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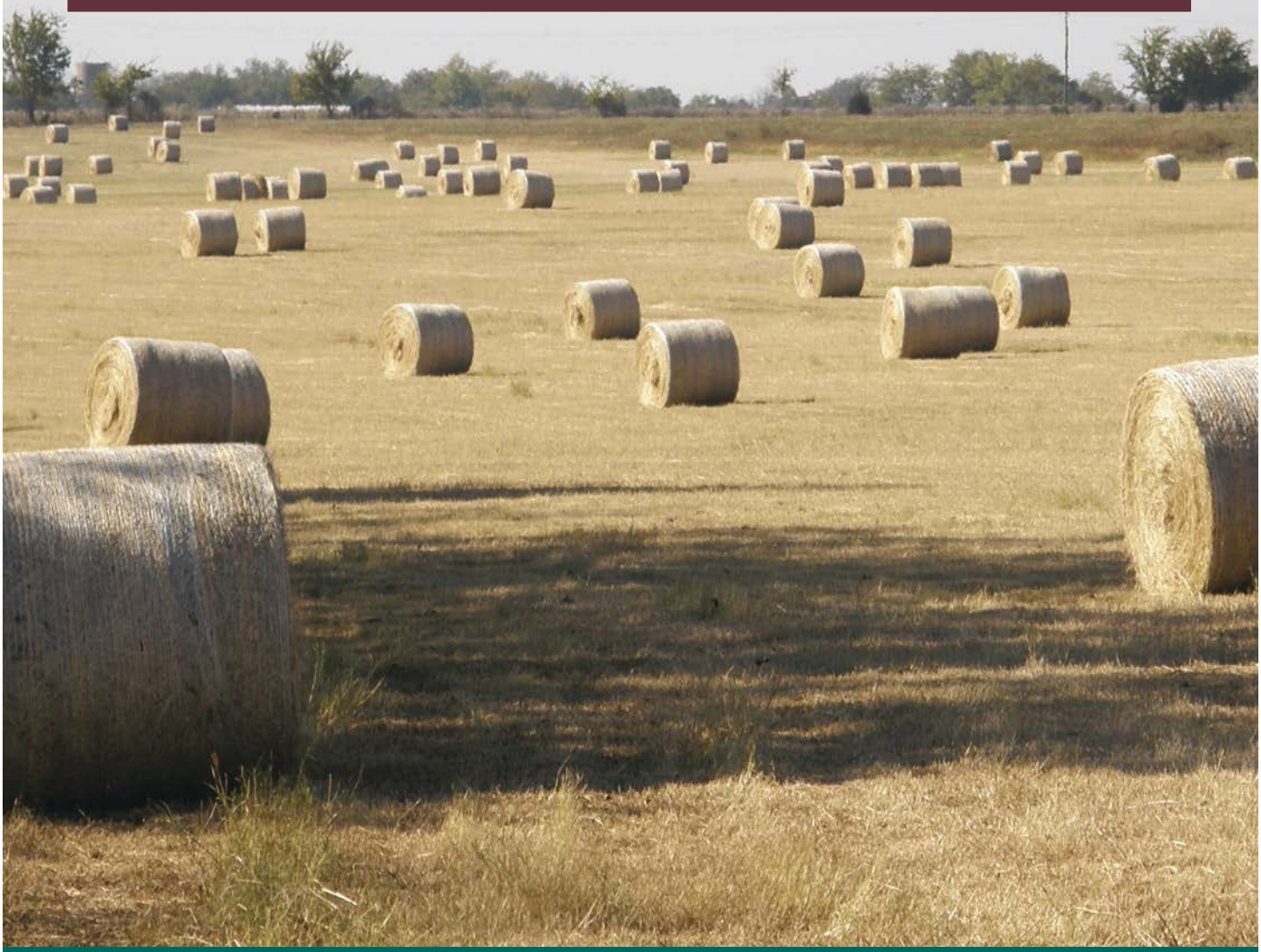
Mississippi Warm-Season Forage Crop



VARIETY TRIALS, 2015

Mississippi's Official Variety Trials

MAFES

Mississippi Agricultural & Forestry Experiment Station • George M. Hopper, Director

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This report contains data generated as part 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.

Mississippi Warm-Season Forage Crop Variety Trials, 2015

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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 small-plot trials conducted by the Mississippi Agricultural and Forestry Experiment Station (MAFES). 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 2013–2015 for bahiagrass (*Paspalum notatum*). Seeded bahiagrass trials were evaluated only in Starkville and Poplarville, but due to poor stand establishment, the Starkville location was not used in data collection. Bahiagrass was planted at 20 pounds per acre and adjusted for pure live seed (PLS) according to each entry's germination and purity percentage. Rainfall amounts during the 2015 growing season are presented in Table 1. Data presented in Tables 2–3 can be used to evaluate the performance of each forage variety within that test. Comparisons can be statistically evaluated by using the least significant difference (LSD). 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.

Table 1. Monthly rainfall totals for Poplarville, 2015.

Location	Jan.	Feb.	March	April	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
	in	*in*	*in*	*in*	*in*	*in*	*in*	*in*	*in*	*in*	*in*	*in*
Poplarville	3.13	2.3	3.79	5.33	11.44	4.01	4.71	1.0	0.01	6.92	4.4	8.46
MS 30-yr. avg.	5.30	4.70	5.80	5.60	5.10	3.30	4.50	3.80	3.60	3.30	4.80	5.90

BAHIAGRASS

Background

Bahiagrass is very drought-tolerant and can be planted throughout the state. Seeded bahiagrass should be planted between March and May at a seeding rate of 20 pounds per acre. Nitrogen and potassium fertilization are essential for high yields, especially for hay production. Ammonium nitrate (34-0-0) has been the fertilizer of choice for bahiagrass during the summer, but its availability has become limited due to regulations by the Department of Homeland Security. Urea ammonium sulfate is the N fertilizer available to Mississippi's livestock producers for hay and pasture. The new 33-0-0 is a blend of urea and ammonium sulfate that should be just as effective as ammonium nitrate in most situations. These yield results can differ from location to location in the state. To maintain a balance between yield and forage quality in a hay production system, it is recommended to cut hay in 30- to 35-day intervals.

Protocol

The experimental design was a randomized complete block with four replications. Plots were 6 by 10 feet in size with 5-foot alleys between plots and 10-foot alleys between blocks. The study was planted on May 29, 2013, and given a year to establish in Poplarville. The initial fertilizer application was 335 pounds per acre of 15-5-10 at planting. Nitrogen was applied after each harvest at a rate of 50 pounds of N per acre using urea-ammonium sulfate (33-0-0S). Plots were harvested when more than 50% of the plots reached a forage height of 12–15 inches or every 4–5 weeks, depending on environmental conditions. Plots were harvested with a "Zero Turn" mower to a 3-inch stubble height with a center 52-inch swath. Yields were recorded, and subsamples were collected for dry matter analysis. Data were analyzed using the General Linear Model (PROC GLM) of SAS, and mean separation was conducted using the LSD at $\alpha = 0.05$.

Table 2. Seeded bahiagrass dry matter yields at Poplarville, 2015.[1]

Variety	Harvest date				Total
	5/6/15	7/3/15	8/14/15	10/17/15	
	lb/A	*lb/A*	*lb/A*	*lb/A*	*lb/A*
Argentine	3396	4831	7429	3022	18678
Pensacola	2715	3974	6848	2701	16238
TifQuik	3404	4349	5892	2426	16070
Tifton9	3392	4419	6453	2573	16837
UASandMt	3096	4331	6049	2426	15902
UFRiata	3136	4304	6468	2261	16169
Mean	3190	4368	6523	2568	16649
$LSD_{0.05}$	NS	NS	NS	NS	NS
CV%	20	19	11	20	11

[1]NS = Not Significant
Planted: May 29, 2013
Fertilizer: 335 lb/A of 15-5-10 at planting; 50 lb/A of N using (33-0-0S) after each harvest

Table 3. Seeded bahiagrass 3-year totals and average dry matter yields at Poplarville, 2013–15.[1]

Variety	Harvest date			3-year avg.
	2013	2014	2015	
	lb/A	*lb/A*	*lb/A*	*lb/A*
Argentine	2370	19324	18678	13457
Pensacola	2403	15861	16238	11501
TifQuik	2305	18089	16070	12154
Tifton9	2442	15632	16837	11637
UASandMt	2199	16963	15901	11688
UFRiata	1494	17432	16169	11698
Mean	2202	17217	16649	12022
$LSD_{0.05}$	NS	1271	NS	NS
CV%	20	7	11	7

[1]NS = Not Significant
Planted: May 29, 2013
Fertilizer: 335 lb/A of 15-5-10 at planting; 50 lb/A of N (33-0-0S) after each harvest

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