

Establishing Hybrid Bermudagrass

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In earlier articles, improved seed-type bermudagrass varieties have been reviewed. While new seed-type varieties have become a popular choice, the majority of improved bermudagrass hay fields and pastures in Georgia are hybrids which do not produce viable seed and must be established vegetatively. These hybrids are proven to produce high yields of quality hay, but establishment is costly and should be managed to improve success. In this article, methods of establishing and managing new stands of hybrid bermudagrass will be discussed.

Preparing for establishment.

For best results, bermudagrass should be established in a well-tilled field. Areas intended for sprigging should have been prepared beginning in the fall. It is critical to eliminate common bermudagrass from the field before hybrids are established as conditions favorable for hybrid bermudagrass sprigs also favor the spread of common bermudagrass. Removal of common bermudagrass should begin in summer during the year prior to sprigging. Multiple glyphosate (i.e. Roundup or Touchdown) applications combined with tillage are needed. Contact your local extension agent for more information regarding elimination of common bermudagrass.

It is also necessary to supply adequate nutrients for good establishment rates. Test soil and apply lime, potash and phosphate according to recommendations. Inadequate nutrient levels will decrease establishment rate and may result in establishment failure. Low pH decreases the availability of beneficial nutrients like potassium and increases the availability of some toxic elements like aluminum.

Variety selection.

Selecting the proper bermudagrass hybrid for your area, management style and needs is important to long term stand productivity. Selecting a bermudagrass is not a decision that should be taken lightly as there are important differences between hybrids. There is not enough space in this article to adequately address this topic, so characteristics of selected hybrids will be reviewed in detail in the March issue.

Establishment methods.

Hybrid bermudagrass varieties produce few viable seed and must be established from vegetative material. Vegetative planting produces material that is genetically identical to the parent material. Resultant plants are truly vegetative clones. So, unless some sort of rare genetic mutation has occurred, plants sprigged from a certified Coastal nursery and planted in 2003 should be *identical* to the first Coastal plant that Dr. Burton selected in 1939.

There are two methods that can be used to establish bermudagrass vegetatively. Choosing which method to use is dependent upon the hybrid to be established and the amount of risk that is acceptable. Some varieties must be established from sprigs, while others can be established from either sprigs or clippings.

Establishing from sprigs. All hybrids adapted to Georgia can be established with rhizome material or ‘sprigs’. Specialized commercial equipment is now available for digging and planting sprigs. In the early years of sprigging Coastal bermudagrass, material was dug with a spring tooth harrow, accumulated with a side delivery rake, and loaded by hand onto trucks for transport and sprigging.

Planting rates are typically measured in bushels which contain approximately 1,000 sprigs. A minimum of 20 bushels of sprigs per acre should be used when establishing bermudagrass. For more rapid coverage or for slow establishing varieties like Tifton 44, 30-40 bushels per acre should be used.

Establishment failures due to excessive planting depth are common. Sprigs and tops should be harrowed in lightly into a moist site. A typical planting depth is around 2 inches, but sprigs may be planted slightly deeper depending on moisture conditions. Sprigs planted over 3-4” deep will have difficulty emerging and excessive planting depths will slow the establishment rate.

Many experienced commercial spriggers are available throughout Georgia. These operators have the necessary equipment to dig, transport and accurately place sprigs. Investing in their services is normally a wise choice as, along with sprigs and labor, you are purchasing many years and thousands of acres of experience.

Establishing from culms, clippings or ‘tops’. Some hybrids can be established from clippings or culms. This is simply aboveground vegetative material and is sometimes referred to as ‘tops’. Tifton 44 and Midland will *not* establish from tops and must be sprigged. Russell, Tifton 85, Alicia and Coastal will establish readily from tops if moisture conditions are favorable and clippings are handled properly.

Clippings should be a minimum of six weeks old before harvesting and at least 18-24” tall. Viability of tops decreases rapidly after forage is cut. Clippings quickly cure and die (just like hay) on hot, dry days. Cut tops, bale *immediately*, and plant as quickly as possible- preferably within a couple of hours. Bales of fresh clippings will be wet and extremely heavy, so decrease packaging size to allow safe handling. Spread at least 1500 pounds per acre and lightly harrow into the field. Firm the field immediately with a cultipacker after harrowing to conserve soil moisture.

Clippings should be established early in the year to allow time for rooting and to take advantage of wet weather. Establishment of clippings can be risky in sandy soils, as these soils are more drought prone than heavy soils and are more likely to kill sprigs in dry weather.

Dormant sprigging.

It is possible to dig and plant sprigs in late winter before bermudagrass has broken dormancy. In fact, sprigging immediately prior to greenup holds some important advantages over later establishment dates. First, there is typically dependable rainfall and soil moisture during this time of the year. Sprigs will contain more stored carbohydrates when they are dormant than a few weeks after greenup. This is important because carbohydrates are the “fuel” used to sprout roots and leaves for establishment. Higher carbohydrate levels mean that sprigs will be more vigorous.

Early establishment also should provide a “headstart” on annual warm season weeds like crabgrass. Dormant sprigging certainly won’t eliminate this problem, but anything that diminishes crabgrass competition is beneficial.

In early spring, soil temperatures will be low, so bermudagrass will be slower to emerge. In addition, multiple late freezes can cause establishment problems, so quality sprigs with good energy reserves should be used when dormant sprigging. Benefits of sprigging early in the spring greatly outweigh the detriments, and dormant sprigging is a management practice that should be practiced more frequently.

Follow-up.

Fertility. Managing for a good stand has just begun after sprigs or tops have been planted. Apply 40 pounds of nitrogen per acre when bermudagrass begins to emerge. An additional 40-50 pounds can be applied when rows begin to overlap or at four to six week intervals until late summer. Split nitrogen applications will decrease losses from leaching and prevent grassy weeds from utilizing nitrogen early in establishment.

Weed control. There are currently no preemergent herbicides that are labeled for newly sprigged hybrid bermudagrass fields to control crabgrass or other annual grassy weeds. The Section 18 use permit was not renewed for Zorial so this chemical is no longer legal to apply for preemergent or postemergent annual grass control. Application of Plateau during bermudagrass establishment will severely injure or kill bermudagrass so is not labeled for use on newly sprigged fields. Currently, the only practice labeled for preemergent crabgrass control is to apply 2 quarts of 2,4-D. This will provide weak control of crabgrass for 21-28 days.

Grazing and clipping management.

Grazing or clipping bermudagrass fields during the establishment year will help to control shading from annual weeds and expose bermudagrass “runners” to light. This light exposure will encourage plants to spread and typically gives the bermudagrass an advantage over weeds with more upright growth habits. Fields should be grazed in “mob” fashion by stocking with a high animal density for a short grazing period. This flash grazing minimizes animal selection and should remove all grass species without undue stress on bermudagrass. Stocking with lower animal numbers for long grazing periods may result in animals selecting bermudagrass which will decrease its competitiveness with weeds.

Hopefully these tips will help in successfully establishing hybrid bermudagrass varieties. With a little planning and favorable weather, bermudagrass establishment will be a productive and positive undertaking.