

Management of Tifton 85: Key Steps in Establishment

Yoana Newman, PhD, Forage Extension Specialist

Most bermudagrasses used in livestock production are hybrids, or crosses between different bermudagrasses. These hybrids, including Tifton 85, were selected with the intent of increasing yield, response to fertilizer, quality, pest resistance and cold tolerance. One downside of these hybrids is that they do not produce viable seeds and therefore must be propagated through vegetative material.

Planting vegetative material requires conditioning of the vegetative seed and use of specialized equipment both of which render additional time, planning, and cost compared to grasses that are planted from seed.

Because of the time and cost involved, special attention to seedbed preparation, care of the seed, and timing of weed control and fertilizer application are necessary to obtain a stand with great production.



Description and Adaptation

Hybrid bermudagrass spreads by vegetative cuttings of a) above ground stems or runners (stolons), or b) below ground stems (rhizomes). The stolons or runners root readily at the nodes (budsites) and are planted in the rainy season (summer time).

Bermudagrass is a warm-season perennial with high light requirement and does not grow well under shady conditions. It is sensitive to freezing temperatures, but many hybrids, like Tifton 44, have been selected for cold tolerance. Temperatures below 30°F kill the leaves and stems but growth will continue with night temperatures as low as 34°F if day temperatures are near 70°F.

Bermudagrass is adapted to a wide range of soils but prefers sandy loams or sandy to clay soils that are well drained. The pH tolerance is broad (pH of 5.0 to 7.5). Although drought tolerant, it is adapted to areas of high moisture and rainfall.

Bermudagrass is most productive from May to September when average daily temperatures are above 75°F. Optimum daytime temperature is between 95 and 100°F, and optimum soil temperature for root growth is around 80°F. Soil temperatures of 65°F and above are necessary for growth of rhizomes/roots and stolons.

Steps for pasture establishment

1) Selection of site

Select an area that closely fits the adaptation of bermudagrass. When choosing the right area establishment will be quicker and the grass will produce to its potential. If planting in area of marginal adaptation, establishment will be slower or the stand will naturally decline in short time.

2) Site preparation

Get your seedbed prepared ahead of time, if possible starting in the fall. Your planting site needs to be free from debris, trash and weeds. Previous perennial vegetation will need to be destroyed. The combination of herbicide and tillage will usually do the job. If you are renovating, check with your county agent or weed specialist for a complete listing of chemical alternatives and details of control procedure.



Field condition that is weed-free and ready for planting

In many cases, your existing vegetation will require several disk passes. Use a disk harrow or other appropriate tillage tool to destroy the germinating grass. A common approach is to disk in November to cut the trash using a tandem disk, then disk again in January and/or February as needed. Use a finishing disc or finishing tool to leave a smooth surface. Always take advantage of dry weather conditions to get your seedbed prepared, and always plant in a well-prepared, weed-free, with adequate moisture.

This would also be a good time to soil test. If you are 3 or 4 months ahead of planting, in the event your soil test calls for liming of your soils you could put your lime in early enough to have the desired pH in the soil by the time you will actually plant. Remember lime and soil react when they come into contact, so you need to incorporate lime 3 to 6 months prior to planting to change the pH below that top inch of soil.

3) Contact seed source

Bermudagrass

Try to obtain pure, clean planting material.

4) Planting Date

Bermudagrass:

If using sprigs, the window for planting runs from the middle of February through July.

If using plant tops or 'green tops', the window for planting is reduced to June through July; during this time of year the weather is cloudy and rainy, and conditions that might desiccate green tops are minimized.

Avoid planting tops outside of rainy season. March through early May are drier months in the deep south, compared to late spring and summer, and these dry months should be avoided.

5) How to plant?

Bermudagrass Tops

Use vegetative material that has been pre-conditioned; pre-conditioned material is a nursery of bermudagrass planting material that is fertilized at the initiation of rains using 100-50-100 lb/acre N-P₂O₅-K₂O + 2 lb/acre Zn, Cu, Mn, Fe and 0.2 lb/acre of Boron. Let it grow for 2 to 3 months, and 3 weeks before cutting apply 50 lb/acre to promote growing points (buds).



Vegetative material that has been preconditioned and is ready for planting

Plant the vegetative material 2 to 3 inches deep, using a commercial sprig planter, a crimper, or a disk covering 50% of the runners. Do not plant the material too deep or the sprigs will use all their energy trying to emerge from the soil and be left without reserves for growth.

Whether using tops or sprigs, have a set up on the field where the spreading unit (tractor and slinger or planting equipment) is followed by a cultipacker or heavy roller in order to seal in the moisture. If irrigation is available, run it right after the cultipacker or roller pass

Bermudagrass Sprigs/roots

Never dig or cut more material that you would be able to plant in a day.

Leaving the material exposed to heat and drying conditions dries the seed and the viability of the planting material is compromised. Check Table 1 for the effect of exposure timing and the viability of the seed.

6) Planting rate

Bermudagrass

Sprigs: The recommended planting rate is 30-40 bushels of dug sprigs/acre.

Tops: 1500 lb of tops/acre

7) Roller pack seedbed

After sprigging or planting tops, pack the soil with a roller to seal the moisture in the soil. This practice is critical, especially if planting in sandy soils

8) Weed control and fertilization

Bermudagrass

After growth is evident, usually around 10 days after planting, control the weeds and do a light fertilization using 30 lb of N/acre and the recommended phosphorus and potassium as indicated in the soil test.



Tifton 85 1 week after planting. Roots are developing. At this time do a light fertilization.

After 30 to 40 days, about the time when the runners (or stolons) start to grow, do a second N fertilization of 70 lb/acre.

9) Utilization

Well fertilized grasses (bermudagrass) will form a dense plant stand in 60 to 90 days.

Concluding Remarks

Success in establishing a pasture or hay meadow is mainly determined by:

a. Choosing an adapted variety to your area, management skills, and production goals.

b. Guaranteeing the right field conditions where the newly planted material is weed free, and has all the moisture available.

d. Providing adequate fertilization and management as the plant develops.

.

Table 1 Effect of exposure time of the planting material and the effect on percent alive sprig

Exposure Time	% Sprigs Alive at Planting
No exposure	100
2 hours, (9 a.m. – 11 a.m.)	94
4 hours, (9 a.m. – 1 p.m.)	72
2 hours, (12 noon – 2 p.m.)	30
4 hours, (12 noon – 4 p.m.)	3
8 hours, shade and moist (9 a.m. – 5 p.m.)	100

For additional information visit the Forages of Florida website at

Google: Forages of Florida, or

<http://agronomy.ifas.ufl.edu/ForagesofFlorida/index.php>

