

Hybrid Bermudagrass Varieties

John Andrae

Department of Crop and Soil Sciences

The University of Georgia

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Last month the basics of establishing and managing bermudagrass were discussed with a promise to cover hybrid bermudagrass varieties in this issue. The selection of a variety is far from trivial as there can be large differences among varieties in establishment rate, yield, disease susceptibility, texture and nutritional quality. These characteristics will be discussed in this article for several selected varieties.

While common bermudagrass is not a hybrid, it is important to consider as a pasture option. “Common” bermudagrass simply means that there is no variety associated with the seed. Seed marketed as common bermudagrass may be blends of either turf or forage varieties that were heavily contaminated with seed from unknown ecotypes or “common” bermudagrass. There is simply no way to know what you are actually purchasing.

There are large differences in the appearance and productivity of common bermudagrass ecotypes found in Georgia. Some ecotypes are relatively productive while others yield little forage. Generally, common bermudagrass will yield 60-70% of the more productive hybrid varieties. In spite of these low yields, common bermudagrass can actually have higher forage quality than some hybrids. Most common bermudagrass is prone to diseases and yield losses are common in humid years. Common bermudagrass is less responsive to nitrogen fertilization than hybrids, but if pastures are stocked at lower rates and the producer is a ‘low-input’ manager it may be a reasonable option.

“Cheyenne” bermudagrass is a highly productive and persistent seed-type bermudagrass that is not ‘common’. More information on Cheyenne and other seed-type bermudagrass varieties can be found in the March 2002 *Georgia Cattleman* or at www.georgiaforages.com in the *Georgia Cattleman* archive section.

Coastal was the first hybrid bermudagrass developed for forage production. This variety was released by Dr. Glenn Burton at Tifton, Georgia in 1943. Coastal is normally the standard to which all other bermudagrass varieties are compared. It is a fine stemmed plant that can be established from sprigs or clippings (although sprigs are preferred). While new hybrid bermudagrass varieties receive the majority of popular press attention, Coastal remains an excellent hybrid for hay or grazing and has a 60 year performance record that is free of severe disease problems.

Tifton 44 is also a fine stemmed hybrid released by Dr. Burton in 1978. Tifton 44 is a cross between Coastal and a cold-hardy bermudagrass originating from near Berlin, Germany. Tifton 44 hay is preferred by many horse hay buyers probably because of fine texture, green color and slightly higher nutritive value (under similar harvest management). However, Tifton 44 is much slower to establish than Coastal or other hybrid bermudagrasses and cannot be established from culms or “tops”. The excellent

winter hardiness of Tifton 44 may be due to its dense sod forming characteristics and large rhizomes. Because of the dense sod characteristics of Tifton 44, overseeding winter annuals may be more difficult with this variety.

Tifton 85 is the latest release (1993) from Dr. Burton's bermudagrass breeding program in Tifton Georgia. It is taller, and has larger stems, broader leaves and darker green color than previously released bermudagrass hybrids. Tifton 85 typically yields 25% more forage than Coastal when grown in the Coastal Plain area. This yield advantage is likely lower in the central Piedmont area, but this is currently unknown. Tifton 85 establishes rapidly from sprigs or tops.

The large stems of Tifton 85 increase the time required for curing by approximately 12 hours. Many horse hay buyers dislike the relatively coarse hay texture even though Tifton 85 produces forage that typically 10% more digestible than Coastal. In contrast, many horse producers prefer these coarse stems, so it is important to know your market if selling excess hay.

The increased digestibility of Tifton 85 is most likely due to different chemical bond ratios in the plant's fiber fraction. These chemical bonds are more digestible by rumen microbes. This phenomenon is currently under investigation by Dr. Gary Hill at the Coastal Plain Experiment Station, and may be used in the future as a tool to develop higher quality forage varieties.

The cold tolerance of Tifton 85 is currently unknown. Tifton 85 reportedly survives temperatures to 10 degrees F, so current recommendations are to avoid establishing this variety north of I-20. Like all other Tifton developed varieties, Tifton 85 is highly resistant to leaf rust.

Russell is a variety jointly released by Auburn University and Louisiana State University. This variety was collected from a field in Russell County Alabama that was originally planted in Callie bermudagrass. It is either a genetic mutation of Callie or a naturally occurring hybrid of Callie and a common ecotype. Unlike Callie, Russell is cold hardy and highly resistant to leaf rust. Russell has become one of the most popular bermudagrass varieties in North Georgia in recent years. This popularity is likely due to rapid establishment from either sprigs or tops. Russell is a fine-stemmed variety which produces bermudagrass yields and quality similar to Coastal. The growth habit of Russell is shorter and denser than Coastal. Like Tifton 44, Russell may present issues with overseeding winter annuals because of dense sod and low growth habit.

Alicia is a variety imported from South Africa and marketed from Edna, Texas in the late 1960s. Alicia is popular with many custom spriggers because it establishes aggressively from either tops or sprigs. It is probably the fastest establishing bermudagrass tested in an new Georgia statewide bermudagrass performance trial. Alicia is a popular horse hay because of its fine stems. Yields are similar to Coastal; however, forage quality generally is about 10% lower for Alicia bermudagrass. Alicia is extremely susceptible to leaf rust.

In warm, humid years entire cuttings can be lost to disease. Because of Alicia's low quality and high rust potential, other varieties provide better forage opportunities.

World Feeder is a seed-producing bermudagrass that was discovered in Oklahoma. Sprigs are privately marketed by Agricultural Enterprises Corporation. Producer testimonials of extremely high yields abound, but in controlled tests by Dr. Burton, World Feeder yielded only 38% of Coastal at Tifton. Several other University tests conducted in Arkansas, Louisiana, Florida and Oklahoma demonstrated that yields of World Feeder are, *at best*, similar to other hybrid bermudagrass varieties. In many cases yields were less than hybrids. World Feeder may be reasonably productive in some locations, but it is certainly not a "silver bullet". Disease susceptibility is currently unknown in Georgia therefore it is difficult to assess long term persistence and productivity. Carefully consider costs of World Feeder sprigs versus other bermudagrass varieties which are proven to be productive and pest resistant in your area of Georgia.

Other varieties. There are many other varieties of hybrid bermudagrass that are available in other locations (i.e. Midland 99, Vaughns Number 1, Jiggs, Hardie, Quickstand, Brazos, and Grazer). To my knowledge, these varieties have not been tested under controlled conditions in Georgia and therefore cannot currently be recommended.

What fits and where??

It is important to choose hybrid bermudagrass varieties carefully. This is a long-term investment that, with proper fertilization and management, will provide high yields of quality forage *indefinitely*. Variety should be matched to (1) growing environment (i.e. temperature, soil type) (2) producer management style (i.e. fertility inputs, harvest frequency, overseeding practices) and (3) desired hay market (i.e. stem size, dairy/equine quality etc). Dr. Robert Morgan has initiated a statewide bermudagrass test in which many varieties are under evaluation for yield and quality in Tifton, Griffin and Calhoun. Data collection from that study will begin this summer and will be presented in future articles.

Don't overlook the fact that common bermudagrass and Tifton 9 bahiagrass can perform adequately in low-input pasture situations. Cheyenne bermudagrass may also be a good alternative for some hay and pasture situations. There is little doubt that Tifton 85 is the highest yielding, highest quality bermudagrass variety for intensively managed South Georgia hay fields. Coastal, Tifton 44, and Russell are excellent fine-stemmed variety selections for hay in North Georgia. Weigh all variety factors with management practices, goals, and markets to choose the appropriate hybrid for your operation.