

*Performance
of Ryegrass
Varieties in
Alabama,
2001-02*

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PERFORMANCE OF RYEGRASS VARIETIES IN ALABAMA, 2001-02

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The Alabama Ryegrass Variety Evaluation is a continuing evaluation of available varieties and breeding lines from private companies and state agricultural experiment stations. Experiments are planted annually in northern, central, and southern locations to evaluate the varieties and lines under the different environmental conditions of Alabama. Entries in each experiment are determined by the companies or institutes that control each variety or line, not by Alabama Agricultural Experiment Station personnel. The experiments are conducted by experiment station personnel and the results are presented in a fair and unbiased manner.

EXPERIMENTAL PROCEDURES AND DISCUSSION

Ryegrass entries were seeded at a 20-pound-per-acre rate in rows 7 inches apart, using plots 5 x 20 feet with four replications. Acceptable stands were obtained at the following locations: Sand Mountain Research and Extension Center, Crossville; E.V. Smith Research Center, Plant Breeding Unit, Tallassee; Wiregrass Research and Extension Center, Headland and Gulf Coast Research and Extension Center, Fairhope.

The experiments were fertilized with phosphorus and potassium according to Auburn University soil test recommendations. At planting, nitrogen was applied at the rate of 50 pounds per acre, and an additional 50 pounds of N per acre was applied after each cutting. A 32- or 49-inch swath of each plot was harvested to a cutting height of 1.5 to 2 inches with a flail harvester each time the ryegrass reached a height of 6-10 inches. A herbage sample of approximately 1 pound was taken from each plot at each harvest for determining forage dry matter percentage.

In 2001, the tests were planted September 27, October 18, October 17, and October 31 at Crossville, Tallassee, Headland and Fairhope, respectively. All planting dates were delayed due to lack of soil moisture. Cuttings were limited at Fairhope due to drought conditions.

In 2000, the tests were planted October 3, September 29, October 9, and October 11 at Crossville, Tallassee, Headland and Fairhope, respectively. Crossville had poor soil moisture at planting which delayed stand emergence and prevented early production. This resulted in lower than normal yields at Crossville.

Strategies to meet seasonal forage needs are an important consideration for livestock producers. Tables 1-4 provide yield data by harvest for 2001-02 at a given location, while Tables 5 and 6 show 1, 2, and 3-year total yields by location. Seasonal distribution and 3-year average total dry matter yields by locations are provided in Tables 7 and 8. The three seasonal periods are: fall — forage produced through February; early spring — March and early April production; and late spring — production after April 20. A 3-year average provides a more dependable comparison of ryegrass varieties than do single-year results.

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TABLE 1. SEASONAL DRY MATTER YIELD OF RYEGRASS VARIETIES AT THE SAND MOUNTAIN RESEARCH AND EXTENSION CENTER, CROSSVILLE, ALABAMA, 2002

Brand-Variety	Yield by harvest date					Season total
	12/20	2/23	3/26	4/16	5/9	
	----- lbs per acre -----					
BRIGADIER	1853	771	935	945	1281	† 5785
DYNA-GAIN	1615	531	932	1463	1085	5626
WAX ME 94	1748	506	1078	1211	1036	5579
ED	1508	676	1149	966	1214	5513
MARSHALL	1265	644	1253	1167	1077	5406
DH-3	1282	731	1046	1203	1134	5396
STAMPEDE	1215	518	1132	1215	1256	5336
JACKSON	1455	661	1119	1071	1008	5314
RIBEYE	1126	845	1226	956	1147	5300
FL/OK 2001(NEW1) LRCT	1390	498	919	1300	1148	5255
AUBURN AR 96-11	1225	531	1232	1144	1068	5200
SCH-5	1366	579	1038	1136	1069	5188
PASSEREL PLUS	1183	577	940	1280	1126	5106
TXR 2001-11	939	443	1103	1299	1321	5105
RIO	1327	492	966	1044	1268	5097
SCH-2	1324	554	939	1085	1171	5073
FL X2001(NEW)4XLR MIDLATE	1213	697	1184	954	981	5029
FL X2001(NEW1)4XLR LATE	1127	573	954	1101	1247	5002
WMN 97	1049	488	1149	1218	1089	4993
BB-MEX-1	1121	470	1284	1084	1014	4973
PRINE	1300	485	827	1138	1206	4956
TXR 2002-12	1442	629	807	962	1096	4936
TXR 2001-10	1256	464	873	1169	1169	4931
AUBURN AR 00-3	876	562	1083	1104	1284	4909
TAM 90	1306	587	788	1094	1102	4877
AUBURN AR 00-2	932	457	930	1130	1297	4746
AGR LM 109	1353	533	805	864	1162	4717
WVPB-AR-98-L	967	557	861	1074	1178	4637
AGRBW 101	661	423	976	1281	1229	4570
FL X2001(G) 4XER	1102	562	755	962	1152	4533
JUMBO	1343	472	795	951	949	4510
BIG DADDY	1065	511	866	952	1088	4482
AUBURN AR 96-1	1013	527	785	955	1093	4373
AUBURN AR 00-1	1104	411	787	890	1080	4272
AGR LM 106	907	422	899	723	710	3661
<i>Test Mean</i>	1227.3	553.8	984.98	1088.3	1129.6	4982
<i>C.V. (%)</i>	31	23	26	19	17	45
<i>L.S.D. (0.10)</i>	453	148	295	246	221	711

Planted: September 27, 2001

Soil: Hartsells Fine Sandy Loam

† Only five cuttings taken at this location.

TABLE 2. SEASONAL DRY MATTER YIELD OF RYEGRASS VARIETIES AT THE PLANT BREEDING UNIT, TALLASSEE, ALABAMA, 2002

Brand-Variety	Yield by harvest date						Season total
	12/18	2/5	3/14	3/27	4/16	5/9	
	----- lbs per acre -----						
PRINE	831	661	1005	1248	1524	768	6037
RIO	969	598	728	1306	1619	662	5882
SCH-5	841	526	799	1397	1717	572	5852
JUMBO	917	510	788	1193	1538	887	5833
FL X2001(NEW1)4XLR LATE	826	538	783	1308	1491	773	5719
AGRBW 101	362	455	735	1284	1999	870	5705
DYNA-GAIN	838	638	701	1325	1722	478	5702
RIBEYE	611	509	864	1563	1548	573	5668
TXR 2002-12	713	587	833	1494	1454	580	5661
FL/OK 2001(NEW1) LRCT ED	648	470	805	1448	1587	624	5582
WAX ME 94	790	481	758	1304	1565	666	5564
BRIGADIER	691	487	621	1416	1741	600	5556
BIG DADDY	737	572	914	1430	1407	442	5502
WMN 97	724	508	880	1307	1506	540	5465
MARSHALL	745	450	506	1350	1782	630	5463
JACKSON	670	400	522	1342	1892	610	5436
FL X2001(G) 4XER	808	520	673	1427	1601	406	5435
DH-3	543	448	1131	1357	1312	631	5422
AUBURN AR 96-1	729	533	774	1342	1532	498	5408
BB-MEX-1	515	449	1083	1591	1258	389	5285
FL X2001(NEW)4XLR MIDLATE	718	513	728	1177	1579	569	5284
STAMPEDE	701	429	746	1185	1493	703	5257
TAM 90	752	527	614	1159	1587	613	5252
AUBURN AR 96-11	667	499	746	1294	1490	519	5215
TXR 2001-11	597	395	849	1631	1152	575	5199
PASSEREL PLUS	637	440	611	1372	1492	624	5176
WVPB-AR-98-L	754	401	447	1220	1675	622	5119
SCH-2	412	318	870	1496	1339	577	5012
TXR 2001-10	681	415	652	1290	1524	445	5007
AUBURN AR 00-3	607	448	545	1397	1463	495	4955
AUBURN AR 00-1	468	335	912	1494	1188	280	4677
AGRML 106	732	471	540	1266	1405	174	4588
AUBURN AR 00-2	690	370	594	934	1150	509	4247
AGRML 109	410	352	599	1144	1438	282	4225
<i>Test Mean</i>	545	307	312	737	1294	541	3736
<i>C.V. (%)</i>	683	473	730	1320	1518	564	5289
<i>L.S.D. (0.10)</i>	20	23	19	15	8	24	66
	163	127	164	233	142	160	571

Planted: October 18, 2001

Soil: Cahaba Fine Sandy Loam

TABLE 3. SEASONAL DRY MATTER YIELD OF RYEGRASS VARIETIES AT THE WIREGRASS RESEARCH AND EXTENSION CENTER, HEADLAND, ALABAMA, 2002

Brand-Variety	Yield by harvest date					Season total
	1/9	2/4	3/14	4/1	4/26	
	----- lbs per acre -----					
JUMBO	2161	1585	3005	2436	892	† 10080
FL X2001(G) 4XER	1924	1897	2950	2289	1011	10072
TXR 2001-11	1785	1911	2981	2388	882	9947
PASSEREL PLUS	2030	1780	2957	2155	976	9897
WMN 97	2053	1730	2792	2388	915	9877
FL X2001(NEW1)4XLR LATE	1843	1795	3066	2268	832	9804
DYNA-GAIN	1720	1638	3055	2388	970	9772
AGRLM 109	1826	1724	3182	2189	846	9768
AGRLM 106	1772	1697	2609	2561	1077	9716
WAX ME 94	1854	1691	2888	2243	989	9665
SCH-5	2061	1630	2759	2381	827	9658
FL/OK 2001(NEW1) LRCT	2154	1757	2926	2012	782	9631
RIBEYE	1973	1743	3008	2166	738	9628
WVPB-AR-98-L	1993	1536	3032	2038	864	9464
ED	1942	1635	2599	2395	843	9414
BIG DADDY	1903	1665	2999	2043	791	9400
TAM 90	1731	1665	2622	2372	901	9291
RIO	2139	1784	2372	2232	758	9285
SCH-2	1739	1696	2881	2131	823	9270
FL X2001(NEW)4XLR MIDLATE	1577	1786	3005	1995	857	9220
TXR 2002-12	1922	1580	2719	2203	761	9184
TXR 2001-10	1915	1777	2473	2209	801	9176
BRIGADIER	1350	1743	3123	2050	896	9162
MARSHALL	1735	1635	2382	2464	931	9147
STAMPEDE	1303	1765	3091	2126	839	9123
BB-MEX-1	1572	1588	2659	2453	720	8992
DH-3	1750	1418	2635	2270	793	8866
AUBURN AR 96-11	1482	1703	2626	2243	795	8849
PRINE	1423	1689	2950	2051	709	8823
AUBURN AR 00-1	1376	1542	3319	1839	695	8770
JACKSON	1759	1454	2174	2450	918	8755
AGRBW 101	570	1347	1822	3028	1624	8392
AUBURN AR 96-1	1388	1741	2189	2104	596	8018
<i>Test Mean</i>	1749	1676	2783	2259	868	9337
<i>C.V. (%)</i>	20	16	12	11	20	66
<i>L.S.D. (0.10)</i>	309	234	285	214	147	567

Planted: October 17, 2001

Soil: Dothan Fine Sandy Loam

† Only five cuts were taken at this location

TABLE 4. SEASONAL DRY MATTER YIELD OF RYEGRASS VARIETIES AT THE GULF COAST RESEARCH AND EXTENSION CENTER, FAIRHOPE, ALABAMA, 2002

Brand-Variety	Yield by harvest date				Season total
	1/24	2/25	3/18	4/5	
	----- lbs per acre -----				
AGRBW 101	1428	2453	1809	1628	7316
TXR 2001-11	1126	2679	2080	1138	7023
BB-MEX-1	1029	2508	1904	1254	6694
RIBEYE	889	2431	2050	1311	6681
JUMBO	943	2565	1723	1355	6585
AGRLM 109	1268	2314	1705	1298	6584
WMN 97	1135	2515	1819	1106	6575
RIO	1118	2476	1844	1129	6566
FL X2001(G) 4XER	958	2753	1848	999	6556
WVPB-AR-98-L	1151	2399	1761	1213	6524
DH-3	1154	2465	1728	1148	6494
TXR 2001-10	1216	2613	1560	1099	6488
TAM 90	1121	2524	1740	1063	6448
TXR 2002-12	1189	2418	1704	1135	6445
ED	981	2625	1803	1036	6445
AUBURN AR 96-11	1199	2486	1736	1023	6444
PRINE	1184	2249	1945	1043	6420
FL X2001(NEW)4XLR MIDLATE	1103	2581	1703	1020	6406
SCH-5	950	2434	1926	1078	6388
AGRLM 106	776	2688	1774	1136	6374
WAX ME 94	1259	2211	1873	989	6331
MARSHALL	1006	2334	1426	1498	6264
STAMPEDE	1244	2364	1545	1089	6241
PASSEREL PLUS	985	2375	1878	985	6223
SCH-2	865	2391	1798	1078	6131
JACKSON	1050	2104	1918	1036	6108
DYNA-GAIN	945	2336	1865	960	6106
AUBURN AR 96-1	989	2118	1650	1328	6084
FL/OK 2001(NEW1) LRCT	824	1935	2036	1083	5878
BRIGADIER	801	2348	1693	974	5815
BIG DADDY	954	2171	1633	1020	5778
FL X2001(NEW1)4XLR LATE	999	2316	1308	791	5414
<i>Test Mean</i>	1059	2416	1775	1126	6370
<i>C.V. (%)</i>	31	12	11	8	51
<i>L.S.D. (0.10)</i>	305	278	188	89	479

Planted: October 31, 2001

Soil: Malbis Fine Sandy Loam

†, ‡ Only 4 cuts taken due to extreme spring drought

TABLE 5. TOTAL DRY MATTER YIELD OF RYEGRASS VARIETIES, 2002, AND TWO- AND THREE-YEAR AVERAGES FOR SAND MOUNTAIN REC AND PLANT BREEDING UNIT.

Sand Mountain Research and Ext. Ctr.				Plant Breeding Unit			
Brand-Variety	2002	2-yr. Avg	3-yr. Avg	Brand-Variety	2002	2-yr. Avg	3-yr. Avg
	----- lbs per acre -----				----- lbs per acre -----		
WAX ME 94	5579	4570	5798	RIO	5882	6752	6738
MARSHALL	5406	4523	5686	JACKSON	5435	6996	6558
JACKSON	5314	4662	5666	BIG DADDY	5465	6562	6523
STAMPEDE	5336	4288	5638	MARSHALL	5436	6312	6296
RIO	5097	4534	5630	JUMBO	5833	6066	6188
RIBEYE	5300	4700	5616	TAM 90	5215	6237	6162
PASSEREL PLUS	5106	4135	5524	PASSEREL PLUS	5119	5883	6041
TAM 90	4877	4005	5225	RIBEYE	5668	5998	5995
BIG DADDY	4482	4074	5095	WAX ME 94	5556	5906	5913
JUMBO	4510	3793	4947	STAMPEDE	5252	6081	5890
BRIGADIER	5785	4769	†	BRIGADIER	5502	7130	†
PRINE	4956	4243	†	WMN 97	5463	6327	†
TXR 2001-10	4931	4224	†	PRINE	6037	6265	†
FL X2001(NEW1) 4XLR LATE	5002	4092	†	FL X2001(G) 4XER	5422	6177	†
WMN 97	4993	4073	†	FL X2001(NEW1) 4XLR LATE	5719	6066	†
FL X2001(G) 4XER	4533	3914	†	TXR 2001-10	4955	5678	†
WVPB-AR-98-L	4637	3602	†	WVPB-AR-98-L	5012	5561	†

† These entries were not tested prior to 2001, thus only a two-yr average is available at this time.

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TABLE 6. TOTAL DRY MATTER YIELD OF RYEGRASS VARIETIES, 2002, AND TWO- AND THREE-YEAR AVERAGES FOR WIREGRASS REC AND GULF COAST REC.

Wiregrass Research and Ext. Ctr.				Gulf Coast Research and Ext. Ctr.			
Brand-Variety	2002	2-yr. Avg 2001-02	3-yr. Avg 2000-02	Brand-Variety	2002	2-yr. Avg 2001-02	3-yr. Avg 2000-02
	----- lbs per acre -----				----- lbs per acre -----		
WAX ME 94	9665	9036	8208	MARSHALL	6264	6968	7687
PASSEREL PLUS	9897	8853	8053	JACKSON	6108	6796	7552
JUMBO	10080	8880	7972	PASSEREL PLUS	6223	6744	7433
BIG DADDY	9400	8585	7957	JUMBO	6585	6559	7379
MARSHALL	9147	8357	7874	RIO	6566	7004	7376
RIBEYE	9628	8242	7799	STAMPEDE	6241	6641	7366
TAM 90	9291	8266	7776	RIBEYE	6681	6823	7233
STAMPEDE	9123	8397	7773	WAX ME 94	6331	6336	7201
RIO	9285	8134	7753	TAM 90	6448	6527	7140
JACKSON	8755	8330	7702	BIG DADDY	5778	6291	7092
FL X2001(G) 4XER	10072	9186	†	TXR 2001-10	6488	6654	†
FL X2001(NEW1) 4XLR LATE	9804	8695	†	WVPB-AR-98-L	6524	6602	†
BRIGADIER	9162	8549	†	FL X2001(G) 4XER	6556	6497	†
WVPB-AR-98-L	9464	8433	†	PRINE	6420	6327	†
WMN 97	9877	8422	†	BRIGADIER	5815	6196	†
PRINE	8823	8277	†	FL X2001(NEW1) 4XLR LATE	5414	5980	†
TXR 2001-10	9176	8078	†	WVPB-AR-98-L	7003	4785	†

† These entries were not tested prior to 2001, thus only a two-yr average is available at this time.

TABLE 7. SEASONAL DISTRIBUTION OF RYEGRASS PRODUCTION AT SAND MOUNTAIN REC AND PLANT BREEDING UNIT BASED ON THREE-YEAR AVERAGES, 2000-2002.

Brand-Variety	Fall	Early spring	Late spring	3-yr avg
	----- % of total annual yield -----			- lbs per acre -
Sand Mountain Research and Ext. Ctr.				
WAX ME 94	25.8	39.2	35.0	5798
MARSHALL	23.5	40.7	35.8	5686
JACKSON	28.9	37.3	33.8	5666
STAMPEDE	23.5	42.9	33.6	5638
RIO	28.6	37.8	33.7	5630
RIBEYE	29.1	37.4	33.5	5616
PASSEREL PLUS	20.9	41.5	37.6	5524
TAM 90	26.6	38.6	34.8	5225
BIG DADDY	26.5	40.7	32.8	5095
JUMBO	25.1	37.8	37.1	4947
Plant Breeding Unit				
RIO	25.5	56.2	18.3	6738
JACKSON	25.0	56.6	18.4	6558
BIG DADDY	25.8	55.8	18.4	6523
MARSHALL	22.3	60.5	17.2	6296
JUMBO	23.9	57.1	19.1	6188
TAM 90	23.2	60.0	16.8	6162
PASSEREL PLUS	23.3	59.4	17.2	6041
RIBEYE	21.4	62.5	16.1	5995
WAX ME 94	23.4	58.6	18.0	5913
STAMPEDE	23.4	57.6	19.1	5890

TABLE 8. SEASONAL DISTRIBUTION OF RYEGRASS PRODUCTION AT WIREGRASS REC AND GULF COAST REC BASED ON THREE-YEAR AVERAGES, 2000-2002.

Brand-Variety	Fall	Early spring	Late spring	3-yr avg
	----- % of total annual yield -----			- lbs per acre -
Wiregrass Research and Ext. Ctr.				
WAX ME 94	22.5	70.9	6.6	8208
PASSEREL PLUS	23.2	69.9	6.9	8053
JUMBO	23.0	70.5	6.5	7972
BIG DADDY	25.1	68.8	6.1	7957
MARSHALL	22.1	71.2	6.7	7874
RIBEYE	24.4	70.0	5.5	7799
TAM 90	22.2	71.2	6.6	7776
STAMPEDE	22.2	71.5	6.2	7773
RIO	27.6	66.8	5.6	7753
JACKSON	23.0	70.9	6.1	7702
Gulf Coast Research and Ext. Ctr.				
MARSHALL	49.6	40.9	8.3	7687
JACKSON	52.3	35.6	12.1	7552
PASSEREL PLUS	48.7	33.6	17.7	7433
JUMBO	46.9	35.9	17.2	7379
RIO	47.2	34.3	18.5	7376
STAMPEDE	49.5	37.5	13.0	7366
RIBEYE	52.5	35.9	11.7	7233
WAX ME 94	47.4	37.1	15.5	7201
TAM 90	51.7	34.0	14.3	7140
BIG DADDY	50.7	33.8	15.4	7092

SOURCES OF RYEGRASS SEED

AGRLM 106 AGRLM 109 AGRBW 101 (prairie grass)	AgResearch, Ashville, North Carolina
Auburn AR 96-1 Auburn AR 96-11 Auburn AR 00-1 Auburn AR 00-2 Auburn AR 00-3	Auburn University, Auburn Alabama
BB-Mex-1 Ribeye	Barenbrug USA, Tangent, Oregon
Dyna-Gain	United Agri Products, Athens, Alabama
Brigadier Prine	East Texas Seed Co., Tyler, Texas
DH-3 SCH-2 SCH-5	OreGro Seeds, Inc., Shedd, Oregon
Passerel Plus	Pennington Seed, Inc., Lebanon, Oregon
Rio Stampede	ProSeeds Marketing, Jefferson, Oregon
Big Daddy Ed Jumbo	Smith Seed Service, Halsey, Oregon
TAM 90 TXR 2001-10 TXR 2001-11 TXR 2002-12	Texas A & M University, College Station, Texas
Jackson Marshall WAX ME94 WMN 97	The Wax Company, LLC, Amory, Mississippi
FL X2001(G)4X ER FL X2001(New 1)4XLR Late FL X2001(New)4XLR Mid-late FL/OK 2001(New 1)LRCT	University of Florida, Gainesville, Florida
WVPB-AR-98-L	Willamette Valley Plant Breeders, Inc., Brownsville, Oregon