

# **FIELD DAY REPORT - 1992**

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## RYEGRASS FORAGE YIELDS AT OVERTON FOR 1990-91 AND 4-YEAR MEANS

Steve Ward, Jim Crowder, and L. R. Nelson

**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 identify the best varieties for East Texas.

**Research Findings.** All available ryegrass varieties and some experimental lines were evaluated during the past 4 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 28 in 1990. Plot size was 4 x 12 ft with four replications. Plots were harvested with a Hege plot harvester at a height of 2 inches at six harvest dates. Ryegrass was approximately 8 inches tall at first harvest on November 13. Varieties demonstrating best seedling vigor and rapid fall growth were TAM 90, Marshall, and Multigrazer 2A (Table 1). The second harvest was about 3 months later indicating the lack of ryegrass growth during the cold winter period. Significant winter freeze damage occurred during December as noted by percent winterkill in Table 1. Freeze damage resulted on December 29 when a low temperature of 15°F occurred. Differential freeze-back of foliage resulted. There was some relationship between cold damage and yield on February 20. Marshall and experimental NCSU 89-1 had the most winterhardiness in this test, and their yields on February 20 demonstrated this fact. Most of the total seasonal forage yield of ryegrass was produced from March through April. This is demonstrated in the April 1, April 19, and May 8 harvests. Total season yield for 1990-91 and mean yields for the past 4 years are indicative of forage potential of these varieties. Differences in yield of less than the LSD (1008 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. 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 winter hardiness.

Table 1. Ryegrass Forage Variety Test in pounds per acre at Overton, Texas 1990-91 and 4-Year Average

	Harvest Dates						Season Total		Winterkill
	Nov 13	Feb 20	Apr 1	Apr 19	May 8	June 7	1990/91	4 Yr Mean	
	-----lbs dry matter/acre-----								
Marshall	1109*	1543**	1547	2667**	1232	1127	9225**	8869	10
NCSU 89-1	410	1011	1560	2449*	1489*	1877**	8796*	--	0
HI 124	993*	1109	1453	2465*	1287	1422	8729*	--	10
WVPB-LM-AR-2	553	1158	1785	2081	1423*	1443	8443*	--	15
Surrey	758*	1310*	1844	2041	1291	937	8181	8463	30
TXR-86-2L	433	1031	1947	2425*	1361*	958	8155	8148	30
TAM 90	1281**	966	1898	1951	1022	981	8099	8592	30
Multigrazer 2A	1017*	1110	1082	2338*	1419*	1044	8099	--	15
TXR-89-EN-1	885*	1242	1700	2275	1130	731	7963	--	30
FLA 80	864*	1307*	2249**	1397	1421*	692	7930	8082	30
Jackson	967*	1149	1529	1740	1205	1149	7739	8303	15
Tetablend 444	728*	642	1630	2251	1174	1063	7488	--	50
Gulf	866*	894	1751	1838	1156	928	7433	7433	40
WVPB-LM-601	1008*	845	1065	2124	1283	1105	7430	--	30
WVPB-AR-90-1	647*	863	1503	2262	1112	1016	7403	--	15
PGC	807*	500	1270	2014	1295	1485	7371	--	90
NF 429	762*	895	1464	2012	1157	1080	7370	--	30
TX-R-89-1	619*	1128	1987	1906	1197	510	7347	--	20
OFI-AR-LM-BTT	474	812	1655	2084	1359*	932	7316	--	30
NF 4	701	1107	1379	1894	1378*	855	7314	--	30
NF 149	605	1177	1533	2002	1112	835	7264	--	30
OFI-AR-42	191	506	1157	2290	1447*	1492*	7083	--	60
ETCO-9-88	627	1029	1361	1556	1511*	940	7024	--	30
Laramie	633	485	1030	1947	1268	1657*	7020	--	90
Abundant	544	668	1266	1883	1568**	1084	7013	--	40
Barmultra	626	747	935	2459*	1330	828	6925	--	20
NF 32	331	970	1547	1976	1220	857	6901	--	30
TXR-90-SR4	332	827	1344	2518*	1143	717	6881	--	30
WVPB-LM-F-41	359	715	1101	2198	1278	1184	6838	--	50
Tetragold	335	498	905	1924	1410*	1089	6161	--	15
EIR-62	313	451	832	2037	1534*	859	6026	--	30
Progrow	582	483	940	1886	888	1010	5789	--	80
Fredrik	85	364	895	1445	1421*	639	4849	--	30
Mean	650	895	1429	2071	1288	1046	7378		
LSD (0.10)	540	254	278	344	211	387	1008		

\*\* Highest yielding entry for that harvest date.

\* Not significantly different from \*\* as judged by LSD at the 10% level of probability.

Planted September 28, 1990

Fertilization: Preplant 91 lbs of N, P<sub>2</sub>O<sub>5</sub>, and K<sub>2</sub>O/acre and 84 lbs of sulfur/acre. Topdressed with 50 lbs/acre of actual N on Nov. 28, Feb. 7, April 4 and 30 lbs on April 23, applied as ammonium nitrate.