

Performance of Ryegrass Varieties in Alabama, 2000-01

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K. M. Glass

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 that 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 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 1½ to 2 inches with a flail harvester each time the ryegrass reached a height of 6 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 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. In 1999, the tests were planted October 15, October 19, October 21, and October 19 at Crossville, Tallassee, Headland, and Fairhope, respectively. It was a mild winter and spring at all locations, but growing conditions were fairly normal. The last cutting at Headland was delayed due to mechanical difficulties; therefore, yields were higher than normal.

Strategies to meet seasonal forage needs are an important consideration for livestock producers. Tables 1-4 provide yield data **by harvest** for 2000-01 at a given location, while table 5 shows one-, two-, and three-year total yields by location. Seasonal and total forage dry matter yields by locations are provided in table 6. 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.

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Glass is an Agricultural Program Associate 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.

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**TABLE 1. SEASONAL DRY MATTER YIELD OF RYEGRASS VARIETIES
AT GULF COAST RESEARCH AND EXTENSION CENTER, FAIRHOPE, ALABAMA, 2001**

Brand-Variety	Acre yield by harvest date				Season total	
	1/26 <i>lb.</i>	2/15 <i>lb.</i>	3/08 <i>lb.</i>	5/09 <i>lb.</i>	<i>lb.</i>	<i>lb.</i>
Marshall	3,388	1,336	1,897	—	1,051	7,672
Jackson	3,731	1,509	1,303	—	942	7,485
RIO	3,017	1,487	1,471	—	1,467	7,442
Passerel Plus	3,089	1,384	1,385	—	1,408	7,266
Graz-N-Gro	2,795	1,687	1,720	—	1,002	7,204
Stampede	2,403	1,630	2,018	—	989	7,040
FL X1999(GA)LR	3,094	1,423	1,485	—	976	6,978
Ribeye	3,269	1,596	1,240	—	859	6,964
CAS-LFM226	2,384	1,499	1,897	—	1,100	6,880
Florlina	3,217	1,538	1,172	—	925	6,852
WMN97	2,374	1,460	1,672	—	1,333	6,839
TXR 2001-10	1,822	1,626	2,040	—	1,332	6,820
Big Daddy	3,068	1,359	1,224	—	1,153	6,804
WVPB-AR-98-L	2,315	1,303	1,765	—	1,297	6,680
FL X1998(SII) LR	2,154	1,556	1,833	—	1,114	6,657
TAM 90	2,808	1,523	1,213	—	1,062	6,606
FL X1995(GXS)MR	2,533	1,541	1,422	—	1,080	6,576
FL X2000(New1) 4X LR	2,495	1,189	1,476	—	1,387	6,547
Jumbo	2,122	1,387	1,671	—	1,352	6,532
Gulf (Oregon State)	2,542	1,455	1,457	—	1,013	6,467
CAS-MM6X-2	2,455	1,349	1,640	—	1,011	6,455
FL X2000(G) 4X ER	2,772	1,308	1,472	—	885	6,437
Gulf (Source A)	2,681	1,576	1,308	—	842	6,407
Beard	1,531	1,125	2,202	—	1,516	6,374
TXR 2000-2	2,500	1,212	1,459	—	1,193	6,364
WAX ME94	2,133	1,544	1,493	—	1,170	6,340
Gulf (Source B)	2,955	1,363	1,085	—	876	6,279
Prine	2,486	1,256	1,285	—	1,206	6,233
<i>Test Mean</i>	2,648	1,436	1,547	—	1,126	6,757
<i>C.V. (%)</i>	21	17	27	—	23	12
<i>L.S.D. (.10)</i>	641	286	500	—	303	916

Planted: October 11, 2000.

Soil: Malbis Fine Sandy Loam.

¹ Fourth cutting was lost due to computer error.

**TABLE 2. SEASONAL DRY MATTER YIELD OF RYEGRASS VARIETIES
AT PLANT BREEDING UNIT, TALLASSEE, ALABAMA, 2001**

Brand-Variety	Acre yield by harvest date						Season total
	11/28	2/06	3/07	4/06	4/18	5/11	
	lb.	lb.	lb.	lb.	lb.	lb.	lb.
Graz-N-Gro	2,381	749	1,400	1,873	747	2,046	9,196
FL X1995(GXS)MR	2,331	702	1,310	1,789	708	1,917	8,757
Jackson	1,991	563	1,124	2,113	601	2,164	8,556
FL X1999(GA)LR	1,273	748	1,781	1,931	604	2,128	8,465
Beard	905	509	1,630	1,851	692	2,246	7,833
Big Daddy	1,576	596	1,292	1,567	617	2,011	7,659
RIO	1,749	588	987	1,733	597	1,968	7,622
TAM 90	1,473	524	1,250	1,777	556	1,679	7,259
CAS-LFM226	966	380	1,531	1,887	578	1,851	7,193
WMN97	1,423	355	942	1,840	666	1,964	7,190
Marshall	1,650	444	863	1,799	748	1,684	7,188
Gulf (Source A)	1,356	701	1,228	1,627	431	1,783	7,126
Florlina	1,462	342	941	1,593	664	1,971	6,973
FL X2000(G) 4X ER	998	419	1,512	1,703	467	1,832	6,931
Stampede	1,506	510	1,022	1,555	528	1,789	6,910
Gulf (Source B)	1,694	572	1,085	1,458	442	1,596	6,847
Gulf (Oregon State)	1,313	500	1,166	1,655	454	1,603	6,691
Passerel Plus	1,657	421	718	1,471	793	1,587	6,647
FL X1998(SII) LR	556	222	1,327	1,591	570	2,335	6,601
Prine	949	277	1,168	1,544	629	1,926	6,493
CAS-MM6X-2	891	257	1,035	1,810	519	1,978	6,490
FL X2000(New1) 4XLR	1,132	416	1,131	1,540	651	1,543	6,413
TXR 2001-10	877	240	1,221	1,735	576	1,752	6,401
Ribeye	1,178	375	1,157	1,676	478	1,463	6,327
Jumbo	1,137	439	1,088	1,410	592	1,632	6,298
WAX ME94	1,278	413	786	1,576	533	1,669	6,255
TXR 2000-2	1,243	267	960	1,527	723	1,480	6,200
WVPB-AR-98-L	1,149	264	843	1,397	807	1,650	6,110
Test Mean	1,361	457	1,161	1,680	606	1,830	7,094
C.V. (%)	34	42	40	21	21	27	21
L.S.D. (.10)	545	226	551	410	147	575	1,789

Planted: September 29, 2000.

Soil: Cahaba Fine Sandy Loam.

**TABLE 3. SEASONAL DRY MATTER YIELD OF RYEGRASS VARIETIES
AT SAND MOUNTAIN RESEARCH AND EXTENSION CENTER, CROSSVILLE, ALABAMA, 2001**

Brand-Variety	Acre yield by harvest date			Season total
	4/09	4/27	5/25	
	lb.	lb.	lb.	lb.
Ribeye	2,224	1,005	871	4,100
Jackson	2,088	1,098	824	4,010
RIO	2,312	1,000	659	3,971
Florlina	1,748	1,162	856	3,766
FL X1995(GXS)MR	1,992	1,087	673	3,752
Big Daddy	1,904	1,147	615	3,666
Marshall	1,495	1,480	664	3,639
WAX ME94	1,558	1,185	818	3,561
Prine	1,753	1,051	725	3,529
Gulf (Source A)	2,150	982	395	3,527
TXR 2001-10	1,453	1,230	833	3,516
Beard	1,269	1,354	803	3,426
FL X1999(GA)LR	1,923	892	607	3,422
CAS-LFM226	1,350	1,333	634	3,317
FL X2000(G)4XER	1,911	832	552	3,295
Stampede	1,668	1,084	488	3,240
FL X2000(New1)4X LR	1,367	1,106	708	3,181
Passerel Plus	1,153	1,189	821	3,163
WMN97	1,154	1,166	833	3,153
TAM 90	1,659	893	580	3,132
FL X1998(SII) LR	1,194	1,195	725	3,114
Jumbo	1,330	1,003	742	3,075
Graz-N-Gro	1,472	1,011	548	3,031
CAS-MM6X-2	1,218	1,076	621	2,915
Gulf (Oregon State)	1,210	1,000	578	2,788
Gulf (Source B)	1,209	947	506	2,662
WVPB-AR-98-L	779	1,059	729	2,567
TXR 2000-2	1,019	882	384	2,285
<i>Test Mean</i>	1,556	1,087	671	3,315
<i>C.V. (%)</i>	37	26	26	23
<i>L.S.D. (.10)</i>	682	333	207	887

Planted: October 3, 2000.

Soil: Hartsells Fine Sandy Loam.

**TABLE 4. SEASONAL DRY MATTER YIELD OF RYEGRASS VARIETIES
AT WIREGRASS RESEARCH AND EXTENSION CENTER, HEADLAND, ALABAMA, 2001**

Brand-Variety	Acre yield by harvest date					Season total	
	12/01	2/05	3/07	3/26	4/13		
	lb.	lb.	lb.	lb.	lb.	lb.	
WAX ME94	854	806	3,143	1,316	2,031	257	8,407
FL X2000(G) 4X ER	891	951	3,371	831	2,050	206	8,300
FL X1995(GXS)MR	684	943	3,140	1,116	1,822	230	7,935
Jackson	859	722	2,900	1,167	2,064	192	7,904
Passerel Plus	880	733	2,605	1,503	1,795	292	7,808
FL X1999(GA)LR	776	895	3,151	1,086	1,686	193	7,787
Big Daddy	769	984	2,646	1,342	1,726	302	7,769
Prine	791	876	2,477	1,516	1,739	333	7,732
Jumbo	818	683	2,779	1,323	1,797	280	7,680
Stampede	872	887	2,729	1,283	1,636	264	7,671
FL X2000(New1) 4X LR	712	722	2,748	1,384	1,712	308	7,586
Marshall	814	675	2,404	1,473	1,925	275	7,566
CAS-LFM226	789	708	2,929	1,306	1,615	207	7,554
TXR 2000-2	726	491	2,353	1,809	1,903	243	7,525
Florlina	730	921	2,676	1,062	1,830	250	7,469
WVPB-AR-98-L	742	651	2,418	1,440	1,888	264	7,403
Gulf (Source B)	827	1,156	2,928	808	1,422	206	7,347
FL X1998(SII) LR	498	566	2,831	1,313	1,926	209	7,343
Graz-N-Gro	874	753	2,525	1,228	1,636	264	7,280
CAS-MM6X-2	615	742	2,838	1,127	1,714	236	7,272
TAM 90	664	855	2,664	1,256	1,527	276	7,242
Gulf (Source A)	811	1,258	2,567	922	1,457	208	7,223
Gulf (Oregon State)	596	759	2,704	1,149	1,551	278	7,037
RIO	1,014	848	2,335	1,087	1,463	235	6,982
TXR 2001-10	692	618	2,833	1,001	1,609	228	6,981
WMN97	601	482	2,538	1,299	1,771	276	6,967
Ribeye	645	870	2,619	889	1,592	241	6,856
Beard	322	354	2,053	1,259	1,815	285	6,088
Test Mean	745	782	2,711	1,225	1,739	251	7,454
C.V. (%)	25	20	13	16	16	26	8
L.S.D. (.10)	219	184	423	232	329	78	690

Planted: October 9, 2000.

Soil: Dothan Sandy Loam.

**TABLE 5. TOTAL DRY MATTER YIELD OF RYEGRASS VARIETIES, 2001,
AND TWO- AND THREE-YEAR AVERAGES**

Brand-Variety	Dry matter/acre			Brand-Variety	Dry matter/acre		
	2001	2-yr. avg.	3-yr. avg.		2001	2-yr. avg.	3-yr. avg.
	(2000-01)	(1999-01)	(1999-01)	lb.	lb.	lb.	lb.
GULF COAST RESEARCH AND EXTENSION CENTER				PLANT BREEDING UNIT			
Marshall	7,672	8,399	8,779	Big Daddy	7,659	7,053	6,758
Jackson	7,485	8,274	8,741	Gulf (Source B)	6,847	6,734	6,729
RIO	7,442	7,781	8,655	RIO	7,622	7,166	6,680
Passerel Plus	7,266	8,039	8,606	Jackson	8,556	7,120	6,650
Stampede	7,040	7,929	8,241	Jumbo	6,298	6,365	6,315
WAX ME94	6,340	7,636	8,181	Passerel Plus	6,647	6,502	6,299
TAM 90	6,606	7,486	8,159	Gulf (Source A)	7,126	6,843	6,293
Jumbo	6,532	7,776	8,047	Stampede	6,910	6,209	6,135
FL X1998(SII) LR	6,657	7,270	8,029	Marshall	7,188	6,726	6,123
Big Daddy	6,804	7,750	8,020	Gulf (Oregon State)	6,691	6,533	6,060
Gulf (Source B)	6,279	7,436	7,959	TAM 90	7,259	6,635	6,052
Gulf (Source A)	6,407	7,479	7,874	WAX ME94	6,255	6,091	5,942
Gulf (Oregon State)	6,467	7,375	7,734	Ribeye	6,327	6,159	5,760
Ribeye	6,964	7,509	7,694	FL X1998(SII) LR	6,601	6,067	5,760
FL X1999(GA)LR	6,978	7,764	—	FL X1999(GA)LR	8,465	7,276	—
Florlina	6,852	7,550	—	Florlina	6,973	6,431	—
Graz-N-Gro	7,204	—	—	Graz-N-Gro	9,196	—	—
CAS-LFM226	6,880	—	—	FL X1995(GXS)MR	8,757	—	—
WMN97	6,839	—	—	Beard	7,833	—	—
TXR 2001-10	6,820	—	—	CAS-LFM226	7,193	—	—
WVPB-AR-98-L	6,680	—	—	WMN97	7,190	—	—
FL X1995(GXS)MR	6,576	—	—	FL X2000(G) 4X ER	6,931	—	—
FL X2000(New1) 4X LR	6,547	—	—	Prine	6,493	—	—
CAS-MM6X-2	6,455	—	—	CAS-MM6X-2	6,490	—	—
FL X2000(G) 4X ER	6,437	—	—	FL X2000(New1) 4X LR	6,413	—	—
Beard	6,374	—	—	TXR 2001-10	6,401	—	—
TXR 2000-2	6,364	—	—	TXR 2000-2	6,200	—	—
Prine	6,233	—	—	WVPB-AR-98-L	6,110	—	—

continued

**TABLE 5, CONTINUED. TOTAL DRY MATTER YIELD OF RYEGRASS VARIETIES, 2001,
AND TWO- AND THREE-YEAR AVERAGES**

Brand-Variety	Dry matter/acre			Brand-Variety	Dry matter/acre		
	2001	2-yr. avg. (2000-01)	3-yr. avg. (1999-01)		2001	2-yr. avg. (2000-01)	3-yr. avg. (1999-01)
	lb.	lb.	lb.	lb.	lb.	lb.	lb.
SAND MOUNTAIN RESEARCH AND EXTENSION CENTER				WIREGRASS RESEARCH AND EXTENSION CENTER			
Stampede	3,240	5,789	5,055	WAX ME94	8,407	7,480	8,868
Jackson	4,010	5,842	4,939	Marshall	7,566	7,237	8,589
Marshall	3,639	5,826	4,921	Big Daddy	7,769	7,236	8,435
RIO	3,971	5,896	4,868	Jackson	7,904	7,175	8,339
WAX ME94	3,561	5,907	4,850	RIO	6,982	6,987	8,147
Passerel Plus	3,163	5,733	4,841	Stampede	7,671	7,099	8,051
Ribeye	4,100	5,775	4,799	FL X1998(SII) LR	7,343	6,714	8,033
Gulf (Source A)	3,527	5,480	4,718	Jumbo	7,680	6,919	7,968
TAM 90	3,132	5,400	4,702	TAM 90	7,242	7,019	7,949
Big Daddy	3,666	5,402	4,625	Passerel Plus	7,808	7,131	7,900
FL X1998(SII) LR	3,114	5,046	4,474	Gulf (Source B)	7,347	6,949	7,884
Jumbo	3,075	5,166	4,386	Gulf (Source A)	7,223	7,129	7,862
Gulf (Oregon State)	2,788	5,080	4,368	Gulf (Oregon State)	7,037	6,723	7,681
Gulf (Source B)	2,662	4,912	4,122	Ribeye	6,856	6,885	7,580
Florlina	3,766	5,690	—	FL X1999(GA)LR	7,787	7,100	—
FL X1999(GA)LR	3,422	5,417	—	Florlina	7,469	6,993	—
FL X1995(GXS)MR	3,752	—	—	FL X2000(G) 4X ER	8,300	—	—
Prine	3,529	—	—	FL X1995(GXS)MR	7,935	—	—
TXR 2001-10	3,516	—	—	Prine	7,732	—	—
Beard	3,426	—	—	FL X2000(New1) 4X LR	7,586	—	—
CAS-LFM226	3,317	—	—	WVPB-AR-98-L	7,403	—	—
FL X2000(G) 4X ER	3,295	—	—	Graz-N-Gro	7,280	—	—
FL X2000(New1) 4X LR	3,181	—	—	CAS-MM6X-2	7,272	—	—
WMN97	3,153	—	—	TXR 2001-10	6,981	—	—
Graz-N-Gro	3,031	—	—	WMN97	6,967	—	—
CAS-MM6X-2	2,915	—	—	Beard	6,088	—	—
WVPB-AR-98-L	2,567	—	—				
TXR 2000-2	2,285	—	—				

**TABLE 6. THREE-YEAR AVERAGE SEASONAL DISTRIBUTION
OF RYEGRASS VARIETY PRODUCTION, 1999-01**

Variety	Seasonal forage yield/acre			
	Fall lb.	Early spring lb.	Late spring lb.	Total lb.
GULF COAST RESEARCH AND EXTENSION CENTER				
Marshall	4,407	3,635	737	8,779
Jackson	4,605	3,320	816	8,741
RIO	4,379	3,277	999	8,655
Passerel Plus	4,318	3,213	1,076	8,606
Stampede	4,010	3,357	874	8,241
WAX ME94	3,970	3,384	827	8,181
TAM 90	4,266	3,131	761	8,159
Jumbo	3,899	3,156	992	8,047
FL X1998(SII) LR	3,724	3,396	909	8,029
Big Daddy	4,252	3,028	740	8,020
Gulf (Source B)	4,416	2,929	614	7,959
Gulf (Source A)	4,317	2,941	616	7,874
Gulf (Oregon State)	3,919	3,141	673	7,734
Ribeye	3,988	3,016	690	7,694
PLANT BREEDING UNIT				
Big Daddy	2,206	3,301	1,251	6,758
Gulf (Source B)	2,578	3,245	906	6,729
RIO	2,034	3,431	1,215	6,680
Jackson	2,048	3,370	1,232	6,650
Jumbo	1,867	3,277	1,171	6,315
Passerel Plus	1,951	3,159	1,190	6,299
Gulf (Source A)	2,155	3,272	866	6,293
Stampede	1,859	3,167	1,109	6,135
Marshall	1,767	3,315	1,040	6,123
Gulf (Oregon State)	1,915	3,258	887	6,060
TAM 90	1,768	3,289	995	6,052
WAX ME94	1,766	2,993	1,183	5,942
Ribeye	1,637	3,242	880	5,760
FL X1998(SII) LR	1,291	3,246	1,223	5,760
SAND MOUNTAIN RESEARCH AND EXTENSION CENTER				
Stampede	—	2,706	2,349	5,055
Jackson	—	2,448	2,491	4,939
Marshall	—	2,296	2,625	4,921
RIO	—	2,532	2,336	4,868
WAX ME94	—	2,270	2,580	4,850
Passerel Plus	—	2,246	2,595	4,841
Ribeye	—	2,436	2,363	4,799
Gulf (Source A)	—	2,581	2,137	4,718
TAM 90	—	2,441	2,261	4,702
Big Daddy	—	2,449	2,176	4,625
FL X1998(SII) LR	—	2,158	2,316	4,474
Jumbo	—	2,084	2,301	4,386
Gulf (Oregon State)	—	2,105	2,263	4,368
Gulf (Source B)	—	2,024	2,098	4,122

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**TABLE 6, CONTINUED. THREE-YEAR AVERAGE SEASONAL DISTRIBUTION
OF RYEGRASS VARIETY PRODUCTION, 1999-01**

Brand-variety	Seasonal forage yield/acre			
	Fall <i>lb.</i>	Early spring <i>lb.</i>	Late spring <i>lb.</i>	Total <i>lb.</i>
WIREGRASS RESEARCH AND EXTENSION CENTER				
WAX ME94	2,705	5,652	511	8,868
Marshall	2,587	5,451	551	8,589
Big Daddy	2,751	5,255	429	8,435
Jackson	2,619	5,315	405	8,339
RIO	2,622	5,041	484	8,147
Stampede	2,136	5,414	501	8,051
FL X1998(SII) LR	2,236	5,354	444	8,033
Jumbo	2,050	5,356	563	7,968
TAM 90	2,454	5,085	409	7,949
Passerel Plus	2,035	5,253	612	7,900
Gulf (Source B)	2,773	4,879	233	7,884
Gulf (Source A)	2,665	4,971	226	7,862
Gulf (Oregon State)	2,362	5,009	310	7,681
Ribeye	2,038	5,121	421	7,580

Sources of Ryegrass Seed

Graz-N-Gro	American Grass Seed Producers, Albany, Oregon
Ribeye	Barenbrug USA, Tangent, Oregon
CAS-MM6X-2 CAS-LFM226	Cascade International Seed Co., Aumsville, Oregon
FLX1995(GxS)MR Prine	East Texas Seed Co., Tyler, Texas
Gulf(Source B)	Elberta Farmer's Coop., Elberta, Alabama
Beard	Locally obtained, Auburn, Alabama
Florlina	North Carolina State University, Raleigh, North Carolina
Gulf(Oregon State)	Oregon State University, Corvallis, Oregon
Passerel Plus	Pennington Seed, Inc., Lebanon, Oregon
Gulf(Source A)	Piedmont Fertilizer, Auburn, Alabama
RIO Stampede	ProSeeds Marketing, Jefferson, Oregon
Big Daddy Jumbo	Smith Seed Service, Halsey, Oregon
TAM 90 TXR 2000-2 TXR 2001-10	Texas A & M University, College Station, Texas
Jackson Marshall WAX ME94 WMN 97	The Wax Company, LLC, Amory, Mississippi
FLX1998(SII)LR FLX1998(GA)LR FL X2000(New1)4XLR Late FLX2000(G)4XER	University of Florida, Gainesville, Florida
WVPB-AR-98-L	Willamette Valley Plant Breeders, Inc., Brownsville, Oregon