

*Performance of
Ryegrass
Varieties in
Alabama,
2006-07*

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PERFORMANCE OF RYEGRASS VARIETIES IN ALABAMA, 2006-07

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INTRODUCTION

The Alabama Ryegrass Variety Evaluation is a continuing evaluation of available varieties and breeding lines from private companies and state agricultural experiment stations. Experiments are planted annually in northern, central, and southern locations to evaluate the varieties and lines under the different environmental conditions of Alabama. Entries in each experiment are determined by the companies or institutes that control each variety or line, not by Alabama Agricultural Experiment Station personnel. The experiments are conducted by experiment station personnel and the results are presented in a fair and unbiased manner.

PROCEDURE

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. Acceptable stands were obtained at the following locations: Sand Mountain Research and Extension Center, Crossville; E.V. Smith Research Center, Plant Breeding Unit, Tallassee; Wiregrass Research and Extension Center, Headland and Gulf Coast Research and Extension Center, Fairhope.

The experiments were fertilized with phosphorus and potassium according to Auburn University soil test recommendations. At planting, nitrogen was applied at the rate of 50 pounds per acre, and an additional 50 pounds of N per acre was applied after each cutting. A 32- or 49-inch swath of each plot was harvested to a cutting height of 1 to 2 inches 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. In 2006, the tests were planted September 29, September 27, October 25, October 24, and November 28 at Crossville, Tallassee, Headland, Fairhope, and Marion Junction, respectively. In 2005, the tests were planted September 10, October 19, November 4, October 20, and October 17, at Crossville, Tallassee, Headland, Fairhope, and Marion Junction, respectively. In 2004, the tests were planted October 7, October 21, October 14, and October 20 at Crossville, Tallassee, Headland, and Fairhope, respectively. The small trial at Marion Junction could not be planted due to excessive fall moisture.

DISCUSSION

Strategies to meet seasonal forage needs are an important consideration for livestock producers. Tables 1-5 provide yield data by harvest for 2006-07 at a given location, while Tables 6 and 7 show 1, 2, and 3-year total yields by location. Seasonal and total dry matter yields by locations are provided in Tables 8 and 11. The three seasonal periods are: fall -- forage produced through February; early spring -- March and early April production; and late spring -- production after April 20. A 3-year average provides a more dependable comparison of ryegrass varieties than do single-year results.

TABLE 1. SEASONAL DRY MATTER YIELD OF ANNUAL RYEGRASS AT THE SAND MOUNTAIN RESEARCH AND EXTENSION CENTER, CROSSVILLE, ALABAMA, 2007.

Cultivar	Yield by harvest date						Season total
	1/26	3/9	3/23	4/10	5/2	†	
	----- lbs per acre -----						
Jackson	883	1557	1567	1330	3767	.	9104
Wax ME-4	1474	1861	1446	1185	3022	.	8988
Marshall	1672	1582	1537	1325	2834	.	8950
FLX 2006(PE)LRCT	1185	1764	1407	1125	3434	.	8914
Diamond T	1059	2294	1270	1000	3261	.	8883
Wax ME-94	1189	1654	1487	1261	2971	.	8562
Ed	1230	1561	1355	1008	3388	.	8541
WMN 97	795	1252	1758	1464	3270	.	8540
DH-3	947	1344	1544	1115	3530	.	8480
Dyna-Gain	899	1669	1308	1101	3484	.	8460
Rio	1255	1521	1287	1218	3135	.	8416
4X	733	2069	1477	1385	2744	.	8407
Big Boss	1266	1705	1307	1021	3092	.	8391
FL/NE X 2006 (Misc 2X) LRCT	1144	1518	1448	1272	2927	.	8309
Grazer	1128	1521	1468	952	3207	.	8275
Maximus	959	2025	1369	1186	2724	.	8263
WD-40	1473	1230	1199	1099	3249	.	8250
Tam 90	875	1695	1427	1008	3125	.	8130
TXR 2006-T22	1006	1885	1305	1064	2797	.	8057
Verdure	987	1842	1299	998	2928	.	8054
Prine	980	1381	1401	1145	3098	.	8005
Gulf (Local)	915	1328	1373	1178	3194	.	7988
Passerel Plus	1253	1248	1313	1325	2811	.	7949
TXR 2005-TBO	1223	1173	1255	1180	3090	.	7921
Attain	1243	1546	1186	1160	2698	.	7833
M/FL X2006 (4X) ER	1532	1215	1115	882	3077	.	7821
Barextra	642	1148	1342	1418	3150	.	7701
Jumbo	957	1727	1383	1090	2444	.	7601
Hercules	1088	1854	1221	1012	2418	.	7593
Flying A	1091	1314	1267	1009	2811	.	7491
Shiwasuaoba	1579	508	1049	681	2563	.	6380
Test Mean	1118	1548	1360	1135	3040	.	8202
C.V. (%)	33	22	14	11	14	.	8
LSD(0.10)	376	322	172	115	380	.	620

Planted: 9/29/2006

Soil: Hartsells Fine Sandy Loam

† only five cuts taken at this location

TABLE 2. SEASONAL DRY MATTER YIELD OF ANNUAL RYEGRASS AT THE E.V. SMITH RESEARCH CENTER, PLANT BREEDING UNIT, TALLASSEE, 2007.

Cultivar	Yield by harvest date						Season total
	11/27	1/11	2/12	3/12	3/28	4/23	
	----- lbs per acre -----						
Marshall	2328	987	1034	1488	1379	1512	8728
Dyna-Gain	1828	1164	1394	1492	1371	1129	8376
Ed	2030	1114	1205	1414	1235	1178	8176
Passerel Plus	2038	940	1075	1338	1323	1354	8067
TXR 2006-T22	1710	897	1161	1637	1292	1350	8047
Wax ME-94	1855	991	1070	1525	1239	1339	8020
WMN 97	1799	963	956	1632	1321	1241	7911
Wax ME-4	1862	923	934	1435	1399	1293	7845
WD-40	1786	1039	996	1641	1381	987	7830
Maximus	1964	851	1259	1366	1179	1194	7813
Flying A	1508	1214	1248	1398	1237	1005	7610
Jackson	1641	927	998	1619	1257	1118	7559
DH-3	1634	1135	1092	1386	1283	972	7502
Big Boss	1587	999	1167	1429	1196	1122	7500
Attain	1397	909	1147	1573	1167	1280	7472
Verdure	1508	886	1000	1442	1374	1187	7397
4X	1314	755	988	1655	1381	1231	7325
Jumbo	1377	697	989	1705	1184	1301	7253
Tam 90	1332	959	1064	1524	1218	919	7015
Diamond T	1251	726	1073	1479	1177	1264	6970
Rio	1051	849	1002	1481	1425	1154	6961
Grazer	1355	828	1059	1573	1068	1054	6938
TXR 2005-TBO	1211	664	1035	1390	1265	1162	6727
FLX 2006(PE)LRCT	952	861	1123	1639	1081	1041	6697
M/FL X2006 (4X) ER	1083	877	1107	1539	821	1112	6540
Shiwasuaoba	1493	1148	876	1430	653	802	6401
Gulf (Local)	1081	816	921	1278	1172	970	6238
FL/NE X 2006 (Misc 2X) LRCT	779	748	1115	1447	1122	1017	6229
Hercules	833	567	854	1267	974	1067	5563
Prine	720	488	731	1119	1052	1176	5286
Barextra	1048	544	729	863	812	858	4854
Test Mean	1463	886	1045	1458	1195	1142	7189
C.V. (%)	26	26	29	20	11	13	13
LSD(0.10)	551	355	331	263	135	182	1183

Planted: 9/27/2006

Soil: Cahaba Fine Sandy Loam

TABLE 3. SEASONAL DRY MATTER YIELD OF ANNUAL RYEGRASS AT THE BLACK BELT RESEARCH AND EXTENSION CENTER, MARION JUNCTION, ALABAMA, 2007.

Cultivar	Yield by harvest date						Season total
	3/19	5/10	†	†	†	†	
	----- lbs per acre -----						
Diamond T	1275	5338	.	.	.	.	6613
Marshall	1150	5226	.	.	.	.	6375
Flying A	1275	5036	.	.	.	.	6311
Jackson	994	5253	.	.	.	.	6247
Wax ME-94	1095	5092	.	.	.	.	6187
Wax ME-4	1074	5027	.	.	.	.	6102
Rio	1041	4880	.	.	.	.	5922
Gulf (Local)	1020	4802	.	.	.	.	5822
Passerel Plus	1138	4667	.	.	.	.	5805
Tam 90	1066	4595	.	.	.	.	5662
Test Mean	1113	4992	.	.	.	.	6104
C.V. (%)	23	12	.	.	.	.	12
LSD(0.10)	236	574	.	.	.	.	676

Planted: 11/28/2006

Soil: Houston Clay

† only two cuts taken at this location

TABLE 4. SEASONAL DRY MATTER YIELD OF ANNUAL RYEGRASS AT THE WIREGRASS RESEARCH AND EXTENSION CENTER, HEADLAND, ALABAMA, 2007.

Cultivar	Yield by harvest date						Season total
	1/18	2/28	3/22	4/17	5/15	†	
	----- lbs per acre -----						
M/FL X2006 (4X) ER	1024	2436	2358	1855	1064	.	8737
Wax ME-4	748	1460	2442	2921	1097	.	8667
Attain	633	1862	2385	2317	1317	.	8513
Prine	817	1814	2227	2041	1156	.	8054
Marshall	581	1364	2321	2685	1033	.	7984
Diamond T	668	1699	2346	2191	1064	.	7969
TXR 2006-T22	747	1818	1836	2198	1342	.	7941
Verdure	806	1915	2241	1857	1092	.	7912
Ed	777	1807	1991	2208	1123	.	7906
TXR 2005-TBO	588	1728	2197	2366	983	.	7862
WMN 97	718	1045	2376	2709	966	.	7813
Maximus	745	1548	2312	1979	1116	.	7700
Wax ME-94	732	1266	2385	2170	1100	.	7654
Tam 90	651	1780	2315	1773	1085	.	7603
Flying A	648	1695	2239	1668	1280	.	7530
Passerel Plus	629	1284	2163	2373	1039	.	7488
Jumbo	659	1538	2341	1838	1112	.	7487
4X	512	1472	2266	2473	954	.	7426
FLX 2006(PE)LRCT	547	1609	2270	1991	1002	.	7418
Dyna-Gain	665	1339	2443	1964	967	.	7378
Jackson	507	1513	2139	2174	980	.	7314
Hercules	808	1513	2343	1826	814	.	7303
Big Boss	641	1563	2136	1727	1145	.	7212
Rio	779	1516	1937	2011	927	.	7170
Gulf (Local)	840	1360	2132	1981	826	.	7140
Shiwasuaoba	1359	1963	1831	1252	499	.	6903
WD-40	547	1449	1991	1901	842	.	6732
DH-3	482	1526	2202	1448	950	.	6607
Grazer	611	1466	2159	1715	638	.	6588
Barextra	591	1137	1695	2485	579	.	6487
FL/NE X 2006 (Misc 2X) LRCT	425	1125	2274	1543	1045	.	6411
Test Mean	693	1568	2203	2053	1004	.	7513
C.V. (%)	35	18	15	21	22	.	11
LSD(0.10)	222	278	386	400	232	.	757

Planted: 10/25/2006

Soil: Dothan Fine Sandy Loam

† only five cuts taken at this location

TABLE 5. SEASONAL DRY MATTER YIELD OF ANNUAL RYEGRASS AT THE GULF COAST RESEARCH AND EXTENSION CENTER, FAIRHOPE, ALABAMA, 2007.

Cultivar	Yield by harvest date					†	Season total
	1/11	2/8	3/8	3/27	5/1		
	----- lbs per acre -----						
Big Boss	1159	801	1738	1380	2251	.	7330
Maximus	1202	774	1520	1516	2293	.	7305
Dyna-Gain	1296	726	1665	1466	2130	.	7283
Marshall	1270	761	1553	1600	2080	.	7265
Flying A	1333	810	1674	1422	2002	.	7240
Rio	1334	773	1524	1434	2123	.	7188
Jackson	1189	661	1532	1593	2208	.	7182
Prine	1201	837	1554	1380	2159	.	7130
Tam 90	961	787	1686	1533	2132	.	7099
Passerel Plus	1115	711	1426	1557	2277	.	7085
Wax ME-4	1222	744	1609	1639	1854	.	7069
WD-40	1126	679	1530	1629	2101	.	7065
Jumbo	1081	791	1423	1623	2146	.	7063
Verdure	1135	783	1524	1521	2099	.	7063
TXR 2006-T22	1143	765	1468	1384	2299	.	7058
Ed	1076	641	1609	1501	2160	.	6987
Wax ME-94	1316	693	1459	1604	1915	.	6985
TXR 2005-TBO	1114	770	1645	1497	1920	.	6946
Attain	1250	756	1615	1375	1932	.	6927
Hercules	1240	785	1465	1211	2129	.	6830
Shiwasuaoba	1400	704	1769	906	2039	.	6818
WMN 97	1070	538	1256	1805	2126	.	6794
FL/NE X 2006 (Misc 2X) LRCT	1044	600	1651	1613	1875	.	6782
DH-3	903	753	1605	1396	2109	.	6765
FLX 2006(PE)LRCT	1035	750	1680	1379	1909	.	6754
M/FL X2006 (4X) ER	1171	919	1764	1012	1830	.	6695
Grazer	1190	643	1529	1346	1932	.	6640
4X	1055	623	1378	1845	1728	.	6629
Diamond T	979	777	1433	1405	1871	.	6465
Gulf (Local)	984	584	1258	1650	1897	.	6372
Barextra	1092	626	1108	978	1950	.	5754
Test Mean	1151	728	1537	1458	2048	.	6922
C.V. (%)	18	13	11	12	20	.	8
LSD(0.10)	231	89	153	157	374	.	561

Planted: 10/24/2006

Soil: Malbis Fine Sandy Loam

† only five cuts taken at this location

TABLE 6. TOTAL DRY MATTER YIELD OF RYEGRASS VARIETIES, 2007, AND TWO- AND THREE-YEAR AVERAGES FOR SAND MOUNTAIN REC AND PLANT BREEDING UNIT.

Sand Mountain Research and Ext. Ctr.				Plant Breeding Unit			
Brand-Variety	2-yr. Avg		3-yr. Avg	Brand-Variety	2-yr. Avg		3-yr. Avg
	2007	2006-07	2005-07		2007	2006-07	2005-07
----- lbs per acre -----				----- lbs per acre -----			
Ed	8541	8088	9815	Marshall	8728	6695	6096
Grazer	8275	7882	9724	Ed	8176	6378	5889
Jackson	9104	8207	9674	Big Boss	7500	6086	5785
Wax ME-94	8562	7832	9615	Wax ME-94	8020	6255	5734
Rio	8416	8260	9548	Flying A	7610	6145	5733
Marshall	8950	7977	9479	Passerel Plus	8067	6358	5618
4X	8407	7820	9423	WD-40	7830	6082	5552
WMN 97	8540	7888	9305	Jackson	7559	5939	5512
WD-40	8250	8011	9289	Attain	7472	6123	5510
Maximus	8263	7957	9244	WMN 97	7911	5957	5492
FL/NE X 2007 (Misc 2X) LRCT	8309	7586	9219	Diamond T	6970	5867	5422
Passerel Plus	7949	7502	9197	Gulf (Local)	6238	5620	5409
Tam 90	8130	7699	9116	4X	7325	5952	5347
Gulf (Local)	7988	7655	9012	TXR 2006-TBO	6727	5774	5300
Prine	8005	7687	8930	Rio	6961	5759	5194
Diamond T	8883	7962	8920	Grazer	6938	5545	5080
Flying A	7491	7205	8882	Tam 90	7015	5533	5041
Attain	7833	7114	8759	FL/NE X 2006 (Misc 2X) LRCT	6229	5199	4929
Big Boss	8391	7783	8694	Prine	5286	5256	4870
Jumbo	7601	7140	8511	Shiwasuaoba	6401	5366	4665
TXR 2006-TBO	7921	7533	8499	Dyna-Gain	8376	6616	.
Shiwasuaoba	6380	6803	7939	Maximus	7813	6255	.
DH-3	8480	8574	.	Wax ME-4	7845	6131	.
Dyna-Gain	8460	7913	.	Verdure	7397	5905	.
Verdure	8054	7605	.	Jumbo	7253	5891	.
Wax ME-4	8988	7514	.	DH-3	7502	5799	.
M/FL X2007 (4X) ER	7821	7300	.	M/FL X2006 (4X) ER	6540	5500	.
FLX 2007(PE)LRCT	8914	.	.	TXR 2007-T22	8047	.	.
TXR 2007-T22	8057	.	.	FLX 2007(PE)LRCT	6697	.	.
Barextra	7701	.	.	Hercules	5563	.	.
Hercules	7593	.	.	Barextra	4854	.	.

TABLE 7. TOTAL DRY MATTER YIELD OF RYEGRASS VARIETIES, 2007, AND TWO- AND THREE-YEAR AVERAGES FOR WIREGRASS REC AND GULF COAST REC.

Brand-Variety	Wiregrass Research and Ext. Ctr.			Brand-Variety	Gulf Coast Research and Ext. Ctr.		
	2007	2-yr. Avg 2006-07	3-yr. Avg 2005-07		2007	2-yr. Avg 2006-07	3-yr. Avg 2005-07
	----- lbs per acre -----				----- lbs per acre -----		
Prine	8054	8821	9726	Flying A	7240	6910	6804
Attain	8513	8819	9647	Marshall	7265	6852	6785
Big Boss	7212	8319	9574	Maximus	7305	6744	6774
TXR 2005-TBO	7862	8663	9552	Rio	7188	6954	6757
Diamond T	7969	8672	9510	Wax ME-94	6985	6715	6734
Gulf (Local)	7140	8607	9262	Tam 90	7099	6905	6727
Marshall	7984	8369	9153	Jumbo	7063	6856	6685
Flying A	7530	8795	9125	Jackson	7182	6849	6678
Ed	7906	8098	9123	Prine	7130	6742	6629
Rio	7170	8420	8843	Big Boss	7330	6801	6530
Jackson	7314	8046	8770	Ed	6987	6845	6520
Tam 90	7603	8497	8738	Gulf (Local)	6372	6619	6499
4X	7426	7949	8724	Passerel Plus	7085	6653	6491
Passerel Plus	7488	7841	8702	TXR 2005-TBO	6946	6742	6371
Wax ME-94	7654	7720	8509	FL/NE X 2005 (Misc 2X) LRCT	6782	6435	6292
FL/NE X 2005 (Misc 2X) LRCT	6411	7522	8436	Diamond T	6465	6426	6280
WD-40	6732	7704	8384	WD-40	7065	6482	6264
Shiwasuaoba	6903	8102	8260	Attain	6927	6581	6260
WMN 97	7813	7660	8187	WMN 97	6794	6529	6187
Grazer	6588	7526	8034	4X	6629	6288	6087
M/FL X2005 (4X) ER	8737	9080	.	Grazer	6640	6656	5983
Verdure	7912	8951	.	Shiwasuaoba	6818	6647	5929
Maximus	7700	8872	.	Wax ME-4	7069	7003	.
Wax ME-4	8667	8735	.	Verdure	7063	6740	.
Jumbo	7487	8375	.	DH-3	6765	6673	.
Dyna-Gain	7378	8253	.	Dyna-Gain	7283	6667	.
DH-3	6607	7933	.	M/FL X2005 (4X) ER	6695	6660	.
TXR 2006-T22	7941	.	.	TXR 2006-T22	7058	.	.
FLX 2006(PE)LRCT	7418	.	.	Hercules	6830	.	.
Hercules	7303	.	.	FLX 2006(PE)LRCT	6754	.	.
Barextra	6487	.	.	Barextra	5754	.	.

TABLE 8. SEASONAL DISTRIBUTION OF RYEGRASS PRODUCTION AT SAND MOUNTAIN REC BASED ON THREE-YEAR AVERAGES, 2005-2007.

Brand-Variety	Fall	Early spring	Late spring	3-yr avg
Sand Mountain Research and Ext. Ctr.				
Ed	22	43	35	9815
Grazer	20	43	37	9724
Jackson	21	45	34	9674
Wax ME-94	22	45	33	9615
Rio	22	44	33	9548
Marshall	23	45	31	9479
WD-40	23	43	34	9423
4X	17	48	35	9305
WMN 97	20	48	31	9289
Passerel Plus	23	46	31	9244
FL/NE X 2005 (Misc 2X) LRCT	22	47	31	9219
Maximus	17	47	36	9197
Tam 90	19	45	36	9116
Gulf (Local)	21	46	33	9012
Flying A	22	44	35	8930
Diamond T	20	46	34	8920
Prine	19	46	36	8882
Attain	22	43	35	8759
Big Boss	20	46	34	8694
TXR 2005-TBO	20	46	34	8511
Jumbo	18	47	35	8499
Shiwasuaoba	19	42	39	7939

TABLE 9. SEASONAL DISTRIBUTION OF RYEGRASS PRODUCTION AT PLANT BREEDING UNIT BASED ON THREE-YEAR AVERAGES, 2005-2007.

Brand-Variety	Fall	Early spring	Late spring	3-yr avg
Plant Breeding Unit				
Marshall	33	40	27	6096
Ed	35	41	24	5889
Big Boss	33	43	24	5785
Wax ME-94	31	42	27	5734
Flying A	33	42	25	5733
Passerel Plus	33	39	27	5618
WD-40	32	45	24	5552
Jackson	29	44	27	5512
Attain	30	42	27	5510
WMN 97	29	42	29	5492
Diamond T	29	44	27	5422
Gulf (Local)	34	43	23	5409
4X	29	45	26	5347
TXR 2005-TBO	29	45	27	5300
Rio	31	45	25	5194
Grazer	30	47	23	5080
Tam 90	32	44	25	5041
FL/NE X 2005 (Misc 2X) LRCT	26	46	28	4929
Prine	26	44	30	4870
Shiwasuaoba	43	40	18	4665

**TABLE 10. SEASONAL DISTRIBUTION OF RYEGRASS PRODUCTION AT WIREGRASS REC
BASED ON THREE-YEAR AVERAGES, 2005-2007.**

Brand-Variety	Fall	Early spring	Late spring	3-yr avg
Wiregrass Research and Ext. Ctr.				
Prine	36	48	16	9726
Attain	33	52	16	9647
Big Boss	36	49	15	9574
TXR 2005-TBO	35	50	15	9552
Diamond T	36	51	14	9510
Gulf (Local)	39	48	13	9262
Marshall	31	53	16	9153
Flying A	36	50	14	9125
Ed	35	51	13	9123
Rio	39	48	13	8843
4X	35	51	14	8770
Jackson	33	53	14	8738
Tam 90	36	50	14	8724
Passerel Plus	33	53	14	8702
Wax ME-94	33	53	14	8509
FL/NE X 2005 (Misc 2X) LRCT	29	56	15	8436
WD-40	36	51	13	8384
Shiwasuaoba	48	44	9	8260
WMN 97	31	54	15	8187
Grazer	34	54	12	8034

**TABLE 11. SEASONAL DISTRIBUTION OF RYEGRASS PRODUCTION AT GULF COAST REC
BASED ON THREE-YEAR AVERAGES, 2005-2007.**

Brand-Variety	Fall	Early spring	Late spring	3-yr avg
Gulf Coast Research and Ext. Ctr.				
Maximus	30	43	28	6804
Marshall	31	43	26	6785
Rio	31	43	26	6774
Jackson	29	44	27	6757
Tam 90	31	43	26	6734
Flying A	35	40	25	6727
Jumbo	32	42	26	6685
Prine	32	42	27	6678
Big Boss	30	42	28	6629
Wax ME-94	32	44	24	6530
Passerel Plus	32	39	28	6520
Ed	31	42	27	6499
Gulf (Local)	32	44	24	6491
WD-40	31	42	27	6371
TXR 2005-TBO	31	44	25	6292
WMN 97	30	42	28	6280
Attain	30	44	26	6264
FL/NE X 2005 (Misc 2X) LRCT	30	45	25	6260
Diamond T	31	44	25	6187
Shiwasuaoba	34	38	28	6087
Grazer	29	45	27	5983
4X	30	46	24	5929

SOURCES OF RYEGRASS SEED

Cultivar	Company
Barextra	Barenbrug USA, Tangent, Oregon
Hercules	
Jumbo	
Maximus	
Prine	Ragan & Massey, Inc., Ponchatoula, Louisiana
4X	OreGro Seeds, Inc., Shedd, Oregon
DH-3	
Diamond T	
Dyna-Gain	
Flying A	
WD-40	
Gulf (Local Source)	Piedmont Fertilizer Co., Opelika, Alabama
Passerel Plus	Pennington Seed, Inc., Lebanon, Oregon
Shiwasuaoba	
Rio	ProSeeds Marketing, Inc., Jefferson, Oregon
Attain	Smith Seed Service, Halsey, Oregon
Big Boss	
Ed	
Verdure	
TAM 90	Texas A & M University, College Station, Texas
TXR2005-TBO	
TXR2006-T22	
Jackson	The Wax Company, LLC, Amory, Mississippi
Marshall	
WAX ME-94	
WMN 97	
WAX ME-4	
M/FL X2006(4x)ER	University of Florida, Gainesville, Florida
FL/NE X2006(Misc 2x)LRCT	
FLX2006(PE)LRCT	
Grazer	University of Georgia, Athens, Georgia