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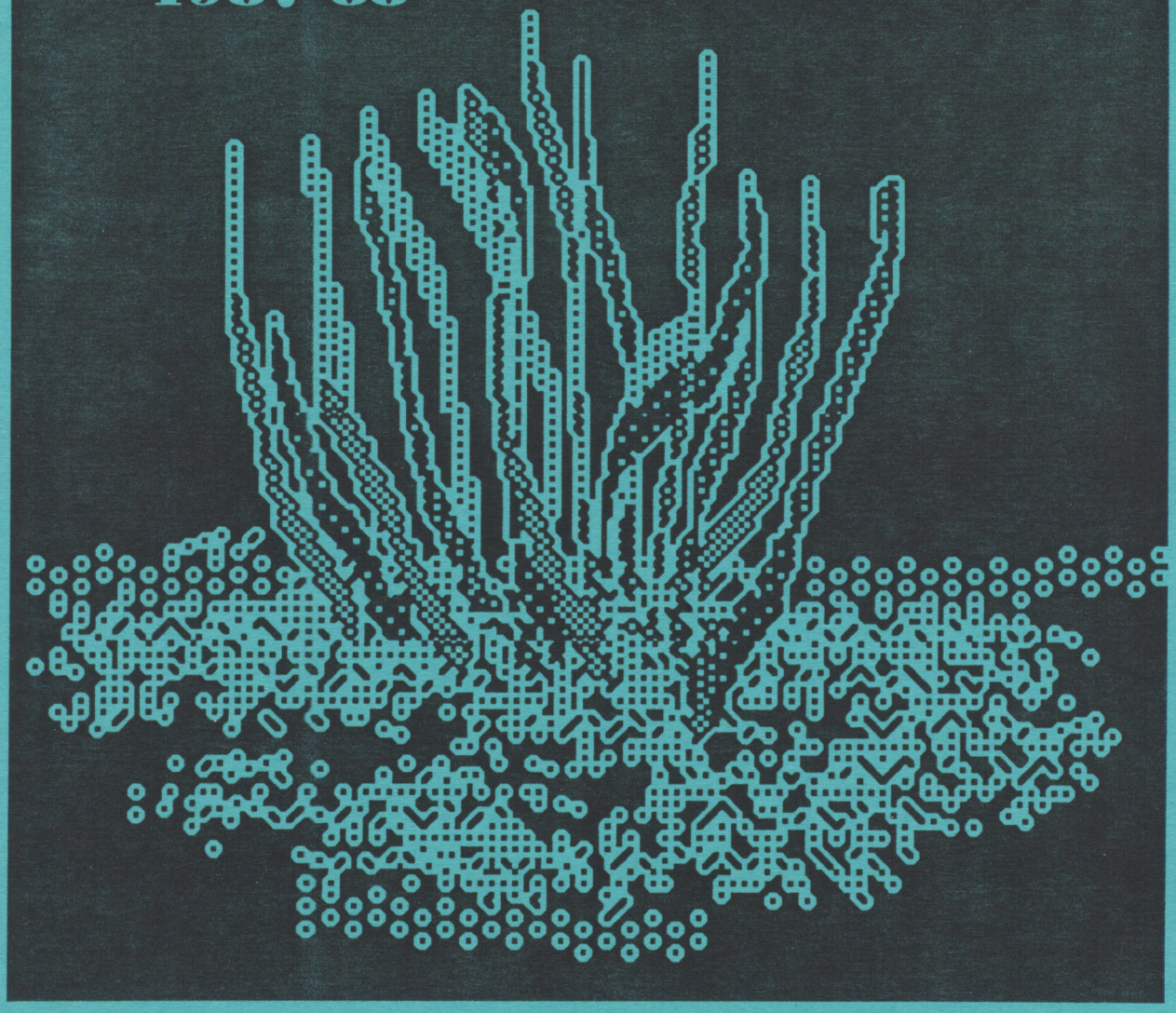

PERFORMANCE OF RYEGRASS VARIETIES IN ALABAMA, 1987-88

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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. 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 Auburn University soil test recommendations. At planting, nitrogen was applied at the rate of 50 pounds of 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 potential. A 32-inch swath

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of each plot was harvested with a flail harvester each time the ryegrass reached 6-10 inches tall. 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 December 1985 and January 1986 virtually eliminated any winter production at the Plant Breeding Unit and the Sand Mountain Substation in 1986. Lower total yields in 1986 and 1988 were due to below normal rainfall for winter and spring at all locations. The tests at the Sand Mountain Substation and Gulf Coast Substation were planted 1 month to 6 weeks later in 1987 than in 1986 and 1985. However, the test at Plant Breeding Unit was planted 1 week later than in 1986 and 1 week earlier than 1985. Due to the late planting and dry conditions at Sand Mountain and the Gulf Coast substations, there was little winter production in the 1987-88 season. There was fall and winter growth at the Plant Breeding Unit, but yields were low due to lack of sufficient water. The late spring yields were also extremely low at all locations in 1987 and 1988 due to severe dry weather in April both years and in May 1988.

Marshall continued to be among the highest in total herbage production throughout Alabama for the 3-year period, 1986-88, and is especially outstanding in late winter/early spring production. However, in 1988 a number of new entries yielded more total herbage at all locations.

Strategies to meet seasonal forage needs are an important consideration for livestock producers. Tables 7, 8, and 9 show 3-year average yields for the ryegrass production season. 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

Aubade	Wilamette Seed & Grain, Shedd, Oregon
Billion	Van Der Have Oregon, Inc., Albany, Oregon
Bulldog	Lofts Seed Inc., Bound Brooks, New Jersey
Caramba	Van Der Have Oregon, Inc., Albany, Oregon
Cervus	International Seeds, Halsey, Oregon
Comet	NPI Seed Inc., Salem, Oregon
Dalita	Daehnfeldt, Albany, Oregon
Dama	International Seeds, Halsey, Oregon
Florida 80	Univ. of Florida, Gainesville, Florida
FL-X 1986 LR	Univ. of Florida, Gainesville, Florida
Gulf	Local purchase
HHH	Holms Farm, Tylertown, Mississippi
HI 124	Van Der Have Oregon, Inc., Albany, Oregon
Magnolia	Forbes Seed, Junction City, Oregon
Marshall	Funk Seeds Int., Alexandria, Louisiana
Max	NPI Seed Inc., Salem, Oregon
MSR 86-1	Mississippi State Univ., Mississippi State, Mississippi
Mom LM 455	Van Der Have Oregon, Inc., Albany, Oregon
Multimo	Van Der Have Oregon, Inc., Albany, Oregon
Tetrablend 444 T3	The New Northrup King Co., Laurinburg, North Carolina
Nutriblend	Daehnfeldt, Albany, Oregon
Pennploid V	Pennington Enterprises, Madison, Georgia
Polly	Daehnfeldt, Albany, Oregon
Tetrone	Van Der Have Oregon, Inc., Albany, Georgia
Top-one	Wilamette Seed & Grain, Shedd, Oregon
Torero	Van Der Have Oregon, Inc., Albany, Oregon
Urbana	International Seed, Halsey, Oregon
Wilo	Daehnfeldt, Albany, Oregon

Table 1. Seasonal Dry Matter Yield of Ryegrass Varieties at the Gulf Coast Substation, Fairhope, Alabama, 1988

Brand-variety	Yield/acre, by harvest date					Season* total
	2/9	3/2	3/23	4/14	5/11	
	Lb.	Lb.	Lb.	Lb.	Lb.	Lb.
HI 124	1,117	320	1,967	2,654	1,353	7,413
HHH	894	487	2,414	2,058	1,403	7,256
Bulldog	1,189	512	2,135	2,001	1,417	7,254
MSR 86-1	924	368	2,437	2,121	1,275	7,126
FL-X 1986 LR	1,355	498	1,752	1,964	1,548	7,117
Mom LM 455	1,029	237	2,041	2,491	1,294	7,092
Marshall	987	296	2,138	2,235	1,321	6,978
Tetrone	775	166	1,917	2,097	1,850	6,805
Magnolia	1,252	492	1,679	1,901	1,402	6,726
Multimo	1,270	440	1,746	2,034	1,229	6,719
Gulf	1,422	451	1,628	1,934	1,280	6,714
Urbana	979	294	1,806	1,943	1,654	6,677
Nutriblend	860	427	1,769	2,201	1,372	6,629
Cervus	797	289	1,836	2,104	1,561	6,587
Top-One	1,122	362	1,937	1,933	1,217	6,572
Florida 80	940	557	1,749	1,721	1,581	6,548
Max	1,080	270	1,843	1,898	1,437	6,528
Caramba	1,247	325	1,924	1,775	1,211	6,482
Pennploid V	900	461	1,887	1,913	1,317	6,477
Torero	794	362	1,977	1,870	1,359	6,362
Tetrablend 444 T3	887	337	1,762	1,968	1,375	6,329
Aubade	1,105	376	1,833	1,811	1,197	6,322
Dama	826	244	1,564	2,039	1,481	6,155
Polly	323	177	1,736	2,244	1,672	6,152
Billion	1,413	320	1,534	1,662	1,138	6,068
Wilo	531	135	1,511	2,109	1,679	5,966
Comet	1,039	282	1,809	1,739	1,089	5,957
Dalita	712	218	1,329	2,036	1,417	5,712

*LSD (.05) = 548; C.V. = 7%.

Planted: November 12, 1987.

Soil: Malbis fine sandy loam.

Table 2. Seasonal Dry Matter Yield of Ryegrass Varieties at the Plant Breeding Unit, Tallassee, Alabama, 1988

Brand-variety	Yield/acre, by harvest date						Season* total
	11/23	1/6	3/7	4/4	4/27	5/26	
	Lb.	Lb.	Lb.	Lb.	Lb.	Lb.	Lb.
FL-X 1986 LR	663	955	1,327	1,613	700	770	6,029
Marshall	766	874	767	1,907	803	898	6,015
MSR 86-1	629	779	986	1,984	534	812	5,725
Mom LM 455	642	687	548	2,077	865	874	5,693
HI 124	764	636	539	1,875	1,021	838	5,674
Urbana	506	713	885	1,432	1,218	710	5,464
HHH	486	1,028	966	1,816	442	688	5,425
Bulldog	669	863	985	1,672	563	674	5,425
Florida 80	557	715	1,243	1,484	580	591	5,169
Comet	507	733	1,175	1,206	718	692	5,031
Tetrablend 444 T3	479	831	935	1,447	758	500	4,950
Pennploid V	427	846	1,088	1,446	519	613	4,940
Magnolia	622	928	922	1,414	473	492	4,852
Nutriblend	597	762	831	1,480	639	446	4,756
Cervus	499	597	780	1,389	871	600	4,736
Billion	591	792	1,065	1,031	653	552	4,684
Aubade	597	910	1,029	1,060	591	473	4,659
Torero	584	734	941	1,136	704	516	4,616
Max	463	737	785	1,334	770	444	4,533
Tetrone	450	682	542	1,483	959	392	4,508
Top-One	486	762	904	1,207	628	467	4,453
Caramba	607	733	872	1,081	676	465	4,435
Multimo	564	633	450	1,279	939	433	4,298
Wilo	442	492	429	1,614	944	364	4,285
Dalita	366	452	370	1,322	898	523	3,932
Dama	517	544	413	1,083	882	384	3,822
Polly	241	367	114	1,390	956	393	3,462

*LSD (.05) = 650; C.V. = 11%.

Planted: October 1, 1987.

Soil: Cahaba fine sandy loam.

Table 3. Seasonal Dry Matter Yield of Ryegrass Varieties at the Sand Mountain Substation, Crossville, Alabama, 1988

Brand-variety	Yield/acre, by harvest date					Season* total
	3/23	4/5	4/15	4/29	5/13	
	Lb.	Lb.	Lb.	Lb.	Lb.	Lb.
Mom LM 455	87	888	215	1,257	850	3,298
HI 124	114	808	175	1,192	738	3,026
Marshall	100	805	183	1,105	745	2,938
FL-X 1986 LR	311	771	131	1,060	632	2,906
Urbana	257	637	198	1,149	595	2,837
Bulldog	250	718	121	1,059	656	2,804
Polly	22	438	278	1,224	829	2,791
HHH	60	767	161	1,013	748	2,749
Dalita	30	585	256	1,140	674	2,686
Nutriblend	94	637	163	1,097	687	2,677
Tetrone	104	685	213	1,075	590	2,667
Max	191	678	130	1,011	616	2,626
Wilo	52	582	217	1,089	675	2,615
Pennploid V	169	696	113	883	726	2,587
Florida 80	349	683	76	915	526	2,549
Tetrablend 444 T3	141	621	154	955	592	2,463
Magnolia	151	644	117	815	723	2,451
Cervus	205	554	132	851	693	2,434
MSR 86-1	80	665	131	910	577	2,362
Billion	352	586	85	737	541	2,302
Comet	314	553	100	755	484	2,206
Aubade	286	539	104	680	595	2,204
Top-One	162	551	108	772	534	2,127
Caramba	226	456	143	777	480	2,081
Torero	108	411	106	736	559	1,920
Dama	41	396	122	762	509	1,829

*LSD (.05) = 309; C.V. = 10%.

Planted: October 28, 1987.

Soil: Hartsells fine sandy loam.

Table 4. Total Dry Matter Yield of Ryegrass Varieties, 1988 and Two- and Three-year Averages, Gulf Coast Substation, Fairhope, Alabama

Brand-variety	Dry matter/acre		
	1988	2-yr. av. (1987-88)	3-yr. av. (1986-88)
	Lb.	Lb.	Lb.
HI 124	7,413	7,245	
HHH	7,256		
Bulldog	7,254	6,867	
MSR 86-1	7,126		
FL-X 1986 LR	7,117	6,833	
Mom LM 455	7,092	6,889	6,478
Marshall	6,978	6,717	6,417
Tetrone	6,805	6,800	6,035
Magnolia	6,726	6,335	6,021
Multimo	6,719	6,767	6,041
Gulf	6,714	6,205	5,907
Urbana	6,676	6,944	6,176
Nutriblend	6,629	6,351	
Cervus	6,587		
Top-One	6,572	6,555	
Florida 80	6,548	6,301	6,063
Max	6,527		
Caramba	6,482	6,535	6,000
Pennploid V	6,477	6,495	
Torero	6,362		
Tetrablend 444 T3	6,329	6,838	
Aubade	6,322	6,550	
Dama	6,155		
Polly	6,152	5,816	4,941
Billion	6,068	6,356	5,855
Wilo	5,966	6,122	5,347
Comet	5,957		
Dalita	5,712	5,872	5,165

Table 5. Total Dry Matter Yield of Ryegrass Varieties, 1988 and Two- and Three-Year Averages, Plant Breeding Unit, Tallassee, Alabama

Brand-variety	Dry matter/acre		
	1988	2-yr. av. (1987-88)	3-yr. av. (1986-88)
	Lb.	Lb.	Lb.
FL-X 1986 LR	6,029	6,421	
Marshall	6,015	5,630	5,026
MSR 86-1	5,725		
Mom LM 455	5,693	5,748	5,243
HI 124	5,674	5,149	
Urbana	5,464	5,508	4,642
HHH	5,425		
Bulldog	5,425	5,656	
Florida 80	5,169	5,070	4,654
Comet	5,017		
Tetrablend 444 T3	4,950	5,281	
Pennploid V	4,940	5,041	
Magnolia	4,852	5,033	4,374
Nutriblend	4,756	4,646	
Cervus	4,736	5,784	
Billion	4,684	4,583	3,852
Aubade	4,659	4,552	
Torero	4,616		
Max	4,533		
Tetrone	4,508	4,076	3,395
Top-One	4,453	4,694	
Caramba	4,435	4,647	3,809
Multimo	4,298	4,259	3,611
Wilo	4,285	5,100	4,000
Dalita	3,932	3,525	2,840
Dama	3,822		
Polly	3,462	3,700	2,840

Table 6. Total Dry Matter Yield of Ryegrass Varieties, 1988 and Two- and Three-Year Averages, Sand Mountain Substation, Crossville, Alabama

Brand-variety	Dry matter/acre		
	1988	2-yr. av. (198/-1988)	3-yr. av. (1986-88)
	Lb.	Lb.	Lb.
Mom LM 455	3,298	4,949	5,559
HI 124	3,027	4,876	
Marshall	2,938	4,827	5,51/
FL-X 1986 LR	2,906	4,338	
Urbana	2,837	4,688	5,065
Bulldog	2,804	4,34/	
Polly	2,786	3,547	4,128
HHH	2,749		
Dalita	2,686	3,670	4,278
Nutriblend	2,677	4,209	
Tetrone	2,667	3,973	4,489
Max	2,626		
Wilo	2,614	3,780	
Pennploid V	2,587	3,951	
Florida 80	2,549	3,384	3,992
Tetrablend 444 T3	2,463	3,887	
Magnolia	2,451	3,959	4,384
Cervus	2,434		
MSR 86-1	2,363		
Billion	2,302	4,020	4,255
Comet	2,206		
Aubade	2,204	3,986	
Top-One	2,127	3,931	
Caramba	2,081	3,431	3,928
Torero	1,920		
Dama	1,829		

Table 7. Three-Year Average Seasonal Distribution of Ryegrass Variety Forage Production, Gulf Coast Substation, Fairhope, Alabama, 1986-88

Brand-variety	Seasonal forage yield/acre			
	Autumn	Winter	Early spring	Late spring
	Lb.	Lb.	Lb.	Lb.
Marshall	546	2,092	3,064	716
Mom LM 455	368	1,994	3,334	782
Urbana	476	2,124	2,699	877
Florida 80	243	2,239	2,550	1,031
Tetrone	482	1,650	2,969	934
Multimo	408	2,116	2,801	716
Magnolia	387	2,073	2,821	741
Caramba	675	2,047	2,612	667
Gulf	376	2,218	2,661	653
Billion	449	2,212	2,550	644
Wilo	393	1,204	2,876	874
Dalita	485	1,385	2,569	725
Polly	394	1,021	2,715	812

Table 8. Three-Year Average Seasonal Distribution of Ryegrass Variety Forage Production, Plant Breeding Unit, Tallassee, Alabama, 1986-88

Brand-variety	Seasonal forage yield/acre			
	Autumn	Winter	Early spring	Late spring
	Lb.	Lb.	Lb.	Lb.
Mom LM 455	497	1,045	2,394	1,307
Marshall	748	1,277	2,037	965
Florida 80	342	1,664	1,927	721
Urbana	504	1,355	1,797	986
Magnolia	690	1,486	1,593	605
Wilo	594	1,029	1,618	759
Billion	505	1,347	1,245	754
Caramba	476	1,363	1,191	779
Multimo	447	999	1,395	770
Tetrone	416	895	1,399	685
Dalita	418	612	1,195	614
Polly	356	521	1,332	630

Table 9. Three-Year Average Seasonal Distribution of Ryegrass Variety Forage Production, Sand Mountain Substation, Crossville, Alabama, 1986-88

Brand-variety	Seasonal forage yield/acre			
	Autumn	Winter	Early spring	Late spring
	Lb.	Lb.	Lb.	Lb.
Mom LM 455	545	543	2,392	2,078
Marshall	713	850	2,183	1,770
Urbana	499	672	2,106	1,787
Tetrone	496	377	1,997	1,619
Magnolia	576	547	1,751	1,509
Dalita	577	198	1,832	1,670
Billion	575	612	1,568	1,499
Polly	538	163	1,817	1,612
Florida 80	586	649	1,738	1,018
Caramba	591	463	1,443	1,431