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Mississippi Agricultural and Forestry Experiment Station

Performance of Ryegrass

Twenty-seven ryegrass varieties were planted at three locations. At Pontotoc the test was damaged by extreme cold and was only harvested two times. The highest yields were produced by two experimental lines, ME-94 from Wax Seeds and FLX 1996LR from University of Florida, with yields of 4,108 and 3,520 compared to 2,088 pounds per acre for Gulf. The test at Newton was harvested five times and had an average yield of 6,543 pounds per acre. The highest yield was produced by an experimental OFI-A94 from Olsen-Fennel Seed Company followed by NC/FL1966LR from University of Florida with yields of 7,341 and 7,168 compared to 6,082 for Gulf. At Raymond, the highest yields were produced by Hurricane and Abundant with yields of 10,312 and 10,295 pounds per acre compared to 8,885 for Gulf.

Table 1. Dry matter yield of ryegrass varieties at the Pontotoc Research and Extension Center, Pontotoc, MS, 1996-97.

Variety	Dry Matter Yield		
	Harvest Dates		Total
	3/17/97	5/16/97	
Abundant	1730	926	2656
Big Daddy	1234	731	1966
Blizard	1367	771	2138
FLX19964N	2339	947	3286
FLX1996LR	2644	876	3520
Grazer	2614	629	3243
Gulf	1420	669	2088
Hurricane	2702	662	3363
Jackson	2775	636	3411
Marshall	2798	573	3371
ME-94	3267	841	4108
NC/FL1996LR	2505	902	3407
OFI-A94	2278	839	3117
OFI-FL95	2206	785	2991
OFI-PMI	1469	650	2119
Passerel	2708	746	3454
RIO	2484	650	3133
Rustmaster	2645	665	3310
Surrey	2584	684	3268
TAM 90	2016	843	2859

Tetrablend 444	1209	752	1960
TXRFMR-96	1609	778	2387
TXR95-2	2406	706	3113
TXR95-6	2510	734	3244
WVPB-R-3	2112	709	2820
WVPB-90-300	2652	817	3469
WVPB-93-101	2248	886	3133
Mean	2242	756	2998
LSD (0.05)	519	207	613
CV %	16	19	14

Planting date: 10/11/96

Fertilization: 10/10/96 60-30-0 12/03/96 30-0-0 3/22/97 68-0-0

Table 2. Dry matter yield of ryegrass varieties, Coastal Plain Branch, Newton, MS, 1996-97.

Variety	Dry Matter Yield						Stand ¹
	Harvest Dates					Total	
	12/03/96	1/27/97	3/10/97	4/15/97	5/27/97		
-----lb/A-----							%
Abundant	1097	517	891	1917	1288	5711	97
Big Daddy	1026	650	1065	2434	1463	6637	100
Blizard	1024	635	1116	2192	1470	6437	100
FLX1996G4N	1139	766	1098	2197	1577	6777	98
FLX1996LR	1155	764	1266	2353	1342	6880	100
Grazer	1097	606	1524	1704	1159	6091	97
Gulf	1066	578	1041	2159	1238	6082	97
Hurricane	1044	614	873	2207	1314	6053	98
Jackson	1450	874	1319	2208	1317	7168	98
Marshall	1265	634	993	2683	1447	7022	98
ME-94	1251	622	1075	2406	1473	6827	97
NC/FL1996LR	1168	879	1495	2746	1501	7788	98
OFI-A94	1348	844	1503	2622	1468	7785	97
OFI-FL 95	1298	657	1096	2263	1303	6318	98
OFI-PMI	1050	663	1063	2127	1427	6327	98
Passerel	1244	647	819	2112	1321	6144	98
RIO	1249	679	1141	2093	1432	6595	97
Rust Master	1145	599	963	2221	1151	6079	98
Surrey	1311	837	1465	2255	1472	7341	97
TAM 90	1222	675	871	1836	1124	5727	98
Tetrablend 444	1006	691	1124	2490	1542	6853	98
TXRFMR-96	1149	709	1046	2330	1184	6419	100
TXR95-2	1005	628	1050	2367	1196	6246	97

TXR95-6	1030	651	1219	2212	1263	6375	94
WVPB-R-3	1125	679	876	1873	1080	5634	95
WVBP-90-300	1066	704	1156	2528	1639	7093	100
WVPB-93-101	928	645	909	2021	1440	5943	98
Mean	1147	683	1113	2243	1357	6543	97.9
LSD (0.05)	287	223	417	541	351	1427	4.1
CV %	15	20	23	15	16	13	3

Seeding rate: 35 lb

Planting date: 10/03/96

Fertilization: 9/23/96 - Lime @ 1 T/A

10/03/96 - 65-65-65

12/09/96 - 34-0-0

1/30/97 - 34-0-0

3/10/97 - 34-0-0

4/17/97 - 34-0-0

¹Date: 11/18/96

Table 3. Dry matter yield of ryegrass varieties, Coastal Plain Branch, Newton, MS, 1993-1997.					
Variety	Dry Matter Yield				
	Year				Mean
	93-94	94-95	95-96	96-97	
-----lb/A-----					
Florida 80	6542	8348	5453		
Gulf	6849	7980	5054	6082	6491
Jackson	7374	9069	6416	7168	7507
Marshall	7391	8106	7930	7022	7612
RIO	7041	8351	6714	6595	7175
Rustmaster	6672	8299	6351	6079	6850
Surrey	6840	8607	6741	7341	7382
TAM 90	7292	8236	5909	5727	6791
Mean	7000	8375	6321	6573	7115

Table 4. Dry matter yield of ryegrass varieties, Brown Loam Branch Station, Raymond, MS, 1996-97.					
Variety	Dry matter yield				
	Harvest Dates				Total
	11/21/96	2/19/97	3/11/97	5/7/97	
Abundant	1315	1904	1000	6093	10312
Big Daddy	1223	1824	954	5128	9133
Blizard	1204	1521	980	5804	9509
FLX1996G4N	1114	1541	1066	5010	8730

FLX1996LR	1118	1703	1020	4718	8559
Grazer	1300	1646	1134	5154	9233
Gulf	1191	1749	1022	4924	8885
Hurricane	1313	1959	1068	5955	10295
Jackson	1337	1906	1024	5417	9684
Marshall	1403	1974	1331	5099	9807
ME-94	1237	1416	1061	4554	8268
NC/FL1996LR	1037	1878	1009	5624	9548
OFI-A94	1372	1508	816	6080	9776
OFI-FL 95	1322	1532	1035	5675	9564
OFI-PMI	1265	1808	1083	5776	9931
Passerel	1114	1655	956	5266	8990
RIO	1427	1324	1051	5329	9130
Rust Master	1269	2355	1193	4909	9726
Surrey	1274	1718	1151	5200	9343
TAM 90	1324	1620	1029	5294	9266
Tetrablend 444	1149	2022	1000	4929	9100
TXRFMR-96	1167	1547	867	5336	8916
TXR95-2	1110	1792	1151	5640	9693
TXR95-6	1149	1593	945	6027	9715
WVPB-R-3	1293	1736	1197	5848	10074
WVBP-90-300	1103	1766	1346	5740	9956
WVPB-93-101	1114	1265	1153	5600	9133
Mean	1231	1713	1061	5412	9418
LSD (0.05)	NS	NS	NS	NS	NS
CV %	21	26	24	15	12

Planting date: 10/4/96

Fertilization: 60-60-0 10/1/96 68-0-0 2/20/97 60-60-60 4/3/97

Table 5. Dry matter yield of ryegrass varieties, Brown Loam Branch, Raymond, MS, 1993-1997.

Variety	Dry Matter Yield				
	Year				Mean
	93-94	94-95	95-96	96-97	
	-----lb/A-----				
Florida 80	6425	9044	7678		
Gulf	6482	8724	7175	8885	7807
Jackson	7142	9158	6195	9684	8045
Marshall	6776	9017	7243	9807	8211
RIO	7032	9505	7530	9130	8299
Rustmaster	6805	8907	7150	9726	8147
Surrey	6451	9825	6605	9343	8056

TAM 90	6889	9014	7844	9266	8253
Mean	6750	9149	7178	9406	8117

Performance of Fescue

Sixteen varieties of tall fescue were evaluated at Prairie and no variety produced significantly more than fungus-infected Kentucky 31 (Table 6). There were only small differences in total yield when averaged over six years. At Mississippi State, there were significant differences in total yield among 20 varieties evaluated, but no variety produced significantly more than the endophyte-infected Kentucky 31 variety (Table 7).

Table 6. Dry matter yield of tall fescue varieties, Prairie Research Unit, Prairie, MS, 1996-1997.						
Variety	Dry Matter Yield					
	Harvest Dates				Total	6-year average
	9/25/96	12/9/96	4/8/97	5/6/97		
	-----lb/A-----					
Alta	2224	465	2351	629	5671	4489
AU Triumph ¹	2193	366	1239	631	4430	3722
Desoto	1903	388	1312	533	4136	3687
Enforcer	2505	397	1262	683	4848	4164
Fawn	2446	597	1271	560	4875	4019
Forage Blend ³	2470	433	2454	653	6011	
Jesup (EI) ¹	2433	404	1666	663	5168	4314
Kentucky 31 EF ²	2243	384	1691	481	4800	4108
Kentucky 31 EI	2593	405	2141	573	5713	4503
Martin	2280	406	1415	623	4724	3996
OFI-TF-B1	2020	399	1302	473	4195	3773
OFI-TF-B15	1990	292	1278	462	4022	3706
Penngrazer ¹	2733	314	1131	537	4715	3879
TF 8872	2048	307	1168	535	4060	3491
TF 9077	2397	517	1722	611	5248	4511
Mean	2313	416	1538	578	4847	4036
LSD (0.05)	552	228	419	181	903	
CV %	17	38	19	22	13	

Seeding rate: 25 lb/A
 Planting date: 10/21/91
³Planting date: 9/21/92
 Fertilization: 120-0-0

¹Endophyte Fungus-Infected

²Endophyte Fungus-Free

Table 7. Dry matter yield of tall fescue varieties at Mississippi State, MS, 1996-97.

Variety	Dry Matter Yield						Stand 4/15/97
	Harvest Dates				Total	7-year average	
	12/2/96	3/24/97	4/15/97	5/21/97>			
	-----lb/A-----						
AU Triumph	571	567	536	407	2080	3176	76
Cajun	543	494	563	420	2019	3373	78
Desoto	581	431	591	456	2049	3251	87
Enforcer	619	323	385	518	1845	3211	89
Fawn	563	573	591	426	2153	3131	83
Forager	582	584	616	420	2198	3219	89
Jesup (EI) ¹	875	391	488	393	2147	3358	93
GA 5 EI	661	425	467	387	1941	3251	94
GA 110 EF ²	753	465	584	479	2281	3371	95
GA 196 EF	793	442	481	380	2097	3120	91
Johnstone	883	369	371	413	2036	3065	92
Kentucky 31 EI	810	335	460	538	2143	3526	93
Kentucky 31 EF	727	397	453	420	1997	3308	91
Martin	511	516	570	380	1977	3396	81
OFI-TF-B15	556	300	433	538	1827	3076	83
Penngrazer	742	414	563	492	2211	3335	95
TF 8872	598	596	611	479	2284	3215	88
TF 9077	812	533	577	479	2401	3275	92
Mean	678	450	514	436	2078	3241	88
LSD (0.05)	286	106	91	70	460	344	10
CV %	30	17	13	11	16	8	8

Planting date: 10/17/90
 Fertilization: 65/65/65 9/23/96
 51/0/60 3/11/97
 Herbicide: 1.5pt/A Weedmaster 3/12/97

¹Endophyte Fungus-Infected

²Endophyte Fungus-Free

Performance of Cool Season Perennial Grasses

A study was established in 1996 to evaluate selected varieties of four species of cool season perennial grasses. Fescue is considered to be the best adapted cool season perennial grass for Mississippi. Earlier varieties of orchard grass have not been persistent under Mississippi conditions. Little is known about tall oat

grass. Prairie brome is being promoted as being a perennial, but under Mississippi environmental conditions, it will respond as a reseeding annual.

The test at Prairie was harvested two times and highest yields were produced by the brome grasses, but no variety produced significantly more than Kentucky fescue (Table 8). At Mississippi State, Stocker and Matua brome produced the highest yields (Table 9). In a similar study at Mississippi State, planted in 1994, the fescues showed their persistence by producing more than other species. The highest yielding fescue was Georgia 5 with 2,805 pounds per acre (Table 10). At Newton, the test was harvested two times and highest yields were produced by the brome grasses, with Muta being the highest producer, with 3,902 pounds of forage (Table 11). At Raymond, the highest yields were produced by the brome grasses, and there was no significant difference in the yields. The fescues were not harvested in the test at Raymond. At Poplarville, the brome grasses were harvested three times and the others two times, indicating the early vigor of the brome. The highest yielding Bromes were Matua and Stocker with 2,964 and 2,816 pounds per acre (Table 13).

Table 8. Dry matter yield of cool season perennial grasses, Prairie Research Unit, Prairie, MS, 1997.			
Item	Dry Matter Yield		
	Harvest Dates		Total
	4/8/97	5/6/97	
-----lb/A-----			
Tall Fescue			
Bull	754	476	1230
CAFA 401	885	520	1405
Georgia 5	800	476	1276
Jesup (EF)	862	650	1512
Kentucky 31	920	480	1400
PRO-B6	800	497	1297
WVPB TF B-3	513	474	987
WVPB TF B-5	315	270	585
WVPB TF B-16	681	504	1185
Orchardgrass			
MoTol 85II	894	575	1469
9007238	876	526	1402
Tall Oat Grass			
564692	533	420	953
Prairie Brome			
Stocker	964	751	1715
Muta	790	708	1498
Gala	780	745	1450
Mean	757	527	1282
LSD (0.05)	342	301	645
CV %	31	37	30

Seeding rate: Tall fescue 20 lb/A Orchardgrass 15 lb/A
 Tall oat grass 8 lb/A Prairie Brome 25 lb/A
 Planting date: 10/8/96 Fertilization: 120-0-0

Table 9. Dry matter yield of cool season perennial grasses at Mississippi State, MS, 1996-97.				
Variety	Dry Matter Yield			
	Harvest Dates			Total
	4/25/97	5/30/97		
-----lb/A-----				
Tall Fescue				
Bull	317	328		645
CAFA 401	476	508		984
Desoto	343	323		666
Georgia 5	348	406		754
Jesup (EF)	348	471		819
Kentucky 31	341	502		844
Pro B6		253		359
WVPB TF B-3	213	276		488
WVPB TF B-5	114	116		230
WVPB TF B-16	283	346		629
Orchardgrass				
MoTol 85II	366	465		831
9007238	399	485		884
Tall Oat Grass				
564692	242	477		719
Prairie Brome				
Stocker	881	899		1780
Matua	920	882		1802
Gala	187	688		876
Mean	378	473		851
LSD (0.05)	117	165		256
CV %	21	24		21

Planted: 10-21-96

Fertilizer: 50-0-60 on 3-11-97 34-0-0 on 4-30-97

Herbicide 1.5 pt/A Weedmaster on 3-12-97

Table 10. Dry matter yield of cool season grasses at Mississippi State, MS, 1996-97.						
Variety	Dry Matter Yield					
	Harvest Dates				Total	3-year average
	12/10/96	3/25/97	4/15/97	5/30/97		
-----lb/A-----						
Tall Fescue						
Desoto ¹	57	386	522	698	2183	1274 ³
Festorina	1048	370	420	593	2431	2732

Forage Blend	932	515	593	527	2567	2933
Fuego	894	378	435	632	2339	2915
Georgia 5	1265	439	574	527	2805	3307
Ky-31 FI	1047	396	496	606	2543	3300
Penngrazer	1089	384	499	566	2538	2960
Ky Bluegrass						
Huntsville	670	133	142	303	1247	1009
Prairie Brome						
Matua ²	119	321	407	446	1293	2787
Mean	848	368	454	544	2216	2533
LSD (0.05)	252	81	106	120	340	537
CV %	20	15	16	15	11	15

Planting date: 9/22/94
 Fertilizer: 65-65-65 - 9/23/96
 50-0-60 - 3/11/97

Herbicide: 1.5 pt/A Weedmaster on 3/12/97

¹planted Desoto 10-2-95

²allowed to reseed each summer

³2 year average

Table 11. Dry matter yield of cool season perennial grasses, Coastal Plain Branch, Newton, MS, 1996-97

Variety	Dry Matter Yield					
	Harvest Dates				Total	Average % crop
	4/08/97	% crop ¹	5/27/97	% crop		
	-----lb/A-----					
Tall Fescue						
Bull	964	85	1174	96	2137	91
CAFA 401	1024	85	1259	95	2283	90
Georgia 5	1291	87	1324	92	2615	90
Jesup (EF)	885	83	1466	90	2351	87
Kentucky 31	1088	87	1183	92	2271	90
PRO-B6	1669	80	1456	78	3124	79
WVPBTFB-3	1018	72	1445	87	2463	80
WVPBTFB-5	696	70	1091	77	1787	74
WVPBTFB-16	1752	47	1315	63	3068	55
Orchardgrass						
MoTol 85II	1097	70	1286	94	2383	82
9007238	778	82	1401	96	2179	89
Tall Oat Grass						
564692	1129	63	1559	80	2688	72

Prairie Brome						
Stocker	1778	92	1686	77	3463	84
Muta	2208	93	1695	83	3902	89
Gala	1189	80	1445	70	2634	75
Mean	1216	73	1387	79	2603	
LSD (0.05)	685	21	414	26	905	
CV %	34	17	18	20	21	

¹% crop - the part of the harvest that was the planted crop

Planting date: 10/08/96

Fertilization: 10/08/96 - Lime @ 2 T/A 11/12/96 - 65-65-65 1/30/97 - 34-0-0
 3/10/97 - 34-0-0 4/17/97 - 34-0-0

Table 12. Dry matter yield of cool season perennial grasses, Brown Loam Branch Station, Raymond, MS, 1996-97.				
Variety	Dry Matter Yield			
	Harvest Dates			Total
	2/19/97	3/11/97	5/7/97	
	-----lb/A-----			
Orchardgrass				
MoTol 85II	534	724	3076	4333
9007238	423	656	3356	4435
Tall Oat Grass				
564692	391	619	3006	4015
Prairie Brome				
Stocker	1795	791	4222	6808
Muta	1894	1173	3893	6959
Gala	734	732	3863	5331
Mean	962	783	3569	5314
LSD (0.05)	287	337	NS	1806
CV %	16	24	26	19

Planting date: 10/8/96

Fertilization: 60-60-0 10/1/96 68-0-0 2/20/97 60-60-60 4/3/97

Table 13. Yield of cool season perennial grasses, South Mississippi Branch, Poplarville, MS, 1996-97.				
Variety	Dry Matter Yield			
	Harvest Dates			Total
	3/4/97	4/1/97	4/29/97	
	-----lb/A-----			
Tall Fescue				
Bull	0	1291	329	1620

CAFA 401	0	1215	282	1497
Georgia 5	0	1571	369	1940
Jesup (EF)	0	646	188	834
KY 31	0	1198	274	1472
PRO-B6	0	1206	243	1449
WVPB TF B-3	0	518	188	706
WVPB TF B-5	0	518	188	706
WVPB TF B-16	0	1240	337	1577
Orchardgrass				
MoTol 85II	0	544	235	779
9007238	0	756	212	968
Tall Oat Grass				
564692	0	994	251	1245
Prairie Brome				
Stocker	1433	1053	329	2816
Matua	1756	926	282	2964
Gala	864	629	306	1799
Mean	253	909	250	1413
LSD (0.05)	NS	NS	NS	511
CV %	27	33	27	25

Planted: 9/16/96

Fertilization: 9/16/96 68-72-72 2/5/97 68-N

Performance of Clovers

White Clovers were evaluated in two tests at Mississippi State. The highest yield of 11 varieties planted in fall of 1994 was produced by Osceola ([Table 14](#)). The highest yields produced by varieties planted in fall of 1995 were produced by an experimental line, T2 and Regal with yields of 6,392 and 5,866 pounds per acre ([Table 15](#)).

Table 14. Dry matter yield of white clover varieties at Mississippi State, MS, 1996.

Variety	Dry Matter Yield		
	Harvest Dates		Total
	7/25/96	8/26/96	
	-----lb/A-----		
Brown Loam Syn. #2	564	1596	2160
California Ladino	933	1259	2192
Canopy	878	1235	2113
CW 190 (BL#2 selection)	803	1084	1887

CW 191	913	1353	2266
Louisiana S-1	1223	1230	2453
MSNR4	908	1084	1992
Osceola	1160	1346	2506
Regal	1019	1219	2238
RS C3-27	947	1210	2157
SRVR	532	1473	2005
Mean	898	1281	2179
LSD (0.05)	403	228	452
CV %	31	12	14

Seeding rate: 3 lb/A
Planting date: 9/15/94

Table 15. Dry matter yield of white clover varieties at Mississippi State, MS, 1996-97.

Variety	Dry Matter Yield				Total
	Harvest Dates				
	7/17/96	8/21/96	5/5/97	6/3/97	
	-----lb/A-----				
Brown Loam Syn. #2	630	1195	2258	1534	5617
California Ladino	724	810	1996	1336	4866
Canopy	598	1110	2152	1683	5543
CW 190 (BL#2 selection)	577	1033	2226	1457	5293
CW 983	707	1079	1969	1609	5364
DT population	541	981	2240	1445	5207
Louisiana S-1	276	710	1767	981	3734
Osceola	566	947	2252	1498	5263
OZ population	472	898	1721	1422	4513
PP population	604	983	1886	1338	4811
Regal	615	1170	2585	1496	5866
RS C3-27	612	1008	2214	1484	5318
SRVR	615	1090	2089	1491	5285
T2	721	1368	2704	1599	6392
Tillman	704	974	2710	1756	6144
Will	603	953	2465	1742	5763
Mean	598	1019	2202	1492	5311
LSD (0.05)	160	242	569	354	857
CV %	19	17	18	17	11

Seeding rate: 3 lb/A
Planting date: 9/12/95

Performance of Alfalfa

Twenty varieties of alfalfa planted in 1991 were evaluated at Poplarville, and highest yields were produced by Vector and Alfagraze, with yields of 5,874 and 5,162 pounds per acre. Alfagraze also had one of the best cover ratings, indicating that a good stand was maintained after five years.

Table 16. Effect of variety on dry matter yield of alfalfa, South Mississippi Branch, Poplarville, MS, 1996.

Variety	Dry Matter Yield						Cover ¹
	Harvest Dates					Total	
	4/18	5/24	6/17	7/28	8/26		
-----lb/A-----							
Alfagraze	1267	1017	945	1186	747	5162	7.5
Apollo	1190	968	889	1064	681	4792	6.0
Apollo Supreme	928	792	718	975	558	3972	7.0
Asset	950	851	832	1041	539	4214	5.5
Cimarron	1157	831	992	1081	803	4865	7.2
Cimarron VR	971	733	700	953	520	3878	4.8
Crochett	775	753	766	1003	577	3874	5.5
DS 952	764	812	766	1070	831	4243	7.5
DS 957	928	900	889	1130	747	4594	7.2
Florida 77	994	919	955	1219	860	4947	7.5
Haymark	743	724	652	964	520	3603	5.0
NK 88780	1037	919	832	1042	756	4587	5.8
Pioneer 5472	1212	890	936	1252	822	5113	6.3
Pioneer 5373	1135	890	936	1125	747	4834	6.8
Terminator	950	773	747	1031	652	4153	5.0
Vector	2282	909	889	1192	652	5874	5.6
VS 754	819	812	775	1070	662	4137	6.0
Wampr	961	802	870	1036	633	4302	5.3
WL 320	983	958	955	1042	841	4779	7.0
WL 83T27	906	890	936	1142	794	4668	5.8
Mean	1048	857	849	1078	697	4530	6.2
LSD (0.05)	NS	NS	NS	NS	217	1107	NS
CV %	54	16	18	13	21	17	26

Planted: 1991
 Fertilization: 0-96-96
 2 lb Boron

¹canopy cover estimated on a 1-10 scale where 1=10% and 10=100% cover, 8/20/96.

Table 17. Dry matter yield of bermudagrass varieties at the Pontotoc Research and Extension Center, Pontotoc, MS, 1996.

Variety	Dry Matter Yield				
	Harvest Dates			Total	3-year average
	6/7/96	7/30/96	9/10/96		
	-----lb/A-----				
Alicia	1043	2050	2463	5556	7488
Coastal	1818	2048	2885	6752	7896
Common	1334	1745	2035	5114	7447
Grazer	1367	1406	1868	4641	6056
HS Common	1246	1457	1799	4503	6613
Lancaster	1257	935	1493	3686	6102
Murphy	2131	1817	2512	6461	7523
Murphy 2	1216	1150	2083	4449	6237
Tifton 44	1612	1751	2813	6177	7536
Tifton 78	1395	1851	2538	5784	7669
Tifton 78WH	1465	1986	2422	5872	7750
Tifton 85	1155	2182	2262	5599	8110
Mean	1420	1698	2264	5383	7202
LSD (0.05)	637	513	698	1382	
CV %	31	21	21	18	

Sprigged: 5/23/93
 Fertilization: 5/10/96 60-60-60 7/02/96 68-0-0 8/02/96 68-0-0

Table 18. Dry matter yield of bermudagrass varieties at Prairie Research Unit, Prairie, MS, 1996.

Variety	Dry Matter Yield				
	Harvest Dates				Total
	6/17/96	7/10/96	8/8/96	9/24/96	
	-----lb/A-----				
Alicia	721	1108	1618	1830	5279
Coastal	1848	1276	1840	1920	6886
Common	556	1430	1913	1713	5597
Grazer	813	1274	1732	1393	5213
Hardie	639	1697	1771	1800	5907
Lancaster	562	1253	1478	1439	4733
Murphy	1075	1495	1687	1571	5829
Poplarville	730	1549	1846	1682	5807
Prairie I	866	1572	2102	1266	5827
Prairie II	992	1733	1462	1501	5254
Prairie III	769	1410	2144	1447	5774
Russell	856	1375	1542	1788	5563

Tifton 44	1796	1606	2325	1673	7402
Tifton 78	572	983	1858	1658	5072
Tifton 78WH	740	1464	1588	1659	5452
Tifton 85	1366	1282	1815	1944	6408
Mean	932	1406	1795	1643	5750
LSD (0.05)	579	428	425	386	1119
CV %	44	21	17	17	14

Table 19. Ground cover of bermudagrass varieties, Prairie Research Unit, Prairie, MS, 1996.			
Variety	Ground Cover ¹		
	April 18	June 27	August 5
	-----%-----		
Alicia	3	80	79
Coastal	38	88	99
Common	7	89	79
Frazer	48	97	99
Hardie	20	97	98
Lancaster	65	97	99
Murphy	75	100	99
Poplarville	40	99	100
Prairie I	42	98	100
Prairie II	32	98	100
Prairie III	45	99	100
Russell	19	97	100
Tifton 44	53	92	79
Tifton 78 WH	4	70	91
Tifton 78	6	71	86
Tifton 85	7	71	86
LSD (0.05)	16	12	19

¹Visual estimations were made to determine winter hardiness. A higher percentage ground cover, particularly at the April 18 evaluation, would indicate less winter-kill.

Table 20. Dry matter yield of bermudagrass varieties at the Animal Research Center, Mississippi State University, MS, 1996.										
Variety	Dry matter yield ¹				Bermudagrass yield ²				3-year average	Winter damage 4-11-96
	Harvest Dates			Total	Harvest Dates			Total		
	5-24	6-21	7-26		5-24	6-21	7-26			
	-----lb/A-----									Rating ⁵
Alicia	1206	972	1426	3604	1126	913	1252	3290	6206	5.3
Coastal	1161	918	1546	3625	1131	913	1472	3516	6242	7.3

Common	114	1307	1683	3104	18	584	182	784	3063	3.5
Grazer	60	1175	1346	2581	27	884	883	1793	4086	7.5
Lancaster	145	840	1098	2083	116	650	667	1433	4030	7.8
Murphy	818	1035	1242	3094	746	902	752	2400	4789	7.5
Russell ³	834	1167	1314	3314	795	1109	1129	3033	3378 ⁴	6.0
Tifton 44	1560	957	1474	3991	1525	931	1294	3751	6483	7.8
Tifton 78	719	988	1586	3293	587	754	704	2045	5397	3.5
Tifton 78WH	584	1276	1498	3358	488	905	719	2111	5052	3.8
Tifton 85	563	1167	1578	3281	400	914	723	2037	4218	5.3
Mean	703	1073	1436	3212	633	860	889	2381	4582	5.4
LSD (0.05)	542	463	239	736	522	444	339	881	840	1.6
CV %	53	30	12	16	57	36	26	26	13	21

Established: 6/07/93

Fertilizer: 4/3/96 65-65-65 6/26/96 50-0-0 8/9/96 40-120-120

Herbicide: none

Insecticide Methyl Parathion at 1.25 lb ai/A

¹Dry matter yield = all forage from plot

²Bermudagrass yield = a visual estimate of weeds and other grasses subtracted from total yield

³Planted Russell on 4/27/96

⁴2 year average

⁵Rating 1=growth from mother plant only, 10=10% cover

Table 21. Dry matter yield and ground cover of bermudagrass varieties, Animal Research Center, Mississippi State, MS, 1996.

Variety	Ground cover 7/17/96	Ground cover 8/7/96	BG ¹ stand 8/7/96	BG DM yield 7/17/96	BG DM yield 8/7/96	Total BG yield	Total Forage yield	Insect damage ¹ 8/27/96
	-----%-----			-----lb/A-----				rating
Coastal	25C	65C	51D	37C	430C	466C	946C	5.0A
Lott	61B	88AB	94AB	599B	889A	1489B	1754AB	2.5C
Poplarville	20C	82B	71C	23C	541BC	564C	926C	4.3AB
Tifton 44	30C	85AB	83BC	101C	724AB	825C	1135C	4.3AB
Tifton 85	51B	81B	83BC	394BC	819A	1213B	1588B	3.3BC
Sumrall 007	89A	100A	100A	1116A	766A	1882A	2009A	2.3
Mean	46	83	80	378	695	1073	1393	3.6
LSD (0.05)	15	16	14	390	219	366	347	1.2
CV %	21	13	12	68	21	23	17	21

Planting date: 6/4/96

Herbicide: Karmex at 1 lb/A ai after planting

Fertilizer: 500 lb/A 13-13-13 on 6/18/96 and 500 lb/A 8-24-24 on 8/7/96

Insecticide: 3 pt/A Methyl Parathion on 8/28/96 for fall armyworms

¹Fall armyworm damage rating: 0=none, 1=little, 5=severe

BG¹ = Bermudagrass

Table 22. Dry matter yield of bermudagrass varieties, Coastal Plain Branch, Newton, MS, 1996.						
Variety	Dry Matter Yield					
	Harvest Dates				Total	2-year average
	6/04/96	7/02/96	8/08/96	9/25/96		
-----lb/A-----						
Alicia	2955	2329	2386	1703	9373	9109
Coastal	2870	2600	2595	1792	9856	9411
Common	1509	2181	1800	1141	6630	6950
Grazer	668	1881	1674	993	5217	6028
Hardie	1804	1702	1718	1066	6291	7039
Lancaster	1456	1935	1908	496	5795	5669
Murphy	3086	2072	2064	1576	8797	8617
Poplarville	2069	2174	1821	1085	7149	7011
Tifton 44	3674	2653	2226	1646	10199	10418
Tifton 78	2886	2814	2209	1930	9839	10286
Tifton 78 WH	2743	2541	2410	1990	9684	9861
Tifton 85	1384	2725	2360	1961	8429	9072
Mean	2267	2301	2098	1448	8105	8289
LSD (0.05)	623	481	467	364	1225	
CV %	19	15	16	18	11	

Planted: April 1995

Fertilization: 3/13/96 - 65-65-65

6/06/96 - 68-0-0

9/23/96 - Lime& 1 T/A

Table 23. Dry matter yield of bermudagrass varieties at the Brown Loam Branch Station, Raymond, MS, 1996.						
Variety	Dry Matter Yield					
	Harvest Dates				Total	3-year average
	5/24/96	7/11/96	8/9/96	9/13/96		
-----lb/A-----						
Alicia	2159	2157	2184	2307	8807	7275
Coastal	2771	1454	2116	2208	8549	6948
Common	2520	902	1629	1692	6742	6572
Grazer	1378	910	1485	1449	5220	4595
Hardie	2131	970	1208	1277	5585	5584
Landcaster	982	716	812	816	3325	4926

Murphy I	2588	881	1844	1869	7182	4436
Murphy II	1816	448	1125	1132	4521	4381
Poplarville	2331	721	1780	1637	6470	5725
Tifton 44	2654	1727	2567	2155	9102	7178
Tifton 78	2247	1815	2335	2190	8587	7896
Tifton 78 WH	2243	1993	2404	2440	9079	8770
Tifton 85	1244	1787	2276	1968	7275	7126
Pensacola Bahia	1771	3017	1580	1692	8037	6876 ¹
Tifton 9 Bahia	1696	2383	1513	1811	7403	7205 ¹
Mean	2035	1459	1791	1775	7059	
LSD (0.05)	539	490	507	476	1351	
CV %	19	24	20	19	13	

Planting date: 4/94

¹2-year average

Table 24. Dry matter yield of bermudagrass varieties at South Mississippi Branch, Poplarville, MS, 1996.							
Variety	Dry Matter Yield				Cold Injury Rating ¹ 4/12	Cover ²	
	Harvest Dates			Total		4/12	5/21
	6/26	7/15	8/19				
	-----lb/A-----					%	%
Alicia	2131	1209	1807	5148	3	40	85
Coastal	2293	1421	1994	5709	3.5	19	61
Murphy	1483	1359	997	3839	3.25	35	81
Tifton 44	2231	1595	2032	5858	3.5	29	66
Tifton 78	2231	1595	1620	5447	2.5	21	74
Tifton 85	2368	1396	2119	5883	2	11	54
World Feeder	1396	1159	935	3490	3	60	96
Mean	2019	1391	1643	5053	3.0	31	74
LSD (0.05)	491	306	810	1036	NS	19	26
CV %	16	15	33	14	32	41	24

Planting date: 4/1/95

Fertilization: 3/12/96 68-72-72 5/16/96 68-0-0

¹Rating system: 1=dead, 2=froze back to original clump, 3=third node from mother plant sprouted, 4=sprout from underground.

²Percent ground cover.

Performance of Bahiagrass

Tifton 9 Bahia was compared to Pensacola at three locations. At Mississippi State, Tifton 9 produced significantly more dry matter the first year after establishment, with most of the difference occurring in the first harvest ([Table 25](#)). There was a trend for higher yields from Tifton 9 in the second year after establishment, but the difference was not significant ([Table 27](#)). At Poplarville when planted at 7 and 14 pounds per acre, there were no significant differences due to seeding rate, but there was a significant increase in dry matter yield for Tifton 9 in 1996 and for the two year average ([Table 28](#)). At Raymond the two bahia grasses were included in a bermudagrass test, and there were no significant differences in yield in 1996 ([Table 23](#)).

Table 25. Dry matter yield of bahiagrass the year following establishment, Mississippi State, MS, 1995.							
Variety	Dry Matter Yield						
	Harvest Dates						Total
	5/22/95	6/5/95	6/22/95	7/12/95	8/14/95	10/6/95	
	-----lb/A-----						
Pensacola	827	1345	1027	2248	1863	1272	8582
Tifton 9	2131	1637	1093	2423	2182	1428	10893
LSD (0.05)	301	NS	NS	NS	151	NS	1377

Planting date: 5/25/94
 Fertilization: 5/23/95 34-0-0 6/22/95 34-0-0
 Establishment year yield on 7/21/94 as 1412 lb/A for Tifton 9 and 658 lb/A for Pensacola (LSD (0.05) = 530). All plots had 100% stands of bahiagrass.

Table 26. Dry matter yield of bahiagrass the second year following establishment, Mississippi State, MS, 1996.					
Variety	Dry Matter Yield				
	Harvest Dates			Total	2-year Average
	6/7/96	7/7/96	8/7/96		
	-----lb/A-----				
Pensacola	438	1401	540	2379	5480
Tifton 9	662	1709	405	2665	6779
LSD (0.05)	NS	NS	NS	NS	NS

Planting date: 5/25/94
 Fertilization: 4/3/96 13-13-13 8/15/96 6-24-24
 Herbicide: 4/4/96 1 qt. Weedmaster

Table 27. Recovery of bahiagrass stand following winter kill in 1995-96, Mississippi State, MS.					
Variety	Observation Dates				
	5/24/96	6/7/96	7/17/96	8/7/96	4/15/97
	-----%/stand-----				
Pensacola	30	49	56	71	84
Tifton 9	9	30	51	57	74
LSD (0.05)	20	NS	NS	NS	NS

Planting date: 5/25/94

Table 28. Effect of variety and seeding rate on dry matter yield of bahiagrass, South Mississippi Branch, Poplarville, MS, 1996.

Variety	Seeding rate	Dry Matter Yield			
		Harvest Dates		Total	2-year average
		6/26/96	7/31/96		
-----lb/A-----					
Pensacola	7	1721	1537	3258	2526
Pensacola	14	1667	1526	3194	2491
Tifton 9	7	2044	1785	3830	3070
Tifton 9	14	2286	1797	4083	3270
Mean		1930	1661	3591	2839
LSD (0.05)		335	188	390	243
CV %		11	7		7

Planting date: 10/92

Fertilization: 3/12/96 68-72-72 6/28-96 68-0-0

Performance of Sericea Lespedeza

Sericea Lespedeza varieties were evaluated at Prairie and Poplarville. The tests were harvested three times at each location. Highest yields at Prairie were produced by Serela 76 and Serela with 8,002 and 7,789 pounds per acre. At Poplarville, the highest yields were also from Serela 76 and Serela with 6,506 and 5,939 pounds per acre.

Table 29. Dry matter yield of sericea lespedeza varieties at Prairie Research Unit, Prairie, MS, 1996.

Variety	Dry Matter Yield			
	Harvest Dates			Total
	5/16/96	7/10/96	9/26/96	
-----lb/A-----				
Au Donnally	0	0	0	0
Au Lotan	1659	3546	2228	7432
Appalow	0	0	0	0
AM312	1700	3124	1510	6333
Interstate	1319	2940	2153	6411
Interstate 76	1253	2988	2746	6911
Serela	1739	3002	3049	7789
Serela 76	1587	3528	2887	8002
Mean	1542	3187	2428	7146
LSD (0.05)	710	683	1323	1763
CV %	31	14	36	16

Table 30. Dry matter yield of sericea lespedeza varieties, South Mississippi Branch, Poplarville, MS, 1996.

Variety	Dry Matter Yield			
	Harvest Dates			Total
	6/14/96	7/19/96	9/5/96	
	-----lb/A-----			
AM 312	1930	1693	1759	5382
Appalow	1334	1102	1216	3652
AU 9	1438	1278	1310	4026
AU 170	1930	1677	1759	5366
AU 344	1438	1422	1310	4170
AU Lotan	2081	1949	1897	5927
AU Donnelly	1854	1725	1690	5269
Interstate	1798	1549	1638	4985
Interstate 76	2157	1709	1966	5832
Serala	2138	1853	1948	5939
Serala 76	2460	1805	2242	6506
Mean	1886	1630	1718	5234
LSD (0.05)	461	443	419	1177
CV %	14	16	14	13

Planting date: 4/17/95
 Fertilization: 3/12/96 0-72-72

Source of Seed

Variety	Source
Ryegrass	
Big Daddy	Smith Seed Services
Blizard	DLF Trifolium, Inc.
FL/OR 1994LR	University of Florida and Oregon State University
Grazer	USDA-ARS Coastal Plain Experiment Station
Gulf (certified)	Aart Falk
Hurricane	DLF Trifolium, Inc.
Jackson	Wax Seed Company
Marshall	Wax Seed Company
ME-94	Wax Seed Company
OFI-FL 95	Olsen-Fennell Seed, Inc.
OFI-A94	Olsen-Fennell Seed, Inc.

OFI-PMI	Olsen-Fennell Seed, Inc.
Passerel	Pennington Seed, Inc.
RIO	Olsen-Fennell Seed, Inc.
Rustmaster	DLF Trifolium, Inc.
Surrey	University of Florida
TAM 90	Texas A & M
Tetrablend	Smith Seed Services
TXRFMR-96	Texas A & M
TXR95-2	Texas A & M
TXR95-6	Texas A & M
WVPB-AR-90-300	Willamette Valley Plant Breeders
WVPB-AR-93-101	Willamette Valley Plant Breeders
WVPB-R-3	Willamette Valley Plant Breeders

Tall Fescue

Alta	Commercial Seed Trade
AU-Triumph	International Seeds, Inc.
Bull	DLF Trifolium
CAFA 401	Jenks Seed Connection
Cajun	Commercial Seed Trade
Desoto (MSF 77-1)	Mississippi State University
Enforcer	Forbes Seed and Grain, Inc.
Fawn	Commercial Seed Trade
Forager	Commercial Seed Trade
GA-110-EF	University of Georgia
GA-196-EF	University of Georgia
GA-5-EI	University of Georgia
Jesup (EI)	University of Georgia
Jesup (EF)	Pennington Seed Company
Johnstone	Commercial Seed Trade
KY-31-EF	International Seeds, Inc.
KY-31-EI	International Seeds, Inc.
Martin	International Seeds, Inc.
OFI-TF-B1	Olsen-Fennell Seeds, Inc.
OFI-TF-B15	Olsen-Fennell Seeds, Inc.
Penngrazer	Pennington Enterprises, Inc.
PRO-B6	Pro Seeds Marketing
TF 9077	International Seeds, Inc.
TF 8872	International Seeds, Inc.
WVPB TF B-3	Willamette Valley Plant Breeders
WVPB TF B-5	Willamette Valley Plant Breeders
WVPB TF B-16	Willamette Valley Plant Breeders

Orchardgrass

MoTol 85II	International Seed Inc.
9007238	Plant Material Center

Tall Oat Grass

564692 Plant Material Center

Prairie Brome

Stocker Cascade International
Muta Commercial Seed Trade
Gala Commercial Seed Trade

Clover and other Legumes

Brown Loam Syn. No. 2 USDA, ARS, Forage Research Unit
CW 190 Cal/West Seeds
CW 191 Cal/West Seeds
CW 983 Cal/West Seeds
DT population USDA, ARS, Forage Research Unit
MSNR4 (nematode resistant) USDA, ARS, Forage Research Unit
OZ population USDA, ARS, Forage Research Unit
PP population USDA, ARS, Forage Research Unit
RS C3-27 Whitetail Institute of North America
SRVR (virus resistant) USDA, ARS, Forage Research Unit

All other white clovers were obtained from the USDA, ARS, Regional Plant Introduction Station, Griffin, GA.



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