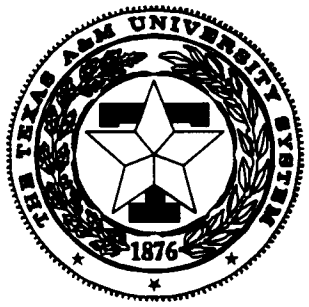
FORAGE-LIVESTOCK FIELD DAY REPORT - 1998

TEXAS A&M UNIVERSITY AGRICULTURAL RESEARCH and EXTENSION CENTER at OVERTON

Texas Agricultural Experiment Station
Texas Agricultural Extension Service



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RYEGRASS FORAGE YIELDS AT OVERTON FOR 1996-97 AND 5-YEAR MEANS

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Background. Annual ryegrass is an important forage crop in East Texas. Varieties vary in total forage yield and distribution, winter hardiness, and for disease resistance. This study is conducted each year at the TAMU Agricultural Research and Extension Center at Overton to compare varieties for East Texas soils and climatic conditions.

Research Findings. All available ryegrass varieties and some experimental lines were evaluated during the past 5 years. Fertilizer rates are noted in Table 1. Tests were planted into a prepared seedbed at 1/4 inch depth at 30 lb/ac. Planting dates were mid-September normally and on 9 October in 1996. Plot size was 4 x 12 ft with four replications. During the 1996-97 season, plots were harvested with a Hege plot harvester at a cutting height of 2 inches at six harvest dates. Ryegrass was approximately 6-inches tall at first harvest on 3 January. Entries demonstrating best seedling vigor and rapid fall growth were ME 94, Gulf, and several experimentals (Table 1). The second harvest was 21 February, indicating a warm winter and good ryegrass growth during this period. Better forage yields in the 2nd harvest were produced by Southern Star, Surrey, Grazer, Rio, closely followed by several experimental lines. A major portion of the ryegrass forage was produced during March when nearly all entries produced excellent yields. This is demonstrated in the 14 March harvest and the 7 April harvest. On the 14 March harvest, TAM 90, Southern Star, Marshall, Surrey, Rio, and Jackson all produced similar forage yields. In the 4th harvest, the highest yielding varieties were Marshall, Blizzard, Big Daddy, TAM 90, Southern Star, Hercules, which were closely followed by Magnolia, Beef Master, Abundant and Gulf. Good yields were also produced on the 6 May harvest where the better yielding cultivars were TAM 90, Big Daddy, Hercules, Magnolia, and Beef Master. The last harvest was on 23 May and all yields were quite low due to moisture and heat stress during late spring season. For total seasonal yield, released varieties which produced the highest yield were TAM 90 at 6884 lbs/ac which was closely followed by Southern Star, Big Daddy, Hercules, and Marshall. A 5-year total season mean yield is presented and indicates best yields for TAM 90 and Marshall, with Surrey, Rio, and Jackson producing somewhat lower yields. Differences in yield between varieties of less than the LSD (647 lbs for total yield) may be due to experimental error and should not be considered significant.

Application. The data presented from these experiments should be useful in selecting ryegrass varieties best adapted to northeast Texas. Winterhardiness is extremely valuable in those years when winterkill occurs. The small additional seed cost of new varieties such as TAM 90, and Marshall should be well worth their extra forage yielding potential.

Table 1. Ryegrass forage variety test at Overton, Texas for 1996-97 and mean yield over 5 years.

Variety	HAR 1 1-3	HAR 2 2-21	HAR 3 3-14	HAR 4 4-7	HAR 5 5-6	HAR 6 5-23	Total Yield	5-Year Mean
	pounds of dry matter per acre							
TAM 90	396	1106	1386	1722	1947	327	6884	6289
OFI-PM1*	566	1108	1161	1805	1584	609	6833	---
OFI-FL95	423	1373	1284	1651	1550	488	6769	---
Southern Star	563	1575	1387	1710	1322	182	6739	---
FLX 1995 (GXS)*	761	1563	1248	1458	1213	361	6603	---
WVPB AR 93-101*	579	1232	1278	1647	1332	420	6486	---
Big Daddy	483	1149	1228	1732	1663	198	6453	---
WVPB 90-300*	368	1280	1380	1605	1375	406	6414	---
TXR95-5*	231	1481	1191	1835	1339	312	6389	---
Hercules	557	1129	1223	1795	1475	172	6350	---
NC/FLX1996LR*	509	1334	1184	1800	1071	265	6164	---
FLX1996LR*	281	1284	1234	1632	1124	478	6081	---
OFI-A94*	576	1217	1128	1573	1277	309	6079	---
Marshall	114	1080	1340	1943	1331	264	6073	6150
TXR95-4*	384	1116	1233	1857	1234	227	6050	---
TXR91-SR6EI*	256	1397	1285	1779	1199	132	6046	---
TXR95-2*	202	972	1399	1749	1373	322	6017	---
ME 94*	659	1456	1023	1497	1048	309	5992	---
TXR95-8*	294	1189	1283	1749	1147	285	5945	---
Surrey	419	1506	1300	1420	1098	195	5937	5766
Rio	340	1318	1339	1396	1218	296	5907	5571
Magnolia	449	957	1112	1582	1456	292	5848	---
Jackson	382	1164	1309	1501	1099	380	5835	5871
WVPB Blizzard	388	766	1070	1736	1505	349	5814	---
WVPB AR F-11*	211	1093	1202	1786	1232	271	5794	---
WVPB AR 90-1*	239	1101	1162	1730	1313	236	5782	
BARUSA LM95*	462	972	1153	1449	1275	339	5650	---
FLX19964NG*	352	931	1171	1670	1301	208	5633	---
Beef Master	245	862	1212	1632	1441	233	5624	
TURF 92*	85	462	1399	1749	1373	370	5592	---
WVPB AR R3*	218	1088	1273	1682	910	420	5591	---
Abundant	350	893	1099	1682	1255	242	5521	---
WVPB AR A-9*	89	865	1068	1626	1487	375	5509	---
AR Assertive	279	970	1035	1439	1286	467	5475	---
Grazer	290	1428	1271	1186	1000	197	5372	---
TXR95-7*	163	842	1127	1709	1089	206	5136	---
Gulf	546	1169	874	1464	919	131	5104	5506
WVPB AR A-13*	167	593	1024	1572	1418	329	5103	---
Mean	361	1133	1201	1654	1288	302	5940	
LSD (0.10)	211	273	127	183	318	198	647	

Planted October 9, 1996. Fertilization: Preplant 500 lb 10-20-20/ac. Topdressed with 50 lb N/ac on October 18, 1996, 50 lb N/ac on January 15, 1997, 300 lb/ac of KMG (22% K_2O, 11% Mg, and 23% sulfate) on February 10, 1997, 50 lb N/ac on February 17, 1997, 25 lb N/ac on March 26, 1997, and 25 lb N/ac on May 1, 1997.

*Experimental line, seed presently not available to growers.