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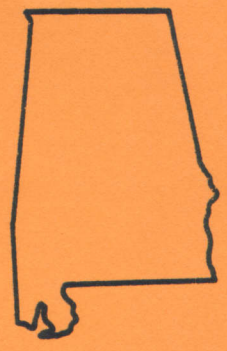
Performance of Ryegrass Varieties in Alabama



1985-1986

PERFORMANCE OF RYEGRASS VARIETIES IN ALABAMA, 1985-86

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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 of 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. A good stand was obtained at all locations: Sand Mountain Substation, Plant Breeding Unit, and Gulf Coast Substation.

The tests were fertilized with phosphorus and potassium according to soil test. At planting, nitrogen was applied at the rate of 50 pounds N per acre, and an additional 50 pounds of N was applied per acre after each cutting to allow the varieties to perform at their maximum yield

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potential. A 32-inch swath of each plot was harvested with a flail harvester each time the ryegrass reached 6-10 inches. A herbage sample of approximately 1 pound was taken from each plot at each harvest for determining forage dry matter percentage. The unusually severe cold weather during late January 1985 and December 1985 and January 1986 virtually eliminated any winter production at the Plant Breeding Unit in 1985 and 1986, at the Gulf Coast Substation in 1985, and at the Sand Mountain Substation in 1986. This severe cold also destroyed the test at the Sand Mountain Substation in 1985. Lower total yields in 1986 were due to below normal rainfall for winter and spring at all locations.

Marshall continued to be among the highest in total herbage production throughout Alabama and is especially outstanding in late winter/early spring production.

Planning ways to meet seasonal forage needs is an important consideration for livestock producers. Tables 7, 8, and 9 show 3-year average yields for the ryegrass production season. The 3-year average for the Sand Mountain Substation includes 1983, 1984, and 1986. A 3-year average provides a more dependable comparison of ryegrass varieties than does single-year results.

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SOURCES OF RYEGRASS SEED

Billion	Western Seed Co., (van der Have Seeds), Albany, Oregon
Caramba	Western Seed Co., (van der Have Seeds), Albany, Oregon
Dalita	Daehnfeldt, Albany, Oregon
Florida 80	Univ. of Florida, Gainesville, Florida
Florida 1985 LR	Univ. of Florida, Gainesville, Florida
Gulf	Local purchase
Magnolia	Forbes Seed, Junction City, Oregon
Marshall	Funk Seeds Int., Alexandria, Louisiana
Mom LM 455	Western Seed Co., (van der Have Seeds), Albany, Oregon
Mom LM 457	Western Seed Co., (van der Have Seeds), Albany, Oregon
Multimo	Western Seed Co., (van der Have Seeds), Albany, Oregon
Ninak	Western Seed Co., (van der Have Seeds), Albany, Oregon
Penploid IV	Pennington Enterprises, Madison, Georgia
Polly	Daehnfeldt, Albany, Oregon
Shannon	Pioneer Hi-Bred, Inter., Tipton, Indiana
Tetrablend 444	Northrup King Co., Columbus, Mississippi
Tetrone	Western Seed Co., (van der Have Seeds), Albany, Oregon
Urbana	Western Seed Co., (van der Have Seeds), Albany, Oregon
Wilo	Daehnfeldt, Albany, Oregon

Table 1. Seasonal Dry Matter Yield of Ryegrass Varieties at the Gulf Coast Substation, Fairhope, Alabama, 1986

Brand-variety	Yield/acre, by harvest date				Season total
	1/16	2/26	3/17	4/11	
	Lb.	Lb.	Lb.	Lb.	Lb.
Marshall	1,482	991	1,037	2,306	5,816 a*
Mom LM 455	1,297	774	1,150	2,436	5,657 ab
Florida 80	495	1,830	963	2,300	5,588 ab
Florida 1985 LR	235	1,416	1,303	2,469	5,423 abc
Magnolia	965	1,049	1,024	2,357	5,395 abc
Mom LM 457	1,271	601	1,008	2,466	5,346 abcd
Gulf	675	1,640	938	2,060	5,313 abcd
Penploid IV	640	1,501	1,032	2,034	5,207 bcd
Tetrablend 444	543	1,213	1,127	2,099	4,982 cd
Shannon	645	1,064	1,023	2,206	4,938 cde
Caramba	769	1,211	1,028	1,924	5,932 cde
Billion	694	1,211	927	2,021	4,853 de
Ninak	670	1,267	900	2,002	4,839 de
Urbana	790	980	916	1,953	4,639 e
Multimo	819	832	921	2,018	4,590 e
Tetrone	368	781	1,013	2,345	4,507 e
Wilo	147	618	924	2,107	3,796 f
Dalito	344	694	888	1,825	3,751 f
Polly	124	595	812	1,662	3,193 g

*Yields followed by the same letter are not different, P = .05.

Planted: October 18, 1985.

Soil: Malbis fine sandy loam.

Table 2. Seasonal Dry Matter Yield of Ryegrass Varieties at the Plant Breeding Unit, Tallassee, Alabama, 1986

Brand-variety	Yield/acre, by harvest date			Season total
	3/3	4/9	6/4	
	Lb.	Lb.	Lb.	Lb.
Mom LM 455	371	1,823	2,039	4,233 a*
Florida 80	732	2,362	790	3,884 ab
Florida 1985 LR	499	2,065	1,306	3,870 ab
Gulf	679	2,069	1,084	3,832 ab
Marshall	519	1,936	1,364	3,819 ab
Penploid IV	493	2,091	1,156	3,740 abc
Mom LM 457	355	1,673	1,386	3,414 bcd
Magnolia	441	1,620	995	3,056 cde
Urbana	542	1,276	1,091	2,909 de
Tetrablend 444	400	1,448	1,027	2,875 def
Shannon	512	1,177	820	2,509 efa
Billion	507	1,036	847	2,390 efg
Multimo	473	916	925	2,314 efg
Ninak	398	935	849	2,182 fgh
Caramba	453	791	892	2,136 fgh
Tetrone	283	753	998	2,034 gh
Wilo	237	654	908	1,799 gh
Dalito	142	608	719	1,469 hi
Polly	88	370	660	1,118 i

*Yields in this column followed by the same letter are not different, P = .05.

Planted: October 7, 1985.

Soil: Cahaba fine sandy loam.

Table 3. Seasonal Dry Matter Yield of Ryegrass Varieties at the Sand Mountain Substation, Crossville, Alabama, 1985-86

Brand-variety	Yield/acre, by harves date						Season total	
	11/15	3/24	4/16	5/16	5/29	6/16		
	Lb.	Lb.	Lb.	Lb.	Lb.	Lb.	Lb.	
Marshall	2,139	960	1,136	1,101	442	1,123	6,901	a
Mom LM	1,636	958	997	1,295	531	1,363	6,780	a
Mom LM 457	1,498	874	1,045	1,296	485	1,239	6,436	ab
Florida 1985 LR	1,670	1,029	1,297	889	293	1,014	6,192	bc
Multimo	1,676	618	876	588	957	1,242	5,957	bcd
Shannon	1,662	438	1,097	598	808	1,292	5,895	bcd
Ninak	1,632	561	884	557	856	1,374	5,864	cde
Urbana	1,498	573	988	605	957	1,198	5,819	cde
Tetrablend 444	1,826	282	925	662	707	1,405	5,807	cde
Tetrone	1,489	588	988	767	676	1,012	5,529	def
Dalita	1,732	314	847	772	708	1,123	5,496	def
Wilo	1,540	321	856	695	680	1,294	5,386	defg
Polly	1,614	282	832	676	750	1,137	5,291	efg
Magnolia	1,727	223	917	1,240	219	909	5,235	fgh
Florida 80	1,758	804	1,273	696	116	561	5,208	fgh
Caramba	1,774	141	687	581	568	1,170	4,921	ghi
Billion	1,726	116	678	620	524	1,061	4,725	hi
Gulf	2,008	48	842	1,056	121	591	4,666	i
Penploid IV	1,680	-	628	982	95	469	3,854	j

*Yields followed by the same letter are not different, P = .05.

Planted: September 12, 1985.

Soil: Hartsells fine sandy loam.

Table 4. Total Dry Matter Yield of Ryegrass Varieties 1986 and Two- and Three-year Averages, Gulf Coast Substation, Fairhope, Alabama

Brand-variety	Dry matter/acre		
	1986	2-yr. av. (1985-86)	3-yr. av. (1984-86)
	Lb.	Lb.	Lb.
Marshall	5,816	6,355	6,922
Mom LM 455	5,657	6,139	
Florida 80	5,588	5,528	5,604
Florida 1985 LR	5,423		
Magnolia	5,395		
Mom LM 457	5,346	6,107	
Gulf	5,313	5,636	5,634
Penploid IV	5,207	5,091	5,168
Tetrablend 444	4,982	5,702	5,436
Shannon	4,938	5,121	5,358
Caramba	4,932	5,366	
Billion	4,853		
Ninak	4,839	5,693	5,836
Urbana	4,639	5,445	5,976
Multimo	4,590		
Tetrone	4,570		
Wilo	3,796		
Dalita	3,751	5,090	
Polly	3,193		

Table 5. Total Dry Matter Yield of Ryegrass Varieties 1986 and Two- and Three-Year Averages, Plant Breeding Unit, Tallassee, Alabama

Brand-variety	Dry matter/acre		
	1986	2-yr. av. (1985-86)	3-yr. av. (1984-86)
	Lb.	Lb.	Lb.
Mom LM 455	4,233	5,386	
Florida 80	3,884	4,812	6,214
Florida 1985 LR	3,870		
Gulf	3,832	4,349	5,984
Marshall	3,819	5,353	7,347
Penploid IV	3,740	4,396	6,019
Mom LM 457	3,414	4,828	
Magnolia	3,056		
Urbana	2,909	4,438	6,364
Tetrablend 444	2,875	3,790	5,599
Shannon	2,509	4,102	6,098
Billion	2,390		
Multimo	2,314	3,846	
Ninak	2,182	3,795	5,983
Caramba	2,136	3,350	
Tetrone	2,034		
Wilo	1,799		
Dalita	1,469	3,410	
Polly	1,118		

Table 6. Total Dry Matter Yield of Ryegrass Varieties 1986 and Two- and Three-Year Averages, Sand Mountain Substation, Crossville, Alabama

Brand-variety	Dry matter/acre		
	1986	2-yr. av. (1984,1986)	3-yr. av. (1983,'84,'86)
		Lb.	Lb.
Marshall	6,901	6,764	6,263
Mom LM 455	6,780		
Mom LM 457	6,436		
Florida 1985 LR	6,192		
Multimo	5,957		
Shannon	5,895	5,762	5,937
Ninak	5,864	6,090	6,033
Urbana	5,819	5,928	6,125
Tetrablend 444	5,807	5,525	
Tetrone	5,529		
Dalita	5,496		
Wilo	5,386		
Polly	5,291		
Magnolia	5,235		
Florida 80	5,208	5,372	5,476
Caramba	4,921		
Billion	4,725		
Gulf	4,666	4,893	
Penploid IV	3,854	4,504	4,957

Table 7. Three-Year Average Seasonal Distribution of Ryegrass Variety Forage Production, Gulf Coast Substation, Fairhope, Alabama, 1984-86

Brand-variety	Seasonal forage yield/acre			
	Autumn	Winter	Early spring	Late spring
	Lb.	Lb.	Lb.	Lb.
Marshall	606	1,220	2,387	2,709
Florida 80	493	796	2,209	2,105
Gulf	424	775	2,080	2,354
Penploid IV	406	634	1,891	2,237
Tetrablend 444	341	888	1,856	2,351
Shannon	295	811	1,832	2,419
Ninak	416	1,055	1,855	2,510
Urbana	527	888	1,946	2,614

Table 8. Three-Year Average Seasonal Distribution of Ryegrass Variety Forage Production Plant Breeding Unit, Tallassee, Alabama, 1984-86

Brand-variety	Seasonal forage yield/acre			
	Autumn	Winter	Early spring	Late spring
	Lb.	Lb.	Lb.	Lb.
Florida 80	709	1,012	1,684	2,808
Gulf	506	922	1,599	2,957
Marshall	737	1,118	1,869	3,623
Penploid IV	683	851	1,475	3,010
Urbana	691	953	1,376	3,344
Tetrablend 444	569	812	1,138	3,081
Shannon	597	858	1,320	3,323
Ninak	669	710	1,439	3,165

Table 9. Three-Year Average Seasonal Distribution of Ryegrass Variety Forage Production, Sand Mountain Substation, Crossville, Alabama, 1983, 1984, 1986

Brand-variety	Seasonal forage yield/acre			
	Autumn	Winter	Early spring	Late spring
	Lb.	Lb.	Lb.	Lb.
Marshall	1,016	-	320	4,927
Shannon	878	-	146	4,913
Ninak	1,013	-	187	4,832
Urbana	869	-	191	5,064
Florida 80	870	-	268	4,337
Penploid IV	930	-	-	4,027