial warm season legume. It produces leafy foliage from 1 to 2 feet tall. It spreads and propagates by elongated rhizomes. Perennial peanut produces attractive yellow blooms. It grows best on well-drained sandy soils of the lower part of the Coastal Plain. Cold temperatures can destroy the stand. Calcium application may be required for best growth. Deer and other browsers can obtain a high protein feed by foraging perennial peanut. Varieties include 'Arbrook' and 'Arblick.'



**'Quail Haven' reseeded soybean - *Glycine soja***

'Quail Haven' reseeded soybean (*Glycine soja*) is a vining, annual legume that was released by the Jamie L. Whitten Plant Materials Center as a food for upland game birds. It produces an abundance of small seed that are eaten by quail and dove. It has many hard seed that remain on the soil throughout the winter and germinate the following spring. 'Quail Haven' is adapted to the Coastal Plain. **It is not recommended for use in heavy deer areas.**

**'Cherokee' Red Clover - *Trifolium pratense***

'Cherokee' Red Clover is the first clover adapted to the Coastal Plains area of the Southeast. 'Cherokee' provides abundant high quality grazing for deer and rabbits from early spring to early summer.

**Ladino Clover - *Trifolium repens***

Ladino clovers are perennial herbaceous legumes that are selected varieties of white clover. They have good cold tolerance. Ladino clovers requires soil with good water holding capacity, thus performs better than most clovers on wet sites. They can be planted with small grains and other clovers. Varieties adapted to the southeast are 'Osceola' and 'Regal.'

**'Regal' Ladino Clover - *Trifolium repens***

'Regal' has excelled or exceeded all commercial white clover varieties in yield, disease resistance, drought tolerance and longevity. Use 'Regal' for deer and turkey.

**'Osceola' Ladino Clover - *Trifolium repens***

'Osceola' Ladino clover is well suited for small acreages of intensively managed crops. 'Osceola' grows best when planted with small grains or ryegrass, but it can be planted alone. 'Osceola' tolerates sandier soils than other Ladinos. Use 'Osceola' for deer, turkey and quail.

**Subterranean Clover - *Trifolium subterraneum***

Subterranean clover is a cool season annual legume. It is very low growing with procumbent or stoloniferous stems. The leaf pattern is similar to other true clovers. Most subterranean clover varieties are prolific reseeder. The species is adapted to moderately well to well drained upland soils. It does best in the lower Coastal Plain and lower Piedmont areas. The seed should be inoculated with legume inoculant. Subterranean clover can tolerate some shading. It can benefit insects for wildlife utilization. 'Mt. Barker' is adapted to the Southeast. **It is not recommended for wildlife that browses.**

**White Clover - *Trifolium repens***

White clover is a high protein forage and provides palatable, nutritious grazing and is used by deer and other wildlife needing.

**Durana and Patriot White Clover**

These white clovers were developed from local ecotypes in Georgia. They tolerate a lower pH than other white clovers and are more drought resistant. Patriot clover is a cross between Durana and virus-resistant ladino clover. Not recommended on deep sands.

**White Sweetclover - *Melilotus alba***

Sweetclover is a tri-foliolate biennial herbaceous legume. It has white blossoms and grows to 10 feet tall. It is a low seed producer and the seed shatters readily. White sweetclover does best on well drained, deep to moderately deep, fine and medium textured soils. It is drought tolerant. Optimum soil pH is 6.5 to 7.5. Sweetclover seed must be inoculated and scarified before planting. Sweetclover seed is utilized by bobwhite quail, mourning dove, and mallard ducks.

**Velvetbean - *Stizolobium deeringianum***

Velvetbean is a warm season annual legume. It produces viney stems up to 40 feet long. Hairy fruit pods are usually 2 to 6 inches long. It is adapted to sandy soils primarily in the Coastal Plain. Velvetbean is tolerant of soil acidity and low fertility. Velvetbean provides food and cover for wildlife, primarily deer.

## **TREES AND SHRUBS**



### **'Big O' Crabapple - *Malus coronaria***

'Big O' was developed by the Jimmy Carter Plant Materials Center, Americus, Georgia, for wildlife food, cover, windbreaks, screens, hedgerows and aesthetics. Billy Thomlinson, District Conservationist in Rome, Georgia, collected this wild crabapple accession in 1974 from a native wild stand in Floyd County. 'Big O' is a small deciduous tree that grows from 20 to 30 feet tall.

### **Oak - *Quercus spp.***

Oaks are probably the most important and widespread hardwood mast producing trees in the whitetail's range. There are more than 80 species of oaks found in the south. They are divided into two basic groups: red oaks and white oaks. Red oak acorns take two years to mature, while white oak acorns take only a single year. White oak acorns generally have lower tannin content and are more palatable for wildlife. Generally a mix of red and white oaks is more productive than having only one type. Some oaks include running oak, live oak, dwarf live oak, diamond leaf oak, post oak, dwarf post oak, southern red oak, northern red oak, bluff oak, bear oak, burr oak, willow oak, laurel oak, bluejack oak, overcup oak, northern red oak, black oak, turkey oak, and Chapman oak. With the wide selection, you can pick the oak(s) adapted to a particular site.



### **'Gobbler' Sawtooth Oak - *Quercus acutissima***

'Gobbler' sawtooth oak is a large round-headed tree with chestnut like foliage. It produces acorns that are an excellent source of food for wildlife during the fall and winter. The acorns are eaten by squirrels, deer, grouse, bobwhite quail and turkeys. 'Gobbler' was released by the Quicksand, Kentucky Plant Materials Center in Quicksand, KY.

### **Dwarf Live Oak - *Quercus minima***

Dwarf Live Oak is an evergreen shrub forming extensive thickets from 1½ to 12 feet high. It forms a thick, protective cover that is good escape habitat for many birds and small mammals, including bobwhite quail. It produces heavy to light acorn yields at good heights for turkey and white-tailed deer. Plants begin acorn production as early as 4 years of age.

**Over cup Oak –*Quercus lyrata***

A member of the white oak group, overcup oak is usually found in wet swampy areas. Its acorns are food for ducks, deer, turkey, squirrel, and other animals that eat hard mast.

**'Golden' Chinquepin - *Castanea pumila***

'Golden' chinquepin is a small tree with an irregular growth form. It produces nuts that are an excellent source of food for wildlife during fall and winter. The nuts are eaten by squirrel, deer, grouse, bobwhite, and wild turkey. 'Golden' was released by the Quicksand, Kentucky Plant Materials Center.

**Dunstan and Douglas Chestnut - *Castanea dentata x mollissima***

These are 2 of the best crosses between American and Chinese chestnuts that retain most of the growth form and nut sweetness of American chestnut and have the blight resistance of Chinese chestnut. These small trees produce nuts that ripen in September and October and then fall from their burs. The sweet nuts are relished by deer, squirrels, and other wildlife. Trees begin producing nuts at 3 to 5 years of age.

**Chinese Chestnut - *Castanea mollissima***

This deciduous small tree produces large, sweet nuts that ripen in September through October and fall from their spiny burs. The nuts are heavily used by many species of wildlife including white-tailed deer, wild hogs, black bear, and squirrels.

**Allegheny chinkapin - *Castanea pumila***

This is a deciduous large shrub to small tree closely related to the American chestnut. It is susceptible to chestnut blight. The spiny bur opens to drop a sweet nut in September to October. It grows best in well drained, loamy soil in full sun.

**Sand Pear - *Pyrus pyrifolia***

This large shrub to small tree produces small, hard, gritty, sweet pears that are heavily used by white-tailed deer and other wildlife species.



**American Persimmon - *Diospyros virginiana***

This deciduous large tree produces sweet fruit that are relished by white-tailed deer, wild turkey, wild hogs, raccoons, and other wildlife. Persimmons are astringent until they ripen. Persimmon trees are both male and female, therefore, a number of them should be planted within several hundred yards of each other to help ensure future fertilization.

**Mayhaw - *Crataegus aestivalis***

This large shrub to small tree grows in moist areas of the southeastern Coastal Plain. It blooms in early spring and produces red apple like fruit in May. Wild turkey, wood duck, white tailed deer, birds, and small mammals readily eat the fruit.

**Chickasaw Plum - *Prunus angustifolia***

This deciduous shrub grows 5 to 15 feet tall, and spreads by root suckering to form dense thickets that provide escape thickets and loafing cover. It is good for travel corridors and hedges. Plants produce red or yellow, sweet plums in the summer that are used by a number of wildlife species.

**Native Plum – *Prunus spp.***

Deer, turkey and quail eat the fruit of native plums. Plum thickets make excellent escape cover for rabbits, quail and other small animals and also provide nesting habitat for a variety of song birds. Mature height for plum is 16 feet. Fruit bearing age is 3-5 years. Flowers appear in March and April, fruit disperses May through July. Plums prefer open areas in full sun.

**Hackberry - *Celtis laevigata***

This medium sized, deciduous tree produces berries that are used by birds. Quail will eat the seeds once the fruits have fallen to the ground. Fruit is available in the early fall.

**Flowering Dogwood - *Cornus florida***

This is a deciduous, small tree that has attractive white flowers in the spring. It produces red fruits from August to October that are eaten by wild turkey, wood ducks, other birds, and small mammals.

**Blackgum - *Nyssa sylvatica***

Blackgum is a large, deciduous tree that grows on a wide variety of sites. It produces blue fruit in the fall that are attractive to many songbirds, deer, turkey, squirrels and bear. The fruit are used by wild turkey and wood ducks, if trees are planted near water.

**Eastern Red Cedar - *Juniperus virginiana***

This is an evergreen conifer that provides important shelter from wind, rain, and snow storms. The fruit is an important food for birds, including cedar wax wings and American robins. It is recommended for the Blackland Prairie regions for cover for quail, roosting for dove, and thermal cover for deer.

**Black Cherry – *Prunus serotina***

Black cherry is a deciduous tree, with leaves that are 2 to 6 inches long, 1 to 1 ½ inches wide, oval to oblong and pointed at each end, finely toothed on the margins, dark green, smooth, and shiny. The fruit is an important fruit source for many species, especially songbirds. Turkey and quail eat the seeds after the pulp is gone. Fruit is available in mid to late summer.

**American Beech – *Fagus grandifolia***

American beech is shade tolerant, and normal forestry practices to encourage stand health and vigor should be practiced. Beech should be protected from fire because the thin bark and shallow roots make this species susceptible to damage. The nut is an important food source for many species, particularly wild turkeys. Beech is also preferred by black bears, deer, raccoons and squirrels.

**Eastern Redbud** – *Cercis canadensis*

Eastern redbud is a native shrub often planted for ornamental purposes. It produces brilliant pink to purple blooms March through May. Redbud seeds are eaten by quail and a variety of other birds. Deer browse the leaves.

**Longleaf Pine** – *Pinus palustris*

Longleaf pine has the longest needles and largest cones of any Eastern pine. The seed is used by eastern wild turkey, white tailed deer, red cockaded woodpecker, and bobwhite quail.

**Native Pecan** – *Carya illinoensis*

Native pecan is the preferred hard mast species in the hickory group. It is a large tree with upright, vase-shaped crowns when open-grown. Leaves are odd-pinnately compound with generally 7 to 17 leaflets. Leaflets are lanceolate to obovate, with the lower half of the blade generally smaller than the top half of the leaf. Deer, squirrels, and other animals use pecan.

**FORBS**



**'Aztec' Maximilian Sunflower** - *Helianthus maximiliani*

'Aztec' was developed by the Knox City Plant Materials Center, Knox City, TX. 'Aztec' is a warm season native perennial forb from 3 to 9 feet tall with one to several stems. Leaves are alternate, lanceolate in shape and grow to 6 to 11 inches long. Flowers are showy yellow in late summer. It is adapted to most well to moderately well drained upland soils. However, it does not do well in wet sites. 'Aztec' is used for both wildlife food and cover. Several species of birds use the seed for food and the stem growth for cover. Deer and livestock, especially sheep and goats, consume the forage.

**Sunflower** - *Helianthus spp.*

Sunflowers are warm season annual forbs with an extensive taproot. Sunflowers have both opposite and alternate leaf arrangement. Sunflowers can grow to 9 feet tall and produce very large seed heads. They are adapted to most upland soil sites. Fertilization is required for optimum growth of stems and seeds. Sunflower seeds are readily consumed by quail, dove, and other songbirds. Black seeded varieties are best.

## ***USING NATIVE WARM-SEASON GRASSES FOR WILDLIFE HABITAT***

Native grasslands are the most endangered ecosystem in the South. Historically, the region contained vast acreages of native grassland and savannas with scattered trees and shrub cover, which was maintained by fire. Today, that acreage has been replaced with non-native grasses (e.g., tall fescue, orchardgrass and bermuda grass), agricultural crops, forest cover and suburban development. As a result, several wildlife species dependent upon quality early successional habitat have experienced significant declines in population. Native warm season grasses can be used to enhance early successional cover for species such as bobwhite quail, cottontail rabbit, field sparrow, Henslow's sparrow, grasshopper sparrow, indigo bunting, prairie warbler, dickcissel, eastern meadowlark, loggerhead shrike, American kestrel, northern harrier and others.



Fields of native warm season grasses and associated forbs (broadleaf herbaceous plants) are also used by wild turkeys for nesting and brood rearing and by white-tailed deer for bedding and escape cover. Native warm season grasses are established for wildlife primarily because of the structure of cover provided. Suitable cover is more often a limiting factor for species such as quail, rabbits and grassland songbirds than food. Native warm season grasses are not planted as food plots.

### **Importance of open structure**

Because most native warm season grasses grow in “bunches” open space at ground level is available. Open structure at ground level allows mobility for small wildlife (e.g., quail, rabbits, sparrows and young turkeys) through the field. Dense vegetation and thatch build-up (such as that presented by perennial cool-season grasses) inhibits movement and makes finding food (seed and invertebrates) difficult. When these conditions prevail, the number of animals an area can support is reduced, leading to stagnant or declining populations.



Sparse stands of native warm season grasses with an open structure at ground level are obviously attractive for brood rearing, but they are also used for nesting – one bunch of native warm season grasses represents a potential nesting site – if the field has not been burned or disced in the past year. Birds and rabbits use senescent (dead) leaves of previous years' growth to construct and line nests. An attractive characteristic of native warm season grasses is that senescent leaves and stems remain erect into the following growing season. This reduces thatch build-up, provides protective cover through winter and allows birds, such as Henslow's and field sparrows, dickcissels and indigo buntings, to nest above ground amongst the senescent stems the following spring.



**Bobwhite quail nest situated at bottom of broomsedge.**

Although moderately dense stands of native warm season grasses may not be as attractive for brooding, they are used for nesting and escape cover. Obviously, these stands may have more potential as nesting sites than sparse stands, but they also offer more protective cover, especially during winter. Extremely dense stands, however, inhibit movement of some small animals and become less attractive. At this point, management is needed to thin the stand.

### **Importance of forbs and shrubs**

An open structure at ground level also enables the seedbank (seed in the top few inches of soil) to germinate. Arising from the seedbank are plants such as ragweed, blackberry, partridge pea, beggar's-lice, pokeweed, native lespedezas and annual sunflowers. Forb cover is critical in making a field of native warm season grass most attractive to wildlife. These plants provide an excellent canopy of brood rearing cover for quail and wild turkeys; quality forage for deer, rabbits and groundhogs; and later produce seed and soft mast that is an important source of energy through summer and into fall and winter for many wildlife species. Scattered brush and small trees also can make a field of native warm season grasses and associated forbs more attractive to wildlife, particularly bobwhites and several species of songbirds. Bobwhites often use brushy cover as a "covey headquarter" during fall and winter. Indigo buntings, dickcissels, yellow-breasted chats, cardinals, prairie warblers, white-eyed vireos, eastern kingbirds, loggerhead shrikes and others use scattered clumps of shrubs and small trees for perching and nesting. Many of these shrubs and small trees also offer a valuable food source for many birds and mammals. Examples include American crapapple, wild plum, hawthorn, sumac, wild cherry, persimmon, elderberry, hazelnut, witchhazel, dogwoods, Carolina buckthorn and viburnums.



**Forbs (e.g. partridge pea, blackberries) provide excellent brooding cover and a source of seed for bobwhite quail.**

## Winter Cover

Native warm season grasses provide quality cover during winter if the grasses are not previously bushhogged or otherwise destroyed. Fields of native warm season grasses are often magnets for rabbits, over-wintering songbirds and deer. This can be especially critical for small wildlife at a time when quality cover is at a premium. Tall native warm season grasses, such as big bluestem, indiangrass and switchgrass, are especially valuable as their stems “lodge” (remain somewhat upright, leaning against each other), continuing to provide cover even after winter rains, snow and wind. Deer seek out native warm season grass fields on cold, clear days because they can remain hidden in the tall grasses, yet are able to absorb the sun’s warm rays. In low-lying bottomlands that periodically flood in winter, fields of switchgrass (especially the Kanlow variety) can attract large numbers of ducks when shallowly flooded.

## Managing Native Warm Season Grass Fields for Wildlife

A field of native warm season grasses is no better than the techniques (s) used to manage it. If not managed correctly, native warm season grasses can become rank and unattractive to many wildlife species. Management is needed to set back succession and create the vegetative composition and structure desired. An open structure at ground level within a native warm season grass field is determined largely by the density of grass bunches and stand management, especially burning. If the field is not disturbed periodically by prescribed burning or disking, the open structure at ground level will not be beneficial.

## Burning

Prescribed burn reduces litter buildup, sets back succession, increases nutrient availability and stimulates herbaceous growth. Fields are most often burned in late winter, just before spring green-up. This reduces winter cover only for a short time and does not disrupt nesting birds and rabbits. If woody succession is a problem, fields can be burned just after bud break to kill woody competition. Prescribed burn during growing season can be used when native warm season grasses have become too dense and additional forb growth is desired. Burning at this time also reduces woody vegetation, if completed before leaf senescence. Using prescribed burn is efficient, effective, and inexpensive; however, planning and experience are necessary. Burning is controlled and objectives are met only when conducted under the appropriate conditions.

Prescribed burn is contained by creating firebreaks (disked strips 10-30 feet wide) around the area to be burned. Firebreaks should be planted for increased food resources around native warm season grass fields. By planting various mixtures in different sections of the firebreak, a supplemental food source is available year-round.



**Burning is strongly recommended to manage fields of native warm season grasses. These pictures show the burn in progress and the site two weeks after burn.**

## Seed quality and estimating PLS

Buying quality seed is an important consideration when establishing native warm season grasses. Seed purity commonly runs 50-70 percent because of an inordinate amount of inert material (stems, leaves and other debris) and the germination rate may be only 50-60 percent. Therefore, it is critical to plant according to percentage of pure live seed (PLS) which is determined from information on the seed tag.

PLS is calculated as follows:

Seed: Indiangrass (Osage)

Pure seed: 67.62%

Other crop: 0.05%

Weed Seed: 0.42%

Inert: 26.23%

Origin: MISSOURI

Germination: 64.00%

Firm/Dormant: 22.00%

Total Germination: 86.00%

Noxious Weeds: NONE

Test date: 28 December 2003

[67.62% (pure seed)  86.00% (total germination)]  100=58.15% PLS. To plant 6 lbs. PLS per acre [6 lbs (desired rate)  58.15 (PLS)  100 = 10.32. Therefore, approximately 10 lbs of bulk material from the seed bag should be planted.

## Seed dormancy

Switchgrass and eastern gamagrass tend to have a high dormancy rate. Germination can be improved by treating the seed. Switchgrass seed can be wet-chilled by soaking it in a mesh sack overnight and allowing it to drip-dry the following morning. The seed then should be stored in a cool location (e.g., a cellar or walk-in cooler set at approximately 40-45°F) for at least two weeks. For best germination, remove seed from chill treatment and allow to air dry with a fan blowing over the seed until seed flows freely. Plant immediately. Eastern gamagrass requires a six-week chilling process. The best option for planting eastern gamagrass is to buy cold-stratified seed direct from a seed dealer and plant immediately upon receiving shipment. Eastern gamagrass seed can be purchased pre-chilled.

## Mixtures

Tall mixtures provide cover for groundnesting birds, as well as those that nest above-ground (e.g., dickcissel, field sparrow, Henslow's sparrow and red-winged blackbird). Tall mixtures also provide excellent brood rearing and escape cover. In addition, sufficient structure is present in tall native warm season grass fields for deer to bed during day and excellent cover is available through winter for many wildlife species. Short mixtures provide quality nesting cover for ground-nesting birds and can provide attractive broodrearing cover. Selected forbs should be added to wildlife mixtures to enhance brood habitat, invertebrate availability, seed production, forage and/or aesthetic value.



Planted forbs are intended to complement the forb community that should arise naturally from the seedbank. Forbs most often added to native warm season grass mixtures include partridge pea, Illinois bundleflower, roundhead lespedeza, perennial sunflowers, purple prairieclover, purple coneflower, black-eyed susan, blazing star and lance-leaved coreopsis.

<b>Seeding mixture (lbs PLS per acre)</b>	<b>Objectives &amp; Considerations</b>
<b>Wildlife – tall grass mixture</b> 1.5 lbs big bluestem 1.5 lbs indiagrass 1.0 lb little bluestem 0.5 lb switchgrass 1.0 lb native forbs	Nesting cover Brooding cover Winter cover
<b>Wildlife – short grass mixture</b> 3.0 lbs little bluestem 0.5 lb indiagrass 1.0 lb native forbs	Nesting cover Brooding cover

**Evaluating success what to expect**

Native warm season grasses develop relatively slowly during the year of establishment. Most of the first-year plant growth is root development. Leaf and stem growth may not reach more than 2 feet high by the end of the first growing season. Typically, it is not until the second growing season that most native warm season grasses develop considerable above ground biomass, flower and produce seed. However, if the correct plant procedures are followed and soil moisture is not limiting, excellent growth will occur during the year of establishment, with considerable above ground biomass and extensive flowering.



Native warm season grasses planted for wildlife should be very sparse during the year of establishment. Remember, bare ground space between bunches is desirable. “Weeds” may be numerous and should be expected. Hopefully, most of the “weeds” will be desirable forbs (as described earlier). Landowners planting native warm season grasses should not expect the field to look like a field planted to cool-season grasses. Patience is necessary!



**This is what you are looking for! This is an IUKA eastern gamagrass seedling with its characteristic “corn like” appearance. Note the bare ground and lack of weeds germinating around the seedling. This is what should be expected from a properly applied pre-emergence herbicide.**

## **Planting date and methods**

Native warm season grasses should be planted mid-April through early June. Later plantings can be successful, but germination and growth may be reduced, as rain is less dependable in June and July. Seed may be top sown or drilled, but should not be planted any deeper than ¼ inch. In fact, when drilled, at least one-third of the seed should be obvious on top of the planting furrow. The exception to this rule is eastern gamagrass, which should be planted approximately 1½ inch deep.

## **Seeding rates and mixtures**

Seeding rates depend upon landowner objectives.

If sown for wildlife, a sparse stand of grasses with abundant forbs and adequate bare ground is desired.

If sown for hay or pasture a dense stand without forbs and less bare ground is desired. Thus a relatively light seed rate (4-6 pounds PLS per acre) is recommended when establishing native warm season grasses for wildlife and a heavier seeding rate (8-12 pounds PLS) is recommended when establishing hayfields or pasture.



**This field of ‘Alamo’ switchgrass was planted May 3, 2005. The photo was taken 6 weeks after planting.**

## ***NATIVE GRASS DRILLS***



**Planting with a no-till drill designed for native warm season grass seed is highly recommended. Do not drill seed any deeper than ¼ inch! In fact, as much as 30 percent of the seed should be obvious on top of the planting furrow.**

**Drilling** – For even grass distribution and a continuous, solid stand, native warm season grasses planted for wildlife should be planted with a drill. When planting bluestems or indiagrass, a drill with a specialized seed box containing “picker wheels” is necessary or the fluffy seed of these grasses will lodge in the seed chute. These drills often are available for use through state wildlife agencies, soil conservation districts, the Natural Resources Conservation Service and some local chapters of Quail Unlimited. Switchgrass can be planted with a conventional drill. Any drill, however, must be calibrated before planting. Refer to manual for proper settings to calibrate drill in accordance to manufacturer recommendations. Eastern gamagrass is usually planted with a corn planter in rows 18-24 inches apart, but some producers like to plant rows only 12 inches apart to reduce stool size and make stems more upright so haying is easier. Native grass drills can be used to plant eastern gamagrass.

## ***NATIVE GRASS DRILLS***



**Manually Operated Native Grass Drill**



**Seeder used to plant switchgrass in a small steep area**

### **Manually Operated Broadcast Seeder**

For wildlife food plots, odd areas and small plantings a manual operated broadcast seeder (seed slinger) is available from Truax. The *Seed Slinger* is used for surface application of many types of seed on areas that are too small, too steep, or inaccessible for other types of seeding equipment. The manually operated model is fitted with a hand crank and shoulder strap to carry across the field or small plots.

The *Seed Slinger* is a broadcast seeder developed for surface broadcast application of native prairie grass and forb species as well as some introduced grass and legume species. The *Seed Slinger* seed hopper features two seed compartments. The large compartment is for large fluffy, chaffy seeds such as, big bluestem, little bluestem, and indiangrass. The second smaller compartment is for smaller, hard seed such as switchgrass, alfalfa, clover species, etc.

## **Conclusion**

Native warm season grasses can provide excellent wildlife habitat. Converting perennial cool-season grass acreage to native warm season grasses and establishing field borders around crop fields will help increase wildlife populations dependent upon early successional habitats. Native warm season grasses also can produce high-quality forage for livestock. For producers interested in wildlife, native warm season grasses are a much better alternative than non-native, warm season grasses, such as bermudagrass.

Establishing and managing native warm season grasses is quite different from cool season grasses. However, landowners should not be skeptical. The advantages for wildlife and the quality of forage produced have been proven time and again. For comprehensive and detailed information on plant materials for wildlife, ask for a copy of *Plant Materials for Wildlife*. Contact the USDA-NRCS Jimmy Carter Plant Materials Center located in Americus, Georgia and the NRCS state wildlife biologist.



# **PLANTING GUIDE**

**FOR**

**WILDLIFE  
HABITAT**

## **PLANTING GUIDE FOR WILDLIFE**

NAME	ANIMALS ATTRACTED	TYPE	PLANTING DATE			RATE IN LBS.		DEPTH INCHES
			ZONE 1	ZONE 2	ZONE 3	ACRE	1000 FT	
Aeschynomene or Deer Vetch	Deer, Ducks, Quail, Dove	Annual Legume	March to August	May to June	X	20	1	1/2
Alyce Clover	Deer, Turkey	Annual Legume	May to June	June to July	X	20	1	1/2
Benne or Sesame	Quail, Game Birds, Dove	Annual Herb	March	April	May	6	1	1
Buckwheat	Quail, Dove, Duck, Deer, Turkey	Annual Grass	March	April	May	50	3	1
Chufas	Deer, Turkey	Sedge	March to July	April to June	April to July	20	1-1/2	2
Egyptian Wheat	Quail	Annual grass	March to July	April to July	May to July	10	1/2	1
Kobe Lespedeza	Quail	Annual Legume	March to June	April to June	X	30	1-1/2	1/2
Korean Lespedeza	Quail	Annual Legume	March to June	April to June	April to June	30	1-1/2	1/2
Brown Top Millet	Quail, Dove, Duck, Deer	Annual Grass	Early spring to late summer			10	2	1/2
Dove Proso Millet	Quail, Dove, Duck	Annual Grass	Early spring to late summer			10	2	1/2
Japanese Millet	Quail, Dove, Duck	Annual Grass	Early spring to late summer			10	2	1/2
'Georgia One' Birdsfoot Trefoil	Deer, Turkey, Rabbit, Quail, Dove	Perennial Legume	X	September August 15 Planted in fall grows to spring		8	1/2	1/2
'Alfagraze' Alfalfa	Deer, Turkey, Rabbit	Perennial Legume	October September August Planted in fall grows in spring & summer			10	1	1/4

*Plant Materials for Wildlife*

NAME	ANIMALS ATTRACTED	TYPE	PLANTING DATE			RATE IN LBS.		DEPTH INCHES
			ZONE 1	ZONE 2	ZONE 3	ACRE	1000 FT	
'Bigbee' Berseem Clover	Deer, Turkey, Rabbit	Annual Legume	October	September	August	10	1/2	1/4
'Cherokee' Red Clover	Deer, Turkey, Rabbit	Perennial Legume	October	September	August /February	8	1/4	1/4
Crimson Clover	Deer, Turkey, Rabbit	Annual Legume	October	September	August	10	1	1/4
'Osceola' Ladino Clover	Deer, Turkey, Rabbit	Perennial Legume	October	September	August	5	1/2	1/4
'Regal' Ladino Clover	Deer, Turkey, Rabbit	Perennial Legume	October	September	August	5	1/2	1/4
White Clover	Deer, Turkey, Rabbit	Annual Legume	October	September	August	5	1/2	1/4
Durana White Clover	Deer, Turkey, Rabbit	Annual Legume	October	September	August	3	1/2	1/4
Patriot White Clover	Deer, Turkey, Rabbit	Annual Legume	October	September	August	3	1/2	1/4
'Yuchi' Arrowleaf Clover	Deer, Turkey, Rabbit	Annual Legume	October	September	August	5	1/2	1/4
Apache Arrowleaf Clover	Deer, Turkey, Rabbit	Annual Legume	October	September	August	5	1/2	1/4
Wrenns Abruzzi Rye	Deer, Turkey, Rabbit	Annual Small grain	October	September	August	100	5	1/2
Peas, Combine Peas	Quail, Duck	Annual Legume	March to August	April to July	April to July	40	4	1
Iron Clay Peas	Quail, Deer	Annual Legume	March to September	April to September	April to September	30	3	1
'Lathco' Flat Pea	Quail, Game Birds	Perennial Legume	March	April	April	13	3/4	1/2
Sesbania	Duck, Upland Birds	Annual Legume	March	April	May	10	1-1/2	1/2
Switchgrass* * Plant in combination	Quail (cover & nesting)	Perennial Grass	March to July	February to April	March to May	0.5		very shallow 1/8"
Big Bluestem* * Plant in combination	Quail (cover & nesting)	Perennial Grass	March to July	February to April	March to May	1.5	-	very shallow
Little Bluestem* * Plant in combination	Quail (cover & nesting)	Perennial Grass	March to July	February to April	March to May	1.0	-	very shallow
Eastern Gamagrass	Turkey, Quail (cover)	Perennial Grass	March to July	February to April	March to May	4	-	1/2"

*Plant Materials for Wildlife*

NAME	ANIMALS ATTRACTED	TYPE	PLANTING DATE			RATE IN LBS.		DEPTH INCHES
			ZONE 1	ZONE 2	ZONE 3	ACRE	1000 FT	
Maidencane	Wetland area, escape cover for Duck	(vegetatively propagated) Perennial Grass	March to July Plants or Rhyzomes	February to June Plants or Rhyzomes	March to June Plants or Rhyzomes	10-15,000 acre	-	3-6"
Virginia Wildrye	Upland Game Birds, Deer	Perennial Grass	March to July	February to May September 1 to October 1	March to May	5	-	1/4-1/2
Rye	Small grain	Annual Grass	August 25 to October 1	September 1 to October 15	September 15 to November 1	10-20	-	1-2"
Wheat	Turkey, Dove, Deer, Rabbit, Quail	Annual Grass	August 25 to October 1	September 1 to October 15	September 15 to November 1	1 bu.	-	1-2"
Corn	Turkey, Deer, Bear, Squirrel, Raccoon, Quail	grain crop	April 1 to May 10	May 1 to July 1	May 1 to August 1	Rows: 5	46"	1-2"
'Chapingo' Mexican Teosinte	Deer, Turkey, Quail, Dove	Annual Grass	March to June	March to May	not adapted	5	-	1/4-1/2
Grain Sorghum	Deer, Turkey, Quail	Annual Grass	Early spring to late Summer			3/4-1 bu.	-	-
Sesame	Quail, Turkey, Songbirds	Annual Herb	March	April	May	6	1	1
Perennial Peanut	Deer, Turkey	Perennial Grass	January	January to February	X	60-80 bu	-	2"

**X - Not Adapted or Not Recommend**

**TREES AND SHRUBS, VINES**

NAME	ANIMALS ATTRACTED	TYPE	PLANTING DATE			SPACING FEET
			ZONE 1	ZONE 2	ZONE 3	
Chinquelin Oak	Deer, Turkey, Squirrel	Shrub	January to February	January to March	December to April	20'-50'
Sawtooth Oak	Deer, Turkey, Squirrel	Tree	January to February	January to March	December to April	20'-50'
Wild Pear	Deer, Turkey	Shrub	January to February	January to March	December to April	20'-50'
Wild Persimmon	Deer	Small tree	January to February	January to March	December to April	20'-50'
Wild Plum	Deer, Quail, Turkey	Shrub	January to February	January to March	December to April	10'-20'
Eastern Red Cedar	Deer (thermal cover) Quail (cover) Dove (roosting)	Tree		January to March Blackland Prairie Region Only Hedgerow and cover	-	30'
Hawthorn	Turkey, Quail	Tree	January to February	January to March	December to April	20'-50'
Black Cherry	Songbirds, Quail, Deer, Turkey, Grouse	Tree	January to February	January to March	December to April	30'-50'
Huckleberry	Quail, Deer, Turkey	Tree	January to February	January to March	December to April	30'-50'
Red Mulberry	Songbirds, Quail, Deer, Turkey	Tree	January to February	January to March	December to April	30'-50'
Flowering dogwood	Quail, Turkey, Squirrel	Tree	January to February	January to March	December to April	30'-50'
Sweetgum	Quail	Tree	January to February	January to March	December to April	30'-50'
American Beech	Squirrel, Turkey, Grouse	Tree	January to February	January to March	December to April	30'-50'
Sugarberry	Quail	Tree	January to February	January to March	December to April	30'-50'
'Big O' Crabapple	Deer, Turkey	Small tree	January to February	January to March	December to April	30'-50'
'Gobbler' sawtooth oak	Squirrel, Deer, Turkey	Tree	January to February	January to March	December to April	30'-50'

**X - Do not plant more than 150 trees/acres.**

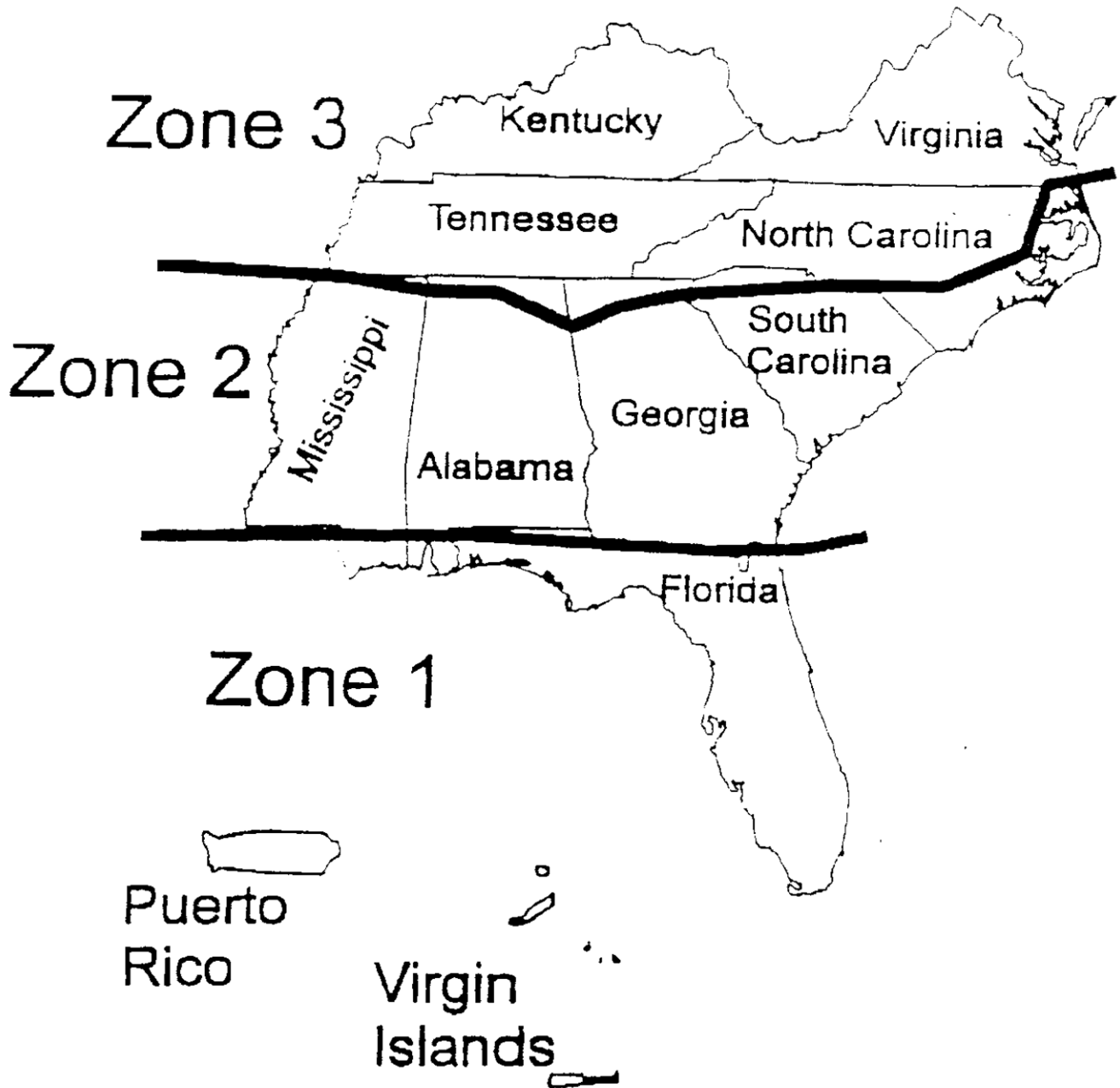
*Plant Materials for Wildlife*

NAME	ANIMALS ATTRACTED	TYPE	PLANTING DATE			SPACING
			ZONE 1	ZONE 2	ZONE 3	FEET
Golden Chinquapin	Squirrel, Deer, Turkey	Small tree	January to February	January to March	December to April	30'-50'
'Edward' Chestnut	Deer, Turkey	Tree	January to February	January to March	December to April	25'-30'
Mayhaws	Turkey, Quail	Shrub	January to February	January to March	December to April	10'-20'
Wax myrtle	Quail, Turkey	Shrub	January to February	January to March	December to April	10'-20'
Black Locust	Quail, Turkey, Deer	Tree	January to February	January to March	December to April	50'
Honey Locust	Deer	Tree	January to February	January to March	December to April	50'
Bitternut Hickory	Squirrel	Tree	January to February	January to March	December to April	50'
Mockernut Hickory	Squirrel	Tree	January to February	January to March	December to April	50'
Shagbark Hickory	Squirrel	Tree	January to February	January to March	December to April	50'
Pignut Hickory	Squirrel	Tree	January to February	January to March	December to April	50'
Blackgum	Turkey, Wood Duck	Tree	January to February	January to March	December to April	50'
Hackberry	Turkey	Tree	January to February	January to March	December to April	50'

**VINES**

NAME	ANIMALS ATTRACTED	TYPE	PLANTING DATE			SPACING
			ZONE 1	ZONE 2	ZONE 3	FEET
Wild grapes	Songbirds, Quail, Turkey, Deer	Vine	January to February	January to March	December to April	2x2'

## **Southeast Region --- Plant Adaptation Map**



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### **Acknowledgements**

Some data for this publication and technical reviews were provided by:  
Ed Hackett, Wildlife Habitat Management Institute, USDA-NRCS, Madison, MS  
Roger Hansard, Plant Materials Specialist, USDA-NRCS, Raleigh, NC  
Malcome Kirkland, Asst. Mgr., Jimmy Carter PMC, USDA-NRCS Americus, GA  
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### **Literature Citation**

Surrency, D. and Charles Owsley, Rev. 1, 2006. Plant Materials for Wildlife. USDA-NRCS, Jimmy Carter Plant Materials Center, Americus, GA.

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**Website**

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