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Seeded Bermudagrasses

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Bermudagrass is a highly productive warm-season grass adapted to the humid southeastern US where mild winters and warm climate are prevalent. Hybrid bermudagrasses are one of the most important grasses in Florida for hay and pasture production yet the most productive varieties do not produce viable seed; they are sterile hybrids like 'Coastal' or 'Tifton 85' that must be planted by vegetative cuttings that requires specialized equipment.

Seeded bermudagrass varieties have a viable sexual seed. Although not as productive as some hybrids, they offer an alternative that is less expensive to establish and is not as labor intensive in seedbed preparation than the sprigged types fitting small to medium acreage producers. This publication presents an overview of seeded bermudagrasses and description of the different types currently under evaluation in Florida.

Description and Adaptation

Seeded bermudagrass, known scientifically as *Cynodon dactylon*, is broadly distributed worldwide. It is called 'couch' grass in Australia, and 'quick' grass in India. It is also referred to as the 'worst weed' when growing in an undesired place! This grass is highly variable with small types that are only a few inches in height to tall growing types that can reach 18 to 22 inches. Seeded bermudagrass spreads by both seed and vegetative material (stolons or above ground stems, and rhizomes or below ground stems). The stolons or runners root readily at the nodes. Flower and seedhead production is highly variable, and seeds are very small.

In terms of adaptation, bermudagrass in general 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 of the seeded types 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. It 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.

They are most productive from May to September when average daily

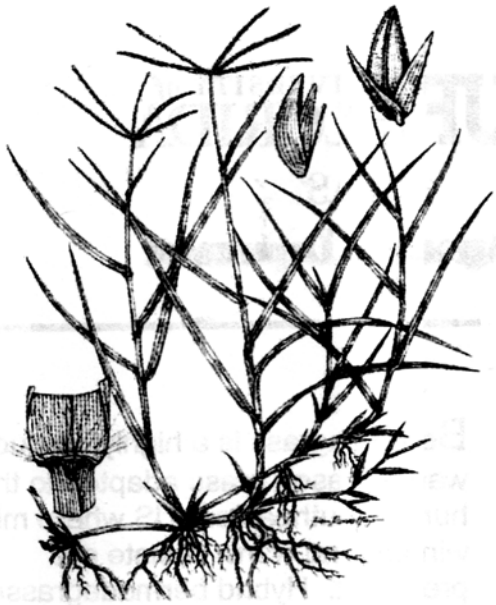

Fig. 1. Illustration of bermudagrass plant

temperatures are above 75°F. Optimum daytime temperature is between 95 and 100°F. Soil temperatures of 65°F and above are necessary for growth of rhizomes/roots and stolons. Optimum soil temperature for root growth is around 80°F.

The seeded types used for pasture or hay production are selections of common types that offer a good alternative to hybrid bermudagrass because of their ease of establishment for the areas with small to medium acreage, or areas that present some physical barriers that make traditional seedbed preparation difficult. For example, they will fit better than hybrid types in cut under timber production or fields with a slope or other physical impediments where good seedbed preparation is not economical or possible.

Seeded Bermudagrass Varieties

There are numerous seeded bermudagrasses available. Some are single types but most of the seed that is marketed are actually blends that contain improved selections of common and Giant bermudagrass. Many of the seeded types have been develop for cold tolerance in upper latitudes, and in turfgrass breeding programs, which have turned them to market for livestock production because of their high yields.

Currently, under evaluation in Florida are varieties: Cheyenne, Mohawk, and Wrangler, which are cold tolerant, and blends: Texas Tough, Sungrazer, Riata, and Stampede. A description of these types and some of the blend components follows.

Common is a bermudagrass type that is not improved, that is low-priced, and can produce a fair amount of forage with quality comparable to coastal.

Giant (NK-37) is a tall growing selection from a much taller and leafier 'common' from the Yuma, Arizona river valley (by Northup King Co). Under high moisture climate, persistence has been observed to be 2 to 3 years, fact associated with fungal disease. It is used as a component of many blends, and as a single variety by many because it breaks dormancy10 to 14 days earlier than most types in the market.

Cheyenne is a synthetic variety developed for vigorous growth habit and cold tolerance by Jacklin Seed Co and Pennington Seed; originally developed for turf and later used as a pasture.

Mohawk is a fine textured, cold tolerant variety named after the Mohawk Valley in Arizona, where the seed is produced. It is regarded as one of the most salt tolerant varieties on the market.

Wrangler is a variety released by Johnston seed Co., developed for cold tolerance that is comparable to the hybrid bermudagrass Tifton 44.

Texas Tough is a blend of 1/3 Giant and 2/3 common; marketed by East Texas Seed Company in Tyler, TX.

Sungrazer is a blend with tall growth selected for drought and cold tolerance. Marketed by MBS seed in Denton, TX.

Riata is a blend of Wrangler and Riviera, two bermudagrass varieties with improved tolerance to grazing and cold tolerance. Marketed by Johnston Seed Co.

Forage Quality and Production

Seeded types are usually high in nutritive value. However, as with most warm-season grasses, the quality will vary depending on management and variety. Usually, they present medium crude protein and medium digestibility.

Production of the seeded types in Florida is under evaluation but is expected to be variable with some of the varieties that have cold tolerance having more production early in the year. However, in general, dry matter yield should be expected for many of them to be comparable to Coastal but lower than high yielding hybrid Tifton 85.

Result from the first year evaluation (Figure 1) corroborate findings from a long term study conducted in Texas (Table 1), where the hybrid Tifton 85 is highest yielding, and the production of the seeded types is similar to that of Coastal.

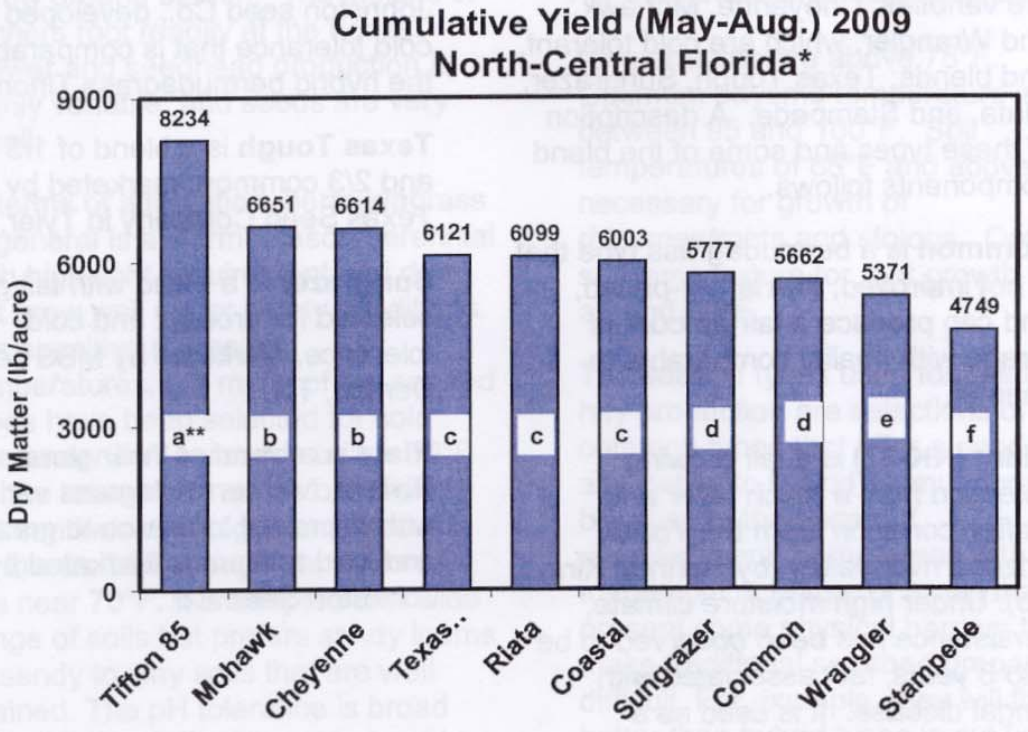

Figure 1. Dry matter yield comparison of seeded bermudagrasses with hybrids Tifton 85 and Coastal during 2009 evaluation in Central Florida

*** Seeding rate for seeded types 15 lb/acre; Date planted: June 10, 2008; number of harvests= 4 (May 26, June 23, July 17, August 18, 2009)**

****Yields followed by the same letters are not significantly different.**

Table 1. Comparison of Seed Bermudagrass with Hybrids (Tifton 85 and Coastal). A 5-year study conducted at Overton, Tx (Adapted from Evers and Parson, 2002)

	1997	1998	1999	2000	2001	Average
	----------lb dry matter/acre----------					
Tifton 85	5044	8064	12915	12032	15680	10747
Texas Tough	2480	5262	11749	7956	10993	7688
Coastal	1611	3739	8507	9440	11549	6969
Cheyenne	2408	3430	6640	8928	13431	6967
Common	--------	---------	383	7445	11352	6393
Wrangler	--------	---------	0	7620	5539	4386