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## PERFORMANCE OF RYEGRASS VARIETIES

IN ALABAMA, 1989-90

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The Alabama Ryegrass Variety Test is a continuing evaluation of available varieties and breeding lines from private companies and state agricultural experiment stations. Tests are planted in northern, central, and southern locations to evaluate the varieties and lines under the different environmental conditions in these regions of Alabama. The tests 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. Locations were: Sand Mountain Substation, Crossville; Plant Breeding Unit, Tallassee; Piedmont Substation, Camp Hill; and Gulf Coast Substation, Fairhope.

The tests were fertilized with phosphorus and potassium according to Auburn University soil test recommendations. At planting, nitrogen (N) was applied at the rate of 50 pounds per acre, and an additional 50 pounds was applied per acre after each cutting. A 32- or 48-inch swath of each plot was harvested with a flail harvester each time the ryegrass reached 6-10 inches

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tall. Cutting height was 1 1/2 to 2 inches. A herbage sample of approximately 1 pound was taken from each plot at each harvest for determining forage dry matter percentage.

Due to dry soil conditions in fall of 1987, tests at Fairhope and Crossville were not planted until November 12 and October 28, respectively. The continued dry condition at Crossville resulted in lower-than-normal yields during the 1987-88 season. Dry conditions at Fairhope in fall 1988 resulted in a poor stand on first planting; the test was replanted November 30, resulting in no fall production. In 1989, regular variety tests were all planted by October 13. Good fall and winter growth occurred at Fairhope and Tallassee, but cool weather during December delayed harvest at Crossville.

Strategies to meet seasonal forage needs are an important consideration for livestock producers. Tables 1-7 provide yield data for one or more years at a given location. Tables 8, 9, and 10 show 3-year average yields for the ryegrass production by season. A 3-year average provides a more dependable comparison of ryegrass varieties than do single-year results.

#### ACKNOWLEDGMENTS

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SOURCES OF RYEGRASS SEED

Concord	Olsen-Fennell Seeds, Inc., Salem, Oregon
Dalita	Daehnfeltdt, Albany, Oregon
Equipe	Van Der Have Oregon, Inc., Albany, Oregon
ETCO-9-88	Willamette Valley Plant Breeders, Inc., Brownsville, Oregon
Gulf	Silverhill Farmer's Ass'n., Robertsdale, Alabama
Jackson	Delta and Pine Land Co., Scott, Mississippi
LD 2810	Daehnfeltdt, Albany, Oregon
LM 2881	Daehnfeltdt, Albany, Oregon
Magnolia	Forbes Seed, Junction City, Oregon
Marshall	Delta and Pine Land Co., Scott, Mississippi
Mondora	Van Der Have Oregon, Inc., Albany, Oregon
Multigrazer I	Van Der Have Oregon, Inc., Albany, Oregon
Multigrazer II	Van Der Have Oregon, Inc., Albany, Oregon
Multimo	Van Der Have Oregon, Inc., Albany, Oregon
Nutriblend	Daehnfeltdt, Albany, Oregon
OFI-AR-42	Olsen-Fennell Seeds, Inc., Salem, Oregon
OFI-88-LM-B7T	Olsen-Fennell Seeds, Inc., Salem, Oregon
Pennploid V	Pennington Enterprises, Madison, Georgia
Rustmaster	Daehnfeltdt, Albany, Oregon
Surry	Univ. of Florida, Gainesville, Florida
Tetrablend 10	The New Northrup King Co., Grifton, North Carolina
Tetrablend 444 T3	The New Northrup King Co., Grifton, North Carolina
Tetragold	Normarc, Inc., Tangent, Oregon
WVPB-AR-601	Willamette Valley Plant Breeders, Inc., Brownsville, Oregon
WVPB-LM-AR-2	Willamette Valley Plant Breeders, Inc., Brownsville, Oregon
WVPB-LM-AR-F-41	Willamette Valley Plant Breeders, Inc., Brownsville, Oregon
WVPB-LM-AR-F-44	Willamette Valley Plant Breeders, Inc., Brownsville, Oregon

TABLE 1. SEASONAL DRY MATTER YIELD OF RYEGRASS VARIETIES AT THE GULF COAST SUBSTATION, FAIRHOPE, ALABAMA, 1990

BRAND-VARIETY	ACRE YIELD BY HARVEST DATE						SEASON TOTAL
	12/01	2/05	2/26	3/28	4/19	5/15	
	LB.	LB.	LB.	LB.	LB.	LB.	LB.
MARSHALL	955	2,008	1,829	2,188	1,202	729	8,911
OFI-AR-42	570	1,835	1,782	2,119	1,223	1,215	8,744
RUSTMASTER	900	1,739	1,554	2,065	1,068	1,130	8,456
NUTRIBLEND	651	1,727	1,666	2,097	1,158	1,022	8,321
MONDORA	669	1,478	1,758	1,955	1,485	859	8,204
JACKSON	569	1,737	1,718	2,040	950	1,116	8,130
PENNPLOID V	661	1,243	1,516	2,251	1,233	1,128	8,032
DALITA	520	1,365	1,687	1,842	1,610	891	7,915
GULF	791	1,527	1,430	1,989	1,168	1,001	7,906
TETRABLEND 444T3	391	1,360	1,589	2,186	1,422	939	7,887
WVPB-LM-AR-F-41	598	1,418	1,477	2,012	1,400	972	7,877
MULTIGRAZER II	737	1,302	1,618	1,891	1,452	787	7,787
WVPB-LM-AR-F-44	533	1,483	1,675	1,929	1,330	829	7,779
MULTIMO	585	1,468	1,635	1,841	1,415	710	7,654
SURRY	936	1,296	1,297	1,858	1,071	1,186	7,644
EQUIPE	470	1,063	1,600	1,834	1,599	1,049	7,615
OFI-88-LM-B7T	817	1,404	1,515	1,817	1,337	700	7,590
WVPB-LM-AR-2	546	1,769	1,614	1,842	845	966	7,582
CONCORD	987	1,250	1,499	1,821	1,177	817	7,551
TETRAGOLD	684	1,111	1,513	1,849	1,460	929	7,546
MAGNOLIA	1,004	1,498	1,321	1,863	885	871	7,442
WVPB-AR-601	800	1,165	1,542	1,842	1,223	696	7,268
TETRABLEND 10	549	1,186	1,368	2,012	1,011	1,111	7,237
MULTIGRAZER I	722	1,179	1,372	1,846	1,327	678	7,124
ETCO-9-88	544	1,398	1,455	1,835	1,099	597	6,928
LD 2810	814	969	1,506	1,652	1,146	696	6,783
LM 2881	586	1,112	1,455	1,701	1,172	675	6,701
TEST MEAN	688	1,411	1,555	1,932	1,240	900	7,726
C. V. (%)	26	15	12	9	16	14	7
L. S. D. (.10)	213	252	226	201	229	150	643

PLANTED: OCTOBER 12, 1989.  
 SOIL: MALBIS FINE SANDY LOAM.

TABLE 2. SEASONAL DRY MATTER YIELD OF RYEGRASS VARIETIES AT THE PLANT BREEDING UNIT, TALLASSEE, ALABAMA, 1990

BRAND-VARIETY.	ACRE YIELD BY HARVEST DATE					SEASON
	1/03	2/26	3/27	4/16	5/18	TOTAL
	LB.	LB.	LB.	LB.	LB.	LB.
RUSTMASTER	826	1,981	2,229	1,844	1,902	8,782
WVPB-LM-AR-2	763	1,813	2,028	1,807	2,327	8,738
OFI-AR-42	646	1,930	2,045	1,738	2,318	8,677
JACKSON	532	1,758	2,328	1,584	2,349	8,551
GULF	816	2,190	1,966	1,475	1,909	8,356
MARSHALL	814	1,675	1,893	1,917	2,056	8,355
TETRAGOLD	705	1,621	2,051	1,677	2,064	8,118
TETRABLEND 444T3	667	1,584	1,939	1,712	2,140	8,042
SURRY	761	1,906	1,721	1,683	1,958	8,029
PENNPLOID V	556	1,707	1,963	1,613	2,130	7,969
NUTRIBLEND	554	1,753	2,113	1,671	1,828	7,919
MAGNOLIA	708	1,948	1,723	1,288	2,129	7,796
WVPB-LM-AR-F-44	614	1,465	1,742	1,856	2,017	7,694
MONDORA	502	1,585	1,759	2,017	1,667	7,530
TETRABLEND 10	389	1,521	1,816	1,784	1,962	7,472
WVPB-LM-AR-F-41	423	1,481	1,482	1,879	1,925	7,190
CONCORD	958	1,591	1,501	1,563	1,570	7,183
WVPB-AR-601	717	1,492	1,437	1,875	1,641	7,162
MULTIMO	541	1,174	1,667	1,769	1,761	6,912
MULTIGRAZER II	634	1,386	1,520	1,873	1,479	6,892
MULTIGRAZER I	575	1,465	1,632	1,701	1,347	6,720
ETCO-9-88	378	1,514	1,310	1,662	1,577	6,441
DALITA	358	1,144	1,825	1,467	1,605	6,399
OFI-88-LM-B7T	386	1,460	1,425	1,700	1,420	6,391
LM 2881	530	1,331	1,369	1,715	1,388	6,333
EQUIPE	376	1,198	1,499	1,655	1,596	6,324
LD 2810	646	1,203	1,503	1,641	1,268	6,261
TEST MEAN	606	1,588	1,759	1,710	1,827	7,490
C. V. (%)	43	17	19	15	19	12
L. S. D. (.10)	310	311	385	306	408	1,079

PLANTED: OCTOBER 10, 1989.  
SOIL: CAHABA FINE SANDY LOAM.

TABLE 3 SEASONAL DRY MATTER YIELD OF RYEGRASS VARIETIES AT THE SAND MOUNTAIN SUBSTATION, CROSSVILLE, ALABAMA, 1990

BRAND-VARIETY	ACRE YIELD BY HARVEST DATE							SEASON TOTAL
	3/13	3/27	4/13	4/23	5/07	5/23	6/13	
	LB.	LB.	LB.	LB.	LB.	LB.	LB.	
MARSHALL	356	673	868	468	825	610	809	4,609
MONDORA	256	498	824	548	821	609	701	4,257
SURRY	418	594	773	376	767	504	716	4,148
JACKSON	455	571	689	454	691	486	738	4,084
OFI-AR-42	369	537	606	463	700	637	767	4,079
WVPB-LM-AR-2	365	443	545	367	840	646	854	4,060
RUSTMASTER	390	582	743	503	777	455	594	4,044
MULTIMO	176	398	783	486	777	738	493	3,851
LD 2810	238	526	709	453	758	521	560	3,765
NUTRIBLEND	248	537	681	406	691	653	529	3,745
DALITA	69	288	733	584	829	803	408	3,714
MULTIGRAZER II	221	406	771	479	673	636	518	3,704
GULF	465	547	619	353	629	538	523	3,674
MAGNOLIA	335	461	558	381	693	558	675	3,661
WVPB-LM-AR-F-44	184	334	633	429	667	654	737	3,638
WVPB-AR-601	344	388	472	358	600	586	754	3,502
CONCORD	249	462	636	419	659	542	492	3,459
WVPB-LM-AR-F-41	216	358	600	408	552	588	688	3,410
LM 2881	173	465	835	448	610	514	358	3,403
OFI-88-LM-B7T	284	327	539	352	649	562	658	3,371
TETRAGOLD	238	336	509	343	681	625	611	3,343
EQUIPE	141	338	607	387	682	632	409	3,196
MULTIGRAZER I	194	293	575	375	576	676	453	3,142
TETRABLEND 444T3	173	356	464	339	568	629	562	3,091
PENNPLOID V	240	415	455	337	587	542	509	3,085
TETRABLEND 10	176	302	546	350	504	568	388	2,834
ETCO-9-88	264	247	343	268	460	486	668	2,736
TEST MEAN	268	433	634	412	677	593	599	3,615
C. V. (%)	23	17	17	17	14	17	17	8
S. D. (.10)	73	85	130	84	112	117	117	352

PLANTED : OCTOBER 13, 1989.  
 SOIL: HARTSELLS FINE SANDY LOAM.



TABLE 4. SEASONAL DRY MATTER YIELD OF RYEGRASS VARIETIES AT THE  
PIEDMONT SUBSTATION, CAMP HILL, ALABAMA, 1990

BRAND-VARIETY	ACRE YIELD BY HARVEST DATE		SEASON
	4/05	5/08	TOTAL
	<u>LB.</u>	<u>LB.</u>	<u>LB.</u>
RUSTMASTER	1,275	2,511	3,786
JACKSON	1,295	2,464	3,759
MARSHALL	841	2,751	3,592
MAGNOLIA	1,168	2,349	3,517
MULTIMO	850	2,464	3,314
NUTRIBLEND	965	2,344	3,309
PENNPLOID V	879	2,317	3,196
GULF	921	2,130	3,051
TETRABLEND 444T3	620	2,406	3,026
CONCORD	615	2,260	2,875
MULTIGRAZER I	513	1,952	2,465
DALITA	201	1,655	1,856
TEST MEAN	845	2,300	3,146
C. V. (%)	37	6	12
L. S. D. (.10)	374	174	451

PLANTED: OCTOBER 24, 1989.  
SOIL: CECIL CLAY LOAM.

TABLE 5. TOTAL DRY MATTER YIELD OF RYEGRASS VARIETIES,  
1990, AND TWO- AND THREE-YEAR AVERAGES, GULF  
COAST SUBSTATION, FAIRHOPE, ALABAMA

BRAND-VARIETY	DRY MATTER/ACRE		
	1990	2-YR. AV. (1989-1990)	3-YR. AV. (1988-1990)
	<u>LB.</u>	<u>LB.</u>	<u>LB.</u>
RUSTMASTER	8,456	6,955	7,055
JACKSON	8,130	6,868	6,960
SURRY	7,644	6,604	6,775
GULF	7,906	6,789	6,764
MARSHALL	8,911	6,635	6,749
PENNPLOID V	8,032	6,877	6,744
NUTRIBLEND	8,321	6,777	6,727
MAGNOLIA	7,442	6,491	6,569
MULTIMO	7,654	5,643	6,002
DALITA	7,915	5,853	5,806
OFI-AR-42	8,744	-	-
MONDORA	8,204	-	-
TETRABLEND 444T3	7,887	-	-
WVPB-LM-AR-F-41	7,877	-	-
MULTIGRAZER II	7,787	-	-
WVPB-LM-AR-F-44	7,779	-	-
EQUIPE	7,615	-	-
OFI-88-LM-B7T	7,590	-	-
WVPB-LM-AR-2	7,582	-	-
CONCORD	7,551	-	-
TETRAGOLD	7,546	-	-
WVPB-AR-601	7,268	-	-
TETRABLEND 10	7,237	-	-
MULTIGRAZER I	7,124	-	-
ETCO-9-88	6,928	-	-
LD 2810	6,783	-	-
LM 2881	6,701	-	-

TABLE 6. TOTAL DRY MATTER YIELD OF RYEGRASS VARIETIES,  
1990, AND TWO- AND THREE-YEAR AVERAGES, PLANT  
BREEDING UNIT, TALLASSEE, ALABAMA

BRAND-VARIETY	DRY MATTER/ACRE		
	1990	2-YR. AV. (1989-1990)	3-YR. AV. (1988-1990)
	<u>LB.</u>	<u>LB.</u>	<u>LB.</u>
MARSHALL	8,355	6,695	6,468
JACKSON	8,551	6,675	6,358
RUSTMASTER	8,782	6,689	6,268
SURRY	8,029	6,280	6,196
MAGNOLIA	7,796	6,151	5,717
PENNPLOID V	7,969	6,049	5,679
NUTRIBLEND	7,919	6,136	5,675
MULTIMO	6,912	5,525	5,116
DALITA	6,399	4,951	4,611
GULF	8,356	6,157	-
WVPB-LM-AR-2	8,738	-	-
OFI-AR-42	8,677	-	-
TETRAGOLD	8,118	-	-
TETRABLEND 444T3	8,042	-	-
WVPB-LM-AR-F-44	7,694	-	-
MONDORA	7,530	-	-
TETRABLEND 10	7,472	-	-
WVPB-LM-AR-F-41	7,190	-	-
CONCORD	7,183	-	-
WVPB-AR-601	7,162	-	-
MULTIGRAZER II	6,892	-	-
MULTIGRAZER I	6,720	-	-
ETCO-9-88	6,441	-	-
OFI-88-LM-87T	6,391	-	-
LM 2881	6,333	-	-
EQUIPE	6,324	-	-
LD 2810	6,261	-	-

TABLE 7. TOTAL DRY MATTER YIELD OF RYEGRASS VARIETIES,  
1990, AND TWO- AND THREE-YEAR AVERAGES, SAND  
MOUNTAIN SUBSTATION, CROSSVILLE, ALABAMA

BRAND-VARIETY	DRY MATTER/ACRE		
	1990	2-YR. AV. (1989-1990)	3-YR. AV. (1988-1990)
	<u>LB.</u>	<u>LB.</u>	<u>LB.</u>
MARSHALL	4,609	4,779	4,165
DALITA	3,714	4,495	3,892
NUTRIBLEND	3,745	4,380	3,812
SURRY	4,148	4,187	3,760
RUSTMASTER	4,044	4,145	3,680
JACKSON	4,084	4,195	3,584
MAGNOLIA	3,661	3,601	3,217
PENNPLOID V	3,085	3,371	3,110
MULTIMO	3,851	4,899	-
GULF	3,674	3,740	-
MONDORA	4,257	-	-
OFI-AR-42	4,079	-	-
WVPB-LM-AR-2	4,060	-	-
LD 2810	3,765	-	-
MULTIGRAZER II	3,704	-	-
WVPB-LM-AR-F-44	3,638	-	-
WVPB-AR-601	3,502	-	-
CONCORD	3,459	-	-
WVPB-LM-AR-F-41	3,410	-	-
LM 2881	3,403	-	-
OFI-88-LM-B7T	3,371	-	-
TETRAGOLD	3,343	-	-
EQUIPE	3,196	-	-
MULTIGRAZER I	3,142	-	-
TETRABLEND 444T3	3,091	-	-
TETRABLEND 10	2,834	-	-
ETCO-9-88	2,736	-	-

TABLE 8. THREE-YEAR AVERAGE SEASONAL DISTRIBUTION OF RYEGRASS  
 VARIETY FORAGE PRODUCTION, GULF COAST SUBSTATION,  
 FAIRHOPE, ALABAMA, 1986-1990

BRAND-VARIETY	SEASONAL FORAGE YIELD/ACRE				TOTAL LB.
	AUTUMN	WINTER	EARLY SPRING	LATE SPRING	
	LB.	LB.	LB.	LB.	
RUSTMASTER	300	1,942	3,570	1,243	7,055
JACKSON	190	1,869	3,574	1,327	6,960
SURRY	312	1,895	3,184	1,384	6,775
GULF	264	2,216	3,219	1,065	6,764
MARSHALL	318	2,004	3,427	1,000	6,749
PENNFLOID V	220	1,798	3,536	1,189	6,744
NUTRIBLEND	217	1,886	3,432	1,192	6,727
MAGNOLIA	335	2,052	3,091	1,091	6,569
MULTIMO	195	1,917	2,949	941	6,002
DALITA	173	1,542	3,002	1,089	5,806



TABLE 9. THREE-YEAR AVERAGE SEASONAL DISTRIBUTION OF RYEGRASS  
 VARIETY FORAGE PRODUCTION, PLANT BREEDING UNIT,  
 TALLASSEE, ALABAMA, 1988-1990

BRAND-VARIETY	SEASONAL FORAGE YIELD/ACRE				TOTAL
	AUTUMN	WINTER	EARLY SPRING	LATE SPRING	
	<u>LB.</u>	<u>LB.</u>	<u>LB.</u>	<u>LB.</u>	
MARSHALL	1,189	1,034	2,988	1,257	6,468
JACKSON	900	1,213	2,819	1,426	6,358
RUSTMASTER	1,035	1,284	2,735	1,213	6,268
SURRY	1,042	1,322	2,581	1,251	6,196
MAGNOLIA	1,093	1,313	2,158	1,153	5,717
PENNPLOID V	884	1,220	2,383	1,192	5,679
NUTRIBLEND	924	1,110	2,591	1,051	5,675
MULTIMO	819	729	2,566	1,003	5,116
DALITA	600	623	2,451	937	4,611

TABLE 10. THREE-YEAR AVERAGE SEASONAL DISTRIBUTION OF RYEGRASS VARIETY FORAGE PRODUCTION, SAND MOUNTAIN SUBSTATION, CROSSVILLE, ALABAMA, 1988-1990

BRAND-VARIETY	SEASONAL FORAGE YIELD/ACRE				TOTAL
	AUTUMN	WINTER	EARLY SPRING	LATE SPRING	
	<u>LB.</u>	<u>LB.</u>	<u>LB.</u>	<u>LB.</u>	
MARSHALL	-	423	1,931	1,812	4,165
DALITA	-	74	1,769	2,048	3,892
NUTRIBLEND	-	366	1,664	1,782	3,812
SURRY	-	498	1,706	1,556	3,760
RUSTMASTER	-	409	1,713	1,558	3,680
JACKSON	-	402	1,656	1,526	3,584
MAGNOLIA	-	415	1,326	1,476	3,217
PENNPLOID V	-	348	1,344	1,418	3,110

Information contained herein is available to all without regard to race, color, sex, or national origin.







