Stand Establishment & Management Strategies

KEY STEPS FOR FORAGE STAND ESTABLISHMENT

SITE ASSESSMENT AND SOIL FERTILITY

Visually assess the area to be planted 6 months or more prior to planting. Control any troublesome weeds and develop a planting strategy. Take soil samples to determine the baseline pH and soil fertility status. If soil pH is low, application of lime will help bring the pH into the proper range for the forage crop to be planted. In areas to be tilled, lime can be incorporated as part of the final seedbed preparation. If using no-tillage planting, apply lime several months before planting, if possible.

LAND PREPARATION

Discing, harrowing, and other measures typically are needed to achieve appropriate planting conditions prior to pasture establishment. Characteristics of a good seedbed include the following:

- Most large clumps of soil or plant residues have been destroyed during the land preparation process.
- The soil surface is level enough to support equipment for planting.
- The seedbed is somewhat firm or firm enough to leave a shallow imprint of your shoe in the soil surface when walking across the area (figure 37).

Figure 36. Land preparation is needed for appropriate planting conditions.

Figure 37. Shoe imprint in a prepared seedbed.

SEED SELECTION

Use recommended varieties adapted to the soil type and climatic conditions. Certified seed provides assurance of seed quality and guarantees exclusion of most weed seed. Refer to seed tags for information on germination percentage, purity, and weed seed contribution as an indicator of seed quality.

SEEDING RATE AND TIME OF PLANTING

Plant according to seeding rate recommendations. Seeding rates and planting windows for commonly planted forages in Alabama are provided in table 4.

MORE INFORMATION:

- Extension publication "Alabama Planting Guide for Forage Grasses" available at www.aces.edu.
- Alabama Extension "Alabama Planting Guide for Forage Legumes" available at www.aces.edu.

WEED CONTROL

Before establishment, the seedbed must be clean to limit weed competition. Fall versus spring planting dates will determine the weed spectrum the forage crop will be exposed to. It is important to be aware of herbicides with long soil residual activity ahead of planting some species of forages, especially legumes.

Figure 38. Be aware of herbicides with long soil residual activity before planting..

Table 4. Seeding Rates and Dates for Commonly Planted Forages

Forage Crops	Seeding Rate	Planting Window Range
Alfalfa	20–25 lb. PLS*/acre	Aug. 15–Nov. 1
Bahiagrass	15–20 lb. PLS/acre	Mar.–July
Bermudagrass hybrid	15–30 bushels/acre	Late Feb.–Aug. 15
Brassicas	5–10 lb. PLS/acre	Feb.–Mar.; Sept.–Oct.
Cereal rye	90–120 lb. PLS/acre	Aug. 25–Nov. 1
Clovers	20–30 lb. PLS/acre	Aug. 25–Nov. 1
Oats	90–120 lb. PLS/acre	Aug. 25–Nov. 1
Pearl millet	15–25 lb. PLS/acre	April–July 15
Rhizoma perennial peanut	80–100 bushels/acre	Mar.–early July
Ryegrass	15–30 lb. PLS/acre	Aug. 25–Nov. 1
Sericea lespedeza	15–30 lb. PLS/acre	Mar.–May; June–July
Sorghum	15–20 lb. PLS/acre	Late Apr.–July 1
Tall fescue	15–20 lb. PLS/acre	Sept.–Nov.
Wheat	90–120 lb. PLS/acre	Aug. 25–Nov. 1

*Pure live seed (PLS)

COMMON FORAGE ESTABLISHMENT PROBLEMS

SEED OR PLANTING SITE ISSUES:

- Seed planted too deep or too shallow
- Poor seed germination
- Nonviable seed planted

SITE/ENVIRONMENTAL CONDITIONS:

- Soil too acidic or low fertility
- Herbicide residues
- Drought conditions
- Heavy, frequent rainfall following planting
- Seedbed too wet or dry at planting or during emergence period
- Freeze/thaw patterns
- Temperature fluctuations (extremely cold/hot and swings in temperature)

Figure 39. Seed planted too deep or too shallow can create establishment problems.

STAND ESTABLISHMENT IN ROTATION WITH COMMODITY CROPS

The use of forages in rotation with commodity crops is a common practice (figure 41) that allows forage production during cooler months of the year. The forage can be either grazed or cut to produce conserved feed.

Besides providing high-quality forage for livestock, this practice improves soil health through nitrogen fixation when using legumes, increases soil organic matter input, reduces soil compaction, and lessens soil erosion.

For some commodity crops, it is crucial to grow other species to break soil parasite cycles. This practice requires appropriate timing to harvest the previous crop followed by adequate land preparation and sowing of the cool-season species or mixture. Forage can be utilized by grazing or by harvesting for hay or baleage.

Figure 40. The use of forages in rotation with commodity crops can improve soil health.

Figure 41. Area of cotton and cool-season grasses rotation at the Wiregrass Station at Headland, Alabama.

OVERSEEDING PERENNIAL FORAGE PASTURES TO EXTEND GRAZING SEASON

A widely used practice in the southern United States is to overseed warm-season perennial forage stands with cool-season annual species to extend forage production. Due to climate conditions in this region, cool-season forages can grow throughout the cooler months, providing areas for grazing or cutting to produce conserved feed. Overseeding pastures does not kill warm-season perennial pastures but requires certain actions to assure seed germination and establishment of the cool-season species.

In preparation for sowing, excessive vegetative growth must be removed either by grazing or mowing to optimize seed-soil contact. In some cases, a light herbicide dose is helpful to induce dormancy to avoid green-up in late November/December if temperatures warm up. A no-till drill should be used to optimize results, but some producers choose to broadcast. For the latter, a roller/cultipacker can be used to optimize seed-soil contact. In bahiagrass and bermudagrass pastures, the planting date generally will be in late September/October to early December depending on where the site is located and the goal date to initiate grazing.

Figure 42. No-till drill

Figure 43. Bahiagrass