

PERFORMANCE OF RYEGRASS VARIETIES IN ALABAMA, 2020-2021

DEPT. SERIES NO. CSES2021: RYEGRASS
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CROP, SOIL & ENVIRONMENTAL SCIENCES
AUBURN UNIVERSITY, AUBURN AL
JUNE 25, 2021

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.



ACKNOWLEDGEMENTS

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Chet Norris, Interim Director

Clint McElmoyl, Associate Director

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

DATA WEBSITE

Jason Burkett, Associate Director

WIREGRASS RESEARCH AND EXTENSION CENTER HEADLAND, AL

YIELD

QUALITY: CP NDF ADF RFQ TDN
WEBSITE

Chris Parker, Associate Director

GULF COAST RESEARCH AND EXTENSION CENTER FAIRHOPE, AL

DATA WEBSITE

Malcomb Pegues, Director

Jarrod Jones, Associate Director

2019-2020 PERFORMANCE OF RYEGRASS VARIETIES IN ALABAMA “LAST YEAR’S DATA”

ACES PUBLICATION INTERPRETING A FORAGE ANALYSIS FOR BEEF CATTLE

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 20 ft	3-4

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 5	October 2	October 13	Replanted - December 11
Harvest 1	April 6	December 15	January 5	March 11
Harvest 2	April 30	February 24	February 23	March 29
Harvest 3	May 19	March 22	March 12	April 13
Harvest 4	June 17	April 12	April 13	May 7
Harvest 5	N/A	May 14	May 6	N/A
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	50N-0P-0K	50N-0P-40K	45N-0P-45K	40N-100P-60K
In Season Fertilizer	50 lbs N after each harvest	50 lbs N after each harvest	50 lbs N in December 50 lbs N after each harvest	50 lbs N in early January 50 lbs N after each harvest
Herbicides	None	Harmony Extra	Harmony Extra	None
Insecticides	None	None	None	None
Fungicides	None	None	None	None
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	Locations
Allied Seed, LLC	Macon, Missouri	Fria	Released	Not tested at GCREC
Barenburg USA	Tangent, Oregon	BAR LM 17534 Jumbo	Experimental Released	Statewide
Bashaw Land & Seed Inc.	Harrisburg, Oregon	Bashaw Diploid Bashaw Tetraploid	Released Released	Statewide
GO Seed	Salem, Oregon	Lonestar Tetrastar	Released Released	Statewide
Lewis Seed Company	Shedd, Oregon	Grits Diploid LSC-B1191	Released Released	Statewide
Mountain View Seeds	Salem, Oregon	CENTURION RANAHAN	Released Released	Statewide
Oregro Seed	Albany, Oregon	Diamond T Double Diamond Flying A TAMTBO Triangle T Winterhawk	Released Released Released Released Released Released	Statewide
Pennington Seed Inc.	Madison, Georgia	PPER7	Released	Statewide
Ragan and Massey	Ponchatoula, Louisiana	Earlyployd Prine RM4L	Released Released Released	Statewide
Smith Seed Services	Halsey, Oregon	Attain Baqueano FrostProof Greenfarm 2 Hellen Koga Rapido SEWT10 Trinova	Released Released Released Released Released Released Released Experimental Released	Statewide

Source	Source Location	Variety	Released or Experimental	Locations
The Wax Company, LLC	Armory, Mississippi	Jackson ME-4 ME-94 Nelson Tetraploid WAX Marshall WMWL WMWL-2	Released Experimental Experimental Released Released Experimental Experimental	Statewide
University of Georgia	Athens, Georgia	GALM1516 GALM1517 GALM1618	Experimental Experimental Experimental	Statewide

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2021 STATEWIDE SUMMARY

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

Variety	Statewide	Sand Mountain	EV Smith PBU	Wiregrass	Gulf Coast
ME-4	6597	5795	8302	7425	4868
Nelson Tetraploid	6384	5911	7995	6856	4776
Triangle T	6352	5722	7418	7122	5147
Prine	6327	5887	7439	7017	4963
Lonestar	6293	5724	7266	6865	5319
WMWL-2	6212	5300	7505	7314	4729
Double Diamond	6199	5711	7351	6745	4989
Jumbo	6176	5280	7535	7290	4599
RM4L	6170	5569	7501	6836	4774
WMWL	6143	5419	7281	6956	4914
LSC-B1191	6136	5142	7443	6867	5092
Bashaw Diploid	6119	5330	7305	6798	5042
WAX Marshall	6090	5052	6840	7497	4972
BAR LM 17534	6080	4798	7956	6988	4577
Greenfarm 2	6077	5616	6694	6995	5002
Flying A	6076	4993	7746	6417	4905
TAMTBO	6038	5356	7134	7006	4658
GALM1517	6020	5326	7075	6875	4802
ME-94	6019	5117	7198	6972	4789
CENTURION	6014	5442	6745	7096	4774
Earlyployd	6005	4285	7641	7212	4883
Grits Diploid	5996	5314	6842	6732	5095
Diamond T	5988	5233	6977	6729	5014
FrostProof	5971	5181	7242	6613	4850
GALM1618	5967	5570	6862	6642	4794
PPER7	5966	5327	7330	6759	4446
GALM1516	5953	5380	6826	6920	4685
Attain	5948	4827	7534	6581	4848
RANAHAH	5922	4897	7492	6461	4840
Bashaw Tetraploid	5878	5106	6960	6630	4817
Tetrastar	5875	5231	6919	6555	4796
Baqueano	5853	4615	7088	6616	5092
Winterhawk	5821	5110	6859	6240	5077
Hellen	5804	5833	6668	6303	4723
Trinova	5738	4711	6724	6473	5045
Rapido	5555	4602	7088	5990	4541
Koga	5549	4824	6824	5408	4748
Jackson	5525	4596	7068	6400	4036
SEWT10	5403	4497	6507	5966	4644
Fria	.	5221	7611	6432	.
Average	6006	5221	7210	6748	4838
LSD @ 10%	377	276	788	576	402
CV	20	16	10	11	8
Model R-Square	0.73	0.53	0.34	0.66	0.39

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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SAND MOUNTAIN RESEARCH AND EXTENSION CENTER
CROSSVILLE, AL

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

Variety	1st Harvest 4/6/2021	2 nd Harvest 4/20/2021	3 rd Harvest 5/19/2021	4 th Harvest	Season Total
Nelson Tetraploid	1758	1744	1337	1071	5911
Prine	2083	1597	1195	1012	5887
Hellen	2010	1346	1197	1281	5833
ME-4	1867	1660	1255	1012	5795
Lonestar	2523	1373	1052	775	5724
Triangle T	2098	1535	1257	831	5722
Double Diamond	1869	1718	1003	1120	5711
Greenfarm 2	2741	1225	882	768	5616
GALM1618	2038	1520	1066	947	5570
RM4L	1933	1509	1192	935	5569
CENTURION	2139	1306	1105	891	5442
WMWL	1710	1591	997	1122	5419
GALM1516	2899	1076	752	652	5380
TAMTBO	1639	1609	1006	1102	5356
Bashaw Diploid	2214	1344	1008	764	5330
PPER7	1749	1209	1188	1182	5327
GALM1517	2147	1189	1055	935	5326
Grits Diploid	2104	1198	1068	945	5314
WMWL-2	1523	1797	881	1099	5300
Jumbo	1743	1421	1137	980	5280
Diamond T	1856	1300	1085	992	5233
Tetrastar	1575	1830	1011	814	5231
Fria	2302	1110	1036	773	5221
FrostProof	1777	1129	1060	1215	5181
LSC-B1191	1688	1385	1073	996	5142
ME-94	1720	1432	1082	882	5117
Winterhawk	1893	1515	966	735	5110
Bashaw Tetraploid	1594	1684	939	889	5106
WAX Marshall	1308	1649	1059	1036	5052
Flying A	2039	1374	812	768	4993
RANAHAN	1639	1458	870	929	4897
Attain	1544	1391	987	906	4827
Koga	1298	1372	782	1372	4824
BAR LM 17534	1544	1390	1062	803	4798
Trinova	1274	1615	953	870	4711
Baqueano	1551	1351	722	990	4615
Rapido	2350	1145	698	408	4602
Jackson	1290	1329	1028	948	4596
SEWT10	816	1460	860	1361	4497
Earlyployd	1980	1037	753	516	4285
Average	1846	1423	1012	941	5221
LSD @ 10%	549	342	233	213	276
CV	36	23	25	31	16

Variety	1st Harvest 4/6/2021	2 nd Harvest 4/20/2021	3 rd Harvest 5/19/2021	4 th Harvest	Season Total
Model R-Square	0.63	0.40	0.56	0.71	0.53

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

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

Variety	1st Harvest 12/15/2020	2nd Harvest 2/24/2021	3 rd Harvest 3/22/2021	4 th Harvest 4/12/2021	5 th Harvest 5/14/2021	Season Total
ME-4	225	557	2446	2433	2641	8302
Nelson Tetraploid	158	553	2212	2500	2571	7995
BAR LM 17534	185	786	2375	2438	2172	7956
Flying A	93	430	2703	2379	2141	7746
Earlyployd	160	794	2640	1926	2120	7641
Fria	79	464	2424	2341	2303	7611
Jumbo	135	586	2164	2432	2220	7535
Attain	156	565	1984	2270	2558	7534
WMWL-2	126	497	2410	2183	2290	7505
RM4L	120	609	2224	2239	2309	7501
RANAHAN	134	607	2196	2367	2189	7492
LSC-B1191	121	392	2373	2356	2201	7443
Prine	187	805	2331	2351	1765	7439
Triangle T	149	616	2124	1978	2551	7418
Double Diamond	159	742	2360	1899	2191	7351
PPER7	104	404	2210	2418	2195	7330
Bashaw Diploid	120	460	2517	2073	2135	7305
WMWL	158	530	2386	2031	2176	7281
Lonestar	126	631	2310	2340	1859	7266
FrostProof	88	533	2463	1908	2250	7242
ME-94	110	334	2007	2238	2509	7198
TAMTBO	159	567	2282	2140	1986	7134
Rapido	47	287	2512	2019	2223	7088
Baqueano	121	422	2121	2027	2396	7088
GALM1517	127	541	1869	2134	2404	7075
Jackson	69	348	2193	2132	2326	7068
Diamond T	134	482	2396	1909	2055	6977
Bashaw Tetraploid	95	546	1967	2237	2116	6960
Tetrastar	102	521	1995	2081	2220	6919
GALM1618	133	628	2041	2032	2028	6862
Winterhawk	106	544	2137	1938	2134	6859
Grits Diploid	106	493	2348	1918	1977	6842
WAX Marshall	173	428	2168	2137	1934	6840
GALM1516	70	431	2182	2206	1937	6826
Koga	109	191	1424	2678	2422	6824
CENTURION	90	297	2092	2051	2214	6745
Trinova	128	651	1985	2145	1816	6724
Greenfarm 2	64	271	2225	2046	2089	6694
Hellen	119	518	1985	2153	1893	6668

Variety	1st Harvest 12/15/2020	2nd Harvest 2/24/2021	3 rd Harvest 3/22/2021	4 th Harvest 4/12/2021	5 th Harvest 5/14/2021	Season Total
SEWT10	119	270	1737	2248	2133	6507
Average	124	508	2213	2183	2191	7220
LSD @ 10%	51	134	475	382	359	788
CV	49	35	19	17	16	10
Model R-Square	0.62	0.70	0.33	0.40	0.40	0.34

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YIELD
WIREGRASS RESEARCH AND EXTENSION CENTER
HEADLAND, AL

TABLE 7 - DRY MATTER YIELD BY HARVEST TIMING (LB/ACRE)

Variety	1 st Harvest 1/5/2021	2 nd Harvest 2/23/2021	3 rd Harvest 3/12/2021	4 th Harvest 4/13/2021	5 th Harvest 5/6/2021	Season Total
WAX Marshall	942.0	1456	1493	2217	1389	7497
ME-4	1049.3	1415	1491	2296	1173	7425
WMWL-2	1194.0	1293	1588	2056	1183	7314
Jumbo	1166.1	1406	1503	1829	1387	7290
Earlyployd	1158.0	1686	1512	1749	1108	7212
Triangle T	1236.8	1363	1279	1723	1520	7122
CENTURION	1016.2	1499	1440	2010	1131	7096
Prine	1208.6	1396	1305	1768	1341	7017
TAMTBO	1015.4	1552	1198	1783	1458	7006
Greenfarm 2	885.9	1384	1673	1935	1117	6995
BAR LM 17534	909.1	1565	1454	1905	1154	6988
ME-94	895.6	1254	1311	2227	1285	6972
WMWL	1099.0	1268	1383	2115	1091	6956
GALM1516	999.8	1676	1525	1780	939	6920
GALM1517	1183.7	1488	1342	1733	1128	6875
LSC-B1191	891.2	1499	1392	1904	1180	6867
Lonestar	907.4	1464	1491	1821	1181	6865
Nelson Tetraploid	1011.4	1335	1406	1827	1277	6856
RM4L	1081.6	1400	1296	1764	1294	6836
Bashaw Diploid	941.9	1641	1311	1811	1093	6798
PPER7	753.1	1307	1305	2053	1340	6759
Double Diamond	962.8	1374	1435	1777	1194	6745
Grits Diploid	761.3	1434	1649	1894	994	6732
Diamond T	901.3	1386	1190	1765	1487	6729
GALM1618	973.7	1567	1253	1547	1302	6642
Bashaw Tetraploid	1036.6	1290	1390	1825	1088	6630
Baqueano	1080.0	1389	1265	1735	1146	6616
FrostProof	845.9	1484	1355	1912	1017	6613
Attain	846.2	1458	1322	1812	1142	6581
Tetrastar	1099.8	1477	1196	1634	1148	6555
Trinova	943.9	1419	1221	1756	1133	6473
RANAHAN	1034.5	1273	1253	1826	1074	6461
Fria	800.7	1551	1168	1850	1062	6432
Flying A	935.5	1550	1231	1966	979	6417
Jackson	614.0	1067	1499	1993	1227	6400
Hellen	965.9	1234	1128	1492	1171	6303
Winterhawk	937.4	1391	1110	1778	1024	6240

Variety	1 st Harvest 1/5/2021	2 nd Harvest 2/23/2021	3 rd Harvest 3/12/2021	4 th Harvest 4/13/2021	5 th Harvest 5/6/2021	Season Total
Rapido	728.3	1362	1392	1708	800	5990
SEWT10	820.4	992	1064	1649	1440	5966
Koga	755.4	996	990	1495	1562	5408
Average	964.7	1401	1345	1843	1194	6740
LSD @ 10%	221.2	225	175	186	283	576
CV	24	20	17	12	24	11
Model R-Square	0.52	0.65	0.57	0.64	0.48	0.66

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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 8 – CRUDE PROTEIN BY HARVEST TIMING

Variety	1 ST Harvest 1/5/2021	2 nd Harvest 2/23/2021	3 rd Harvest 3/12/2021	4 th Harvest 4/13/2021	5 th Harvest 5/6/2021	Season Average
Jackson	26.4	19.1	22.5	13.4	13.3	18.9
GALM1516	25.3	17.9	21.1	13.6	15.3	18.6
GALM1618	23.8	17.3	20.8	14.6	15.4	18.4
Lonestar	25.9	17.1	21.6	13.8	13.3	18.3
Winterhawk	24.9	17.6	20.8	13.6	14.7	18.3
RANAHAN	25.6	17.5	20.9	13.4	14.0	18.3
GALM1517	24.8	16.9	21.2	13.7	14.7	18.3
ME-94	25.0	18.2	21.6	13.2	13.1	18.2
Triangle T	24.5	16.9	21.8	13.8	14.2	18.2
WMWL-2	25.2	17.9	21.2	14.1	12.6	18.2
Tetrastar	24.3	17.9	20.7	14.3	13.6	18.2
Diamond T	24.5	17.5	20.7	13.2	14.4	18.1
TAMTBO	24.5	17.6	21.2	14.3	12.5	18.0
Flying A	23.7	17.5	21.3	13.6	13.5	17.9
WAX Marshall	23.8	17.3	21.4	12.7	13.8	17.8
Prine	23.4	17.1	21.4	13.2	14.0	17.8
Nelson Tetraploid	23.7	17.7	20.5	13.4	13.6	17.8
Double Diamond	22.9	17.6	20.4	13.7	14.2	17.7
CENTURION	23.7	17.1	21.0	12.6	14.2	17.7
ME-4	23.6	17.7	20.6	12.6	11.8	17.3
WMWL	23.3	16.8	21.1	11.9	12.1	17.0
Average	24.4	17.5	21.1	13.5	13.7	18.1
LSD@ 10% level	N.S.	N.S.	N.S.	N.S.	1.6	N.S.
CV	7	6	5	13	11	5
Model R-Square	0.31	0.40	0.28	0.69	0.45	0.43

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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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 9 – NEUTRAL DETERGENT FIBER BY HARVEST TIMING

Variety	1 ST Harvest	2 nd Harvest	3 rd Harvest	4 th Harvest	5 th Harvest	Season
	1/5/2021	2/23/2021	3/12/2021	4/13/2021	5/6/2021	Average
Nelson Tetraploid	38.8	40.9	40.2	48.4	60.4	45.7
WAX Marshall	39.9	39.0	40.6	50.1	60.1	45.9
GALM1517	41.6	41.7	39.8	48.4	59.8	46.3
CENTURION	38.9	40.2	41.0	49.3	62.2	46.3
ME-4	37.1	39.2	41.3	50.6	63.8	46.4
RANAHAN	40.0	41.5	42.9	50.0	59.1	46.7
Prine	40.2	42.2	41.7	49.7	59.9	46.8
Double Diamond	40.6	42.3	41.1	49.5	60.4	46.8
GALM1618	41.2	41.4	41.7	50.0	60.1	46.9
Jackson	37.5	40.0	42.6	52.7	61.6	46.9
ME-94	38.2	40.4	42.2	50.8	63.0	46.9
TAMTBO	41.1	40.5	40.4	50.8	63.6	47.3
Diamond T	42.0	42.8	40.8	50.2	60.9	47.4
Triangle T	41.9	41.8	41.0	51.3	61.8	47.6
Winterhawk	41.6	41.9	41.7	53.3	61.7	48.1
WMWL	40.8	40.2	42.5	51.8	66.1	48.3
GALM1516	39.3	42.5	43.5	56.8	63.8	49.2
Lonestar	40.2	42.0	43.7	54.2	66.0	49.2
Flying A	43.2	42.2	42.5	54.2	64.3	49.3
Tetrastar	43.6	44.3	42.1	54.1	63.2	49.4
WMWL-2	40.8	41.6	43.8	54.9	66.2	49.5
Average	40.5	41.4	41.8	51.6	62.4	47.5
LSD@ 10% level	1.9	2.1	1.7	2.6	3.5	1.2
CV	6	6	4	6	5	3
Model R-Square	0.62	0.66	0.48	0.62	0.45	0.69

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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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 10 – ACID DETERGENT FIBER BY HARVEST TIMING

Variety	1 ST Harvest 1/5/2021	2 nd Harvest 2/23/2021	3 rd Harvest 3/12/2021	4 th Harvest 4/13/2021	5 th Harvest 5/6/2021	Season Average
WAX Marshall	18.6	19.2	23.9	26.4	32.1	24.0
ME-4	17.1	19.1	23.4	26.6	34.3	24.1
CENTURION	18.0	20.3	23.9	25.7	32.8	24.1
ME-94	17.8	19.8	24.1	26.6	33.9	24.4
Nelson Tetraploid	18.7	20.6	23.5	26.2	33.2	24.4
Jackson	17.2	20.0	24.6	27.9	33.6	24.7
GALM1618	19.7	20.7	24.0	26.6	32.7	24.7
GALM1517	20.2	21.0	24.1	26.1	32.6	24.8
RANAHAN	18.9	21.3	25.5	27.3	32.9	25.2
Prine	19.5	21.3	24.9	26.8	33.4	25.2
Winterhawk	19.4	21.0	24.3	27.9	33.3	25.2
Triangle T	19.8	21.6	24.3	27.3	33.1	25.2
TAMTBO	19.8	20.7	23.6	26.9	35.2	25.3
WMWL	19.2	20.2	24.4	27.1	35.4	25.3
Double Diamond	19.7	21.9	24.4	26.4	33.9	25.3
Diamond T	20.6	22.3	24.1	27.1	33.6	25.5
WMWL-2	18.9	20.3	25.3	28.3	35.1	25.6
Lonestar	18.3	21.1	24.9	28.6	35.7	25.7
Flying A	21.2	21.2	24.6	28.3	34.1	25.9
GALM1516	18.1	21.8	25.5	30.5	34.1	26.0
Tetrastar	21.6	22.9	24.9	28.4	34.9	26.5
Average	19.1	20.9	24.4	27.3	33.8	25.1
LSD@ 10% level	1.4	1.3	1.1	1.4	N.S.	0.8
CV	9	9	5	6	6	4
Model R-Square	0.61	0.77	0.57	0.54	0.31	0.61

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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TOTAL DIGESTIBLE 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 11 – TOTAL DIGESTIBLE NUTRIENTS BY HARVEST TIMING

Variety	1 ST Harvest	2 nd Harvest	3 rd Harvest	4 th Harvest	5 th Harvest	Season
	1/5/2021	2/23/2021	3/12/2021	4/13/2021	5/6/2021	Average
WAX Marshall	79.18	78.49	73.62	70.93	64.98	73.44
ME-4	80.66	78.65	74.11	70.73	62.63	73.36
CENTURION	79.75	77.32	73.62	71.67	64.30	73.33
ME-94	80.01	77.90	73.35	70.80	63.12	73.03
Nelson Tetraploid	79.01	77.06	73.97	71.19	63.82	73.01
Jackson	80.58	77.64	72.87	69.35	63.37	72.76
GALM1618	77.97	76.89	73.52	70.77	64.36	72.70
GALM1517	77.50	76.64	73.42	71.25	64.42	72.64
RANAHAN	78.83	76.32	71.92	70.06	64.12	72.25
Prine	78.22	76.31	72.55	70.54	63.63	72.25
Winterhawk	78.33	76.62	73.11	69.36	63.71	72.23
Triangle T	77.88	76.04	73.11	70.06	63.89	72.19
TAMTBO	77.82	76.92	73.89	70.48	61.69	72.16
WMWL	78.47	77.45	73.09	70.22	61.55	72.16
Double Diamond	77.96	75.69	73.02	70.99	63.06	72.14
Diamond T	77.05	75.25	73.37	70.26	63.37	71.86
WMWL-2	78.85	77.36	72.06	68.97	61.84	71.82
Lonestar	79.46	76.50	72.56	68.64	61.20	71.67
Flying A	76.44	76.39	72.88	68.98	62.89	71.52
GALM1516	79.71	75.81	71.85	66.70	62.85	71.39
Tetrastar	75.99	74.62	72.56	68.88	62.09	70.83
Average	78.53	76.67	73.04	69.99	63.10	72.27
LSD@ 10% level	1.51	1.32	1.15	1.49	N.S.	0.86
CV	2	3	2	2	3	1
Model R-Square	0.61	0.77	0.57	0.54	0.31	0.61

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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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 12 – RELATIVE FORAGE QUALITY BY HARVEST TIMING

Variety	1 ST Harvest 1/5/2021	2 nd Harvest 2/23/2021	3 rd Harvest 3/12/2021	4 th Harvest 4/13/2021	5 th Harvest 5/6/2021	Season Average
ME-4	246	254	208	194	144	209
CENTURION	237	245	203	200	156	208
WAX Marshall	231	253	199	194	159	207
Nelson Tetraploid	228	241	207	196	153	205
GALM1618	219	241	203	197	154	203
ME-94	227	248	194	196	148	203
Double Diamond	226	232	200	198	148	201
GALM1517	205	240	199	200	156	200
Prine	225	238	190	194	152	200
WMWL	228	246	197	189	139	200
TAMTBO	211	242	203	194	140	198
Winterhawk	212	239	199	188	152	198
Triangle T	212	235	193	191	152	197
RANAHAN	210	236	189	189	155	196
Jackson	215	243	185	186	150	196
Diamond T	204	229	201	191	149	195
WMWL-2	213	244	188	186	141	195
Flying A	207	238	194	185	147	194
Lonestar	214	239	189	183	136	192
GALM1516	221	233	187	171	144	191
Tetrastar	196	223	195	184	143	188
Average	218	240	196	191	149	199
LSD@ 10% level	N.S.	11	14	10	N.S.	8
CV	10	7	7	5	5	4
Model R-Square	0.36	0.75	0.51	0.48	0.32	0.49

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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GULF COAST RESEARCH AND EXTENSION CENTER
FAIRHOPE, AL

TABLE 13 - DRY MATTER YIELD BY HARVEST TIMING (LB/ACRE)

Variety	1 st Harvest 3/11/2021	2 nd Harvest 3/29/2021	3 rd Harvest 4/13/2021	4 th Harvest 5/7/2021	Season Total
Lonestar	1761	1211	654	1693.5	5319
Triangle T	1696	1218	648	1583.9	5147
Grits Diploid	1642	1152	637	1664.0	5095
Baqueano	1577	1230	833	1451.9	5092
LSC-B1191	1591	1315	646	1539.7	5092
Winterhawk	1602	1125	796	1554.0	5077
Trinova	1554	1266	681	1544.7	5045
Bashaw Diploid	1811	1156	626	1448.9	5042
Diamond T	1600	1169	714	1530.7	5014
Greenfarm 2	1446	1222	678	1655.5	5002
Double Diamond	1510	1210	728	1540.4	4989
WAX Marshall	1346	1230	752	1644.3	4972
Prine	1775	1120	638	1430.6	4963
WMWL	1329	1243	700	1642.4	4914
Flying A	1537	1132	665	1570.9	4905
Earlyployd	1909	1071	522	1381.4	4883
ME-4	1473	1123	706	1565.2	4868
FrostProof	1267	1163	737	1682.8	4850
Attain	1553	1139	697	1459.8	4848
RANAHAN	1370	1197	647	1626.5	4840
Bashaw Tetraploid	1639	1189	641	1347.6	4817
GALM1517	1497	1120	763	1422.7	4802
Tetrastar	1423	1198	642	1532.2	4796
GALM1618	1464	1115	653	1561.6	4794
ME-94	1376	1084	777	1552.6	4789
Nelson Tetraploid	1337	1149	804	1485.9	4776
RM4L	1428	1173	714	1458.9	4774
CENTURION	1159	1205	823	1586.8	4774
Koga	1339	1074	1043	1292.2	4748
WMWL-2	1424	1174	716	1415.5	4729
Hellen	1296	1125	823	1479.8	4723
GALM1516	1477	1081	670	1457.5	4685
TAMTBO	1212	1180	759	1506.5	4658
SEWT10	1367	1060	947	1269.6	4644
Jumbo	1422	1141	626	1409.8	4599
BAR LM 17534	1417	1050	702	1407.4	4577
Rapido	1622	1131	496	1291.9	4541
PPER7	1107	1038	790	1510.5	4446

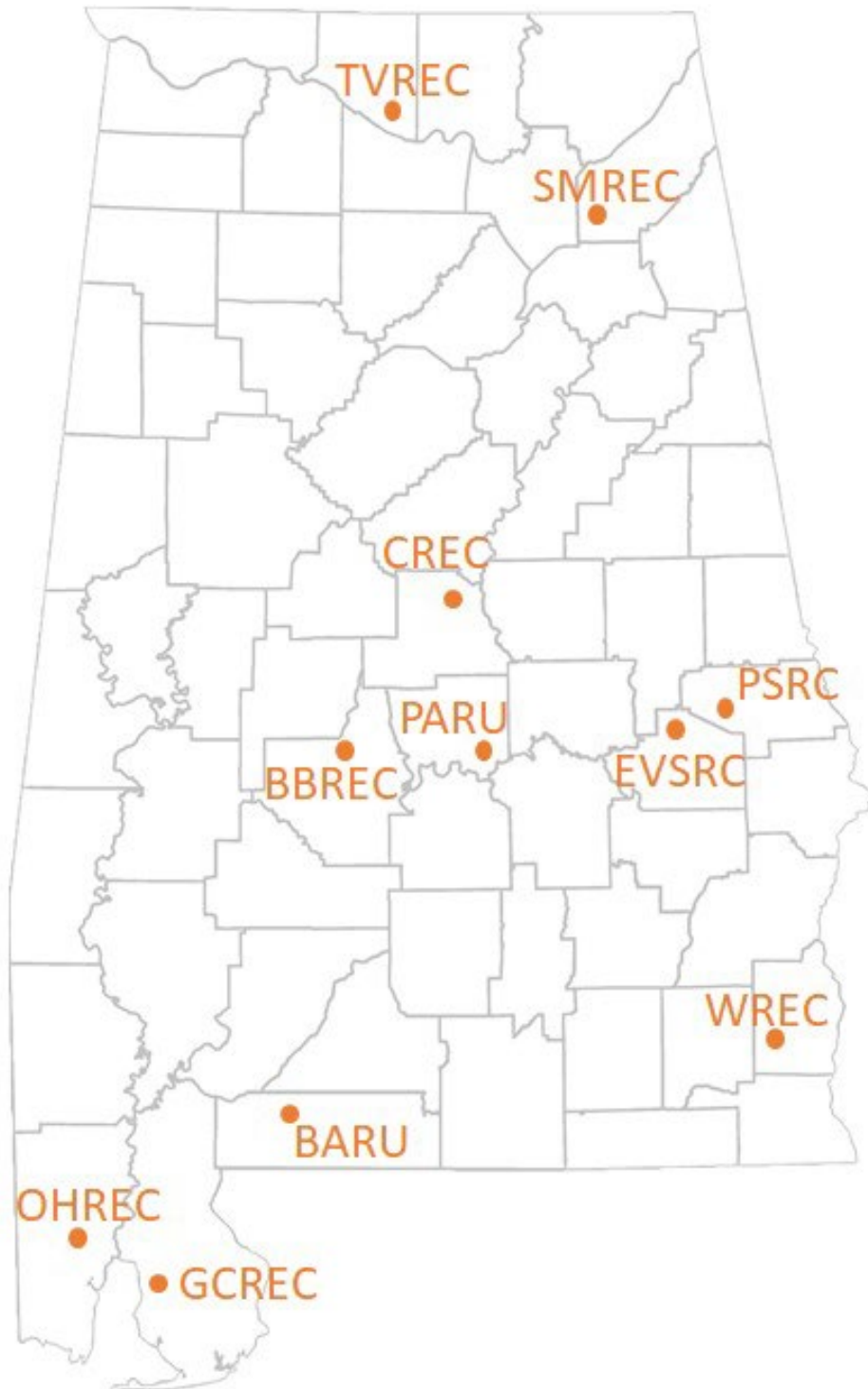
Variety	1 st Harvest 3/11/2021	2 nd Harvest 3/29/2021	3 rd Harvest 4/13/2021	4 th Harvest 5/7/2021	Season Total
Jackson	983	866	690	1496.6	4036
Average	1470	1150	712	1505.0	4838
LSD @ 10%	316	131	126	149.1	402
CV	22	11	19	10	8
Model R-Square	0.47	0.39	0.55	0.50	0.39

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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