



Current Report

PUBLISHED BY OKLAHOMA STATE UNIVERSITY
DISTRIBUTED THROUGH COUNTY EXTENSION OFFICES

FORAGE PRODUCTION FROM SMALL GRAIN, 1977

L. M. Rommann, W. E. McMurphy and F. E. LeGrand
Department of Agronomy

After several years of testing, a variety with a proven record of good or poor forage production may be dropped from the test so newer varieties can be included. This does not mean the dropped variety is no longer an acceptable forage producer. Data from previous Current Reports can be used to compare varieties for those years.

Forage production from small grain during the winter months is very important and essential for the livestock industry in Oklahoma. Cattle gains of 1½ to 1½ pounds per day are easily obtained during the fall, winter, and spring months on small grain pasture. However, good gains are produced during January and February only if forage is available. Very little new growth is produced at

this time and one must stockpile sufficient fall growth to carry the cattle through these winter months. The yields in this report simulate a system where small grains are used for pasture. Forage yields would probably be lower under grazing conditions.

Production is in oven dried pounds of forage per acre. Seasonal production for fall and winter grazing should be an important consideration in selecting varieties. Research has shown that eight pounds of small grain forage produced at these clipping frequencies have been adequate to produce one pound of beef.

Numbered varieties preceded by "OK" or "NF" are experimental varieties. Seed is not currently available.

Table 1. Precipitation for each location from August, 1976 through May, 1977.

Month	Location					
	Goodwell	Haskell	Lahoma	Mangum	Perkins	Woodward
1976						
August	1.85	1.33	3.05	1.04	1.69	0.64
September	1.60	1.38	2.42	4.08	1.67	1.74
October	0.53	2.64	2.08	2.60	1.82	1.10
November	0.04	1.82	0.03	0.05	0.22	0.09
December	0	1.77	0	0.03	0.21	0
1977						
January	0.35	0	0.39	0.55	0.22	0.15
February	0.05	1.05	1.48	1.54	1.16	0.96
March	0.43	3.14	1.45	0.38	2.50	0.75
April	4.86	2.71	2.90	3.96	2.23	2.23
May	4.45	4.49	7.13	12.69	8.46	3.59
Total	14.16 ^{1/}	20.33	20.93	26.92	20.18	11.25

1. Irrigated 10 times with 2.6 inches per application.

Table 2. HASKELL small grain variety test, forage production (lbs/acre) 1976-1977 season. Taloka soil.

Variety	Harvest Dates					Total
	11-8	3-16	4-8	4-29	5-8	
RYE						
NF 74	2118	2004	904	1132	0	6158
Maton	1679	2548	771	975	0	5973
NF 72	1902	1933	962	1067	0	5864
Bonel	1506	2323	880	994	0	5703
NF 324	1457	2528	770	948	0	5703
Elbon	1548	2532	608	793	0	5481
Okema	1358	2182	1009	1813	0	5362
Rymin	1231	790	2089	1188	0	5298
Puma	721	704	2029	1047	0	4501
WHEAT						
Lancota	0	2183	1463	1082	0	4728
Osage	0	1757	1884	887	0	4528
Rall	0	1871	1619	1037	0	4527
Lindon	0	1746	1957	764	0	4467
TAM W-103	0	1971	1316	1044	0	4331
OK 711092A	0	1583	1866	711	0	4160
OK 711252A	0	1332	1940	819	0	4091
Triumph 64	0	1708	1746	599	0	4053
TAM W-101	0	2071	920	987	0	3978
BARLEY						
Kerr	1372	947	1980	784	0	5083
Nebar	1151	1084	2060	623	0	4917
Post	1298	515	1866	1009	0	4688
OATS						
Chilocco	1064	713	1570	1210	0	4557
Walken	0	871	1719	1753	0	4343
NF 105	408	375	1261	1517	0	3561
Cimarron	0	898	1490	1142	0	3530
OK 7222336	348	564	1118	1348	0	3378
NF 199	283	352	1200	1603	0	3338
OTHERS						
Linn. Per. Ryegr.	363	2294	967	1808	967	5432
LSD (lbs/A)	418	227	223	300	---	520
CV (%)	22	11	11	20	---	8

Seeded: September 3, 1976

Soil test: pH 5.8, P 15 lb/A, K 105 lb/A, NO₃-N 5 lb/A

Fertilized: 60-80-80 Sept. 2, 1976

60-0-0 Nov. 8, 1976

60-0-0 Apr. 8, 1977

Table 3. MANGUM small grain variety test, forage production (lbs/A) 1976-1977 season. Meno and Altus loamy fine sand.

Variety	Harvest Dates				1976-77 Total
	3-8	3-29	4-26	6-3	
RYE					
Okema	410	748	566	741	2465
Bonel	510	668	595	612	2385
NF 72	457	760	550	599	2366
NF 74	394	652	580	617	2243
Puma	29	287	984	922	2222
Maton	581	617	488	521	2207
NF 324	392	577	497	595	2061
Elbon	430	434	407	562	1833
Rymin	799	247	719	799	1764
WHEAT					
Lancota	327	563	540	1131	2561
Osage	68	574	630	1171	2443
Pioneer 915	105	703	864	555	2227
OK 711252A	69	446	605	935	2055
Rall	156	443	406	993	1998
Funk's 335	0	359	866	739	1964
OK 711092A	138	457	584	766	1945
TAM W-101	267	492	345	762	1866
Lindon	170	572	594	523	1859
Russian	83	546	596	354	1579

Variety	Harvest Dates				1976-77 Total
	3-8	3-29	4-26	6-3	
Triumph 64	93	503	448	503	1547
Agent	18	321	274	797	1410
TAM W-103	24	290	329	577	1220
BARLEY					
Kerr	18	160	1133	729	2040
Nebar	76	250	835	619	1780
Post		62	550	637	1249
OATS					
Walken	51	94	606	2882	3633
Cumberland	0	312	913	2243	3468
OK 7222336	241	465	804	1884	3394
Cimarron	194	425	878	1292	2789
Chilocco	73	455	861	1363	2752
NF 105	62	263	726	1601	2652
NF 199	0	394	853	1338	2585
OTHERS					
Linn. Per. Ryegr.	0	50	428	2142	2620
LSD (lbs/A)	156	197	184	392	582
CV (%)	55	33	21	28	19

Seeded: September 11, 1976

Soil test: pH 5.8, P 115 lb/A, K 360 lb/A, NO₃-N 22 lb/A

Fertilizer: 20-0-0 Mar. 10, 1977

20-0-0 Apr. 1, 1977

Table 4. LAHOMA small grain variety test, forage production (lbs/acre) 1976-1977 season. Pond Creek silt loam.

Variety	Harvest Dates		1976-77 Total
	3-30	5-9	
RYE			
NF 74	1647	888	2535
NF 72	1738	917	2355
Maton	1482	784	2266
NF 324	1227	828	2055
Elbon	1224	744	1968
Okema	1120	830	1950
Puma	714	1236	1950
Bonel	1049	865	1914
Rymin	775	1128	1903
WHEAT			
TAM W-101	1228	1069	2297
Lindon	1202	1093	2295
OK 711252A	899	1209	2108
Lancota	962	1110	2072
Triumph 64	1157	908	2065
TAM W-103	1094	969	2063
Rall	926	1131	2057
Osage	881	1156	2037
OK 711092A	892	1055	1947
BARLEY			
Nebar	803	1360	2163
Kerr	887	1383	1970
Post	458	1202	1660
LSD (lbs/A)	354	154	123
CV (%)	23	10	13

Seeded: September 17, 1976

Soil test: pH 5.2, P 74 lb/A, K 480 lb/A, NO₃-N 84 lb/A

Fertilizer: 60-0-0 Mar. 31, 1977

Table 5. GOODWELL small grain variety test, forage production (lbs/acre) 1976-1977 season. Richfield clay loam.

Variety	Harvest Dates						Total
	10-15	12-9	3-8	4-8	4-29	6-21	
RYE							
Puma	1113	911	1553	2289	1833	2631	10330
Rymin	1218	1180	1952	2066	979	2243	9638
Bonel	1432	1279	1887	1446	372	1666	8082
NF 72	1388	1293	1307	1611	516	1737	7852
NF 74	1385	1345	1519	1581	485	1330	7649
Okema	1266	1191	1283	1652	403	1419	7214
Maton	1381	1334	1644	1180	611	1009	7060
NF 324	1228	1074	1375	1097	803	1377	6954
Elbon	1364	1367	1265	1081	447	1269	6793
WHEAT							
OK 711252A	1075	796	1892	2276	1628	2522	10189
Osage	1393	442	1089	2482	1069	3683	10158
TAM W-103	927	700	1675	2623	954	2714	9593
Lindon	1143	826	1593	2434	1574	1875	9445
Tascosa	1213	674	1347	2304	820	2509	8867
Rall	1165	559	1203	2247	893	2677	8744
Lancota	1326	668	1117	1957	677	2450	8195
Triumph 64	1113	817	1104	2191	617	2004	7846
TAM W-101	1179	803	1254	2083	751	1320	7390
OK 711092A	1078	611	1452	1970	1523	611	7295
BARLEY							
Kerr	1820	844	1099	2152	3202	434	8651
Nebar	1178	720	1009	1905	1788	1687	8287
Post	1192	671	919	1648	2243	310	6983
OTHERS							
Linn Per. Ryegr.	391	604	893	1015	2047	3494	8444
LSD (lbs/A)	435	377	449	502	493	1363	1799
CV (%)	25	29	23	19	32	51	15

Seeding date: August 23, 1976
 Soil test: pH 7.2, P 47 lb/A, K 830 lb/A, NO₃-N 160 lb/A
 Fertilizer: 60-0-0 Oct. 19, 1976
 60-0-0 Dec. 10, 1976
 90-0-0 Mar. 15, 1977
 60-0-0 May 2, 1977

Table 6. WOODWARD small grain variety test, forage production (lb/A) 1976-1977 season. Woodward loam.

Variety	Harvest Dates			1976-77 Total
	3-11	4-7	5-12	
RYE				
NF 72	519	1052	1957	3528
Rymin	0	917	2577	3494
NF 74	456	1009	1902	3367
Bonel	628	969	1739	3336
Maton	519	976	1837	3332
Puma	0	770	2454	3224
Okema	381	994	1728	3103
NF 324	421	1020	1608	3049
Elbon	606	868	1477	2951
WHEAT				
Centurk	181	1024	2091	3296
Osage	0	871	2225	3096
Triumph 64	0	802	2127	2929
OK 711092A	174	904	1793	2871
Sage	120	1035	1655	2810
Lindon	79	882	1830	2791
Lanota	0	472	2301	2773
Rall	0	1110	1663	2773
TAM W-103	0	1056	1710	2766
OK 711252A	48	657	2018	2723
TAM W-101	163	745	1735	2643
BARLEY				
Kerr	131	566	2962	3659
Post	0	465	2867	3332
Nebar	142	820	2320	3282
OATS				
Walken	0	62	1891	1953
Chilocco	0	0	0	0
Cimarron	0	0	0	0
OK 722336	0	0	0	0

Variety	Harvest Dates			1976-77 Total
	3-11	4-7	5-12	
OTHERS				
DeKalb 9290	98	860	2080	3038
DeKalb 9090	0	591	2338	2929
DeKalb 9190	0	766	1938	2704
Linn Per. Ryegr.	0	0	0	0
LSD (lbs/A)	138	254	673	792
CV (%)	33	22	24	19

Seeded: October 8, 1976
 Fertilized: 18-46-0 Oct. 4, 1976
 33-0-0 Mar. 15, 1977

- This research was conducted in cooperation with the Southern Great Plains Field Station, USDA, Agricultural Research Service, Southern Region.

Table 7. PERKINS small grain variety test, forage production (lbs/acre) 1976-77 season. Teller loam.

Variety	Harvest Dates				Total
	3-16	4-6	5-10	6-6	
RYE					
Maton	2649	997	1851	0	5547
Bonel	2049	1030	1925	0	5004
NF 74	1867	1130	1567	0	4564
NF 324	2098	9500	1478	0	4526
Rymin	0	2519	1831	0	4350
Puma	0	2299	1829	0	4128
Okema	1842	1043	1234	0	4119
NF 72	1635	950	1518	0	4103
Elbon	1740	607	1522	0	3869
WHEAT					
Lindon	0	2101	1806	0	3907
TAM W-101	0	2183	1646	0	3829
Triumph 64	0	2303	1353	0	3656
Osage	0	1913	1736	0	3649
OK 711092A	0	2343	1304	0	3647
TAM W-103	0	2085	1535	0	3620
Rall	0	1747	1613	0	3360
Lancota	0	1669	1686	0	3355
OK 711252A	0	1553	1760	0	3313
BARLEY					
Nebar	0	1613	1653	0	3266
Post	0	1061	2145	0	3206
Kerr	0	1421	1776	0	3197
OATS					
Walken	0	196	1604	1068	2868
NF 199	0	354	1873	0	2227
OK 7222336	0	242	1881	0	2123
Cumberland	0	116	1575	429	2120
Chilocco	0	200	1885	0	2085
Cimarron	0	200	1789	0	1989
NF 105	0	222	1471	0	1693
OTHER					
Linn Per. Ryegr.	0	283	1459	806	2548
LSD	774	503	527	269	913
CV (%)	26	29	23	20	19

Seeded: September 1, 1976
 Soil test: pH 4.9, P 66 lb/A, K 200 lb/A, NO₃-N 22 lb/A
 Fertilizer: 60-0-0 Sept. 1, 1976
 60-0-0 Mar. 17, 1977
 60-0-0 Apr. 11, 1977

Table 8. Summary of total production (lbs/acre) of small grain forage from six locations, 1976-1977 season.

	Location						Average ^{1/}	
	Goodwell	Haskell	Lahoma	Mangum	Perkins	Woodward	6 Loc.	5 Loc.
<u>RYE</u>								
Maton	7060	5973	2266	2207	5547	3332	4397	3865
NF 72	7852	5864	2355	2366	4103	3528	4378	3683
Bonel	8082	5703	1914	2385	5004	3336	4404	3668
NF 324	6954	5703	2055	2061	4526	3049	4058	3478
Okema	7214	5362	1950	2465	4119	3103	4035	3399
NF 74	7649	6158	2535	2243	4564	3367	4419	3373
Rymin	9638	5298	1903	1764	4350	3494	4407	3361
Elbon	6793	5481	1968	1833	3869	2951	3815	3220
Puma	10330	4501	1950	2222	4128	3224	4392	3205
<u>WHEAT</u>								
Osage	10158	4528	2037	2443	3649	3096	4318	3150
Lancota	8195	4728	2072	2561	3355	2773	3947	3097
Lindon	9445	4467	2295	1859	3907	2791	4127	3063
Rall	8744	4527	2057	1998	3360	2773	3909	2943
TAM W-101	7390	3978	2297	1866	3829	2643	3667	2922
OK 711092A	7295	4160	1947	1945	3647	2871	3644	2914
OK 711252A	10189	4091	2108	2055	3313	2723	4079	2858
Triumph 64	7846	4053	2065	1547	3656	2929	3682	2850
TAM W-103	9593	4331	2063	1220	3620	2766	3932	2800
Agent	--	--	--	1410	--	--	--	--
Centurk	--	--	--	--	--	3296	--	--
Funk's 335	--	--	--	1964	--	--	--	--
Pioneer 915	--	--	--	2227	--	--	--	--
Russian	--	--	--	1579	--	--	--	--
Sage	--	--	--	--	--	2810	--	--
Tascosa	8867	--	--	--	--	--	--	--
<u>BARLEY</u>								
Kerr	8651	5083	1970	2040	3197	3659	4100	3189
Nebar	8287	4917	2163	1780	3266	3282	3949	3081
Post	6983	4688	1660	1249	3206	3332	3519	2827
<u>OATS</u>								
Chilocco	--	4557	--	2752	2085	0	--	--
Walken	--	4343	--	3633	2868	1953	--	--
NF 105	--	3561	--	2653	1693	--	--	--
Cimarron	--	3530	--	2789	1989	0	--	--
OK 7222336	--	3378	--	3394	2123	--	--	--
NF 199	--	3338	--	2585	2227	--	--	--
Cumberland	--	--	--	3468	2120	--	--	--
<u>OTHER</u>								
Linn Per. Ryegr.	8444	5432	--	2620	2548	0	--	--
DeKalb 9290	--	--	--	--	--	3038	--	--
DeKalb 9090	--	--	--	--	--	2929	--	--
DeKalb 9190	--	--	--	--	--	2704	--	--

1. Average for 5 locations does not include Goodwell, the irrigated test.