FORAGE-LIVESTOCK FIELD DAY REPORT - 1998

TEXAS A&M UNIVERSITY AGRICULTURAL RESEARCH and EXTENSION CENTER at OVERTON

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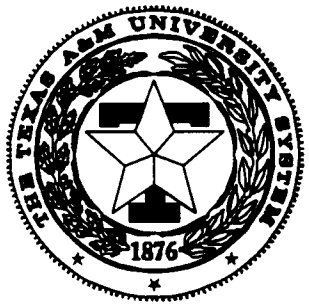

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COMPARISON OF SEEDED BERMUDAGRASS AND BAHIAGRASS VARIETIES DURING THE ESTABLISHMENT YEAR

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Background. Hybrid bermudagrasses are the most widely grown warm-season perennial grasses in the southeastern US. Adaptability to acid soils, good drought tolerance because of a deep root system, and tolerance to close frequent grazing are its main attributes. Most hybrid bermudagrasses must be established vegetatively using either sprigs (stolons and rhizomes) or topgrowth (6 to 8 week old growth). Establishment costs including land preparation, sprigs or tops, planting, fertilizer, and weed control are about $125 per acre which is higher than establishing other grasses from seed. In recent years, several new bermudagrass varieties have become available that are established from seed. A study was planted in the spring of 1997 at the Texas A&M University Agricultural Research and Extension Center at Overton to compare performance of bermudagrasses and bahiagrass from seed with Coastal and Tifton 85 bermudagrasses established vegetatively.

The study was planted on May 2, 1997 on a Redsprings fine sandy loam soil with a pH of 6.8 and low in nitrogen, phosphorus, and potassium. Plots were 6 x 15 ft. and replicated four times. Bermudagrass varieties established from seed were planted at 10 lb/acre by broadcasting the seed on the prepared seedbed and then rolling. Coastal and Tifton 85 bermudagrass plots were established from plants started in the greenhouse in 4-in. pots and transplanted 2 ft. apart within each of two 3 ft. wide rows. Pensacola and Tifton 9 bahiagrass were also included at 20 lb seed/acre by broadcasting the seed on the soil surface and rolling. The area was fertilized with 65 lb/acre of nitrogen, phosphorus, and potassium on May 14, 1997. In mid-August the study was mowed to a 2 in. stubble and fertilized with 68 lb nitrogen and 60 lb of potassium per acre on August 19. On November 7, the plots were harvested and a subsample separated into weeds and grass to determine botanical composition.

Research Findings. Tifton 85 bermudagrass was the most productive grass in the establishment year producing 5000 lb dry matter per acre. This was twice as much forage as bermudagrass varieties established from seed and more than three times greater than Coastal bermudagrass (Table 1). The rapid establishment of Tifton 85 and slow establishment of Coastal bermudagrass is in agreement with earlier research conducted on bermudagrass varieties here at Overton. The advantage of a grass that can establish quickly is demonstrated by the fact that there were no weeds in the Tifton 85 plots but over 500 lb per acre of weeds in Coastal plots. Three of the bermudagrass varieties started from seed (CD 90160, Texas Tough, and Cheyenne) produced significantly more forage than Coastal during the establishment year. Bahiagrass demonstrated its typically slow establishment

by being the lowest yielding entry in the test. They were the only entries where weed yields were greater than the grass yield.

Application. During the establishment year, Tifton 85 bermudagrass was superior to the other grasses in rate of establishment and forage yield. Forage production of seeded bermudagrass varieties was equal to or slighdy greater than Coastal bermudagrass. This study will be continued for three years. We would expect Coastal bermudagrass production to increase each year and become similar to Tifton 85. One year's data are no indication of future production and persistence of the seeded bermudagrass varieties.

Table 1. Yields of warm-season perennial grasses harvested November 7 of the establishment year at Overton 1997.

Variety	Grass	Weeds
	----------Dry matter (lb/acre)----------	
Tifton 85 bermuda	5044 a†	0 d
CD 90160 bermuda*	2737 b	141 cd
Texas Tough bermuda*	2480 bc	523 bc
Cheyenne bermuda*	2408 bc	268 bcd
Tierra Verde bermuda*	2085 cd	159 cd
Ranchero Frio bermuda*	1943 cd	291 bcd
KF-CD-194 bermuda*	1914 cd	298 bcd
Coastal bermuda	1611 d	583 b
Tifton 9 bahia	767 e	1077 a
Pensacola bahia	583 e	1218 a

*Bermudagrasses established with seed.
†Values wtihin a column followed by the same letter are not significantly different at the 0.05 level, Waller-Duncan Multiple Range Test.