



# Planting Native Grasses for Grazing Systems

Alabama Guide Sheet No. AL512A



## Definition

There are many benefits to using native warm season grasses (NWSG) for forages in Alabama. History has revealed that many areas of Alabama contained NWSG. Studies have shown that these grasses provide high quality feed, produce an abundance of forage, are drought tolerant and can tolerate low fertility levels. In addition they can be useful as a form of conservation cover and are beneficial to many forms of wildlife.

## Establishment

In the past, many have been discouraged from using native warm season grasses because of establishment difficulties. They grow slowly in the seeding year. They emerge in mid to late spring. A commitment to proper planting and management is necessary in order to assure establishment of a native grass stand. Planting is now much easier because of improvements in planting methods and seed treatments.

Seeding rates are provided in this guide sheet for common NWSG used for forage purposes. Refer to Table 1.

Native grass seeding rates are based on pounds of pure live seed (PLS) per acre, not bulk pounds per acre. This is because much of the native grass seed that is available has a highly variable amount of inert matter such as stems, leaves, and awns. Pure live seed is calculated by multiplying seed purity times the percent seed germination. For example, seed with a purity of 65 percent and a germination of 80 percent would yield 52 percent pure live seed per actual pound of seed.

Many native grasses use wind to disperse the seed; therefore, most will have a fluffy awn that aids in dispersal. There are two exceptions. Switchgrass has a small, smooth seed that looks similar to common millets. Eastern gamagrass has a cylindrical seed that is about the size of a corn kernel. In addition, the species that normally have a fluffy seed can be treated to remove

some of the “fluffiness” and make the seed easier to plant. Seed are now commercially available that have the fluffy awn removed. This “debearded” seed is much easier to work with than fluffy seed.

The recommended spring planting dates\* for Alabama are:

North Alabama	April 1 to July 1
Central Alabama	March 15 to July 1
South Alabama	March 15 to July 1

\*Planting should not be done during periods of extended drought. Winter planting of eastern gamagrass can also be done in Alabama. Winter planting should only be done after the first heavy frost of the year. Use seed that are not cold, wet-stratified.

**Site preparation considerations:** NWSG are slow to establish as they develop a root system first before producing much foliage. To aid the establishment of these grasses, control of competing vegetation is imperative. Pre-plant herbicide applications are sometimes necessary to help reduce competition and ensure good survival of native grass plantings. This is particularly true of those areas containing difficult to control grasses, such as cogongrass, Bermuda grass, tall fescue, johnsongrass, dallisgrass, and bahiagrass. Removing existing perennial plants can be expensive. Numerous publications are available that provide site preparation guidance. One such document that is suitable for use in AL is the University of Tennessee publication “Native Warm Season Grasses, Identification, Establishment, Management for Wildlife and Forage Production in the Mid-South” (<http://www.utextension.utk.edu/publications/pbfiles/PB1752.pdf>). Excellent guidance is provided for herbicide use and soil preparation. When herbicides are used, be sure to follow label directions. Use highest labeled herbicide rates for controlling cogongrass and Bermudagrass.

The use of herbicides just prior to or at planting is strongly recommended, even if a site preparation treatment was

made in late summer of the previous year. The use of a labeled, soil-active herbicide will give residual control for an extended period into the growing season. However, not all of the NWSG can tolerate them. Also, foliar-applied herbicides may be needed to control new seedlings emerging from seeds remaining in the soil and reduce plant competition during the early stages of NWSG growth.

**Planting:** Native warm season grasses may be established by preparing a clean, firm, conventional seedbed or by no-till methods of planting. Consider soil moisture conditions before planting.

**Native warm season grass drill with fluffy seed box:**

This type of drill is designed for no-till planting, so soil preparation will be minimal. Burning, grazing or close mowing are the most common methods used to prepare the site.

These drills have been specifically designed to plant fluffy seed. They have special agitators that move fluffy seed into picker wheels which pull the seed into the planter's drop tube.

**Conventional planting method:** Tillage operations typically used for small seeded forages can be used to prepare a clean seedbed. Plant seeds by drilling or uniformly broadcasting on the freshly prepared seedbed. To improve uniformity of seeding with a broadcast spreader, spread the seed in a criss-cross pattern. It is important that the seedbed be firm (not clodded) or the tiny seed may be planted to deep. Loose, uneven, and/or cloddy seedbeds are a major cause of poor stands. Cultipacking prior to planting is recommended to prepare a firm seedbed.

When using a grain drill or broadcast seeder to plant, debarbed seed or smooth seed will be the only option. Inert carriers such as peanut hulls may be needed to help with planting of the seed and with uniform planting rates. If a grain drill is to be used without a carrier, it will be important to make sure the drill can be adjusted to plant the light rates normally used when planting native grasses.

**No-till planting method:** Seedbed preparation will be minimal with this type of planting. Herbicide applications, burning, grazing or close mowing are the most common methods used.

When using a standard no-till grain drill to plant, debarbed seed will be the only option. It will be important to make sure the drill can be adjusted to plant the light rates normally used when planting native grasses without a carrier.

**Carriers:** With either conventional or no-till planting method a carrier of inert material may be needed to help evenly distribute the small, light NWSG seed. If using a broadcast seeder, then crushed peanut hulls, cottonseed hulls or pelletized lime will work well as a carrier. Do not use seed of cool-season grasses, such as ryegrass or wheat. When they emerge they will compete with the native grasses. Pelletized lime or fertilizer can work as a carrier with either planting method, but nitrogen must not be used. Nitrogen will promote increased, undesirable plant competition. Only fertilizers with phosphorus and potassium such as 0-20-20 or 0-46-0 should be used.

**Planting Depths:** Bluestem, Indiangrass and switchgrass seed should be planted to a depth of 1/8 to 1/4 inch, with none deeper than 1/2 inch. Any seed planted deeper than 1/2 inch will not survive. Seed that have been broadcast on the surface of a prepared seedbed should be cultipacked for proper seed-to-soil contact.

Eastern gamagrass should be planted 1 inch deep, but not any deeper than 2 inches.

**Fertilization**

Have the soil tested for nutrient needs prior to native grass establishment. Use warm season annual forages such as pearl millet at the planned vegetation when requesting soil test recommendations.

Native grasses have moderate fertility requirements. Phosphorus and potassium may be applied at planting according to soil test recommendations, but nitrogen should not be applied. Nitrogen applications at planting may promote competition from undesirable plants. After the NWSG are established, nitrogen may be applied to help meet production goals.

If the soil test reports a pH of less than 5.0, lime should be used to raise the pH prior to planting.

**Management**

During the establishment year, broadleaf weeds may be controlled by using herbicides labeled for native grasses.

Grazing will be allowed only after plants have uniformly reached targeted grazing heights of about 16 inches. Refer to the Prescribed Grazing (528) Standard and related job sheets for specific grazing management recommendations.

**Native Perennial Grasses Suitable For Forage Production in Alabama**

**Big bluestem (*Andropogon gerardii*)** is a native, warm season perennial bunchgrass that grows well on most soil types. It grows best on moist, well-drained soils, but is more drought tolerant than most warm season grasses. Big bluestem grows 3- to 6- feet tall and adapted varieties for Alabama are 'Kaw' and 'Roundtree'. Big bluestem is often found in mixed stands that have Indiangrass and little bluestem.

Little bluestem (*Schizachyrium scoparium*) is a native, warm season bunchgrass which grows to a height of 3 feet. It grows well on deep, shallow, sandy, fine-textured, and rocky soils, and has good drought tolerance. Adapted varieties for Alabama are 'Aldous', 'Cimarron', and 'Pastura'.

Indiangrass (*Sorghastrum nutans*) is a native, warm season perennial bunchgrass which grows 3- to 5- feet tall. It is drought tolerant and is well adapted to medium-heavy to light, sandy textured soils. Adapted varieties for Alabama are 'Lometa' and 'Rumsey'.

Eastern gamagrass (*Tripsacum dactyloides*) is a native, warm season perennial bunchgrass that grows 3- to 8- feet tall. It is adapted to deep bottomland soils with good water holding capacity and will tolerate flooding. Eastern gamagrass is not adapted to highly alkaline soils. When Black Land Prairie soils are expected to be moist for a long period of time during the spring, cold weather planting may be done with seed that have not been cold, wet-stratified. Use traditional row planters or grain drills with appropriate seed openings for planting. Cultivars for Alabama include 'Pete', 'Iuka', or 'Highlander'.

Switchgrass (*Panicum virgatum*) is a native warm season perennial bunchgrass that can be found growing in Alabama along roadsides, edges of fields, and abandoned sites. It may be used for erosion control. Switchgrass is well adapted to deep soils with good water-holding capacity, including well-drained to poorly-drained soils. It will tolerate flooding and will grow on sandy soils. Lowland types may grow to a height of 6 feet on moist, fertile sites. Adapted varieties of switchgrass for Alabama are 'Alamo' and 'Cave-In-Rock'.

<b>Table 1.</b>	
<b>Native Grass</b>	<b>Seeding Rate/Ac</b>
Switchgrass	5 lbs PLS
Eastern Gamagrass	10 lbs PLS
<b>Upland Mixture:</b>	
Big Bluestem+	4 lbs PLS
Indiangrass+	4 lbs PLS
Little Bluestem	2 lbs PLS

Wildlife Benefits

All species of wildlife have certain basic requirements. These include food, water, cover, space, and arrangement of these items compared to each other. Native grasses provide both cover and food for many wildlife species, with warm season grass mixtures providing the most benefits. Properly managed fields provide structure for nesting, protective cover, insect populations for food, and open travel under a tall grass canopy.

Native grasses provide quality habitat for grassland nesting birds including bobwhite quail, eastern wild turkey, Bachman's sparrow, and many other birds. White-tailed deer utilize native grasses for bedding cover. Native grasses provide both shelter and food for cottontail rabbit and wild turkey. Turkey also use these grasslands for nesting, as well as for brood rearing areas. The poult consume insects such as grasshoppers as a high percentage of their diet for the first several weeks after hatching.

**References**

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