

# Establishing BERMUDAGRASS from Sprigs or Tops

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Over the last couple of years, I have received many questions about how to establish bermudagrass. Hybrid bermudagrass varieties produce 20 to 50 percent more forage than seeded bermudagrasses. So, many producers seek to establish the hybrids. However, hybrid bermudagrasses produce few viable seeds and must be established from vegetative plant material (e.g., sprigs or tops). Significant acreage in Georgia was planted with bermudagrass in 2015, and I suspect more will be planted this year as well. So how exactly is bermudagrass vegetatively established?

## *The Origins of Vegetative Establishment*

The earliest attempts to vegetatively establish bermudagrass involved dropping sprigs or stolons on the ground and pressing them in the ground by hand. Once larger nursery areas were established, spring-harrows and rakes were employed to dig sprigs; and the sprigs were broadcast onto a prepared seedbed and immediately lightly-disked into the soil. This method is still used in some cases today. As more hybrid bermudagrass acreage was planted, farmers innovated and developed their own methods and machines. Now, modern sprig diggers and sprigging machines do the work (Figure 1).

## *10 Steps to Establishing Bermudagrass*

Years of experience and research have taught us a lot about how to vegetatively establish bermudagrass. Here are 10 steps that will ensure success:

1. **Choose an appropriate site for establishment.** The soil must be well-drained and free of other bermudagrass varieties or bahiagrass. Land that has been recently cropped is usually ideal. If the site currently has bermudagrass or bahiagrass on it, grow a summer and fall crop on the land to completely eliminate the existing stand.

2. **Soil test, lime, and fertilize accordingly.** Apply all lime (target pH of 6.5) and fertilizer that is recommended from the soil test prior to land preparations so the amendments can be worked into the soil. Ensure that 50 lbs of N, 15 lbs of P<sub>2</sub>O<sub>5</sub>, and 100 lbs of K<sub>2</sub>O/acre are incorporated (no deeper than 2 inches) immediately before the bermudagrass is planted.

3. **Use the false (sometimes called stale) seedbed preparation method.** For best results, bermudagrass sprigs or tops should be planted into a conventionally-tilled, prepared seedbed. The seedbed should be prepped six weeks or more prior to planting. After plowing and disc-harrowing the field, allow the soil to settle for four to six weeks. Immediately prior to planting, kill the weeds by lightly tilling the soil with a

shallow disc-harrowing, plant the sprigs or tops, and firm the soil with a cultipacker or roller. No-till sprigging is an option; but it tends to result in a field surface that is rough, which can cause challenges for the operation of hay equipment and be a nuisance to the equipment operator.

4. **Choose an establishment method and timing.** There are three establishment methods: dormant sprigging, spring sprigging, and tops.

Dormant sprigs – which include the crowns, corms or rhizomes of bermudagrass – should be planted at a rate of at least 30-50 bushels of viable sprigs per acre in late winter (January to March). Most varieties can be established this way; but dormant sprigging of Tifton 85, at least above the fall line, has proven to be more risky. Dormant sprigs should be covered with at least 2 inches of soil to protect them from freezing. Delay dormant sprigging until February to reduce the chances of winter injury.

Spring sprigs with green tops and stolons are planted at a rate of 20-40 bu./acre and can be planted anytime after the danger of a heavy freeze has passed, up until August. Early planting of spring sprigs can help ensure that the sprigs become well-established during the first year and increases the likelihood that they will survive a severe winter. However, planting too early (March and early April) is stressful on sprigs, as they are already low on reserves after emerging from winter dormancy.

Tops (green stolons) are planted at a rate of 40-60 bushels of fresh tops/acre. Tops can be planted from June until August. Stolons planted as tops must have six or more nodes. This usually means that the stolons are 18-24 inches in length. A nursery area provided with 100 lbs of N, 25 lbs of P<sub>2</sub>O<sub>5</sub>, and 100 lbs of K<sub>2</sub>O/acre in late March will usually produce such tops by early June. Cuttings of tops later in the season will require approximately eight weeks of regrowth for stolon development to be sufficient. Nearly all of the recommended varieties of bermudagrass can be established from tops; but Tifton 85 ranks first, and Tifton 44 ranks last, in the success obtained with such plantings. Because of their length, tops are usually spread across a prepared seedbed and lightly disked into the ground, and the soil is firmed around them with a cultipacker or roller. Small square bales of tops can be made to facilitate handling and then spread by hand or by using a tops spreader such as the ground-driven implement pictured in Figure 2. Tops that are baled must be handled and planted quickly (within two hours for best results).

# Expert Advice



Photos courtesy of the University of Florida.

Figure 1. Modern sprig digging (top left) and sprigging equipment (top right).

Figure 2. Square bales of bermudagrass tops are being scattered over a prepared seedbed (bottom left) using a ground-driven tops spreader (bottom right).



5. **Plant only in moist soil.** Sprigs or tops must be planted in moist soil to prevent them from dying. It is best to plant sprigs or tops on a cool, overcast or cloudy day, preferably with a misty rain or an imminent rainfall. Irrigation can assist spring sprigs or tops, but this is not a necessity unless planting occurs during a prolonged drought.

6. **Plant pure sprigs or tops.** It is recommended to buy certified planting material of the variety you want to grow. The Georgia Crop Improvement Association certifies the fields from which such planting material is taken, and they provide a list of certified planting material providers on their website (<http://www.georgiacrop.com>).

7. **Plant freshly harvested sprigs or tops from a well-fertilized nursery.** A nursery area where dormant sprigs are to be harvested should receive 100 lbs of N, 25 lbs of P<sub>2</sub>O<sub>5</sub>, and 100 lbs of K<sub>2</sub>O/acre in the September prior to harvest. This same amount of fertilizer should be added at spring green-up or within six weeks of harvesting of either spring sprigs or tops. Crown size, rhizome size and stolon size are indicators of carbohydrate storage in – and, therefore, the viability of – the planting material. Sprigs of the plant's crown and rhizomes should be 1/4-3/8 inch in diameter. Sprigs of the plant's stolons should have at least two nodes (preferably four) and be at least 1/8-1/4 inch in diameter at the nodes. Stolons used for establishment by tops should have at least six nodes and be at least 1/8-1/4 inch in diameter at the nodes. Dormant and spring sprigs should be planted as soon as possible but at least within 24 hours after digging. Tops should be planted within four hours of cutting.

8. **Pack the soil well.** Immediately after planting, use a cultipacker or heavy roller to firm the soil around the sprigs or tops. This will ensure that the planting material has good contact with the soil so that it can stay moist. Irrigation can help, but it is usually not necessary if these rules are followed closely.

9. **Spray to control weeds.** It is likely that significant weed pressure will occur after planting bermudagrass. An application of diuron, a pre-emergence herbicide, immediately after planting will provide fair to good control of most annual grasses and broadleaf weeds. However, diuron can severely injure bermudagrass sprigs and (especially) tops. If diuron is not used, an application of 2,4-D + dicamba (WeedMaster) should be applied at a rate of 2-4 pts/acre within seven to 10 days after planting to control most broadleaf weeds and suppress some grassy weeds.

10. **Complete steps 5-9 on the same day.** This will ensure that adequate soil moisture is available to the planting material and ensure that weeds are adequately controlled.

A more detailed factsheet entitled "Establishing Bermudagrass from Sprigs or Tops" is available at [www.georgiaforages.com](http://www.georgiaforages.com). There you'll find information about our upcoming Southeast Hay Convention, which will be held March 8-9, 2016, in Moultrie, Georgia. This year, the Southeast Hay Convention features a special workshop devoted to vegetative establishment of bermudagrass. For more information about other forage management issues, visit our website or contact your local county Extension office at 1-800-ASK-UGA1. 