Mississippi Forage Crop Variety Trials, 2004

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Introduction

New, improved and standard varieties of forage crops are evaluated in MAFES small-plot trials each year. Seed for the trials are obtained from commercial seed companies and state universities and tested at a number of locations in Mississippi. All entries from privately owned companies are tested on a fee basis. The Forage Crop Evaluation Committee may enter varieties of interest or proven varieties to be used as standards. This report contains data collected in 2003-04 on the performance of annual ryegrass, tall fescue, other cool-season perennial grasses, bermudagrass, and bahiagrass.

A randomized complete block design consisting of 6x12-foot plots with three to four replications, depending on location, was used. Plot yield was adjusted to 95% dry matter. Visual notes on botanical composition were used to adjust total herbage yield to yield based upon the variety being evaluated unless noted in each particular table. These data were analyzed within locations and within harvest dates. The timing and number of harvests during the season varied by location because of different planting dates and growing conditions. Protein and digestibility were determined on ryegrass harvested at Newton, MS, from last year's ryegrass test during the spring of 2003 (Table 6).

The summer of 2003 was very moist with adequate rainfall throughout the state; the winter of 2003-2004 was moist (Table 1). Data presented in Tables 2-20 can be used to evaluate the relative performance of each forage variety at each location. Comparisons can be statistically evaluated by using the LSD (Least Significant Difference). The LSD value represents the amount of yield which varieties must differ by in order to determine if the differences observed were due to chance variation alone.

Table 1. Rainfall at variety test locations in Mississippi, Jan. 2003 - June 2004.

Month	Raymond		Newton		Starkville	
	2003	2004	2003	2004	2003	2004
	in	*in*	*in*	*in*	*in*	*in*
January	1.37	5.11	3.37	4.09	3.05	3.60
February	10.29	6.23	8.20	10.77	10.79	8.15
March	4.34	0.94	4.19	1.96	3.91	4.23
April	6.69	2.91	11.05	3.33	4.07	2.49
May	6.36	14.41	3.27	3.68	7.08	4.70
June	7.25	11.01	10.18	11.80	5.98	11.50
July	1.59		11.11		5.23	
August	3.05		5.70		6.79	
September	4.89		2.88		2.50	
October	1.53		2.91		3.28	
November	6.05		5.63		6.79	
December	3.82		3.11		3.23	
Total	**57.2**	**40.6**	**71.61**	**35.63**	**65.10**	**34.67**

Table 2. Yield of annual ryegrass at the Coastal Plain Branch Station, Newton, MS, 2003-2004.

Variety	Harvest Dates					Total
	11/14/03	12/17/03	2/16/04	3/18/04	5/06/04	
	lb/A	*lb/A*	*lb/A*	*lb/A*	*lb/A*	*lb/A*
Bar 9 Tam	1345	479	1460	1632	1615	6531
BN-I-NA	1461	750	1844	1323	1275	6653
BN-N-IO	1373	767	1834	1381	1368	6724
BN-W-AO	1562	837	1928	1596	1566	7490
BN-W-YO	1360	615	1889	1425	1382	6672
Brigadier	1615	854	1796	1489	1557	7311
Ducado	1294	527	1563	1318	1368	6070
Ed	1567	1004	1981	1580	1572	7704
F1/NEX 2002 (New2) LRCT	1536	1030	1886	1600	1468	7520
F1/NEX 2003 4 X LRCT	1311	1236	1825	1237	1302	7010
F1/X 2002 (New) 4 X MR	530	619	974	1873	1859	5856
F1/X 2003 (BD) 4 X LRCT	1458	1065	1956	1216	1461	7157
FL X 2002 (DRU) LRCT	1150	1124	1796	1323	1573	6966
FL X 2002(New3)LRCT	1461	1113	2001	1707	1550	7832
FL/OK 2001 (newi) LRCT	1518	1061	2023	1525	1480	7608
Flying A	1551	842	1739	1528	1584	7243
Graze N Gro	1477	892	1778	1307	1457	6910
Gulf	1271	773	1865	1239	1552	6700
Harrison Oats	1111	604	1455	1309	1290	5768
Jackson	1493	1171	1993	1542	1640	7840
Jumbo	1331	1176	1940	1291	1386	7125
LM 9929D	1365	921	1448	1147	1243	6124
Marshall	1398	1256	1943	1598	1581	7777
Passerel Plus	1556	1109	1858	1545	1670	7738
Prine Tetraploid	1290	1053	1652	1209	1419	6624
Ribeye	1324	952	1892	1360	1311	6839
RIO	1347	1040	1765	1400	1692	7244
Special Blend (ME-94EXP)	1541	1056	1962	1609	1618	7585
Stampede	1444	1013	1964	1362	1434	7217
Tam 90	1424	761	1764	1501	1650	7099
TRX 2000 T2	1376	651	1738	1596	1624	6985
TXR 2003 B7	1498	720	1847	1624	1742	7430
WD - 40	1366	693	1412	1354	1817	6642
WMN 97 (LA 20-0-100232)	1280	903	1975	1886	1843	7887
Mean	1411	912	1813	1447	1521	7106
LSD (0.05)	253	192	349	268	391	764
CV %	11	13	12	11	16	7

Soil: Prentiss Fine Sandy Loam
Planting Date: 10/01/2003
Seeding Rate: 35 lb/A
Fertilizer: 500 lb/A 13-13-13 on 11/13/03
200 lb/A 34-0-0 on 1/17/04, 2/17/04 and 3/19/04

Table 3. Yield of annual ryegrass at the Brown Loam Branch Station, Raymond, MS, 2003-2004.

Variety	Harvest Date		Total
	4/01/04	5/11/04	
	lb/A	*lb/A*	*lb/A*
Bar 9 Tam	5475	3630	9105
BN-I-NA	5491	5121	10612
BN-N-IO	3749	5428	9177
BN-W-AO	5229	4879	10108
BN-W-YO	4381	4282	8663
Brigadier	4631	4620	9251
Ducado	3999	4837	8836
Ed	4451	5930	10381
F1/NEX 2002 (New2) LRCT	3789	5339	9128
F1/NEX 2003 4 X LRCT	3802	4799	8601
F1/X 2002 (New) 4 X MR	4567	5858	10425
F1/X 2003 (BD) 4 X LRCT	4440	5080	9520
FL X 2002(New3)LRCT	4630	5046	9676
FL X 2002 (DRU) LRCT	4232	4564	8796
FL/OK 2001 (newi) LRCT	3855	4431	8286
Flying A	4863	4683	9546
Graze N Gro	4055	4810	8865
Gulf	4775	4205	8982
Harrison Oats	5039	2727	7766
Jackson	4531	4881	9412
Jumbo	3258	5597	8855
LM 9929D	3337	3480	6817
Marshall	3875	5216	9091
Passerel Plus	3041	4615	7656
Prine Tetraploid	3743	5287	9030
Ribeye	5086	4948	10034
RIO	2760	4634	7394
Special Blend (ME-94EXP)	3909	4589	8498
Stampede	3938	4768	8706
Tam 90	4994	5218	10212
TRX 2000 T2	3995	4201	8196
TXR 2003 B7	4616	5135	9751
WD - 40	4367	4802	9169
WMN 97 (LA 20-0-100232)	3374	5393	8767
Mean	4243	4795	9039
LSD (0.05)	1312	1257	1834
CV %	22	19	14

Soil Type: Loring silt loam
Planting Date: 10/23/03
Fertilizer: 354 lb/A of 17-17-17 on 10/24/03
200 lb/A of 34-0-0 on 3/4/04 and 4/7/04

Table 4. Yield of annual ryegrass varieties at Mississippi State, MS, 2003-2004.

Variety	Harvest Date					Total	Maturity[1]
	2/04/04	3/10/04	4/6/04	5/5/04	6/11/04		Heading
	lb/A	*lb/A*	*lb/A*	*lb/A*	*lb/A*	*lb/A*	*%*
Bar 9 Tam	243	381	1452	2792	182	5051	25
BN-I-NA	310	768	1201	1925	181	4384	66
BN-N-IO	187	834	1760	2591	174	5546	58
BN-W-AO	253	744	1337	2027	224	4584	75
BN-W-YO	331	980	1372	2304	274	5261	80
Brigadier	383	728	1835	2417	282	5645	32
Ducado	284	896	1564	2576	222	5540	25
Ed	389	601	1598	2627	206	5421	16
F1/NEX 2002 (New2) LRCT	303	581	1416	2467	210	4977	22
F1/NEX 2003 4 X LRCT	278	669	2171	2793	402	6313	22
F1/X 2002 (New) 4 X MR	234	851	1487	2374	233	5181	26
F1/X 2003 (BD) 4 X LRCT	252	516	1522	2514	178	4982	30
FL X 2002 (DRU) LRCT	603	562	1472	2007	218	4862	26
FL X 2002(New3)LRCT	355	448	1255	2645	284	4987	20
FL/OK 2001 (newi) LRCT	415	497	1339	2433	185	4870	26
Flying A	350	675	1492	2354	192	5063	32
Graze N Gro	323	578	1221	2595	289	5006	34
Gulf	388	643	1647	2528	176	5382	58
Harrison Oat	337	200	1021	1670	542	3770	88
Jackson	323	518	1247	2583	252	4924	19
Jumbo	459	528	1484	2358	344	5173	19
LM 9929D	209	540	657	1934	179	3519	6
Marshall	296	425	1832	2797	292	5641	28
Passerel Plus	746	493	1387	3460	269	6354	12
Prine Tetraploid	319	399	1295	2350	163	4526	55
Ribeye	150	547	1418	2272	279	4666	21
RIO	247	573	1861	2615	236	5533	20
Special Blend (ME-94EXP)	245	502	1301	2586	188	4821	18
Stampede	175	563	1757	2697	245	5437	21
Tam 90	262	729	1872	2815	221	5899	20
TRX 2000 T2	350	449	1333	2576	240	4948	25
TXR 2003 B7	526	430	1494	2697	184	5332	24
WD – 40	669	456	1488	2619	78	5310	56
WMN 97 (LA 20-0-100232)	506	325	1341	2582	200	4954	25
Mean	344	557	1469	2488	236	5114	33
LSD (0.05)	357	230	505	521	150	1077	12
CV %	74	28	24	15	45	15	25

Soil: Marietta Loam
Planting Date: 10/1/04
Fertilizer: 300 lb/A 15-5-10 on 9/18/03
300 lb/A 0-0-60 and 1000 lb/A lime on 10/31/03
150 lb/A 46-0-0 on 1/28/04
425 lb/A 15-5-10 on 3/12/04
125 lb/A 46-0-0 on 4/12/04
Herbicide: Butyrac (2,4DB) at 1.5 pt/A on 11/10/04
[1]Maturity on 5/5/04

Table 5. Total yield of annual ryegrass at three locations in Mississippi, 2003-2004.

Variety	Newton	Raymond	Starkville	Average
	lb/A	*lb/A*	*lb/A*	*lb/A*
Bar 9 Tam	6531	9105	5051	6896
BN-I-NA	6653	10612	4384	7216
BN-N-IO	6724	9177	5546	7149
BN-W-AO	7490	10108	4584	7394
BN-W-YO	6672	8663	5261	6865
Brigadier	7311	9251	5645	7402
Ducado	6070	8836	5540	6815
Ed	7704	10381	5421	7835
F1/NEX 2002 (New2) LRCT	7520	9128	4977	7208
F1/NEX 2003 4 X LRCT	7010	8601	6313	7308
F1/X 2002 (New) 4 X MR	5856	10425	5181	7454
F1/X 2003 (BD) 4 X LRCT	7157	9520	4982	7220
FL X 2002 (DRU) LRCT	6966	8796	4862	6875
FL X 2002(New3)LRCT	7832	9676	4987	7498
FL/OK 2001 (newi) LRCT	7608	8286	4870	6921
Flying A	7243	9546	5063	7284
Graze N Gro	6910	8865	5006	6927
Gulf	6700	8982	5382	7021
Harrison Oat	5768	7766	3770	5768
Jackson	7840	9412	4924	7392
Jumbo	7125	8855	5173	7051
LM 9929D	6124	6817	3519	5487
Marshall	7777	9091	5641	7503
Passerel Plus	7738	7656	6354	7249
Prine Tetraploid	6624	9030	4526	6727
Ribeye	6839	10034	4666	7180
RIO	7244	7394	5533	6724
Special Blend (ME-94EXP)	7585	8498	4821	6968
Stampede	7217	8706	5437	7120
Tam 90	7099	10212	5899	7737
TRX 2000 T2	6985	8196	4948	6710
TXR 2003 B7	7430	9751	5332	7504
WD - 40	6642	9169	5310	7040
WMN 97 (LA 20-0-100232)	7887	8767	4954	7203
Mean	7106	9039	5114	7078
LSD (0.05)	764	1834	1077	—
CV %	7	14	15	—

Table 6. Crude Protein (CP), Neutral Detergent Fiber (NDF), Acid Detergent Fiber (ADF), and *In Vitro* True Digestibility (IVTD) of annual ryegrass grown in 2002-2003 at Newton, MS.

Variety	3/10/2003 Cutting (% DM Basis)				4/10/03 Cutting (% DM Basis)			
	CP	NDF	ADF	IVTD	CP	NDF	ADF	IVTD
BB-Mex1	22.9	49.9	27.2	88.1	19.0	56.8	32.3	82.4
Brigader	23.7	49.6	27.0	88.6	18.8	56.1	31.9	83.0
Ed	23.8	50.7	27.7	87.3	19.7	56.5	32.7	82.3
FLx2001(new1)4xLR	22.0	52.4	28.2	86.1	19.9	54.5	30.5	83.8
FLx2002 (new3)LRCT	23.3	47.7	26.2	89.3	18.7	56.2	31.8	82.8
FLx2002 (DRU)LRCT	23.8	49.7	26.9	89.9	18.4	56.6	32.5	82.5
FLx2002 (LA3)LRCT	23.5	50.5	27.7	87.9	17.7	58.7	34.0	81.7
FLx2002 (new)4xMR	22.9	50.9	27.4	89.8	17.8	59.0	33.8	81.7
Gulf	24.5	49.3	27.1	88.7	20.0	54.6	31.1	84.7
Jackson	22.5	52.9	28.0	87.3	20.1	52.5	29.8	85.0
Joe-1	21.7	52.3	29.2	86.8	19.9	55.4	31.9	83.3
Jumbo	22.3	50.5	27.6	87.9	18.2	59.3	34.3	80.6
Marshall	24.1	50.3	27.8	89.2	17.6	59.4	32.9	80.6
ME-94	23.7	48.0	26.2	90.3	19.2	55.4	31.7	84.1
NE/FLx2002(new2)LRCT	23.3	51.6	27.0	88.3	18.2	57.8	32.0	81.7
Ore-TARX	23.9	49.6	27.0	88.4	19.5	55.2	31.8	83.2
PasserelPlus	22.4	51.7	28.4	87.0	16.7	60.0	34.3	80.8
Prine (Tertaploid)	23.6	49.1	26.4	88.0	19.0	54.5	31.4	83.4
Ribeye	22.6	52.6	27.3	86.6	18.8	56.6	31.4	82.6
SCH-5	24.0	47.9	26.0	89.4	20.5	53.2	30.8	84.3
Tam90	24.0	49.1	26.7	89.3	19.9	54.7	31.2	84.2
TXR2000-2(2n)	24.1	47.5	25.7	90.6	19.1	56.9	33.0	82.0
TXR2000-T2(4n)	24.9	48.1	26.3	90.7	19.3	55.0	31.3	84.3
WD-40	23.4	50.0	27.0	88.6	19.5	56.1	31.9	83.2
WMN-97	23.9	50.0	27.7	89.5	18.9	55.5	32.1	83.6
Mean	23.4	50.1	27.2	88.5	19.0	56.3	32.1	82.9
LSD (0.05)	2.4	3.2	2.4	2.3	2.5	5.3	2.9	3.5
CV %	6.2	4.3	5.3	1.9	8.3	5.8	5.8	2.6

Samples were evaluated by near infrared spectroscopy at the forage analysis laboratory in Franklinton, Louisiana.

Table 7. Yield of tall fescue at the Coastal Plain Branch Station, Newton, MS, 2003-2004.

Variety	Harvest Date			Total	3-Year
	11/21/03	3/29/04	5/11/04		Average
	lb/A	*lb/A*	*lb/A*	*lb/A*	*lb/A*
Bronson	1133	1645	1053	3831	5148
CAS EA 79	960	1421	856	3237	5046
GA 001 542	980	1662	709	3351	5387
GA 002 542	1102	1914	777	3793	5235
GA 003 542	1229	1590	791	3610	5442
GA 5 FI 1	1503	1072	779	3355	5168
GA 5 Max Q	1108	1480	852	3439	5342
Hoedown	848	1700	1015	3563	5215
Jesup FI 1	1149	1201	934	3284	5169
Jesup Max Q	1322	1586	933	3842	5565
Kentucky 31	1735	1016	888	3640	5171
Quincy	1429	1432	1058	3919	5172
Stag	1420	1580	917	3917	5380
WVPB 97-C-1	965	1546	1371	3881	5026
WVPB 99KSM	1324	1485	1132	3942	4997
Mean	1214	1489	938	3640	5231
LSD (0.05)	302	369	206	549	—
CV %	17.0	16.9	15.0	10.3	—

Planted: 10/16/00
Soil: Prentiss fine sandy loam
Fertilizer: 65-65-65 on 10/22/02
68-0-0 on 2/13/03, 3/10/03 and 4/10/03
[1]FI = Fungus Infected with toxic *Neotyphodium coenophialium*

Table 8. Yield of tall fescue at Mississippi State, MS, 2004.

Variety	Harvest Date				Total	Stand	Heading
	2/04/04	4/02/04	4/29/04	6/4/04		4/29/04	4/29/04
	lb/A	*lb/A*	*lb/A*	*lb/A*	*lb/A*	*%*	*%*
AGRFA103	447	391	432	458	1758	40	34
AGRFA110	823	244	225	98	1389	17	32
Bronson	735	562	1301	1400	3998	86	24
CASEA79	572	881	1534	1556	4543	93	30
GA001542	666	1041	1390	1317	4415	96	15
GA002542	697	842	1634	1878	5052	97	28
GA003542	569	743	1562	1785	4659	99	25
GA5 FI 1	493	967	1994	1959	5413	100	25
GA5MaxQ	658	1063	2002	1929	5652	99	26
Hoedown	438	565	1072	1797	3872	80	15
Jessup FI 1	481	501	1366	1584	3932	86	23
JessupMaxQ	613	638	1568	1835	4653	99	21
KY31	601	844	1890	2042	5377	98	24
Quincy	621	489	1629	1457	4196	95	38
Stag	617	896	1963	1877	5353	97	26
WVPB97c1	503	556	1110	788	2956	68	30
WVPB99ksm	655	671	1564	1807	4697	91	19
Mean	601	700	1426	1504	4230	78	26
LSD 0.05	256	287	452	689	855	15	10
CV %	30	29	22	32	14	13	29

Soil: Marietta Loam
Planted: 10/23/00
Fertilizer: 300 lb/A 15-5-10 on 9/18/03
300 lb/A 0-0-60 and 1000 lb/A lime on 10/31/03
150 lb/A 46-0-0 on 1/28/04
425 lb/A 15-5-10 on 3/12/04
125 lb/A 46-0-0 on 4/12/04
Herbicide: Butyrac (2,4DB) at 1.5 pt/A on 3/11/04
[1]FI = Fungus Infected with toxic *Neotyphodium coenophialium*

Table 9. Yield of tall fescue varieties at two locations in Mississippi, 2003-04.

Variety	Newton	Starkville	Average
	lb/A	*lb/A*	*lb/A*
AGRFA 103	NA[2]	1758	879
AGRFA 110	NA	1389	695
Bronson	3831	3998	3915
CAS EA 79	3237	4543	3890
GA 001 542	3351	4415	3883
GA 002 542	3793	5052	4423
GA 003 542	3610	4659	4135
GA 5 FI[1]	3355	5413	4384
GA 5 MaxQ	3439	5652	4586
Hoedown	3563	3872	3718
Jessup FI[1]	3284	3932	3608
Jessup MaxQ	3842	4653	4248
Kentucky 31 FI[1]	3640	5377	4509
Quincy	3919	4196	4058
Stag	3917	5353	4635
WVPB 97-C-1	3881	2956	3419
WVPB 99KSM	3942	4697	4320
Mean	5231	4230	3724
LSD (0.05)	549	855	—
CV %	10	14	—

[1]FI = Fungus Infected with toxic *Neotyphodium coenophialium*
[2]These varieties did not persist at this location

Table 10. Yield of cool-season grasses at Mississippi State, MS, 2003-2004.

Species/Variety	Harvest Date				Total	Stand	Heading
	2/19/04	4/02/04	4/29/04	6/04/04		4/29/04	4/29/04
	lb/A	lb/A	lb/A	lb/A	lb/A	%	%
Prairiegrass							
AGR MW 101	297	534	2162	2042	5036	89	73
D 5633	163	423	1805	914	3305	64	50
Gala	283	640	1869	1137	4478	75	66
G. Matua	287	747	2097	1348	4478	88	62
Lupreme	492	681	2174	1718	5065	79	50
M 5632	205	176	999	654	2033	44	58
Matua	565	502	1828	1441	4336	66	51
Stocker	274	740	1992	2000	5007	81	48
Reed Canarygrass							
AGR PA 101	108	219	1050	768	2145	23	1
Orchardgrass							
Quantum	36	213	389	942	1580	13	11
Tall Fescue							
Barcel	452	266	1201	1668	3587	74	13
Q 4508	469	1352	1964	1518	5303	91	8
R 4663	680	629	1773	2352	5434	69	41
Mean	342	552	1637	1393	3924	67	42
LSD (0.05)	437	453	1048	919	2351	38	24
CV %	85	55	43	44	40	38	38

Soil: Marietta Loam
Planted: 10/23/00
Fertilizer: 300 lb/A 15-5-10 on 9/18/03
300 lb/A 0-0-60 and 1000 lb/A lime on 10/31/03
150 lb/A 46-0-0 on 1/28/04
425 lb/A 15-5-10 on 3/12/04
125 lb/A 46-0-0 on 4/12/04
Herbicide: Butyrac (2,4-DB) at 1.5 pt/A on 3/11/04

Table 11. Yield of bermudagrass at the Coastal Plain Branch Station, Newton, MS, 2003.

Variety	Harvest Dates				Total	9-Year
	5/12/03	6/17/03	7/31/03	10/09/03		Average
	lb/A	lb/A	lb/A	lb/A	lb/A	lb/A
Alicia	4145	3078	3318	3337	13877	9561
Coastal	2580	3115	3421	2195	11311	8845
Common	2065	2641	2736	1300	8741	5971
Grazer	1501	2709	2810	1504	8522	5555
Hardie	2932	2601	2926	2162	10622	6572
Landcaster	2089	2802	3139	1349	9379	5531
Lott[1]	2216	2626	3049	3101	10992	7880
Murphy	3757	2989	2935	1877	11258	8111
Poplarville	1942	3030	2453	1633	9058	6650
Sumrall 007[1]	2792	3099	3692	2504	12087	9026
Tifton 44	3748	3193	3208	2139	12288	9948
Tifton 78	3081	2896	2862	2442	11281	9357
Tifton 78 WH	3230	2777	2918	2389	11314	9148
Tifton 85	2957	3196	3489	3203	12846	9694
Mean	2176	2056	2284	1518	10970	7990
LSD (0.05)	640	390	287	335	972	—
CV %	16	6	8	15	6	—

[1]Six-year average; Lott and Sumrall 007 were not planted until April 1997.
Planting date: 04/19/94
Fertilizer: 03/12/03 — 65-65-65 05/13/03 — 68-0-0 06/18/03 — 68-0-0 08/01/03 — 68-0-0
Herbicides: Diuron @ 1qt/A and Weedmaster @ 1.5 pt/A on 4/21/03
Soil type: Prentiss Fine Sandy Loam

Table 12. Yield of bermudagrass at Mississippi State, MS, 2003.

Variety	Harvest Date				Total	3-Year
	5/27/03	7/07/03	8/18/03	10/29/03		Average
	lb/A	*lb/A*	*lb/A*	*lb/A*	*lb/A*	*lb/A*
Alicia	2521	4134	4199	7961	18815	14404
Coastal	1759	2567	4099	7127	15552	11407
Common	1009	1370	1277	1189	4846	7147
McDonald	2050	3298	4555	5396	15300	12519
Murphy	846	705	790	1486	3827	4289
Russell	2504	4101	5502	7163	19269	14401
Sumrall 007	2119	3464	3893	8253	17728	13669
Tanberg	1895	3658	3547	5913	15012	12623
Tifton 44	1552	2123	3066	4787	11527	10256
Tifton 78	963	1560	1366	4347	8236	8139
Tifton 78WH	1288	1984	2496	3717	9485	8390
Tifton 85	865	1901	2064	3854	8685	7930
Mean	1614	2527	3071	5100	12357	9231
LSD (0.05)	1110	1272	1926	3542	6650	—
CV %	48	34	44	48	37	—

Planted: 6/7/93 or as noted: Russell on 4/27/95;Sumrall 007 on 6/17/96;Tanberg, Tifton 85 and McDonald on 6/19/97.
Soil: Marietta Loam
Fertilizer: 350 lb/A 15-5-10 on 4-16-01
150 lb/A 34-0-0 on 6-19-01 and 7-24-01
400 lb/A 15-5-10 Rainbow on 9-10-01
Herbicide: none
Yield = Bermudagrass with other summer grasses subtracted out.

Table 13. Yield of bermudagrass planted in 2001 at Mississippi State, MS, 2003.

Variety	Harvest Date				Total	3-Year
	5/27/03	7/07/03	8/20/03	11/04/03		Average
	lb/A	*lb/A*	*lb/A*	*lb/A*	*lb/A*	*lb/A*
BY101	2604	5235	5289	4599	17727	11532
Coastal	3351	5869	6056	4508	19784	9409
Dixie I	3019	5816	5613	5193	19640	11885
Dixie II	2174	5800	4798	4551	17322	10259
Sumrall 007	3340	6538	5900	5688	21466	12661
Tifton 44	3064	5693	5398	4117	18272	8683
World Feeder	1322	4045	3869	2226	11462	6442
Mean	2696	5571	5275	4412	17953	10124
LSD (0.05)	675	749	1026	1148	2688	—
CV %	17	9	13	18	10	—

Soil: Marietta Loam
Planted: 6/10/2001
Fertilizer: 400 lb/A 15-5-10 on 4/16/03 and 6/02/03
150 lb/A 34-0-0 on 7/09/03 and 8/21/03
Herbicide: 1.5 pt/A Grazon P+D on 3/31/03
Burned with fire on 3/12/03

Table 14. Yield of seeded bermudagrass planted in 2001 at Mississippi State, MS, 2003.

Variety	Stand	Seed heads	Bermudagrass Yield				Total	3-Year
	7/07/03	11/04/03	5/2703	7/07/03	8/20/02	11/04/03		Average
	%	%	lb/A	lb/A	lb/A	lb/A	lb/A	lb/A
Cheyenne	84	85	2576	4175	3713	5079	15543	9147
Common-K	96	86	2613	4419	3316	3733	14080	8968
Common-S	92	81	2471	3889	3946	4248	14554	8880
DLF-BERI	76	65	1765	3171	2527	1683	9147	4500
Gaucho	84	83	2326	3925	3245	4116	13612	8240
Giant	83	55	2764	4111	3528	3775	14178	9224
Pasto Rico	92	68	2344	4101	3803	4982	15232	9941
Sungrazer	86	92	2230	3598	3425	4681	13934	7662
Texas Tough	91	52	2877	4507	4405	4694	16484	10620
Tierra Verde	92	86	2326	4048	3874	4256	14503	9443
Mean	88	75	2429	3995	3578	4125	14127	8662
LSD(0.05)	12	31	757	1171	1428	1684	3141	—
CV %	10	28	21	21	28	28	15	—

Soil: Marietta Loam
Planted: 5/30/01
Fertilizer: 400 lb/A 15-5-10 on 4/16/03 and 6/02/03
150 lb/A 34-0-0 on 7/09/03 and 8/21/03
Herbicide: 1.5 pt/A Grazon P+D on 3/31/03
Burned with fire on 3/12/03

Table 15. Yield of bahiagrass at Mississippi State, MS, 2003.

Variety	Harvest Dates				Total
	5/18/03	7/07/03	8/18/03	11/08/03	
	lb/A	lb/A	lb/A	lb/A	lb/A
Pensacola	2510	4558	5794	3070	15932
Tifton 9	2529	4993	5849	3439	16810
Mean	2519	4776	5821	3254	16371
LSD (0.05)	987	239	843	1270	1161
CV %	17	2	6	17	3

Planted: 5/25/94
Soil: Marietta Loam
Fertilizer: 400 lb/A 15-5-10 on 4/16/03 and 6/02/03
200 lb/A 34-0-0 on 7/09/03 and 8/21/03
Herbicide: None
Burned with fire on 2/24/03

Table 16. Yield of bahiagrass planted at Mississippi State, MS, 2002.

Variety	6/11/03	7/16/03	8/26/03	Total Yield
	lb/A	*lb/A*	*lb/A*	*lb/A*
Argentine	964	927	2830	4722
Argentine Pennkote [1]	1275	1063	2536	4875
Pensacola	1376	2299	2489	6164
Pensacola Pennkote [1]	1472	2292	2880	6644
Sand Mountain	1524	2452	2808	6784
Tifton 9	1688	2425	3460	7573
Mean	1383	1910	2834	6127
LSD (0.05)	677	1241	878	2613
CV %	32.5	43.1	20.0	28.3

Planted: 6/20/02
Fertilizer: 400 lb/A 15-5-10 on 4/16/03, 6/12/03, and 7/17/03
Herbicide: None
[1]Pennkote is a seed treatment

Table 17. Yield of eastern gamagrass selections at Mississippi State, MS 2003.

Selection	6/09/03	8/18/03	Total Yield	4-Year Average
	lb/A	*lb/A*	*lb/A*	*lb/A*
Highlander	8994	8342	17336	12927
9058543	8054	8654	16708	11881
9062708	6034	8967	15001	9990
9062714	5451	8382	13832	9701
Mean	7133	8586	15719	11138
LSD (0.05)	3822	3437	6687	—
CV %	27	20	21	—

Fertilizer: 400 lb/A 15-5-10 on 4/16/03
300 lb/A 15-5-10 on 6/10/03
Herbicide: None
Burned with fire on 2/24/03

Table 18. Dry matter yield of three eastern gamagrass cultivars at the Brown Loam Branch Station, Raymond, MS, during the 2003 growing season.

Cultivar	Harvest Date			Annual Total
	5/28/03	7/9/03	8/20/03	
	lb/A	*lb/A*	*lb/A*	*lb/A*
Jackson	5370	3180	1480	10030
Highlander	5520	2770	1790	10080
Pete	5090	2010	860	7960
LSD (0.05)	NS[1]	NS	NS	NS
Mean	5320	2660	1380	19651
CV%	24	30	60	21

Planted: May 2001
Soil type: Loring silt loam
Fertilizer: 60-60-60 on 3/27
60-0-0 on 5/29 and 7/10.
Herbicide: None
[1]NS, not significant ($P > 0.05$)

Table 19. Silage yield (tons per acre) of eastern gamagrass and hybrid corn for at Newton, MS, 2003.[1]

Variety	Harvest Dates			Total
	5/21/03	7/21/03	10/22/03	
Eastern Gamagrass	10.80	7.00	9.24	27.04
Corn Variety UAP 57K39	—	20.57	—	20.57
Corn Variety Pioneer 30F33	—	9.38	—	19.38

[1]Yield converted to 35% dry matter.

Table 20. Nutritional analysis of eastern gamagrass and hybrid corn for silage.[1]

Variety	Crude Protein	ADF	NDF	TDN
	%	%	%	%
Eastern Gamagrass	9.98	47.05	81.53	45.80
Corn Variety UAP 57K39	6.05	25.25	45.66	68.66
Corn Variety Pioneer 30F33	6.31	31.94	55.92	63.88

[1]Nutritional analysis done on July 21 harvest only.

Seed Sources

Annual Ryegrass

BB-Mex1	Barenburg	**FL x2002(new)4xMR**	Univ. of Florida	**Rio**	Pro Seeds Marketing
Brigadier	East Texas Seed	**Flying A (SCH-5)**	Oregro Seeds	**Ribeye**	Barenburg
BN-W-AO	Burlingham	**Gulf**	Commercial Seed	**SCH-5**	Oregro Seeds
BN-W-YU	Burlingham	**Jackson**	Wax Seed	**Stampede**	Pro Seeds Marketing
BN-I-NA	Burlingham	**Joe-1**	OreGro Seeds	**Tam 90**	Texas A&M Univ.
BN-N—IO	Burlingham	**Jumbo**	Smith Seed	**TXR 2000-2(2n)**	Texas A&M Univ.
Ed	Smith Seed	**Marshall**	Wax seed	**TXR 2003-B7**	Texas A&M Univ.
FL x2001(new1)4xLR	Univ. of Florida	**ME-94**	Wax Seed	**TXR 2000-T2(4n)**	Texas A&M Univ.
FL x2002(new3) LRCT	Barenburg	**NE/FL LRCT**	Univ. of Florida	**WD-40**	OreGro Seeds
FL x2002 (new3)LRCT	Univ. of Florida	**Ore-TARX**	Oregro Seeds	**WMN-97**	Wax Seed
FL x2002(DRU) LRCT	Burlingham Florida	**Passerel Plus**	Pennington	**Harrison (oat)**	Arkansas County Seed
FL x2002(LA3)LRCT	Univ. of Florida	**Prine**	East Texas Seed	**LM9929D**	Pennington

Tall Fescue

AGRFA 103	AgResearch Limited	**Ga 002 542**	University of Georgia	**Kentucky 31 FI**	University of Georgia
AGRFA 110	AgResearch Limited	**Ga 003 542**	University of Georgia	**Q 4508**	Wrightson Research
Barcel	Barenbrug	**GA 5 FI**	University of Georgia	**Quincy**	Willamette Valley Plant Breeders
BarFa1004	Barenbrug	**Ga 5 MaxQ**	Pennington Seed	**R 4663**	Wrightson Research
Bronson	Ampac Seed	**Hoedown**	Jenks Seed Connections	**Stag**	ProSeeds Marketing
CAS EA 79	Cascade International	**Jessup MaxQ**	Pennington Seed	**WVPB 97-C-1**	Willamette Valley Plant Breeders
Ga 001 542	University of Georgia	**Jessup FI**	University of Georgia	**WVPB 99KSM**	Willamette Valley Plant Breeders

Orchardgrass

Quantum	Cascade International Seed Co.

Prairie Brome

AGR MW 101	AgResearch	**G. Matua**		**Matua**	Commercial Seed Trade
D 5633	Wrightson Research	**Lupreme**	Barenbrug	**Stocker**	Barenbrug
Gala	Barenbrug	**M 5632**	Wrightson Research		

Reed Canarygrass

AGR PA 101	AgResearch

Seeded Bermudagrass

Common-S	Seeds West	**Pasto Rico**	KF Seeds	**Cheyenne**	Pennington Seeds
Common-K	KF Seeds	**Texas Tough**	East Texas Seed Co.	**DLF-Beri**	DLF-Jenks
Giant	Seeds West	**Gaucho**	Cebeco International Seeds		
Tierra Verde	Seeds West	**Sungrazer**	KF Seeds		

Sprigged Bermudagrass

(All plants are propagated by the MSU Department of Plant and Soil Sciences. Some are released varieties; others are ecotypes or "sports" collected by individuals.)

Alicia	Mr. Greer, Edna, Texas	**Lancaster**	Mr. Lancaster, Rienzi, MS	**Tanberg**	Mr. Tanberg, Texas
BY 101	Mr. Pruitt, Eupora, MS	**Lott**	Mr. Lott, Holcomb, MS	**Tifton 85**	USDA - Tifton, GA
Coastal	USDA - Tifton, GA	**McDonald**	Mr. McDonald, Carthage, MS	**Tifton 78 WH**	MAFES/USDA - Tifton, GA
Common	Commercial Seed	**Murphy**	Mr. Murphy, Carthage, MS	**Tifton 78**	USDA - Tifton, GA
Dixie I, Dixie II	Mr. McDonald, Carthage, MS	**Poplarville**	MAFES, S. MS Branch	**World Feeder**	Oklahoma
Grazer	USDA - Tifton, GA and LSU	**Russell**	Auburn University		
Hardie	Oklahoma	**Sumrall 007**	Mr. Sumrall, Monticello, MS		

Bahiagrass

Argentine Pennkote	Pennington	**Pensacola**	Commercial Seed	**Tifton 9 Pennkote**	Pennington
Argentine	Commercial Seed	**Sand Mountain**	Auburn University	**Tifton 9**	Pennington

Eastern Gamagrass

Eastern Gamagrass Selections	USDA - Coffeeville Plant Material Center