VARIETY REPORT

PRELIMINARY PERFORMANCE OF RYEGRASS VARIETIES IN ALABAMA, 2020-2021

DEPT. SERIES NO. CSES2022: RYEGRASS
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AUBURN UNIVERSITY, AUBURN AL
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MISSION

The mission of the Auburn University Variety Testing Program is to provide research-based, unbiased results on the performance of various crop hybrids, cultivars, and varieties to the agricultural community in our state. We are intent on conducting these trials in a manner that will result in maximum biological yield through methods common to the top-producing farms in Alabama. We are committed to providing this information in a timely manner for its use during the decision-making process. The success of the program rests upon our ability to help Alabama producers provide a safe, dependable source of food and fiber for all families as well as economic sustainability for theirs.

HOW TO INTERPRET RESULTS

The purpose of the variety trial data is to determine whether differences are due to genetic performance. These differences cannot be measured absolutely due to environmental field conditions (rainfall, temperatures, soil fertility, soil type, disease, insects, etc.). Yields may differ between plots of the same entry. This variation is accounted for using experimental design and statistics.

The least significant difference (LSD) is used to determine whether the observed differences between entries are real or are caused by random variation. When using the LSD, two entries may have numerically different values, but the values are not statistically different. When two entries are compared and the observed difference is larger than the LSD, the entries are considered statistically different. An alpha level of 0.10 is used, meaning that the differences observed are expected to be real 90% of the time.

The coefficient of variation (CV) is a measure used to compare the amount of random variation within a data set. The lower the CV, the more precise the data set. The model r-square value (0.0-1.0) represents the amount of variation accounted for by the statistical model. As the value increases, the better the variation in the dataset is explained by the model.

Each table is organized in a manner that it is easy to read. The data is sorted from highest yielding to lowest. The bolded values are not statistically different from the highest yielding value.

A dark line in the table visually represents the test average. Any value above the line is equal to or greater than the test average. The numeric value for the test average is at the bottom of the tables.

Test results do not imply recommendation or endorsement by the Auburn University Variety Testing Program.

AUBURN
AGRICULTURE

ACKNOWLEDGEMENTS

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TRIAL MANAGEMENT

Yields are calculated on a dry matter basis. A subsample, taken from each plot, is oven-dried and used to calculate percent dry matter.

TABLE 1 - AGRONOMIC INFORMATION

Crop	Seeding Rate	Row Spacing	Plot Size	Number of Replications
Ryegrass	20 lbs/acre 30 lbs/acre @ GCREC	7 inch	5 x 10-20 ft	4

TABLE 2 - LOCATION SPECIFIC INFORMATION

Research Center	Sand Mountain	E.V. Smith Plant Breeding Unit	Wiregrass	Gulf Coast
Location	Crossville	Tallassee	Headland	Fairhope
Region	North	Central	South	South
Plant Date	November 17	September 30	November 8	October 26
Harvest 1				December 16
Harvest 2				
Harvest 3				
Harvest 4				
Harvest 5				
Soil Type	Hartselle Fine Sandy Loam	Kalmia Loamy Sand	Dothan Sandy Loam	Malbis Fine Sandy Loam
Tillage	Conventional	Conventional	Conventional	No-Till
Pre-plant Fertilizer				
In Season Fertilizer				
Herbicides				
Insecticides				
Fungicides				
Test Conducted By	C. McElmoyl J. Bloodworth J. Clayton	F. Jackson H. Mote J. Burkett	B. Johnson C. Parker E. Richards H. McDaniel J. Greene J. Mullen K. Hodges M. Davis S. Phillips	J. Jones M. Pegues

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SEED SOURCES

TABLE 3 - SOURCE OF SEED, VARIETY NAME, AND LOCATION TESTED

Source	Source Location	Variety	Released or Experimental
Bashaw Land & Seed Inc.	Harrisburg, Oregon	Bashaw Diploid Bashaw Tetraploid	Released Released
DLF Pickseed	Hasley, Oregon	Andes	Released
GO Seed	Salem, Oregon	GO-MOT Lonestar Tetrastar	Experimental Released Released
GreenPoint Ag	Macon, Missouri	Fria	Released
Mountain View Seeds	Salem, Oregon	Centurion Ranahan	Released Released
Oregro Seed	Albany, Oregon	Diamond T Double Diamond Flying A K014-WEAR Sherrif TAMTBO Triangle T Winterhawk	Released Released Released Experimental Experimental Released Released Released
Ragan and Massey	Ponchatoula, Louisiana	Earlyploid Prine RM4L	Released Released Released

Source	Source Location	Variety	Released or Experimental
Smith Seed Services	Halsey, Oregon	Attain	Released
		Bendix	Released
		Baqueano	Released
		Big Boss	Released
		Claro	Released
		Dexter	Experimental
		FrostProof	Released
		Green Dragon	Released
		Green Farm 2	Released
		GreenAcres	Experimental
		Gulf	Released
		Halsey	Experimental
		Koga	Released
		Mantis	Experimental
		Rapido	Released
		SELWDTSEM1	Experimental
		SELWTDWL1	Experimental
The Wax Company, LLC	Armory, Mississippi	Jackson	Released
		ME4	Experimental
		ME-94	Experimental
		Nelson	Released
		Wax Marshall	Released
		WMWL	Experimental
		WMWL-2	Experimental

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SAND MOUNTAIN RESEARCH AND EXTENSION CENTER
CROSSVILLE, AL

TABLE 4 - DRY MATTER YIELD BY HARVEST TIMING (LB/ACRE)

Variety	1st Harvest	2nd Harvest	3rd Harvest	4th Harvest	Season Total

Bolded yields are NOT statistically different from the highest yielding entry.
Bolded line in table indicates test average.
N.S. –differences are statistically non-significant.

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E.V. SMITH RESEARCH AND EXTENSION CENTER
PLANT BREEDING UNIT - TALLASSEE, AL

TABLE 5 - DRY MATTER YIELD BY HARVEST TIMING (LB/ACRE)

Variety	1st Harvest	2nd Harvest	3rd Harvest	4th Harvest	5th Harvest	Season Total

Variety	1st Harvest	2nd Harvest	3rd Harvest	4th Harvest	5th Harvest	Season Total

Bolded yields are NOT statistically different from the highest yielding entry.
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YIELD

WIREGRASS RESEARCH AND EXTENSION CENTER

HEADLAND, AL

TABLE 6 - DRY MATTER YIELD BY HARVEST TIMING (LB/ACRE)

Variety	1st Harvest	2nd Harvest	3rd Harvest	4th Harvest	5th Harvest	Season Total

Variety	1st Harvest	2nd Harvest	3rd Harvest	4th Harvest	5th Harvest	Season Total

Bolded yields are NOT statistically different from the highest yielding entry.
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CRUDE PROTEIN

WIREGRASS RESEARCH AND EXTENSION CENTER

HEADLAND, AL

Crude protein (CP) is the total nitrogen multiplied by a 6.25 correction factor.

TABLE 7 – CRUDE PROTEIN BY HARVEST TIMING

Variety	1ST Harvest	2nd Harvest	3rd Harvest	4th Harvest	5th Harvest	Season Average

Bolded yields are NOT statistically different from the highest yielding entry.
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NUETRAL DETERGENT FIBER

WIREGRASS RESEARCH AND EXTENSION CENTER

HEADLAND, AL

Neutral detergent fiber (NDF) is the total cell wall of the plant. As NDF increases, dry matter intake decreases.

TABLE 8 – NEUTRAL DETERGENT FIBER BY HARVEST TIMING

Variety	1ST Harvest	2nd Harvest	3rd Harvest	4th Harvest	5th Harvest	Season Average

Bolded yields are NOT statistically different from the highest yielding entry.
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ACID DETERGENT FIBER

WIREGRASS RESEARCH AND EXTENSION CENTER

HEADLAND, AL

Acid detergent fiber (ADF) is an estimation of the indigestible forage. The larger the value, the less digestible.

TABLE 9 – ACID DETERGENT FIBER BY HARVEST TIMING

Variety	1ST Harvest	2nd Harvest	3rd Harvest	4th Harvest	5th Harvest	Season Average

Bolded yields are NOT statistically different from the highest yielding entry.
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TOTAL DIGESTABLE NUTRIENTS

WIREGRASS RESEARCH AND EXTENSION CENTER

HEADLAND, AL

Total digestible nutrients (TDN) is used to express energy value of forages. The greater the value, the more energy dense the forage.

TABLE 10 – TOTAL DIGESTABLE NUTRIENTS BY HARVEST TIMING

Variety	1ST Harvest	2nd Harvest	3rd Harvest	4th Harvest	5th Harvest	Season Average

Bolded yields are NOT statistically different from the highest yielding entry.
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RELATIVE FORAGE QUALITY

WIREGRASS RESEARCH AND EXTENSION CENTER

HEADLAND, AL

Relative forage quality (RFQ) is a single-number index that can be used to compare the overall quality of one or more forage samples. It is calculated based on CP, NDF, and ADF. It ranges from 0-300, with 150 considered a late-bloom alfalfa.

TABLE 11 – RELATIVE FORAGE QUALITY BY HARVEST TIMING

Variety	1ST Harvest	2nd Harvest	3rd Harvest	4th Harvest	5th Harvest	Season Average

Bolded yields are NOT statistically different from the highest yielding entry.
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N.S. –differences are statistically non-significant.

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GULF COAST RESEARCH AND EXTENSION CENTER
FAIRHOPE, AL

TABLE 12 - DRY MATTER YIELD BY HARVET TIMING (LB/ACRE)

Variety	1st Harvest 12/16/2021	2nd Harvest	3rd Harvest	4th Harvest	Season Total
Prine	1039				
Dexter	1038				
Rapido	1033				
Nelson	1029				
Earlyploid	1023				
K014-WEAR	1012				
Centurion	999				
Fria	995				
Baqueano	985				
Attain	974				
WMWL	962				
Lonestar	959				
Bashaw Diploid	935				
FrostProof	931				
RM4L	929				
Big Boss	921				
Green Dragon	908				
Ranahan	900				
Jackson	886				
Bashaw Tetraploid	875				
SELWTDWL1	873				
SELWDTSEM1	854				
Diamond T	844				
Tetrastar	820				
Winterhawk	816				
Sherrif	811				
Koga	749				
Wax Marshall	721				
Double Diamond	712				
Average	992				
LSD at 10% level	N.S.				
CV	36				
Model R-Square	0.46				

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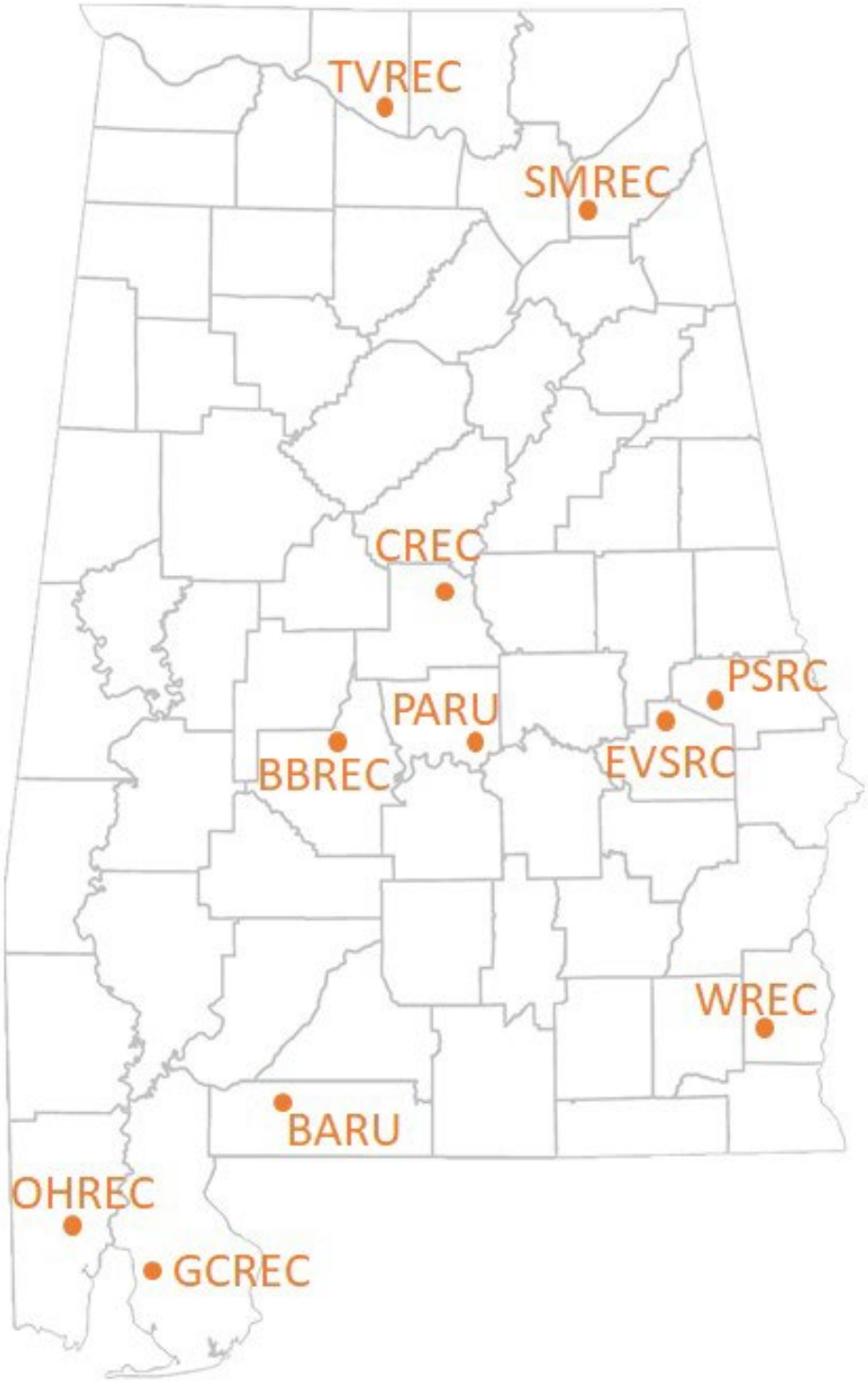

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