SEEDED BERMUDAGRASS

Background

Bermudagrass is very drought tolerant and can be planted throughout the state. Seeded bermudagrass should be planted between March and May at a seeding rate of 5–10 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 bermudagrass during summer months, 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. There are a great number of seeded blends available for planting. Most producers have the notion that these blends usually "revert back to common bermudagrass." This is not surprising, given the composition of the blends. In this situation, it is not a case of the variety suddenly, or even gradually, turning into common bermudagrass. Rather, it is the common bermudagrass already present in the blend gradually replacing the other varieties, due to its greater persistence. To maintain a balance between yields and forage quality in a hay production system, it is recommended to cut hay in 30- to 35-day interval.

Protocol

The experimental design was a randomized complete block with four replications. Plots were 6 feet × 10 feet in size with 5-foot alleys between plots and 10-foot alleys between blocks. The study was planted on June 1, 2016, in Starkville and June 3, 2016, in Poplarville. Initial fertilizer application was 335 pounds 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 and 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 4 presents 2016 dry matter yields of seeded bermudagrass varieties in Starkville. Before each harvest, stand evaluations were performed by estimating percent ground cover of each plot using the Canopeo app (Stillwater, Oklahoma). Results from this evaluation can be found in Table 5.

Table 4. Seeded bermudagrass dry matter yields at Starkville, 2016.

Variety	Harvest date		Total
	9/1/16	10/13/16	
	lb/A	*lb/A*	*lb/A*
BAR RUB 619	1240	804	2044
Common	1536	471	2007
ETSCII325102H	1273	561	1834
ETSCITNS1115	2265	764	3029
Laredo	1838	637	2475
MBS 416	1900	1048	2947
Mowhawk	1788	808	2595
Penn 17	2217	554	2771
Texas Tough+	1765	759	2524
Mean	1758	712	2470
$LSD_{0.05}$	NS	NS	NS
CV%	36	41	29

[1]NS = Not Significant Planted: June 1, 2016
Fertilizer: 335 lb/A of 15-5-10 at planting; 50 lb/A of N using (33-0-0S) after each harvest

Table 5. Seeded bermudagrass plot ratings (percent ground cover) at Starkville, 2016.		
Variety	**Harvest date**	
	9/1/16	**10/13/16**
	%	%
BAR RUB 619	55	10
Common	43	15
ETSCII325102H	70	9
ETSCITNS1115	53	7
Laredo	49	19
MBS 416	36	10
Mowhawk	72	8
Penn 17	30	26
Texas Tough+	63	32