MISSISSIPPI BERMUDA GRASS

VARIETY TRIALS, 2023

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MISSISSIPPI'S OFFICIAL VARIETY TRIALS

MISSISSIPPI STATE UNIVERSITY™
MS AGRICULTURAL AND
FORESTRY EXPERIMENT STATION

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This publication is a contribution of the Mississippi Agricultural and Forestry Experiment Station. Trade names of commercial and public varieties tested in this report are included only for clarity and understanding. All available names (i.e., trade names, experiment code names or numbers, chemical names, etc.) and varieties, products, or seed sources in this research are listed on page 3.

Mississippi Bermuda Grass Variety Trials, 2023

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Find variety trial information online at **mafes.msstate.edu/variety-trials.**

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INTRODUCTION

Varieties of forage crops are evaluated every year in the MAFES small-plot trials. Seed is provided by seed companies and state universities and tested at one or more locations across Mississippi. All entries from privately owned companies are tested on a fee basis. Standard varieties may be added by MAFES as a reference for comparison purposes. In addition, varieties of interest may also be added when applicable. This report contains data collected from 2022-2023 for seeded Bermuda grass (*Cynodon dactylon*) varieties. Data presented in Tables 1-2 can be used to evaluate the annual biomass production of each forage variety within that test. Biomass production was statistically evaluated by using the least significant difference (LSD) at $\alpha = 0.05$. The LSD represents the amount of yield that must be observed between any two varieties to determine if the differences observed were due to variety variation alone.

SEEDED BERMUDA GRASS VARIETY TEST 2022-23

Bermuda grass is very drought-tolerant and can be planted throughout the state. Seeded Bermuda grass should be planted between April and June at a seeding rate of 5 to 10 lb PLS/A. Nitrogen and potassium fertilization are essential for high yields, especially for hay production. To maintain a balance between yields and forage quality in a hay production system, it is recommended to harvest hay in 30 to 35 cutting-day intervals. Bermuda grass production can be negatively affected by leaf spot disease (*Bipolaris cynodontis*) and leaf rust (*Puccina cynodontis*). In addition to these leaf diseases, a relatively new pest known as the Bermuda grass stem maggot (*Anterigona reversura*) can weaken Bermuda grass enough to encourage greater leaf disease. These effects can be further amplified when fertility management is lacking in potassium.

Figure 1. Establishment differences between varieties.

PROTOCOL

The experimental design was a randomized complete block with 4 replications. Plots were 6 ft x 10 ft in size with 2 ft alleys between plots and 3 ft alleys between blocks. The study was planted on May 5, 2022, in Starkville, MS using an ALMACO plot drill. Initial fertilizer application was 335 lb/A of 15-5-10 two weeks after planting date. Nitrogen was applied in July at a rate of 50 lb N/A at each location after the initial clean-off harvest and no data was collected due to the majority weed composition. Plots were harvested in the fall when 50% of the plots reached a forage height of 12-15 inches and made up the majority of the composition. Plots were harvested with a Winterstieger harvester to a 3-inch stubble height by removing a 52-inch swath. Yields were recorded and sub-samples were collected for dry matter analysis. Data were analyzed using the General Linear Model (PROC GLM) of SAS, and mean separations was conducted using the LSD at $\alpha = 0.05$. Tables 1-2 present 2022-2023 dry matter yields of seeded Bermuda grass varieties in Starkville, MS.

RESULTS

Table 1. Seeded Bermuda grass dry matter yields and stand ratings from 2022 at Starkville, MS.

Variety	Rating† 9/26/2022	Harvest Date 7/1/2022
		lb DM/ac
Giant	4.5	1140
Common	4.3	530
Texas Tough +	4.3	840
RSF001	4.5	960
Sungrazer plus	3.8	1025
Cheyenne II	4.3	850
Tierra Verde	3.5	605
Exp 2009-1-18B	1.6	620
Grit	3.3	720
Mean	3.8	810
CV%	29.0	35
$LSD^{0.05}$	1.7	325

† Rating = 1-5: 1 poor ground cover/ 5 excellent ground cover
Soil Type: Savannah fine sandy loam
Planted: 5/02/2022
Herbicide: Quinclorac (75%) at 1 lb/A
Fertilizer: 335 lb/ac of 15-5-10 after planting; 50 lb N/A using (33-0-0S) in July after clean-off harvest

RESULTS (continued)

Table 2. Seeded Bermuda grass dry matter yields and stand ratings from 2023 at Starkville, MS.					
Variety	**†Rating 11/14/23**	**Harvest Date**			
		5/25/23	**7/1/23**	**8/16/23**	**Total Yield**
		lb DM/ac			
Giant	1.0	.	.	.	.
Common	4.8	620	1156	1206	2982
Texas Tough +	3.6	900	1602	1482	3984
RSF001	3.8	1026	1405	1204	3635
Sungrazer plus	3.5	942	1325	1632	3899
Cheyenne II	4.0	790	1204	1255	3249
Tierra Verde	4.8	800	1203	1623	3626
Exp 2009-1-18B	5.0	460	620	530	1610
Grit	3.3	720	1403	1607	3730
Mean	3.7	782	1240	1317	3339
CV%	25.0	32	37	31	32
LSD$^{0.05}$	1.5	NS	621	521	1006

† Rating = 1-5: 1 poor ground cover/ 5 excellent ground cover
Soil Type: Savannah fine sandy loam
Planted: 5/02/2022
Herbicide: Quinclorac (75%) at 1 lb/A
Fertilizer: 335 lb/ac of 15-5-10 after planting; 50 lb N/A using (33-0-0S) in July after clean-off harvest

Table 3. Varieties and seed sources for the 2022-2023 warm-season forage variety trial.	
Bermuda grass Varieties	**Seed Company**
Giant	MSU Check
Common	MSU Check
Texas Tough +	East Texas Seeds
RSF001	Rubin seeds
Sungrazer plus	Rubin Seeds
Cheyenne II	Pennington
Tierra Verde	Pennington
Exp	Barenburg
Grit	Barenburg

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