

Mississippi Annual Cool-Season Forage Crop Variety Trials, 2019

INTRODUCTION

Varieties of several forage-crop species are evaluated every year in the Mississippi Agricultural and Forestry Experiment Station's (MAFES) small-plot forage trials. Entries are provided by seed companies and forage and breeding programs at state universities. Experimental and commercially available varieties are tested at one or more locations across Mississippi. All entries from privately owned companies are tested on a fee basis. Some varieties may be added by the MAFES forage variety-testing program as a reference for comparison purposes. In addition, varieties of interest may also be added when applicable. Testing during 2018–2019 was conducted at the following Mississippi locations: North Mississippi Branch Experiment

Station (Holly Springs), Prairie Research Unit (Prairie), Leveck Animal Research Center Forage Unit (Mississippi State campus), Coastal Plain Branch Experiment Station (Newton), and White Sands Research Unit (Poplarville).

Data presented in Tables 3–17 was used to evaluate the performance of each forage crop within its respective trial. Mean and harvest comparisons were statistically evaluated by using the least significant difference (LSD) test at the probability level of $\alpha = 0.05$. The LSD value represents the minimum amount of dry matter (DM) yield (pounds per acre) that must be observed between any two varieties to determine if the difference was due to variety performance alone. Sources of seed are presented in Table 19.

PROTOCOL

Annual ryegrass, small grain, and annual clover trials across the state were established from late September until the first week of October in 2018. At all locations, soil samples were taken and analyzed by the Mississippi State University Soil Testing Laboratory. Trial areas were amended with lime and fertilized with phosphorus (P_2O_5) and potassium (K_2O) according to the soil-test recommendations for individual species. The annual ryegrass and small grain trials were fertilized with 300 pounds of 15-5-10 at the time of planting and with 50 pounds of N per acre after each harvest using urea ammonium sulfate (33-0-0S). Annual clover trials were fertilized with 50 pounds per acre of 0-0-60 (K_2O) at planting and an additional 100 pounds per acre of phosphorus (P_2O_5) and potassium (K_2O) early in the spring using 0-20-20. Plots were 6 feet by 10 feet and planted using a precision cone seeder on a prepared seedbed. Trial design was a randomized complete block replicated four times. The recommended seeding rates were

Table 1. Recommended seeding rates for cool-season forage crops.

Type/Species	Seed weight
	<i>lb/A</i>
Small Grains	
Rye	100
Oat	100
Triticale	100
Annual Ryegrass	30
Annual Clovers	
Arrowleaf	10
Berseem	25
Balansa	4
Ball	3
Crimson	30
Persian	8