



Performance of

Ryegrass

Varieties
in Alabama

1997-98



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The Alabama Ryegrass Variety Evaluation is a continuing study 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 which control each variety, or line, not by 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 seven inches apart, using plots 5 x 20 feet with four replications. Good stands were obtained at the following locations: Sand Mountain Substation, Crossville, E.V. Smith Research Center, Tallassee and Gulf Coast Substation, 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 ½ to 2 inches with a flail harvester each time the ryegrass reached a height of six to 10 inches. A herbage sample of approximately 1 pound was taken from each plot at each harvest for determining forage dry matter percentage.

In 1996, the tests were planted October 7, October 17, and October 15 at Crossville, Tallassee, and Fairhope, respectively. Good stands were obtained at Crossville and Tallassee. Less than adequate planting conditions reduced stands and yields at Fairhope. All locations had wet conditions, but normal growth occurred on most varieties. In 1997, the tests were planted October 6, October 8, and October 23 at Crossville, Tallassee, and Fairhope, respectively. Good stands were obtained at all locations. All locations had wet conditions, and in some cases harvest was delayed somewhat due to the wetness.

Strategies to meet seasonal forage needs are an important consideration for livestock producers. Tables 1-3 provide yield data **by harvest** for 1997-98 at a given location, while table 4 shows one-, two-, and three-year total yields by location. Seasonal and total forage dry matter yields by locations are provided in table 5. The three seasonal periods are fall—forage production through February; early spring—March and early April production; and late spring—production after April 20. A three-year average provides a more dependable comparison of ryegrass varieties than do single-year results.

ACKNOWLEDGMENTS

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Glass is an Agricultural Program Associate and Bransby is a Professor in the Auburn University Department of Agronomy and Soils.

Information contained herein is available to all persons regardless of race, color, sex, or national origin.

**TABLE 1. SEASONAL DRY MATTER YIELD OF RYEGRASS VARIETIES AT GULF COAST SUBSTATION,
FAIRHOPE, ALABAMA, 1998**

Brand-Variety	Acre yield by harvest date						Season total
	12/17	1/20	1/24	3/20	4/10	5/08	
	<i>lb.</i>	<i>lb.</i>	<i>lb.</i>	<i>lb.</i>	<i>lb.</i>	<i>lb.</i>	<i>lb.</i>
WVPB-AR-A-13	362	1,180	2,311	1,673	1,128	1,404	8,058
Marshall	376	1,330	2,060	1,827	945	1,279	7,817
Hercules	850	1,279	1,884	1,428	815	1,219	7,475
WVPB-AR-F-11	279	1,398	2,133	1,400	924	1,149	7,283
WAX ME94	594	1,233	1,977	1,352	883	1,165	7,204
RIO	660	1,221	1,928	1,281	793	1,081	6,964
OFI FL95	667	1,239	2,046	1,192	888	920	6,952
Surrey	597	1,212	2,067	930	985	974	6,765
TXR 95-5	288	1,203	1,970	1,327	852	1,073	6,713
Tetragold	762	1,086	1,722	1,235	769	1,067	6,641
WVPB-AR-93-101	543	1,313	1,673	1,191	739	1,131	6,590
Southern Star	680	1,205	1,799	1,138	736	1,002	6,560
OFI A94	440	1,160	1,871	1,148	756	1,142	6,517
TAM 90	507	1,251	1,634	1,236	739	1,005	6,372
T-444 Plus	634	1,134	1,629	1,167	805	980	6,349
Gulf (Source A)	327	1,356	1,783	1,072	861	941	6,340
WVPB-AR-R-3	260	1,204	1,967	1,029	821	1,028	6,309
Big Daddy	362	1,349	1,886	1,179	769	756	6,301
TXR95-6	369	1,297	1,805	921	927	933	6,252
Gulf (Source B)	615	1,183	1,727	1,020	712	994	6,251
Jackson	365	1,137	2,067	915	673	956	6,113
FL X1997(G) 4N	614	1,271	1,789	951	542	905	6,072
Gulf (Oregon State)	451	1,082	1,607	1,026	820	971	5,957
Grazer	372	1,251	1,794	674	976	706	5,773
Ribeye	490	1,106	1,389	833	607	999	5,424
<i>Test Mean</i>	<i>499</i>	<i>1,227</i>	<i>1,861</i>	<i>1,166</i>	<i>819</i>	<i>1,031</i>	<i>6,602</i>
<i>C.V. (%)</i>	<i>33</i>	<i>16</i>	<i>15</i>	<i>15</i>	<i>24</i>	<i>21</i>	<i>13</i>
<i>L.S.D. (.10)</i>	<i>193</i>	<i>227</i>	<i>324</i>	<i>202</i>	<i>234</i>	<i>257</i>	<i>1,039</i>

Planted: October 23, 1997.

Soil: Malbis Fine Sandy Loam.

TABLE 2. SEASONAL DRY MATTER YIELD OF RYEGRASS VARIETIES AT PLANT BREEDING UNIT, TALLASSEE, ALABAMA, 1998

Brand-Variety	Acre yield by harvest date					Season total
	1/20	3/16	4/02	4/29	5/22	
	<i>lb.</i>	<i>lb.</i>	<i>lb.</i>	<i>lb.</i>	<i>lb.</i>	<i>lb.</i>
Ribeye	874	1,452	837	2,892	1,421	7,476
WAX ME94	686	1,438	897	2,247	1,951	7,219
T-444 Plus	989	1,056	654	2,572	1,360	6,631
OFI FL95	539	1,348	827	2,326	1,402	6,442
RIO	744	1,204	790	2,131	1,403	6,272
TXR95-6	676	1,201	763	1,936	1,682	6,258
Gulf (Source A)	674	1,142	846	1,948	1,624	6,234
Surrey	862	1,313	741	2,125	1,092	6,133
WVPB-AR-R-3	577	1,288	813	2,058	1,371	6,107
Jackson	631	1,181	806	2,138	1,342	6,098
Grazer	591	1,879	550	2,120	948	6,088
Big Daddy	793	1,073	823	1,950	1,432	6,071
OFI A94	631	1,329	815	2,091	1,069	5,935
TAM 90	842	1,146	773	2,244	910	5,915
WVPB-AR-F-11	323	1,034	837	2,137	1,327	5,658
WVPB-AR-93-101	701	1,238	677	1,932	1,041	5,589
Gulf (Oregon State)	627	998	734	1,985	1,211	5,555
FL X1997(G) 4N	455	806	789	1,967	1,509	5,526
Gulf (Source B)	829	1,053	719	1,809	1,116	5,526
Marshall	374	783	840	2,301	1,125	5,423
TXR 95-5	342	802	655	2,241	1,134	5,174
Tetragold	487	758	709	1,714	1,402	5,070
Hercules	639	667	544	1,421	697	3,968
WVPB-AR-A-13	243	480	484	1,463	1,043	3,713
<i>Test Mean</i>	<i>630</i>	<i>1,111</i>	<i>747</i>	<i>2,073</i>	<i>1,276</i>	<i>5,837</i>
<i>C.V. (%)</i>	<i>36</i>	<i>25</i>	<i>17</i>	<i>23</i>	<i>38</i>	<i>14</i>
<i>L.S.D. (.10)</i>	<i>265</i>	<i>333</i>	<i>150</i>	<i>570</i>	<i>578</i>	<i>929</i>

Planted: October 8, 1997.

Soil: Cahaba Fine Sandy Loam.

TABLE 3. SEASONAL DRY MATTER YIELD OF RYEGRASS VARIETIES AT SAND MOUNTAIN SUBSTATION, CROSSVILLE, ALABAMA, 1998

Brand-Variety	Acre yield by harvest date				Season total
	3/04	4/02	4/22	5/11	
	<i>lb.</i>	<i>lb.</i>	<i>lb.</i>	<i>lb.</i>	<i>lb.</i>
OFI FL95	486	1,585	1,419	1,127	4,617
RIO	373	1,447	1,371	1,268	4,459
WAX ME94	406	1,396	1,322	1,167	4,291
WVPB-AR-R-3	371	1,433	1,388	1,058	4,250
WVPB-AR-F-11	290	1,300	1,464	1,091	4,145
TAM 90	478	1,385	1,294	972	4,129
OFI A94	419	1,382	1,279	1,041	4,121
Gulf (Source B)	956	1,168	1,214	781	4,119
Surrey	665	1,106	1,239	1,034	4,044
WVPB-AR-93-101	323	1,320	1,298	995	3,936
Jackson	349	1,334	1,213	1,022	3,918
Marshall	195	1,326	1,404	981	3,906
Gulf (Source A)	367	1,321	1,264	924	3,876
TXR95-6	574	1,166	1,211	910	3,861
Ribeye	732	1,113	1,182	801	3,828
FL X1997(G) 4N	511	1,038	1,256	871	3,676
T-444 Plus	580	1,037	1,185	872	3,674
Gulf (Oregon State)	364	1,116	1,149	1,041	3,670
Big Daddy	520	1,064	1,058	1,008	3,650
Tetragold	500	1,095	1,121	748	3,464
Hercules	432	958	1,080	888	3,358
TXR 95-5	179	1,250	1,193	729	3,351
WVPB-AR-A-13	147	898	1,183	969	3,197
Grazer	745	855	802	687	3,089
<i>Test Mean</i>	<i>457</i>	<i>1,212</i>	<i>1,233</i>	<i>958</i>	<i>3,860</i>
<i>C.V. (%)</i>	<i>32</i>	<i>13</i>	<i>13</i>	<i>16</i>	<i>8</i>
<i>L.S.D. (.10)</i>	<i>173</i>	<i>185</i>	<i>193</i>	<i>179</i>	<i>376</i>

Planted: October 6, 1997.

Soil: Hartsells Fine Sandy Loam.

TABLE 4. TOTAL DRY MATTER YIELD OF RYEGRASS VARIETIES, 1998, AND TWO- AND THREE-YEAR AVERAGES AT GULF COAST SUBSTATION, PLANT BREEDING UNIT, AND SAND MOUNTAIN SUBSTATION

Brand-Variety	Dry matter/acre			Brand-Variety	Dry matter/acre		
	1998	2-yr. avg. (1997-98)	3-yr. avg. (1996-98)		1998	2-yr. avg. (1997-98)	3-yr. avg. (1996-98)
	<i>lb.</i>	<i>lb.</i>	<i>lb.</i>		<i>lb.</i>	<i>lb.</i>	<i>lb.</i>
GULF COAST SUBSTATION				PLANT BREEDING UNIT (continued)			
Marshall	7,817	8,036	8,600	Grazer	6,088	4,881	4,579
WAX ME94	7,204	7,716	8,143	WVPB-AR-F-11	5,658	4,510	4,450
TAM 90	6,372	7,691	8,111	Gulf (Source B)	5,526	4,550	4,244
RIO	6,964	7,559	8,087	Gulf (Oregon State)	5,555	4,729	4,221
WVPB-AR-F-11	7,283	7,819	8,082	Hercules	3,968	3,762	4,022
Hercules	7,475	7,573	8,008	OFI FL95	6,442	5,169	—
WVPB-AR-93-101	6,590	7,441	7,746	TXR95-6	6,258	5,122	—
Jackson	6,113	7,127	7,709	OFI A94	5,935	4,844	—
Surrey	6,765	7,012	7,623	FL X1997(G) 4N	5,526	4,743	—
Ribeye	5,424	6,906	7,542	T-444 Plus	6,631	—	—
WVPB-AR-R-3	6,309	7,152	7,412	TXR 95-5	5,174	—	—
Big Daddy	6,301	6,746	7,137	Tetragold	5,070	—	—
Gulf (Source A)	6,340	6,830	7,116	WVPB-AR-A-13	3,713	—	—
Gulf (Source B)	6,251	6,661	6,974	SAND MOUNTAIN SUBSTATION			
Gulf (Oregon State)	5,957	6,456	6,930	Marshall	3,906	4,533	3,827
Grazer	5,773	5,946	6,514	RIO	4,459	4,332	3,748
OFI FL95	6,952	7,398	—	WAX ME94	4,291	4,387	3,690
OFI A94	6,517	7,236	—	Jackson	3,918	4,163	3,571
FL X1997(G) 4N	6,072	7,149	—	Surrey	4,044	4,214	3,554
TXR95-6	6,252	7,112	—	TAM 90	4,129	3,931	3,365
WVPB-AR-A-13	8,058	—	—	Gulf (Source B)	4,119	4,000	3,288
TXR 95-5	6,713	—	—	Grazer	3,089	3,802	3,233
Tetragold	6,641	—	—	Ribeye	3,828	3,677	3,203
Southern Star	6,560	—	—	Hercules	3,358	3,558	3,105
T-444 Plus	6,349	—	—	Gulf (Oregon State)	3,670	3,591	3,098
PLANT BREEDING UNIT				Big Daddy	3,650	3,494	3,038
Big Daddy	6,071	5,042	5,471	Gulf (Source A)	3,876	3,484	2,929
WAX ME94	7,219	5,747	5,408	OFI FL95	4,617	4,508	—
Ribeye	7,476	5,695	5,321	TXR95-6	3,861	3,982	—
RIO	6,272	5,187	5,255	OFI A94	4,121	3,960	—
Surrey	6,133	5,078	5,084	FL X1997(G) 4N	3,676	3,784	—
Jackson	6,098	5,007	4,889	WVPB-AR-R-3	4,250	—	—
WVPB-AR-R-3	6,107	4,968	4,805	WVPB-AR-F-11	4,145	—	—
WVPB-AR-93-101	5,589	4,800	4,746	WVPB-AR-93-101	3,936	—	—
TAM 90	5,915	5,065	4,739	T-444 Plus	3,674	—	—
Gulf (Source A)	6,234	5,012	4,681	Tetragold	3,464	—	—
Marshall	5,423	4,633	4,602	TXR 95-5	3,351	—	—

(continued)

TABLE 5. THREE-YEAR AVERAGE SEASONAL DISTRIBUTION OF RYEGRASS VARIETY PRODUCTION AT GULF COAST SUBSTATION, PLANT BREEDING UNIT, AND SAND MOUNTAIN SUBSTATION 1996-98

Brand-Variety	Seasonal forage yield/acre			
	Fall <i>lb.</i>	Early spring <i>lb.</i>	Late spring <i>lb.</i>	Total <i>lb.</i>
GULF COAST SUBSTATION				
Marshall	3,083	3,175	2,342	8,600
WAX ME94	3,137	2,844	2,162	8,143
TAM 90	3,403	2,592	2,115	8,111
RIO	3,200	2,581	2,306	8,087
WVPB-AR-F-11	3,055	2,732	2,295	8,082
Hercules	3,229	2,524	2,255	8,008
WVPB-AR-93-101	3,022	2,598	2,126	7,746
Jackson	3,007	2,507	2,196	7,709
Surrey	3,113	2,447	2,063	7,623
Ribeye	3,190	2,236	2,116	7,542
WVPB-AR-R-3	2,743	2,537	2,132	7,412
Big Daddy	2,957	2,026	2,155	7,137
Gulf (Source A)	3,014	2,123	1,979	7,116
Gulf (Source B)	2,930	2,112	1,932	6,974
Gulf (Oregon State)	2,862	2,029	2,038	6,930
Grazer	2,691	2,069	1,754	6,514
PLANT BREEDING UNIT				
Big Daddy	567	1,509	3,395	5,471
WAX ME94	481	1,996	2,931	5,408
Ribeye	586	1,952	2,782	5,321
RIO	518	2,102	2,635	5,255
Surrey	506	2,007	2,571	5,084
Jackson	435	1,877	2,576	4,889
WVPB-AR-R-3	405	1,892	2,508	4,805
WVPB-AR-93-101	496	1,794	2,456	4,746
TAM 90	528	1,847	2,364	4,739
Gulf (Source A)	622	1,611	2,448	4,681
Marshall	313	1,671	2,618	4,602
Grazer	407	1,975	2,196	4,579
WVPB-AR-F-11	317	1,671	2,462	4,450
Gulf (Source B)	586	1,584	2,075	4,244
Gulf (Oregon State)	551	1,495	2,175	4,221
Hercules	491	1,498	2,033	4,022
SAND MOUNTAIN SUBSTATION				
Marshall	—	1,654	2,173	3,827
RIO	—	1,654	2,094	3,748
WAX ME94	—	1,607	2,083	3,690
Jackson	—	1,656	1,915	3,571
Surrey	—	1,644	1,911	3,554
TAM 90	—	1,594	1,771	3,365
Gulf (Source B)	—	1,645	1,643	3,288
Grazer	—	1,731	1,502	3,233
Ribeye	—	1,460	1,743	3,203
Hercules	—	1,413	1,693	3,105
Gulf (Oregon State)	—	1,359	1,739	3,098
Big Daddy	—	1,412	1,626	3,038
Gulf (Source A)	—	1,341	1,588	2,929

Sources of Ryegrass Seed

Barenbrug USA, Tangent, Oregon

Ribeye (formerly BARUSA LM95)
Hercules
Tetragold

Elberta Farmer's Coop. Elberta, Alabama

Gulf (Source B)

Forbes Seed & Grain Inc., Junction City, Oregon

Southern Star

Olsen-Fennell Seeds, Inc., Salem, Oregon

RIO
OFI-A94
OFI FL 95

Oregon State University, Corvallis, Oregon

Gulf (Oregon State)

Piedmont Fertilizer, Auburn, Alabama

Gulf (Source A)

Smith Seed Service, Halsey, Oregon

Big Daddy
Surrey
Tetrablend 444

Texas A & M University, College Station, Texas

TAM 90
TXR95-5
TXR95-6

The Wax Company, Inc., Amory, Mississippi

Jackson
Marshall
WAX ME94

University of Florida, Gainesville, Florida

FL X1997 (G) 4N

USDA, Tifton, Georgia

Grazer

Willamette Valley Plant Breeders, Inc., Brownsville, Oregon

WVPB-AR-93-101
WVPB-A-13
WVPB-R-3
WVPB-F-11