

# **FIELD DAY REPORT - 1993**

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## RYEGRASS FORAGE YIELDS AT OVERTON FOR 1991-92 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 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 on 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 September 25 in 1991. Plot size was 4 x 12 ft, with four replications. During the 1991-92 season, plots were harvested with a Hege plot harvester at a cutting height of 2 inches at six harvest dates. Ryegrass was approximately 8-inches tall at first harvest on Nov. 4. Entries demonstrating best seedling vigor and rapid fall growth were Experimental WVPB-AR-90-1, Rio, Rustmaster, Marshall, Jackson, Surrey, and TAM 90 (Table 1). The second harvest was Feb. 19, indicating the lack of ryegrass growth during the cold winter period. Better forage yields in the 2nd harvest were produced by Gulf, TXR-90-1, Surrey, Liwega, and TAM 90. No winter freeze damage occurred during 1991-92. The highest forage yields were harvested in the 5th harvest date on May 1st, when almost all varieties produced high yields. Most of the total seasonal forage yield of ryegrass was produced from March through April. This is demonstrated in the Mar. 11, Mar. 31, and May 1. harvests. Total season yield for 1991-92 and mean yields for the past 5 years are indicative of forage potential of these varieties. Differences in yield of less than the LSD (1232 lbs for total season) 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. Depending on variety availability, compare forage yields and seed prices to determine which variety you want to plant on your farm. Several varieties are available which will normally out yield Gulf by 1000 lbs dry matter forage per acre. Several year's data (other than 1991-92) indicate that Marshall, TAM 90, Jackson, and Surrey have significantly improved winterhardiness compared to Gulf. Winterhardiness is extremely valuable in those years when winterkill occurs. The small additional seed cost of new varieties such as TAM 90, Marshall, Jackson and Surrey should be well worth their extra forage yield and improved winterhardiness.

Table 1. Annual ryegrass forage variety test at Overton, Texas 1991-92 and five year mean yields.

Variety	1991-92 Harvest Dates						Total Yield	5 Yr Mean
	12-4	2-19	3-11	3-31	5-1	5-28		
----- pounds dry matter per acre -----								
WVPB-AR-90-I*	1711	798	998	1175	3871	1262	9815	--- <sup>a</sup>
Rio	1649	1060	1133	1122	2992	1307	9263	----
Rustmaster	1606	1063	1262	1144	2925	1079	9078	----
Marshall	1519	866	919	1094	3331	1087	8816	8852
TXR-90-1*	1289	1241	1298	1213	2731	984	8756	----
Noble Foundation 32*	1299	1106	1198	981	2592	1358	8534	----
Surrey	1373	1185	1126	986	2829	928	8427	8456
Jackson	1489	865	1028	1033	2907	894	8215	8285
TXR90-SR3*	743	983	1277	1187	2798	1044	8032	----
Lemnos	1163	1040	1078	894	2468	1155	7799	----
Noble Foundation 4*	1024	840	1285	937	3136	572	7794	----
Noble Foundation 429*	656	878	1218	829	3184	889	7654	----
TXR90-EN2*	795	973	1096	1197	2900	625	7586	----
Liwega	1247	1138	1098	759	2022	1239	7503	----
TAM 90	1265	1122	1026	950	2516	580	7458	8365
TXR90-TA3*	772	628	1020	1054	2915	979	7368	----
NCSU-90*	781	601	1009	918	2994	1027	7331	----
Merwester	1086	1152	1145	855	1951	1125	7313	----
Noble Foundation 149*	729	870	1106	908	2635	929	7176	----
Fla 80	539	1199	945	788	2716	847	7035	7872
Gulf	388	1358	977	969	2498	674	6863	7319
Limella	802	1118	916	605	2032	1110	6583	----
TXR86-2L*	403	982	1316	1109	518	967	5295	7577
Tetragold	188	226	628	919	2107	789	4857	----
Mean	981	973	1087	984	2649	977	7689	
LSD (0.10)	721	264	333	152	474	341	1232	

Planted September 25, 1991.

Fertilization: Preplant 50 lbs of N, P<sub>2</sub>O<sub>5</sub>, 100 lbs of K<sub>2</sub>O, and 45 lbs of S/ac.

Topdressed: 40 lbs N on January 7, 40 lb N on February 21, 30 lbs N on March 21, and 30 lbs N/ac on April 21, applied as ammonium nitrate.

\*Experimental, seed not available.

<sup>a</sup>Variety was not tested over the past 3 years.