

# **PUBLICATIONS**

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## BAHIAGRASS VARIETY TEST-2005

G. W. Evers and M. J. Parsons

**Background:** Bahiagrass is the prominent warm-season perennial grass in the flatwoods regions in eastern Texas from Houston north to about Lufkin and Crockett. The primary bahiagrass growing region extends east to the Atlantic Coast on the level sandy soils in the Lower South. However it is found through the southeastern US because it is well adapted to sandy, acid, infertile soils and will persist without fertilizer or grazing management. Forage producers in East Texas have a love-hate relationship with bahiagrass. Some producers take advantage of its good characteristics. Bahiagrass will respond to moderate levels of fertility of one to two nitrogen applications of 60 to 70 lb/acre per year in addition to any phosphorus and potash that is needed. Where adapted, bahiagrass will persist for years without any fertilizer but forage production will be low. Because of rhizomes at the soil surface, it forms a thick sod tolerant of close grazing and is competitive with weeds reducing the need for herbicides. Compared to hybrid bermudagrasses, bahiagrass greens up earlier in the spring and stays green later in the fall until temperatures drop to about 29°F.

Dislike for bahiagrass is due to its invasion of bermudagrass hay meadows and pastures because they were not fertilized properly. Hybrid bermudagrasses are more drought tolerant, responsive to nitrogen fertilizer, and considered to have a higher nutritive value than bahiagrass. Hybrid bermudagrass requires a higher level of management and inputs. Potential new bahiagrass varieties have been developed in Florida, Georgia, and Alabama. A bahiagrass variety test was established at Overton in spring 2004 to compare potential new varieties with Pensacola bahiagrass under East Texas conditions.

**Research Findings:** The study was planted on May 6, 2004. Stands were very poor because of drought and weed competition. Rapid Germination Tifton 9 did come up quicker and seedlings were larger than other entries (data not shown). Fertilizer applications during 2005 were 40-40-40 May 2, 68-0-68 June 15, and 68-0-0 July 27 for a total of 176 lb N, 40 lb P, and 108 lb K per acre. The study was harvested on June 7, July 20, and October 19. The average April through October rainfall at Overton is 25.36 inches. Only 15.95 inches fell during this period in 2005 and much of that was less than 0.5 inch/day which was of little benefit. All entries obtained at least a 90% stand during 2005.

Yields ranged from 2100 to 3400 lb. dry matter/acre (Table 1). Tifton 9 and Rapid Germination Tifton 9 were higher yielding than Pensacola and Argentine bahiagrass. Sand Mountain was intermediate. Argentine bahiagrass is less cold tolerant than the other entries

which probably limited production at this location. The Lufkin-Nacogdoches area is considered the northern boundary for Argentine bahiagrass. This study will continue through 2007.

**Application.** Rapid Germination Tifton 9 had better seedling vigor than the other entries when the study was planted in May 2004. Of the available bahiagrass varieties on the market, Tifton 9 was the most productive in 2005.

Table 1. Dry matter yields of bahiagrass varieties at Overton in 2005.

| Variety                    | June 7            | July 20 | October 19 | Total   |
|----------------------------|-------------------|---------|------------|---------|
|                            | -----lb/acre----- |         |            |         |
| Rapid germination Tifton 9 | 607 a†            | 1389 a  | 1372 ab    | 3368 a  |
| Tifton 9                   | 395 ab            | 1289 a  | 1498 a     | 3182 a  |
| Sand Mountain              | 399 ab            | 1048 a  | 1218 abc   | 2665 ab |
| Pensacola                  | 314 b             | 947 a   | 888 c      | 2149 b  |
| Argentine                  | 266 b             | 831 a   | 1095 bc    | 2191 b  |

†Yields in a column followed by the same letter are not significantly different at the 0.05 level, Fisher's Protected LSD.