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2017 Texas Cool-Season Annual Forage Results



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2017

Forage Variety Results Texas Cool-Season Annual Variety Trials

varietytesting.tamu.edu/wheat

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Introduction

The statewide Cool-Season Annual Forage Variety Trial data presented in the following pages are the results from six trials coordinated and implemented by Texas A&M AgriLife Extension and Research faculty and staff. We also appreciate the cooperation from County Extension Agents, producers, and private industry partners that contributed locations, property, seed, time and other assets to conduct these field trials. The purpose of this publication is to provide unbiased yield data for forage producers across the state. With this information, Texas forage producers can make educated decisions regarding the most appropriate varieties for their geographic region.

Variety Selection:

Selection of an appropriate cool season forage variety is one of the most important decisions a producer will make. This decision can impact the potential forage yield, forage nutritive value, disease and insect management, and maturity of the crop. It is important that producers have diversity in the varieties planted on their farms to minimize production risks. The choice of varieties depends on the intended use of the crop (forage or dual-purpose) and when forage is most needed. Even though total forage production may be similar, certain species/varieties tend to produce more forage during the fall, winter, and/or spring. Variety diversification spreads the risk associated with potentially devastating pests (leaf and stripe rust, Hessian fly, wheat curl mite, greenbugs, etc.) and yield loss from adverse environmental factors (freeze, drought, etc.).

Producers should select no fewer than two varieties to plant on their farms and preferably more, depending upon size, location, and purpose of fields. Variety selection should be based upon multiple years of sound data produced from university trials and other reliable sources. High yields over multiple years and multiple locations demonstrate a variety's ability to perform well over diverse environmental factors. Stable yield performance of forage is the best variety selection tool. It is important to consider decreasing yields over a two or three year time frame, which may reflect a change in disease and/or insect resistance.

When selecting a variety for the 2017-18 season, producers should consider the variables that limited yield in the previous growing season; which may have had a negative impact on the results presented in the following pages. We strongly encourage producers to look at multiple year averages and to look at numerous relevant variety trial locations.

Interpreting the Data:

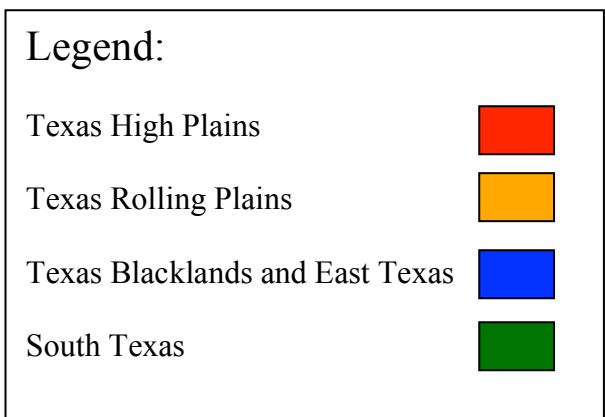
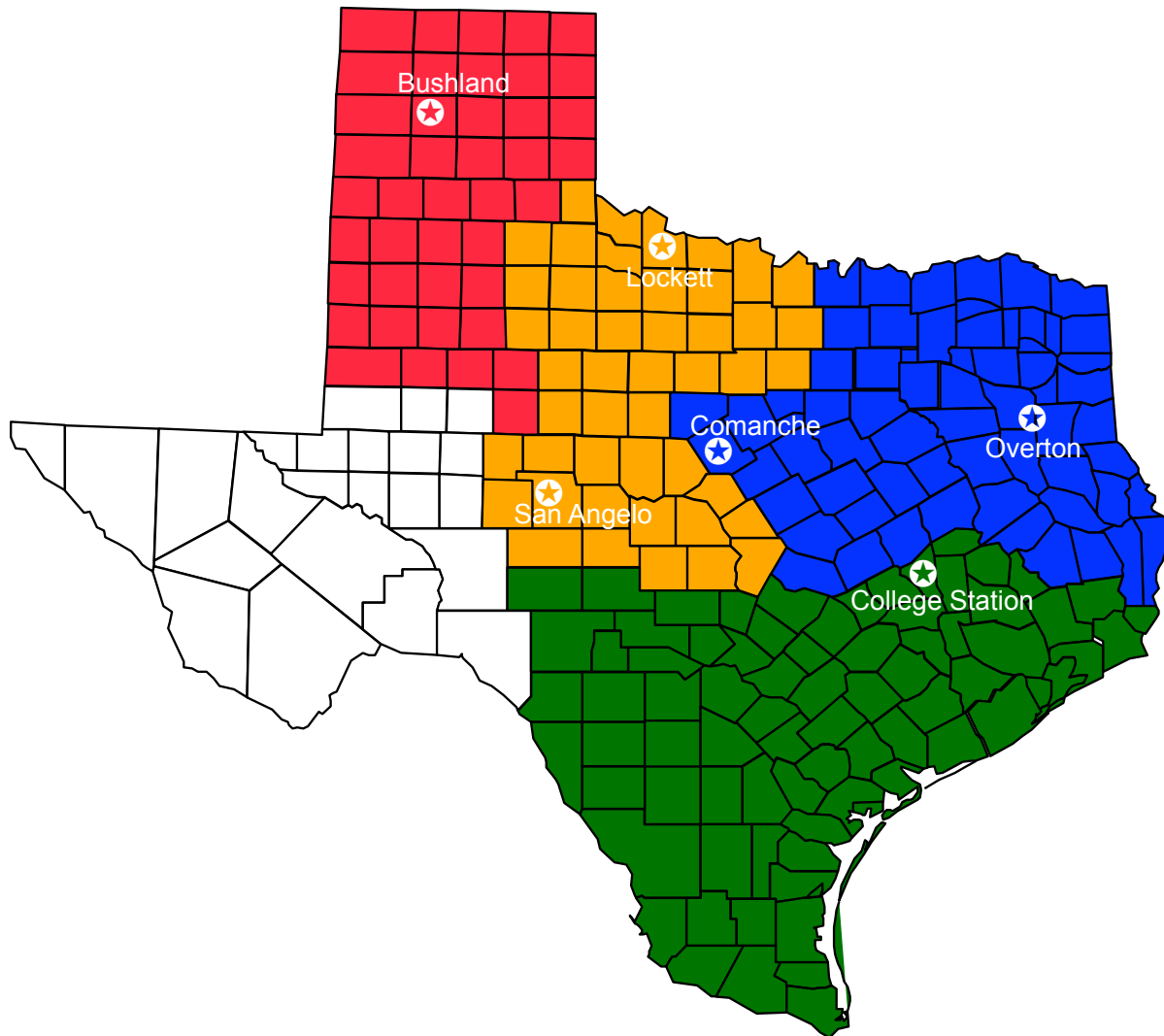
Forage yield at each location has been analyzed using appropriate statistical procedures. The statistical analysis provides the mean, CV, and LSD values. It is important to note these statistical values to prevent misinterpretation of any replicated data.

The mean is another term for the average. Therefore, a mean yield is the average of all the plots within a trial. Individual variety yields can be compared to the mean yield to determine how these varieties performed within the trial (i.e. were they above or below average?). This average can also be used as an indication of the environment for that location. A low mean yield can indicate poor growing conditions during the season; likewise, a high yield average can indicate favorable growing conditions.

The CV (Coefficient of Variation) value, expressed as a percentage, indicates the level of unexplained variability present within the trial. A high CV value indicates considerable variability existed within the trial not related to normal variations that might be expected between the varieties in the test. This variability may be the result from non-uniform stands, non-uniform insect or disease pressure, variability in harvesting, or other issues. Generally, CV values in excess of 25% signify that there were problems in the trial, leading the reader to question the validity of the data as a true representation of varietal performance.

The LSD (Least Significant Difference) value is a numeric range to help the reader determine if the varieties performed differently from one another within the trial. If the LSD value is 500 lb/ac in a trial in which Variety A yielded 6000 lb/ac and Variety B yielded 5000 lb/ac, then Variety A is said to be significantly better. In that same trial with an LSD value of 500 lb/ac at a 0.05 (5%) significance level, the statistical inference one could say is that Variety A would yield better than Variety B in 19 out of 20 trials conducted in which there was at least a 500 lb/ac difference in yield. In this hypothetical comparison, you might have a 20th trial with a 500 lb/ac difference that there is not truly a difference between Variety A and B, but random chance caused the 500 lb difference.

Texas Regional Map: 2017 Forage Trials



2017 Texas Region Overview

Texas Blacklands:

The 2016-2017 growing season was atypical for the production winter pasture in the Northern Texas Blacklands. The fall growing conditions were extremely favorable. Adequate moisture at planting helped establish acceptable stands. Small grain crops progressed slowly with below normal rainfall in January and February 2017. Warm winter and spring temperatures promoted earlier than normal crop development with jointing and heading one to two weeks earlier than last year, depending on variety. Above normal temperatures in February promoted favorable conditions for leaf rust with very high and earlier than usual disease pressure across the region. Even resistant varieties sustained infection from the pathogen.

Texas High Plains:

Across the Texas High Plains, moisture was variable at planting resulting in some dryland locations being dry sowed in the northern High Plains. Conditions in the central and southern Texas High Plains were above average at planting with good soil moisture and precipitation. Warm fall temperatures resulted in heavy fall forage production; however, in some areas, heavy growth resulted in depletion of soil water as there was below average winter precipitation across much of the region. The dry winter resulted in deteriorating small grain conditions especially on dryland acres. With February precipitation and the initiation of late-winter irrigation in response to warm temperatures, conditions significantly improved across much of the region with the exception of the northeastern Texas High Plains that received below average winter and early spring precipitation. With warm spring temperatures, maturity was earlier than normal. A late spring snow storm hit the northern Texas High Plains on April 30-May 1 bringing more than 4 inches of snow and wind speeds greater than 50 mph that resulted in frozen plants across the region. Stripe rust was heavier in the eastern counties and southern High Plains. Precipitation and cool temperatures persisted throughout the remainder of the spring. Scattered storms and heavy hail resulted in severe damage and losses in the Central High Plains in late May and early June.

Texas Rolling Plains:

Fall planting conditions were above average with good moisture in September throughout the Rolling Plains in 2016. However, forage fields suffered from lack of winter precipitation, which continued throughout the growing season. Winter temperatures were mild; therefore, little damage from freeze injury was observed. There were a few reports of stripe rust infestation in the late fall of 2016 due to the warm temperatures. Stripe and leaf rust started later than expected in late-March to early-April in 2017.

South Texas:

Conditions were favorable for planting small grain fields in South Texas in fall 2016. Adequate moisture throughout the region enabled good stand establishment throughout. Above normal winter temperatures created an environment that favored development and growth for grazing. Good moisture conditions continued throughout the spring allowing for the development and spread of foliar diseases; in particular leaf rust. Mild winter and spring temperatures led to crops maturing at a rate faster than expected. All crop stages occurred approximately two weeks earlier than anticipated.

Forage Trial Agronomic Data

Location ¹	Cooperator(s)	Yield Limiting Issues	Planting Date	Fertilizer Total (lb N/A)	Pesticide Applied (Date)
Bushland²	Texas A&M AgriLife Research and Extension Center	NONE	10/4/16	25	NONE
College² Station	Texas A&M Research and Extension Agronomy Farm	NONE	9/29/16	100	Weedmaster (2/13/17)
Comanche²	Indian Creek Farm; Rodney Stephens	Winterkill on Oats	9/30/16	120	Weedmaster (2/2/17)
Lockett	Texas A&M AgriLife Research and Extension Center	Drought, ABANDONED	--	--	--
Overton	Texas A&M Research and Extension Center	--	10/17/16	375	NONE
San Angelo	Texas A&M AgriLife Research and Extension Center	Drought, ABANDONED	10/5/16	--	--

¹These locations were planted with a seeding rate of 1.2 million Seed/A. All seed was treated with Cruiser Maxx Vibrance for Cereals

²Bushland, College Station, and Comanche were the only locations where irrigation was available.

2017 Small Grains Forage Trial - Total Season Forage Yield Statewide

Class ¹	Variety	Company	Dry Matter Yield (lbs/a)			
			Bushland (Irrigated)	College Station (Lim. Irrigated)	Comanche (Irrigated)	Overton ¹ (Dryland)
Blend	BigMac/Trical 348	--	--	--	11743	--
	Haybet/Nelson	--	--	1484	--	--
	Haybet/TAM 114	--	--	1904	10130	--
HRWW	Endurance	OSU	20736	--	--	--
	Fannin	Syngenta	--	1855	10648	--
	Gallagher	OSU	23109	2161	11443	--
	Iba	OSU	26085	--	--	--
	SY Razor**	Syngenta	22931	1653	9579	--
	TAM 111	TAMU	24755	--	--	--
	TAM 112	TAMU	24535	--	--	--
	TAM 114	TAMU	30172	1968	11997	--
	TAM 204**	TAMU	20627	--	--	--
	TAM 401**	TAMU	23411	1957	9468	--
	TX07CS1948*	TAMU	16101	--	--	--
	TX11A001295*	TAMU	24865	1423	10646	--
	TX12M4068*	TAMU	25194	2012	11269	--
	WB 4458	Westbred	--	2006	--	--
	WB Cedar	Westbred	--	1738	--	--
	WB Grainfield	Westbred	23329	--	--	--
	Weathermaster 135**	Unknown	23466	--	--	--
Oat	FL 720	UF	--	1641	3723	--
	Harrison	LSU	--	--	12489	--
	Heavy Grazer II	East Texas Seed	--	2686	14037	6146
	Heavy Grazer 7630	East Texas Seed	--	2561	11268	--
	Horizon 201	UF	--	2393	10107	--
	Okay	Noble Foundation	16965	2708	11970	--
	TAMO 411	TAMU	--	2472	11947	--
	TAMO 606	TAMU	--	2530	11242	--
	TX09CS031*	TAMU	--	2284	9927	--
	TX09CS049*	TAMU	--	2242	11879	--
	TX14OCS5098*	TAMU	--	2603	11288	--
	TX14OCS5139*	TAMU	--	2281	7794	--
	TX14OCS5161*	TAMU	--	2228	4227	--
	Rye	Elbon	Noble Foundation	--	--	--
Maton		Noble Foundation	22794	1149	11530	6238
Maton II		Noble Foundation	22478	1494	11029	--
Oklon		Noble Foundation	22053	810	10714	--
Ryegrass	Angusta	DLF Pickseed	--	--	--	7370
	Arnie	Heritage Seeds	--	--	--	4764
	Big Boss	Smith Seed	--	--	--	7094
	Credece	DLF Pickseed	--	--	--	7099
	Diamond T	Oregro Seeds	--	--	--	6082
	Double Diamond	Oregro Seeds	--	--	--	6486
	Flying A ¹	Oregro Seeds	--	--	--	6808
	Fria ¹	Allied Seed	--	--	--	6847
	Gulf ¹	TAMU	--	1378	7085	7105
	Jackson ¹	--	--	1661	9178	7493
	Jumbo	Barenbrug	--	--	--	8067
	Kodiak	DLF Pickseed	--	--	--	7176
	Lonestar ¹	Missouri Southern Seed	--	--	--	9525
	Marshall ¹	MSU	--	1486	8754	7099
	Maximus	Barenbrug	--	--	--	6935
	Nelson	TAMU	--	1816	10182	6999
	New Dawn	DLF Pickseed	--	--	--	6016
	Passerel ¹	Pennington Seed	--	1490	9021	--
	Passerel Plus ¹	Pennington Seed	--	--	--	6906
	Prine	UF	--	1417	9838	7230
	Spicer	Pennington Seed	--	1714	8441	--
	Sungrazer	Oregro Seeds	--	1803	9539	--
	TAM 90 ¹	TAMU	--	1145	6933	8290
	TAMTBO	TAMU	--	--	--	7105
	Testrastar	DLF Pickseed	--	--	--	7010
	Triangle T	Oregro Seeds	--	--	--	7394
	Vortex	Heritage Seeds	--	--	--	6772
WinterHawk ¹	Oregro Seeds	--	--	--	6490	
SRWW	Oakes	Syngenta	--	--	10287	--
Triticale	Forerunner**	Gaylon Ward	20970	--	--	--
	Fridge**	Elliot Plant Breeding	21326	--	--	--
	NF 201	Noble Foundation	22149	2169	13168	--
	Slicktrit II	Watley Seed	25002	440	9031	--
	SY TF 131	Syngenta	21943	--	--	--
	SY TF 135	Syngenta	17061	--	--	--
	SY TF 813**	Syngenta	24165	--	--	--
	TAMcale 5019	TAMU	25989	--	--	--
	Texan	Gaylon Ward	29719	--	--	--
	Trical 336	Trical	24865	--	--	--
	Trical 348**	Northern Seed	25094	--	9326	--
	Trical 718	Northern Seed	22807	--	--	--
	Trical Gainer 154	Northern Seed	21258	--	--	--
	TX12VT8220*	TAMU	19488	--	12636	--
	TX12VT8227*	TAMU	22300	--	11931	--
	TX12VT8228*	TAMU	20380	--	11698	--
	WS1	Watley Seed	24755	--	--	--
Winter Barley	P-919**	Paramount Seed	22944	2275	11378	--
	Pennbar 66	Gaylon Ward	17500	--	--	--
	Post 90	OSU	21477	1549	10795	--
	TAMbar 500	TAMU	19831	--	--	--
	TAMbar 501	TAMU	19159	1610	13094	--
Mean			22595	1854	10328	6943
LSD (5%)			4886	389	2580	1480
CV (%)			13	15	15	18

¹Hard Red Winter Wheat (HRWW); Soft Red Winter Wheat (SRWW)
¹Diploid ryegrass variety
 *Experimental Lines
 **Awnless/Beardless
[§]Rye and oat entries not included in statistical analysis.

2017 Small Grains Forage Trial - Total Yield (lb/a) by Class

2017 Statewide

Class ¹	Bushland (Irrigated)	College Station (Lim.Irrigated)	Comanche (Irrigated)	Overton (Dryland)
HRWW	23522	1833	10722	--
Oat	--	2453	10146	6359
Rye	22442	1151	11091	--
Ryegrass	--	1541	8775	6943
Triticale	22898	1304	11298	--
Winter Barley	20182	1811	11756	--
Mean	22739	1854	10329	6943
LSD (5%)	2466	285	1861	1480
CV (%)	16	21	23	18

2017 Bushland

Class ¹	Cut 1	Cut 2	Cut 3	Cut 4	Total
HRWW	2949	3016	6195	11363	23522
Triticale	3378	2249	4166	13105	22898
Rye	3036	3740	6848	8818	22442
Winter Barley	3473	2241	4241	10228	20182
Mean	3210	2638	5110	11781	22739
LSD (5%)	361	493	1012	1994	2466
CV (%)	17	28^a	30^a	26^a	16

2017 College Station

Class ¹	Cut 1	Cut 2	Cut 3	Cut 4	Total
Oat	760	701	993	--	2453
HRWW	604	447	789	--	1833
Winter Barley	496	410	905	--	1811
Blend	801	296	597	--	1694
Ryegrass	98	562	881	--	1541
Triticale	312	490	502	--	1304
Rye	191	323	636	--	1151
Mean	491	525	839	--	1854
LSD (5%)	94	141	138	--	285
CV (%)	26^a	36^a	22	--	21

2017 Comanche

Class ¹	Cut 1	Cut 2	Cut 3	Cut 4	Total
Winter Barley	2347	556	8853	--	11756
Triticale	2390	411	8498	--	11298
Rye	1968	813	8310	--	11091
Blend	2165	95	8677	--	10937
HRWW	2412	483	7826	--	10722
Oat	2748	85	7314	--	10146
Ryegrass	2419	360	5996	--	8775
Mean	2465	337	7527	--	10329
LSD (5%)	NS	178	1704	--	1861
CV (%)	34^a	67^a	29^a	--	23

¹Hard Red Winter Wheat (HRWW)

^aTrials with a coefficient of variation (CV) ≥ 25% contain excessive experimental error.

*Soft Red Winter Wheat (SRWW) not included due to limited number of varieties.

2017 Small Grains Forage Trial - Bushland (Irrigated)

Rank ¹	Variety	Class ²	Company	Dry Matter Yield (lb/a)				
				Clip 1	Clip 2	Clip 3	Clip 4	Total
				12/15/16	2/24/17	3/21/17	5/1/17	2017
1	TAM 114	HRWW	TAMU	2962	3484	9038	14688	30172
2	Texan	Triticale	Gaylon Ward	3607	3333	5335	17445	29719
3	Iba	HRWW	OSU	3292	2880	5980	13934	26085
4	TAMcale 5019	Triticale	TAMU	3511	2428	4540	15511	25989
5	TX12M4068*	HRWW	TAMU	3154	3333	7598	11109	25194
6	Trical 348**	Triticale	Gaylon Ward	3333	1769	4732	15261	25094
7	Slicktrit II	Triticale	Watley Seed	3237	2921	3730	15113	25002
8	Trical 336	Triticale	Northern Seed	3676	3072	6460	11657	24865
9	TX11A001295*	HRWW	TAMU	2674	3154	6268	12768	24865
10	TAM 111	HRWW	TAMU	3182	2770	6199	12604	24755
11	WS1	Triticale	Watley Seed	2784	2496	3854	15621	24755
12	TAM 112	HRWW	TAMU	3689	3758	5349	11740	24535
13	SY TF 813**	Triticale	Syngenta	3333	1742	2565	16526	24165
14	Weathermaster 135**	HRWW	Unknown	2935	3182	6350	10999	23466
15	TAM 401**	HRWW	TAMU	2688	3346	6638	10738	23411
16	WB Grainfield	HRWW	Monsanto	3100	2620	5568	12041	23329
17	Gallagher	HRWW	OSU	3113	3264	6048	10684	23109
18	P-919**	Winter Barley	Paramount Seeds	3525	3223	4869	11328	22944
19	SY Razor**	HRWW	Syngenta	2469	2894	5705	11863	22931
20	Trical 718	Triticale	Northern Seed	3154	1769	3950	13934	22807
21	Maton	Rye	Noble Foundation	3168	4320	7008	8297	22794
22	Maton II	Rye	Noble Foundation	3100	3250	6844	9285	22478
23	TX12VT8227*	Triticale	TAMU	3538	2304	4142	12316	22300
24	NF 201	Triticale	Noble Foundation	4142	2236	4402	11369	22149
25	Oklon	Rye	Noble Foundation	2839	3648	6693	8873	22053
26	SY TF 131	Triticale	Syngenta	2853	1426	3141	14524	21943
27	Post 90	Winter Barley	OSU	3772	2016	4444	11246	21477
28	Fridge**	Triticale	Elliot Plant Breeding	2551	1371	3415	13989	21326
29	Trical Gainer 154	Triticale	Northern Seed	3730	3346	6487	7694	21258
30	Forerunner**	Triticale	Gaylon Ward	3113	2441	4018	11397	20970
31	Endurance	HRWW	OSU	2482	2441	7529	8284	20736
32	TAM 204**	HRWW	TAMU	3031	2853	4361	10382	20627
33	TX12VT8228*	Triticale	TAMU	3634	1961	3223	11561	20380
34	TAMbar 500	Winter Barley	TAMU	3264	1948	3909	10711	19831
35	TX12VT8220*	Triticale	TAMU	3292	2702	5157	8338	19488
36	TAMbar 501	Winter Barley	TAMU	3744	2277	4608	8530	19159
37	Pennbar 66	Winter Barley	Gaylon Ward	3058	1742	3374	9326	17500
38	SY TF 135	Triticale	Syngenta	3936	919	1673	10533	17061
39	Okay	Oat	Noble Foundation	2825	1646	3772	8722	16965
40	TX07CS1948*	HRWW	TAMU	2510	2249	4101	7241	16101
Mean				3200	2613	5077	11705	22595
LSD (5%)				804	936	2011	4005	4886
CV (%)				16	22	24	21	13

¹Rank is based on Total Forage Weight

²Hard Red Winter Wheat (HRWW)

*Experimental Lines

**Awnless/Beardless

Multi-Year Small Grains Forage Trial - Bushland (Irrigated)

Rank ¹	Variety	Class ²	Company	Dry Matter Yield (lb/a)			
				4-Year [‡] Total	3-Year Total	2-Year Total	2017 Total
1	TAM 114	HRWW	TAMU	14142	15505	18752	30172
2	Maton	Rye	Noble Foundation	13116	13133	14683	22794
3	TAMcale 5019	Triticale	TAMU	12390	13752	16097	25989
4	Weathermaster 135**	HRWW	Unknown	12169	13109	15434	23466
5	P-919**	Winter Barley	Paramount Seeds	12004	13166	15487	22944
6	Fridge**	Triticale	Elliot Plant Breeding	11573	12266	14749	21326
7	TAMbar 501	Winter Barley	TAMU	11520	12581	14374	19159
8	TAM 401**	HRWW	TAMU	11151	12782	15142	23411
9	TAM 204**	HRWW	TAMU	11127	12116	14196	20627
10	Maton II	Rye	Noble Foundation		12932	14198	22478
11	SY Razor**	HRWW	Syngenta		12417	14522	22931
12	TX12VT8220*	Triticale	TAMU		12340	13597	19488
13	Iba	HRWW	OSU			17107	26085
14	Slicktrit II	Triticale	Watley Seed			16666	25002
15	WS1	Triticale	Watley Seed			15809	24755
16	Oklon	Rye	Noble Foundation			14678	22053
17	Endurance	HRWW	OSU			14270	20736
18	Texan	Triticale	Gaylon Ward				29719
19	TX12M4068*	HRWW	TAMU				25194
20	Trical 348**	Triticale	Gaylon Ward				25094
21	Trical 336	Triticale	Northern Seed				24865
22	TX11A001295*	HRWW	TAMU				24865
23	TAM 111	HRWW	TAMU				24755
24	TAM 112	HRWW	TAMU				24535
25	SY TF 813**	Triticale	Syngenta				24165
26	WB Grainfield	HRWW	Monsanto				23329
27	Gallagher	HRWW	OSU				23109
28	Trical 718	Triticale	Northern Seed				22807
29	TX12VT8227*	Triticale	TAMU				22300
30	NF 201	Triticale	Noble Foundation				22149
31	SY TF 131	Triticale	Syngenta				21943
32	Post 90	Winter Barley	OSU				21477
33	Trical Gainer 154	Triticale	Northern Seed				21258
34	Forerunner**	Triticale	Gaylon Ward				20970
35	TX12VT8228*	Triticale	TAMU				20380
36	TAMbar 500	Winter Barley	TAMU				19831
37	Pennbar 66	Winter Barley	Gaylon Ward				17500
38	SY TF 135	Triticale	Syngenta				17061
39	OKAY	Oat	Noble Foundation				16965
40	TX07CS1948*	HRWW	TAMU				16101
			Mean	12132	13008	15280	22595
			LSD (5%)	1231	1326	2282	4886
			CV (%)	14	12	14	13

¹Rank is based on 4-Year, 3-Year, 2-Year, then 2017 Totals

²Hard Red Winter Wheat (HRWW)

[‡]4-year average based on 2014, 2015, 2016 and 2017 yields.

*Experimental Lines

**Awnless/Beardless

2017 Small Grains Forage Trial - College Station (Limited Irrigation)

Rank ¹	Variety	Class ²	Company	Dry Matter Yield (lb/a)			
				Clip 1 12/1/16	Clip 2 2/9/17	Clip 3 3/3/17	Total 2017
1	Okay	Oat	Noble Foundation	857	821	1030	2708
2	Heavy Grazer II	Oat	East Texas Seed	890	702	1094	2686
3	TX14OCS5098*	Oat	TAMU	890	729	985	2603
4	Heavy Grazer 7630	Oat	East Texas Seed	782	721	1059	2561
5	TAMO 606	Oat	TAMU	540	765	1225	2530
6	TAMO 411	Oat	TAMU	685	687	1101	2472
7	Horizon 201	Oat	UF	798	644	950	2393
8	TX09CS031*	Oat	TAMU	750	683	851	2284
9	TX14OCS5139*	Oat	TAMU	745	726	810	2281
10	P-919**	Winter Barley	Paramount Seed	510	517	1248	2275
11	TX09CS049*	Oat	TAMU	751	544	947	2242
12	TX14OCS5161*	Oat	TAMU	672	690	867	2228
13	NF 201	Triticale	Noble Foundation	548	903	718	2169
14	Gallagher	HRWW	OSU	600	552	1000	2161
15	TX12M4068*	HRWW	TAMU	708	387	917	2012
16	WB 4458	HRWW	Monsanto	605	601	801	2006
17	TAM 114	HRWW	TAMU	619	500	848	1968
18	TAM 401**	HRWW	TAMU	553	559	846	1957
19	Haybet/TAM 114	SB/HRWW Blend	Blend	767	423	715	1904
20	Fannin	HRWW	Syngenta	640	475	741	1855
21	Nelson	Ryegrass	TAMU	199	581	1037	1816
22	Sungrazer	Ryegrass	Oregro Seed	136	680	987	1803
23	WB Cedar	HRWW	Monsanto	500	420	818	1738
24	Spicer	Ryegrass	Pennington Seed	96	710	714	1714
25	Jackson [†]	Ryegrass	--	58	599	1004	1661
26	SY Razor**	HRWW	Syngenta	424	482	748	1653
27	FL 720	Oat	UF	841	228	572	1641
28	TAMbar 501	Winter Barley	TAMU	554	298	758	1610
29	Post 90	Winter Barley	OSU	424	416	710	1549
30	Maton II	Rye	Noble Foundation	243	474	776	1494
31	Passerel [†]	Ryegrass	Pennington Seed	108	511	873	1490
32	Marshall [†]	Ryegrass	MSU	86	548	852	1486
33	Haybet/Nelson	SB/Ryegrass Blend	Blend	836	170	479	1484
34	TX11A001295*	HRWW	TAMU	554	264	605	1423
35	Prine	Ryegrass	UF	113	411	894	1417
36	Gulf [†]	Ryegrass	TAMU	48	572	758	1378
37	Maton	Rye	Noble Foundation	200	290	660	1149
38	TAM 90 [†]	Ryegrass	TAMU	37	485	624	1145
39	Oklon	Rye	Noble Foundation	131	206	473	810
40	Slicktrit II	Triticale	Watley Seed	77	77	286	440
Mean				491	525	834	1854
LSD (5%)				124	213	203	389
CV (%)				18	29^a	17	15

¹Rank is based on Total Forage Weight

²Hard Red Winter Wheat (HRWW); Spring Barley (SB)

[†]Diploid ryegrass variety

*Experimental Lines

**Awnless/Beardless

^aTrials with a coefficient of variation (CV) ≥ 25% contain excessive experimental error.

Multi-Year Small Grains Forage Trial - College Station (Limited Irrigation)

Rank ¹	Variety	Class ²	Company	Dry Matter Yield (lb/a)			
				4-Year [‡] Total	3-Year Total	2-Year Total	2017 Total
1	Nelson	Ryegrass	TAMU	5140	4206	3924	1816
2	P-919**	Winter Barley	Paramount Seed	4746	4228	3845	2275
3	TAMO 606	Oat	TAMU	4646	3987	3339	2530
4	TAMO 411	Oat	TAMU	4542	4017	3558	2472
5	Heavy Grazer 7630	Oat	East Texas Seed	4481	3923	3454	2561
6	TAM 114	HRWW	TAMU	4398	3540	2886	1968
7	TAMbar 501	Winter Barley	TAMU	3987	3003	2710	1610
8	Fannin	HRWW	Syngenta	3719	3154	2770	1855
9	TX09CS031*	Oat	TAMU	3701	2973	2957	2284
10	TAM 401**	HRWW	TAMU	3455	2993	2962	1957
11	Maton	Rye	Noble Foundation	3447	2522	2066	1149
12	Maton II	Rye	Noble Foundation	3404	2755	2214	1494
13	Sungrazer	Ryegrass	Oregro Seed		3794	3399	1803
14	Okay	Oat	Noble Foundation		3673	3052	2708
15	Gulf [†]	Ryegrass	TAMU		3606	2945	1378
16	TAM 90 [†]	Ryegrass	TAMU		3494	2942	1145
17	Marshall [†]	Ryegrass	MSU		3001	2576	1486
18	SY Razor**	HRWW	Syngenta		2946	2632	1653
19	Oklon	Rye	Noble Foundation		2453	2000	810
20	Heavy Grazer II	Oat	East Texas Seed			3471	2686
21	NF 201	Triticale	Noble Foundation			3270	2169
22	TX09CS049*	Oat	TAMU			3034	2242
23	WB Cedar	HRWW	Monsanto			2707	1738
24	WB 4458	HRWW	Monsanto			2692	2006
25	TX14OCS5098*	Oat	TAMU				2603
26	Horizon 201	Oat	UF				2393
27	TX14OCS5139*	Oat	TAMU				2281
28	TX14OCS5161*	Oat	TAMU				2228
29	Gallagher	HRWW	OSU				2161
30	TX12M4068*	HRWW	TAMU				2012
31	Haybet/TAM 114	SB/HRWW Blend	Blend				1904
32	Spicer	Ryegrass	Pennington Seed				1714
33	Jackson [†]	Ryegrass	--				1661
34	FL 720	Oat	UF				1641
35	Post 90	Winter Barley	OSU				1549
36	Passerel [†]	Ryegrass	Pennington Seed				1490
37	Haybet/Nelson	SB/Ryegrass Blend	Blend				1484
38	TX11A001295*	HRWW	TAMU				1423
39	Prine	Ryegrass	UF				1417
40	Slicktrit II	Triticale	Watley Seed				440
			Mean	4134	3370	2975	1854
			LSD (5%)	507	493	592	389
			CV (%)	17	17	19	15

¹Rank is based on 4-Year, 3-Year, 2-Year, then 2017 Totals

²Hard Red Winter Wheat (HRWW); Spring Barley (SB)

[†]Diploid ryegrass variety

[‡]4-year average based on 2014, 2015, 2016, and 2017 yields.

*Experimental Lines

**Awnless/Beardless

2017 Small Grains Forage Trial - Comanche (Irrigated)

Rank ¹	Variety	Class ²	Company	Dry Matter Yield (lb/a)			
				Clip 1	Clip 2	Clip 3	Total
				12/9/16	2/2/17	4/20/17	2017
1	Heavy Grazer II	Oat	East Texas Seed	3407	151	10479	14037
2	NF 201	Triticale	Noble Foundation	2400	597	10171	13168
3	TAMbar 501	Winter Barley	TAMU	2083	256	10755	13094
4	TX12VT8220*	Triticale	TAMU	2916	995	8724	12636
5	Harrison	Oat	LSU	2968	182	9339	12489
6	TAM 114	HRWW	TAMU	2907	513	8577	11997
7	Okay	Oat	Noble Foundation	3749	295	7927	11970
8	TAMO 411	Oat	TAMU	3099	68	8780	11947
9	TX12VT8227*	Triticale	TAMU	2146	377	9407	11931
10	TX09CS049*	Oat	TAMU	2690	48	9141	11879
11	BigMac/Trical 348	Oat/Triticale Blend	Blend	1908	144	9691	11743
12	TX12VT8228*	Triticale	TAMU	2611	462	8625	11698
13	Maton	Rye	Noble Foundation	2014	815	8700	11530
14	Gallagher	HRWW	OSU	2267	516	8660	11443
15	P-919**	Winter Barley	Paramount Seed	2838	923	7618	11378
16	TX14OCS5098*	Oat	TAMU	2631	61	8597	11288
17	TX12M4068*	HRWW	TAMU	1963	350	8956	11269
18	Heavy Grazer 7630	Oat	East Texas Seed	2317	80	8871	11268
19	TAMO 606	Oat	TAMU	2579	118	8546	11242
20	Maton II	Rye	Noble Foundation	1787	979	8263	11029
21	Post 90	Winter Barley	OSU	2119	491	8186	10795
22	Oklon	Rye	Noble Foundation	2103	645	7966	10714
23	Fannin	HRWW	Syngenta	2916	238	7494	10648
24	TX11A001295*	HRWW	TAMU	2582	563	7501	10646
25	Oakes	SRWW	Syngenta	2351	346	7591	10287
26	Nelson	Ryegrass	TAMU	2828	270	7084	10182
27	Haybet/TAM 114	SB/HRWW Blend	Blend	2421	46	7664	10130
28	Horizon 201	Oat	UF	2297	49	7762	10107
29	TX09CS031*	Oat	TAMU	2126	49	7752	9927
30	Prine	Ryegrass	UF	2444	335	7059	9838
31	SY Razor**	HRWW	Syngenta	2244	461	6874	9579
32	Sungrazer	Ryegrass	Oregro Seed	2650	199	6689	9539
33	TAM 401**	HRWW	TAMU	2004	743	6722	9468
34	Trical 348**	Triticale	Gaylon Ward	2027	35	7264	9326
35	Jackson [†]	Ryegrass	--	2912	740	5526	9178
36	Slicktrit II	Triticale	Watley Seed	2237	0	6794	9031
37	Passerel [†]	Ryegrass	Pennington Seed	2682	248	6091	9021
38	Marshall [†]	Ryegrass	MSU	2341	635	5778	8754
39	Spicer	Ryegrass	Pennington Seed	2575	101	5766	8441
40	TX14OCS5139*	Oat	TAMU	2399	0	5395	7794
41	Gulf [†]	Ryegrass	TAMU	1609	272	5203	7085
42	TAM 90 [†]	Ryegrass	TAMU	1725	444	4765	6933
43	TX14OCS5161*	Oat	TAMU	2852	0	1375	4227
44	FL 720	Oat	UF	2608	0	1116	3723
			Mean	2462	337	7528	10328
			LSD (5%)	NS	207	2299	2580
			CV (%)	35^a	38^a	19	15

¹Rank is based on Total Forage Weight

²Hard Red Winter Wheat (HRWW); Soft Red Winter Wheat (SRWW); Spring Barley (SB)

[†]Diploid ryegrass variety

*Experimental Lines

**Awnless/Beardless

^aTrials with a coefficient of variation (CV) ≥ 25% contain excessive experimental error.

Multi-Year Small Grains Forage Trial - Comanche (Irrigated)

Rank ¹	Variety	Class ²	Company	Dry Matter Yield (lb/a)		
				3-Year [‡] Total	2-Year Total	2017 Total
1	TAMbar 501	Winter Barley	TAMU	9339	10328	13094
2	TAM 114	HRWW	TAMU	9257	10336	11997
3	Okay	Oat	Noble Foundation	9190	9658	11970
4	Maton II	Rye	Noble Foundation	8821	9604	11029
5	Horizon 201	Oat	UF	8726	8602	10107
6	P-919**	Winter Barley	Paramount Seed	8707	9874	11378
7	Heavy Grazer 7630	Oat	East Texas Seed	8615	9123	11268
8	Maton	Rye	Noble Foundation	8607	9862	11530
9	TAMO 411	Oat	TAMU	8541	9824	11947
10	Oklon	Rye	Noble Foundation	8466	9033	10714
11	TAMO 606	Oat	TAMU	8209	8719	11242
12	SY Razor**	HRWW	Syngenta	7875	9266	9579
13	Prine	Ryegrass	UF	7765	8081	9838
14	Fannin	HRWW	Syngenta	7582	9036	10648
15	Nelson	Ryegrass	TAMU	7555	7486	10182
16	Sungrazer	Ryegrass	Oregro Seed	7409	6900	9539
17	TAM 401**	HRWW	TAMU	7242	8491	9468
18	TX09CS031*	Oat	TAMU	6941	8063	9927
19	Gulf [†]	Ryegrass	TAMU	6809	6309	7085
20	TAM 90 [†]	Ryegrass	TAMU	6678	5624	6933
21	Heavy Grazer II	Oat	East Texas Seed		11071	14037
22	NF 201	Triticale	Noble Foundation		10923	13168
23	TX09CS049*	Oat	TAMU		8650	11879
24	TX12VT8220*	Triticale	TAMU			12636
25	Harrison	Oat	LSU			12489
26	TX12VT8227*	Triticale	TAMU			11931
27	BigMac/Trical 348	Oat/Triticale Blend	Blend			11743
28	TX12VT8228*	Triticale	TAMU			11698
29	Gallagher	HRWW	OSU			11443
30	TX14OCS5098*	Oat	TAMU			11288
31	TX12M4068*	HRWW	TAMU			11269
32	Post 90	Winter Barley	OSU			10795
33	TX11A001295*	HRWW	TAMU			10646
34	Oakes	SRWW	Syngenta			10287
35	Haybet/TAM 114	SB/HRWW Blend	Blend			10130
36	Trical 348**	Triticale	Gaylon Ward			9326
37	Jackson [†]	Ryegrass	--			9178
38	Slicktrit II	Triticale	Watley Seed			9031
39	Passerel [†]	Ryegrass	Pennington Seed			9021
40	Marshall [†]	Ryegrass	MSU			8754
41	Spicer	Ryegrass	Pennington Seed			8441
42	TX14OCS5139*	Oat	TAMU			7794
43	TX14OCS5161*	Oat	TAMU			4227
44	FL 720	Oat	UF			3723
			Mean	8110	8883	10328
			LSD (5%)	1061	1657	2580
			CV (%)	14	16	15

¹Rank is based on 3-Year, then 2-Year then 2017 Totals

²Hard Red Winter Wheat (HRWW); Soft Red Winter Wheat (SRWW); Spring Barley (SB)

[†]Diploid ryegrass variety

[‡]3-year average based on 2015, 2016 and 2017 yields.

*Experimental Lines

**Awnless/Beardless

2017 Small Grains Forage Variety Trial - Overton (Dryland)

Rank ¹	Variety	Class	Company	Dry Matter Yield (lb/a)					Total 2017
				Clip 1 12/15/16	Clip 2 1/24/17	Clip 3 2/23/17	Clip 4 3/21/17	Clip 5 4/19/17	
1	Tx-Rye-13*	Rye	TAMU	881	972	1625	2015	2023	7516
2	Tx-Rye-12*	Rye	TAMU	698	837	1107	2282	2312	7236
3	Elbon Rye	Rye	Noble Foundation	643	883	1291	2152	1510	6479
4	Maton Rye	Rye	Noble Foundation	812	1086	1384	1810	1146	6238
5	Heavy Grazer II	Oat	East Texas Seed	771	1118	1406	1393	1458	6146
Mean				741	989	1385	1872	1512	6500
LSD (5%)				159	223	367	765	608	1259
CV (%)				17	18	21	32^a	32^a	15

¹Rank is based on 2017 Total

*Experimental Line - Not commercially available

^aTrials with a coefficient of variation (CV) \geq 25% contain excessive experimental error.

2017 Ryegrass Forage Trial - Overton (Dryland)

Rank ¹	Variety	Dry Matter Yield (lb/a)							2017 Total
		Clip 1	Clip 2	Clip 3	Clip 4	Clip 5	Clip 6	3-Year [‡] Total	
		12/15/16	1/24/17	2/23/17	3/21/17	4/19/17	5/24/17		
1	Jackson [†]	360	892	1499	1423	2697	622	9291	7493
2	Lonestar [†]	503	834	1646	1867	3869	806	9098	9525
3	WinterHawk [†]	493	604	1014	1242	2436	701	8553	6490
4	Flying A [†]	536	801	1052	1294	2560	565	8398	6808
5	TAMTBO	281	782	1330	1310	2770	632	8299	7105
6	Double Diamond	464	677	1112	1339	2438	456	8243	6486
7	Gulf [†]	371	766	1142	1562	2528	736	8167	7105
8	TAM 90 [†]	404	985	1356	1828	2817	900	8101	8290
9	Marshall [†]	401	747	1059	1472	2785	635	8028	7099
10	Testratar	487	783	1225	1437	2428	650	8006	7010
11	07-WW*	520	805	1124	1509	2373	451	8002	6782
12	Triangle T	415	662	1411	1673	2649	584	7998	7394
13	Big Boss	297	793	1225	1494	2681	604	7991	7094
14	Nelson	621	726	1185	1280	2652	535	7983	6999
15	Jumbo	527	865	1284	1490	3199	702	7849	8067
16	Passerel Plus [†]	365	720	1274	1430	2572	545	7798	6906
17	ME 94*	495	567	1028	1366	2502	617	7414	6575
18	Diamond T	365	775	1067	1243	2161	471	7371	6082
19	Maximus	335	883	1184	1043	2881	609	7346	6935
20	M2CVS*	311	867	1056	1385	3112	381	6130	7112
21	Prine	342	759	1247	1486	2845	551	6036	7230
22	ME 4*	500	775	1153	1978	2838	582	4681	7826
23	K014-SPP*	292	823	1499	1505	3100	745		7964
24	Angusta	355	748	1219	1456	2946	648		7370
25	K014-WMA*	380	851	1304	1529	2621	669		7354
26	BARLM14167-1*	207	652	1148	1552	3134	657		7350
27	PS 15*	524	747	1400	1412	2599	605		7287
28	BARLM15476*	375	704	1178	1578	2850	599		7284
29	BARLM15477*	340	785	1213	1633	2640	619		7230
30	Kodiak	379	781	1120	1563	2828	505		7176
31	Credence	361	682	1259	1573	2554	670		7099
32	BARLM15426*	450	812	1061	1333	2892	548		7096
33	BARLM16168-2*	148	742	1328	1341	2701	777		7037
34	SARG-FL*	399	751	1217	1623	2544	490		7024
35	K014-DP*	272	678	1776	1338	2398	495		6957
36	K014-WEAR*	568	684	860	1240	2809	739		6900
37	B-16.444*	236	749	1882	1494	1947	574		6882
38	Fria [†]	619	953	1233	1299	2265	478		6847
39	BARLM16498*	212	641	1343	1145	2871	632		6844
40	BARLM16488*	94	852	1030	1091	3034	725		6826
41	GO-16LN*	229	607	1190	1160	2830	787		6803
42	Vortex	152	838	1018	1326	2837	601		6772
43	BARLM14167-4*	307	629	1218	1442	2729	416		6741
44	BARLM15425*	472	597	1075	1311	2597	610		6662
45	PS 12*	589	681	1003	1416	2348	549		6586
46	K014-WEMA*	719	646	1036	1210	2213	445		6269
47	K014-WLS*	354	542	1112	1170	2473	602		6253
48	BARLM15427*	293	351	914	1349	2593	748		6248
49	WMWL*	380	738	1203	1472	1902	539		6234
50	New Dawn	271	656	1070	1503	1900	616		6016
51	BARLM16168-1*	277	710	1029	1143	2208	528		5895
52	BARLM16502*	159	549	1036	1177	2297	603		5821
53	Arnie	374	628	1197	527	1551	487		4764
	Mean	381	737	1200	1397	2623	605	-	6943
	LSD (5%)	183	234	325	437	642	248	-	1480
	CV (%)	41^a	27^a	23	27^a	21	35^a	-	18

¹Rank is based on 3-Year total, then 2017 Total

[†]Diploid ryegrass variety

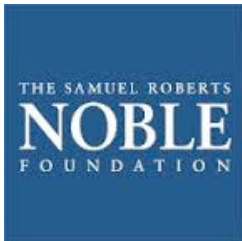
[‡]3-year average based on 2015, 2016 and 2017 yields.

*Experimental Line - Not commercially available

^aTrials with a coefficient of variation (CV) ≥ 25% contain excessive experimental error.

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