



Current Report

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FORAGE PRODUCTION FROM SMALL GRAIN, 1978

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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 $1\frac{1}{4}$ to $1\frac{1}{2}$ 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 grain 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" of "NF" are experimental varieties. Seed is not currently available.

Coker 68-15 is a soft red winter wheat. "Payne" wheat was previously tested as OK711092A and is now a released variety. "Okay" oats was previously tested as OK7222336 and is now a released variety.

All oat varieties winterkilled at Haskell, Lahoma, and Perkins. Oats were not included in the Goodwell test.

Table 1. Precipitation for each location from August, 1977 through May, 1978.

Month	Location				
	Goodwell	Haskell	Lahoma	Mangum	Perkins
1977					
August	5.42	3.05	6.39	5.41	2.88
September	1.16	7.03	1.27	0.57	1.77
October	0.11	2.82	0.35	0	1.26
November	0.64	1.97	1.31	0.69	1.55
December	0.03	0.94	0.28	0.04	0.38
1978					
January	0.11	0.70	0.50	0.37	0.92
February	0.85	2.47	1.53	1.84	2.63
March	0.22	2.50	0.87	0.18	1.46
April	0.60	4.71	1.37	1.14	1.84
May	6.14	4.84	6.83	7.56	7.28
Total	15.28 ^{1/}	31.03	20.70	17.80	21.97

1. Irrigated 8 times with 3 inches per application. Rainfall from seeding date to last harvest was 5.84 inches.

Table 2. PERKINS small grain test, forage production (lbs/acre) 1977-1978 season. Teller loam.

Variety	Harvest		Dates		1977-78 Total
	11-14	4-6	5-10	5-31	
RYE					
NF 72	1467	1915	564	---	3946
NF 74	1278	1857	684	---	3819
NF 324	1221	1771	707	---	3699
Maton	1227	1775	693	---	3695
Elbon	762	1859	924	---	3545
Rymin	973	1350	1222	---	3545
Puma	1176	1205	1126	---	3507
Bonel	1314	1499	585	---	3398
Okema	1142	1594	582	---	3318
WHEAT					
Osage	784	1136	1352	---	3272
Lancota	967	1194	1062	---	3223
Payne	724	946	1506	---	3176
TAM W-101	713	1171	1258	---	3142
OK 722721	886	1078	1132	---	3096
Coker 68-15	996	1022	1060	---	3078
Newton	775	1036	1142	---	2953
Triumph 64	581	884	1463	---	2928
Rall	563	918	1305	---	2786
Vona	535	809	1297	---	2641
BARLEY					
Kerr	1109	777	1263	---	3149
Nebar	869	831	1302	---	3002
OK 77401	998	410	1387	---	2795
Post	926	500	650	---	2076
OATS					
Coker 234	1269	308	---	---	1577
Okay	1183	133	---	---	1316
Bob	1162	109	---	---	1271
Cimarron	1094	162	---	---	1256
Chilocco	900	64	---	---	964
NF 105	880	82	---	---	962
Cumberland	790	83	---	---	873
OTHER					
Gulf Ann. Ryegr.	993	851	1975	1357	5176
Wintergreen					
Ann. Ryegr.	1102	1174	1622	1180	5078
Tetra 444 Eyegr.	860	742	1810	1545	4957
Linn Per. Ryegr.	632	918	2129	949	4628
LSD (lb/A)	293	302	336	256	534
CV (%)	22	23	20	13	13

Seeded: August 25, 1977
 Soil test: pH 5.5, P 69 lb/A, K 280 lb/A, NO₃-N, 78 lb/A
 Fertilizer: 30-0-0 Sept. 1, 1977
 60-0-0 Nov. 15, 1977
 60-0-0 Apr. 11, 1978

Table 3. MANGUM small grain variety test, forage production (lbs/acre) 1977-1978 season. Meno and Altus loamy fine sand.

Variety	Harvest Dates				1977-78 Total
	3-9	3-30	4-13	5-8	
RYE					
Bonel	1143	1753	285	743	3924
Elbon	281	2477	339	615	3712
NF 74	766	1839	334	720	3659
NF 324	739	1762	256	739	3496
NF 72	799	1563	358	683	3403
Okema	579	1830	287	676	3372
Puma	---	742	1104	711	2557
Rymin	47	760	942	679	2428
Maton	448	1570	254	634	2906
WHEAT					
Osage	171	697	913	580	2361
Vona	---	505	1140	702	2347
Coker 68-15	443	682	604	565	2294

Variety	Harvest Dates				1977-78 Total
	3-9	3-30	4-13	5-8	
Newton	111	931	726	475	2243
TAM W-101	71	947	586	581	2185
Lancota	87	800	673	605	2165
Payne	279	521	920	443	2163
Triumph 64	---	713	742	498	1953
Rall	27	726	708	472	1933
OK 722721	---	434	594	502	1530
BARLEY					
Kerr	120	621	960	762	2463
Nebar	18	809	666	685	2178
Post	231	176	710	789	1906
OATS					
Okay	508	537	721	1067	2833
Cimarron	287	506	804	944	2541
NF 105	312	260	839	1066	2477
Cumberland	---	235	739	1286	2260
Bob	635	325	559	655	2174
Chilocco	174	285	721	915	2095
Coker 234	258	334	584	873	2049
LSD (lb/A)	503	464	215	180	775
CV (%)	67	38	23	18	22

Seeded: September 21, 1977
 Soil test: pH 6.4, P 84 lb/A, K 250 lb/A, NO₃-N 5 lb/A
 Fertilizer: 18-46-30 Sept. 20, 1977
 20-0-0 Apr. 3, 1978

Table 4. LAHOMA small grain variety test, forage production (lbs/acre) 1977-1978 season. Pond Creek silt loam.

Variety	Harvest Dates			1977-78 Total
	12-2	4-12	5-17	
RYE				
Bonel	2496	1998	862	5356
NF 74	2626	1793	714	5133
NF 72	2777	1668	597	5042
Maton	2548	1751	669	4968
NF 324	2565	1813	388	4766
Okema	2312	1782	581	4675
Puma	2058	1468	984	4510
Rymin	2187	1338	789	4314
Elbon	2089	1601	621	4311
WHEAT				
Osage	2214	1637	1026	4877
Rall	2111	1465	900	4476
Lancota	2165	1381	696	4242
Payne	1888	1356	983	4227
TAM W-101	1412	1606	1075	4093
OK 722721	1664	1221	1052	3937
Vona	1378	1370	1091	3839
Newton	1679	1343	735	3757
Triumph 64	1751	1207	792	3750
Coker 68-15	2416	757	573	3746
BARLEY				
Kerr	2853	791	999	4643
Nebar	2390	900	948	4238
Post	2617	269	729	3615
OATS				
Okay	2739	---	---	2739
Bob	2604	---	---	2604
Cimarron	2501	---	---	2501
Chilocco	2379	---	---	2379
Coker 234	2191	---	---	2191
Cumberland	1877	---	---	1877
NF 105	1795	---	---	1795
LSD (lbs/A)	554	394	281	645
CV (%)	18	20	25	12

Seeded: August 31, 1977
 Soil Test: pH 5.1, P 66 lb/A, K 550 lb/A
 NO₃-N 123 lb/A.
 Fertilizer: 18-20-0 Apr. 13, 1978

Table 5. HASKELL small grain variety test, forage production (lbs/acre) 1977-1978 season. Taloka soil.

Variety	Harvest Dates						1977-78
	10-18	11-15	3-31	4-12	5-9	5-25	Total
RYE							
NF 72	1594	1329	1069	406	---	---	4398
Bonel	1499	1329	1280	281	---	---	4389
NF 324	1476	1314	1062	304	---	---	4156
NF 74	1363	1249	866	439	---	---	3917
Maton	1060	1265	960	329	---	---	3614
Okema	878	1258	888	345	---	---	3369
Rymin	906	1138	---	1096	---	---	3140
Puma	641	891	---	847	---	---	2379
Elbon	312	984	749	293	---	---	2338
WHEAT							
Osage	677	1098	---	1550	---	---	3325
Coker 68-15	882	1111	---	1263	---	---	3256
Rall	708	938	---	1423	---	---	3069
Payne	472	871	---	1243	---	---	2586
Vona	541	815	---	1192	---	---	2548
OK 722721	525	1024	---	958	---	---	2507
Newton	802	895	---	788	---	---	2485
TAM W-101	327	962	---	1192	---	---	2481
Triumph 64	494	735	---	1210	---	---	2439
Lancota	586	938	---	710	---	---	2234
BARLEY							
Kerr	1313	1292	---	699	---	---	3303
Nebar	947	1102	---	713	---	---	2762
Post	888	1191	---	700	---	---	2779
OATS							
Coker 234	1873	1262	---	---	---	---	3135
Okay	1619	893	---	---	---	---	2512
Bob	1625	852	---	---	---	---	2477
Cimarron	1381	1013	---	---	---	---	2394
NF 105	1526	732	---	---	---	---	2258
Cumberland	1437	799	---	---	---	---	2236
Chilocco	1305	926	---	---	---	---	2231
OTHERS							
Linn. Per. Ryegr.	218	1510	---	1786	2029	534	6077
Tetra 444 Ryegr.	327	1511	---	1295	1876	643	5652
Grimaldo							
Tetraploid Ryegr.	145	908	---	1619	2176	570	5418
Gulf Ann Ryegr.	356	1771	---	668	1904	519	5218
Wintergreen							
Ann. Ryegr.	545	1474	---	1357	1180	412	4968
LSD (1b/A)	262	279	296	355	201	151	637
CV (%)	21	18	20	28	7	18	14

Seeded: September 2, 1977

Soil Test: pH 5.1, P 27 lb/A, K 97 lb/A, NO₃-N 54 lb/A

Fertilizer: 60-60-80 Sept. 1, 1977

60- 0- 0 Nov. 16, 1977

60- 0- 0 Apr. 13, 1978

50- 0- 0 May 10, 1978

Table 6. GOODWELL small grain variety test, forage production (lbs/acre) 1977-1978 season. Richfield clay loam.

	Harvest Dates						1977-78
Variety	10-25	12-15	3-28	4-4	4-26	5-22	Total
<u>RYE</u>							
Puma	885	1346	1642	1011	1439	1215	7538
Bonel	1756	1676	1836	450	557	679	7274
NF 74	1476	1746	1765	628	561	937	7113
Rymin	1103	1577	1657	624	994	896	6851
NF 72	1620	1626	1588	349	674	876	6733
Okema	1363	1805	1727	464	623	542	6524
NF 324	1645	1552	1940	363	508	479	6487
Maton	1191	1429	1824	334	610	698	6086
Elbon	316	983	1098	535	361	836	4129
<u>WHEAT</u>							
OK 722721	1339	1519	1393	794	1605	161	6811
Vona	1185	1361	1302	810	1524	227	6409
Rall	1233	1386	1492	937	800	438	6286
Lancota	1775	1438	1094	823	683	404	6217
Payne	1308	1071	1195	752	1131	504	6141
Osage	1282	1285	1215	834	954	456	6027
Triumph 64	1313	1238	1299	879	971	303	6003
TAM W-101	1472	1406	1240	694	625	407	5844
Newton	1165	1167	1405	921	756	285	5699
Coker 68-15	1410	1080	1123	708	703	585	5609
<u>BARLEY</u>							
Nebar	1302	1709	986	806	1837	1132	7772
Post	1834	1683	1034	748	1032	1037	7368
Kerr	1776	1555	1247	772	1090	831	7271
<u>OTHER</u>							
Tetra 444 Ryegr.	731	1101	261	214	1049	1877	5233
Linn. Per. Ryegr.	278	--	411	575	1336	2200	4800
Wintergreen							
Ann. Ryegr.	759	793	501	437	1141	924	4555
LSD (1b/A)	411	448	341	273	405	513	1031
CV(%)	23	24	19	29	31	48	12

Seeded: September 8, 1977

Soil test: pH 8.0, P 41 lb/A, K 825 lb/A, NO₃-N 220 lb/A

Fertilizer: 50-0-0 Oct. 31, 1977

120-0-0 Mar. 14, 1978

60-0-0 Apr. 7, 1978

Table 7. Summary of total production (lbs/acre) of small grain forage from five locations, 1977-1978 season.

Variety	Location					Average ^{1/}	
	Goodwell	Haskell	Lahoma	Mangum	Perkins	5 Loc.	4 Loc.
<u>RYE</u>							
Bonel	7274	4389	5356	3924	3398	4868	4267
NF 72	6733	4398	5042	3403	3946	4704	4197
NF 74	7113	3917	5133	3659	3819	4728	4132
NF 324	6487	4156	4766	3496	3699	4520	4029
Maton	6086	3614	4968	2906	3695	4254	3796
Okema	6524	3369	4675	3372	3318	4252	3684
Elbon	4129	2338	4311	3712	3545	3607	3477
Rymin	6851	3140	4314	2428	3545	4056	3357
Puma	7538	2379	4510	2557	3507	4098	3238
<u>WHEAT</u>							
Osage	6027	3325	4877	2361	3272	3972	3459
Coker 68-15	5609	3256	3746	2294	3078	3597	3094
Rall	6286	3069	4476	1933	2786	3710	3066
Payne	6141	2586	4227	2163	3176	3569	3038
TAM W-101	5844	2481	4093	2185	3142	3549	2975
Lancota	6217	2234	4242	2165	3223	3616	2966
Newton	5699	2485	3757	2243	2953	3427	2860
Vona	6409	2548	3839	2347	2641	3557	2843
Triumph 64	6003	2439	3750	1953	2928	2844	2768
OK 722721	6811	2507	3937	1530	3096	3576	2768
<u>BARLEY</u>							
Kerr	7271	3303	4643	2463	3149	4166	3390
Nebar	7772	2762	4238	2178	3002	3990	3045
Post	7368	2779	3615	1906	2076	3549	2594
OK 77401	---	---	---	---	2795	---	---
<u>OATS</u>							
Okay	---	2512	2739	2833	1316	---	2350
Coker 234	---	3135	2191	2049	1577	---	2233
Cimarron	---	2394	2501	2541	1256	---	2173
Bob	---	2477	2604	2174	1271	---	2132
Chilocco	---	2231	2379	2095	964	---	1917
NF 105	---	2258	1795	2477	962	---	1873
Cumberland	---	2236	1877	2260	873	---	1812
<u>OTHER</u>							
Gulf Ann. Ryegr.	---	4699	---	---	5176	---	---
Linn. Per. Ryegr.	4800	5543	---	---	4628	---	---
Tetra 444 Ryegr.	5233	5009	---	---	4957	---	---
Wintergreen							
Ann. Ryegr.	4555	4556	---	---	5078	---	---
Grimaldo Tetra-							
ploid Ryegr.	---	4842	---	---	---	---	---

1. Average for 4 locations does not include Goodwell, the irrigated test.