

SCS-2018-07

2018

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Texas Cool-Season Forage Variety Trial Results



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2018

Forage Variety Results

Texas Cool-Season Annual Variety Trials

varietytesting.tamu.edu/wheat

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Table of Contents

Introduction	1
Texas Regions Map.....	3
2018 Texas Region Overview.....	4
Forage Trial Agronomic Data.....	5
2018 Statewide Cool-Season Forage Variety Trials:	
2018 Statewide Total Forage Yield by Variety	6
2018 Statewide Forage Yield by Class and Clipping	8
2018 Bushland Forage Summary.....	11
Multi-Year Bushland Forage Summary.....	12
2018 College Station Forage Summary	13
Multi-Year College Station Forage Summary	14
2018 Comanche Forage Summary.....	15
2018 Lockett Forage Summary.....	16
2018 Millersview Forage Summary	17
Multi-Year Millersview Forage Summary	18
2018 Comanche County Forage Summary	19
Multi-Year Comanche County Forage Summary	20
Comanche County Silage Summary	21
2018 Overton Annual Ryegrass Trial	22
Acknowledgements	23

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 only 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 environments. 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 2018-19 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:

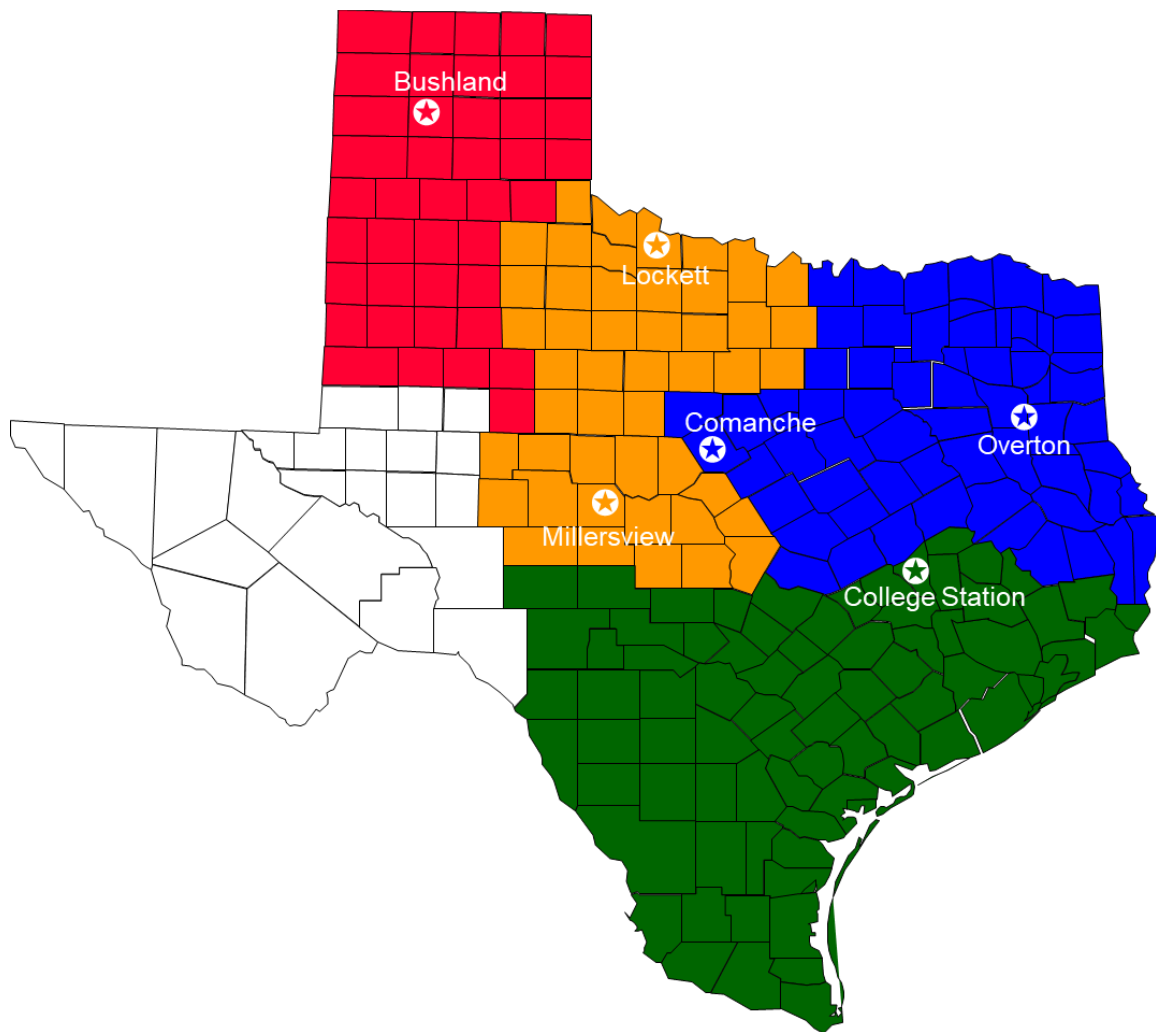
Forage yield at each location has been analyzed using appropriate statistical procedures. The statistical analysis provides the mean, CV, and LSD values. It is important to note these statistical values to prevent misinterpretation of any replicated data.

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: 2018 Forage Trials



Legend:

Texas High Plains	
Texas Rolling Plains	
Texas Blacklands and East Texas	
South Texas	

2018 Texas Region Overview

Texas High Plains: The High Plains suffered severe drought for most of the region throughout the season. Some areas did not receive any appreciable rain from October through March. There was excellent subsoil moisture going into the fall from an unusually wet summer. Rains lasted into September which allowed many producers to get planted early and achieve good stands, but with no subsequent rainfall, fall growth was limited under dryland and non-existent during the winter and spring. Irrigated acres did provide some fall and early winter grazing, but cattle were pulled off early (January timeframe) in many cases. Because of the drought, there was no rust present throughout the season and presence of wheat streak mosaic virus was lower than in previous seasons.

Texas Rolling Plains: The drought affected most of the Rolling Plains, but was most severe in the western half of the region. Rains started to pick up in February in the eastern portions. As a result, many wheat acres failed to make a stand or droughted out, so overall grazing was very limited for the region throughout the season. Colder than average temperatures further suppressed winter growth. Disease pressure was low with limited leaf rust coming in late in the season.

Texas Blacklands: The dominant story for the 2017-18 growing season were the dry conditions that producers experienced for much of the season. September and October were quite dry which made stand establishment difficult. There was intermittent rainfall which allowed some acres to be planted, but growth was still limited for the fall and most of the winter months. Cold temperatures further hindered growth December through February and burned back growth on some oats. Rust was very light this year due to the dry and cold conditions; however, crown rust was still common on oats planted in the southern portion of the region. February set monthly rainfall records in the Dallas/Fort Worth area which helped jump start spring growth after a long dry winter.

South Texas:

Most of South Texas was abnormally dry for most of the season, with portions of Southwest Texas that were severely dry as well. Overall, rust was lighter than normal, but leaf rust and crown rust were still a problem in some wheat and oat fields, respectively. Temperatures heated up quickly in April and may have terminated growth prematurely in some fields.

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	9/22/2017	40	Dimethoate (1/8/18)
College² Station	Texas A&M Research and Extension Agronomy Farm	Volunteer ryegrass, Freeze damage on oats	10/12/2017	40	None
Comanche²	Indian Creek Farm; Rodney Stephens	Freeze damage on oats	10/6/2017	115	None
Lockett	Texas A&M AgriLife Research and Extension Center	Drought	10/17/2017	27	None
Millersview	Mickey Dillard	Drought, Wildlife	10/6/2017	25	None
Overton	Texas A&M AgriLife Research and Extension Center	None	10/5/2017	240	None

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.

2018 Cool Season Forage Variety Trial- Total Season Forage Yield Statewide

Species ¹	Variety	Source	Dry Matter Yield (lbs/a)				
			Bushland (Irrigated)	College Station (Lim. Irrigated)	Comanche (Irrigated)	Lockett (Dryland)	Millersview (Dryland)
Winter Barley	06OR-59*	Oregon State Univ.	--	2894	8205	--	--
	06OR-75*	Oregon State Univ.	--	--	--	6095	--
	06OR-91*	Oregon State Univ.	15950	3089	7276	4104	--
	08OR-30*	Oregon State Univ.	--	3428	9214	--	--
	2011-F5-113-2*	Oregon State Univ.	15744	--	--	4176	--
	2011-F5-135-4*	Oregon State Univ.	--	3214	8448	--	--
	2011-F5-47-1*	Oregon State Univ.	--	3172	7739	--	--
	2011-F5-64-1*	Oregon State Univ.	--	3143	9554	--	--
	2011-F5-9-2*	Oregon State Univ.	--	3562	9528	--	--
	DH140760*	Oregro Seeds	19118	3266	9973	5449	--
	DH140789*	Oregro Seeds	19036	2667	9018	3177	--
	DH140791*	Oregro Seeds	18419	2931	9296	2900	--
	DH140797*	Oregro Seeds	16073	2762	8953	4226	--
	MW09S4076-001*	Oregon State Univ.	--	3412	8470	--	--
	MW09S4080-001*	Oregon State Univ.	--	3711	7121	--	--
	MW10S4118-004*	Oregon State Univ.	--	3394	8439	--	--
	MW10S4120-008*	Oregon State Univ.	14716	3614	8056	--	--
	MW10S4122-001*	Oregon State Univ.	17349	--	--	3786	--
	OR101	Oregon State Univ.	15415	--	--	--	--
	OR76*	Oregon State Univ.	--	--	--	4698	--
	OR813*	Oregon State Univ.	--	2781	8150	--	--
	P-919**	Paramount Seed	--	--	8159	--	--
Blend	PENNbar 66	Paramount Seed	--	--	--	--	1468
	TAMbar 500	TAMU	--	--	--	--	1367
Blend	TAMbar 501	Paramount Seed	--	--	--	--	1377
	BigMac/Trical 131	--	--	--	8954	--	--
HRWW	Haybet/TAM 114	--	--	--	9883	--	--
	LCS Chrome	Limagrain	--	--	--	7705	--
HRWW	Long Branch	Dyna-Gro	26099	--	--	8496	--
	NF97117*	Noble Foundation	--	3269	8040	--	--
HRWW	ON13P016*	Noble Foundation	--	3311	9712	--	--
	ON14319*	Noble Foundation	--	3315	9711	--	--
HRWW	SY Flint	Syngenta	--	--	10021	--	--
	SY Razor**	Syngenta	--	--	9115	--	--
HRWW	SY Rugged	Syngenta	--	--	8650	--	--
	T173	Limagrain	--	--	--	6726	--
HRWW	TAM 114	Warner Seed	--	--	9843	--	1439
	TAM 204**	Watley Seed	22588	--	9435	6202	1796
HRWW	TX11A001295*	TAMU	25139	2570	9912	9680	--
	TX12V7415*	TAMU	--	--	10158	--	--
HRWW	TX13M5625*	TAMU	24659	--	8978	6445	--
	TX14VT70446*	TAMU	21642	--	--	8541	--
HRWW	TX14VT70526*	TAMU	--	--	9893	--	--
	WB 4303	Westbred/Monsanto	--	--	--	8204	--
HRWW	WB 4418	Westbred/Monsanto	--	--	9191	6131	--
	WB 4458	Westbred/Monsanto	--	--	7978	5728	--
HRWW	WB 4721	Westbred/Monsanto	--	--	8718	--	--
	WB4303	Westbred/Monsanto	23438	--	8127	--	--
HRWW	WB4418	Westbred/Monsanto	21984	--	--	--	--
	WB4458	Westbred/Monsanto	21998	--	--	--	--
HRWW	WB4721	Westbred/Monsanto	26291	--	--	--	--
	Weathermaster 135**	Unknown	--	--	--	--	1671

2018 Cool Season Forage Variety Trial- Total Season Forage Yield Statewide Continued

Species ¹	Variety	Source	Dry Matter Yield (lbs/a)				
			Bushland (Irrigated)	College Station (Lim. Irrigated)	Comanche (Irrigated)	Lockett (Dryland)	Millersview (Dryland)
Oat	Bob	--	--	--	6740	--	--
	FL720	Angelina Ag/Oak River	--	3505	--	--	--
	Harrison	LSU	--	--	7983	--	--
	Heavy Grazer 76-30	East Texas Seed	--	--	--	--	1445
	Heavy Grazer II	East Texas Seed	--	--	9933	--	--
	TAMO 411	TAMU	--	--	--	--	1858
	TAMO 606	TAMU	--	--	--	--	1619
	TX07CS1948*	TAMU	10876	--	--	3549	--
	TX14OCS5061*	TAMU	--	3315	8484	--	--
	TX14OCS5098*	TAMU	--	3395	9129	--	--
	TX14OCS5131*	TAMU	--	3530	6971	--	--
	TX14OCS5154*	TAMU	--	3401	8065	--	--
	TX14OCS5171*	TAMU	--	3343	8255	--	--
	TX14OCS5212*	TAMU	--	3737	6196	--	--
Rye	Elbon	Noble Foundation	--	--	9315	--	2272
	KWS Bono	Trical Superior Forage	20627	1141	--	--	--
	KWS Progas	Trical Superior Forage	--	--	--	6833	--
	KWS Propower	Trical Superior Forage	18295	1735	--	--	--
	Maton	Noble Foundation	--	--	--	--	1521
	Maton II	Noble Foundation	--	--	8690	--	1810
	NF95319B*	Noble Foundation	--	3413	8547	--	--
	NF97325*	Noble Foundation	--	2836	9093	--	--
Ryegrass	Flying A	Oregro Seeds	--	3896	7966	--	--
	Nelson	TAMU	--	--	7344	--	--
	Prine	East Texas Seed	--	--	8997	--	--
	TAMTBO	Oregro Seeds	--	4050	8418	--	--
SRWW	Oakes	Syngenta	--	--	10137	--	--
Triticale	Fridge**	Elliot Plant Breeding	--	--	--	--	1482
	LCS Bar	Limagrain	--	--	--	10570	--
	NF 201	Noble Foundation	--	--	8573	--	--
	NF97226*	Noble Foundation	--	3034	8873	--	--
	SlickTrit II**	Watley Seed	20243	--	--	--	1515
	SlickTrit**	Watley Seed	--	--	9765	--	--
	TAMcale 5019	TAMU	--	--	9282	--	--
	Trical 131**	Trical Superior Forage	21134	2756	7600	--	--
	Trical 348**	Trical Superior Forage	21271	--	--	--	1710
	Trical 813**	Trical Superior Forage	21792	3880	--	--	--
	Trical Exp. 30412*	Trical Superior Forage	20352	3443	--	--	--
	Trical Flex 719**	Trical Superior Forage	25139	2627	--	--	--
	Trical Flex TF01*	Trical Superior Forage	23246	--	--	--	--
	Trical Gainer 154	Trical Superior Forage	22218	--	--	--	--
	TX12V7415*	TAMU	24385	2870	--	6421	--
	TX12VT8222-4*	TAMU	22368	--	8236	10979	--
	TX14VT70526*	TAMU	23973	--	--	8177	--
	LSD (5%)		3780	424	--	2488	521
	CV(%)		11	8	--	23	19
	Mean		20674	3175	8720	6713	1626

¹Hard Red Winter Wheat (HRWW); Soft Red Winter Wheat (SRWW)

*Experimental Lines

**Awnless/Beardless

2018 Cool-season Forage Variety Trial- Total Yield (lb/a) by Species

2018 Statewide

Rank [†]	Species ¹	Dry Matter Yield (lbs/a)				
		Bushland (Irrigated)	College Station (Lim. Irrigated)	Comanche (Irrigated)	Lockett (Dryland)	Millersview (Dryland)
1	HRWW	23899	3135	9053	7446	1631
2	Oat	--	3461	7855	--	1641
3	Rye	--	2281	8820	--	1868
4	Ryegrass	--	3973	8192	--	--
5	Triticale	22187	3185	9148	9316	1569
6	Winter Barley	16869	3185	8592	4290	1396
LSD (5%)		2129	358	949	1025	317
CV(%)		12	15	13	26	20
Mean		20692	3175	8660	6713	1626

¹Hard Red Winter Wheat (HRWW)

2018 Bushland

Rank [†]	Species ¹	Dry Matter Yield (lb/a)				
		Clip 1 12/1/17	Clip 2 3/7/18	Clip 3 4/18/18	Clip 4 5/16/18	Total 2018
1	HRWW	2640	3313	7640	10305	23899
2	Triticale	2951	2964	6978	9294	22187
3	Barley	3401	2051	4029	7388	16869
LSD (5%)		442	565	1216	1688	2129
CV(%)		18	24	24	23	12
Mean		2964	2824	6094	8810	20692

¹Hard Red Winter Wheat (HRWW)

[†]Species ranked according to 2018 total yield

2018 College Station

Rank [†]	Species ¹	Dry Matter Yield (lb/a)			
		Clip 1	Clip 2	Clip 3	Total
		12/1/17	3/6/18	4/11/18	2018
1	Ryegrass	30	2120	1823	3973
2	Oat	222	2563	676	3461
3	Tritical	119	2227	768	3185
4	Barley	246	2148	789	3185
5	HRWW	139	1692	1304	3135
6	Rye	45	1524	712	2281
	LSD (5%)	79	494	350	358
	CV(%)	58	31	52	15
	Mean	178	2098	889	3175

[†]Species ranked according to 2018 total yield.

¹Hard Red Winter Wheat (HRWW)

2018 Comanche

Rank [†]	Species ¹	Dry Matter Yield (lb/a)			
		Clip 1	Clip 2	Clip 3	Total
		12/8/17	3/7/18	5/2/18	2018
1	Triticale	2771	1106	5235	9148
2	HRWW	2624	898	5531	9053
3	Rye	2618	1791	4411	8820
4	Barley	3244	457	4891	8592
5	Ryegrass	1834	457	5902	8192
6	Oat	2596	145	5046	7855
	LSD (5%)	422	196	858	949
	CV(%)	18	35	20	13
	Mean	2844	662	5137	8660

¹Hard Red Winter Wheat (HRWW)

[†]Species ranked according to 2018 total yield.

2018 Lockett

Rank [†]	Species ¹	Dry Matter Yield (lb/a)		
		Clip 1	Clip 2	Total
		3/2/18	5/10/18	2018
1	Triticale	1804	7512	9316
2	HRWW	1477	5968	7446
3	Winter Barley	1390	2900	4290
LSD (5%)		NS	969	1025
CV(%)		47	32	26
Mean		1510	5203	6713

[†]Species ranked according to 2018 total yield.

¹Hard Red Winter Wheat (HRWW)

2018 Millersview

Rank [†]	Species ¹	Dry Matter Yield (lb/a)			
		Clip 1	Clip 2	Clip 3	Total
		1/3/18	3/15/18	5/14/18	2018
1	Rye	408	413	1043	1868
2	Oat	670	333	721	1641
3	HRWW	598	397	679	1631
4	Triticale	526	338	759	1569
5	Barley	665	236	540	1396
LSD (5%)		NS	91	227	317
CV(%)		33	28	31	20
Mean		573	343	755	1626

[†]Species ranked according to 2018 total yield

¹Hard Red Winter Wheat (HRWW)

2018 Cool-season Forage Variety Trial- Bushland (Irrigated)

Rank [†]	Variety	Species ¹	Source	Dry Matter Yield (lb/a)				
				Clip 1 12/1/17	Clip 2 3/7/18	Clip 3 4/18/18	Clip 4 5/16/18	Total 2018
1	WB4721	HRWW	Westbred/Monsanto	3100	3922	7804	11465	26291
2	Long Branch	HRWW	Dyna-Gro	2428	3415	8462	11795	26099
3	Trical Flex 719**	Triticale	Trical Superior Forage	3237	3305	7337	11260	25139
4	TX11A001295*	HRWW	TAMU	2153	3360	8750	10876	25139
5	TX13M5625*	HRWW	TAMU	2962	2962	7982	10752	24659
6	TX12V7415*	Triticale	TAMU	2894	3840	8668	8983	24385
7	TX14VT70526*	Triticale	TAMU	3580	3429	8188	8777	23973
8	WB4303	HRWW	Westbred/Monsanto	2743	3209	7145	10341	23438
9	Trical Flex TF01*	Triticale	Trical Superior Forage	3634	2194	5554	11863	23246
10	TAM 204**	HRWW	Watley Seed	2249	3141	6679	10519	22588
11	TX12VT8222-4*	Triticale	TAMU	2633	2798	7941	8997	22368
12	Trical Gainer 154	Triticale	Trical Superior Forage	2565	3182	8599	7872	22218
13	WB4458	HRWW	Westbred/Monsanto	2743	2510	6789	9957	21998
14	WB4418	HRWW	Westbred/Monsanto	2482	3127	7721	8654	21984
15	Trical 813**	Triticale	Trical Superior Forage	3223	2551	4718	11301	21792
16	TX14VT70446*	HRWW	TAMU	2853	3017	7282	8489	21642
17	Trical 348**	Triticale	Trical Superior Forage	2386	3278	7735	7872	21271
18	Trical 131**	Triticale	Trical Superior Forage	2537	2222	6076	10300	21134
19	KWS Bono	Rye	Trical Superior Forage	3017	4210	6940	6460	20627
20	Trical Exp. 30412*	Triticale	Trical Superior Forage	3250	1948	5020	10135	20352
21	SlickTrit II**	Triticale	Watley Seed	2798	3991	7090	6364	20243
22	DH140760	Barley	Oregro Seed	2990	1797	3209	11123	19118
23	DH140789	Barley	Oregro Seed	3868	2757	4869	7543	19036
24	DH140791	Barley	Oregro Seed	3813	2194	4622	7790	18419
25	KWS Propower	Rye	Trical Superior Forage	2825	3758	5692	6021	18295
26	MW10S4122-001*	Barley	Oregon State Univ.	3237	2098	5157	6857	17349
27	DH140797	Barley	Oregro Seed	3141	1742	3580	7612	16073
28	060R-91*	Barley	Oregon State Univ.	3593	2002	3826	6528	15950
29	2011-F5 -113-2*	Barley	Oregon State Univ.	3717	2181	3538	6309	15744
30	OR101*	Barley	Oregon State Univ.	3045	1838	4348	6185	15415
31	MW10S4120-008*	Barley	Oregon State Univ.	3209	1852	3113	6542	14716
32	TX07CS1948*	Oat	TAMU	2565	1756	1687	4869	10876
LSD (5%)				811	1010	2185	2740	3780
CV(%)				17	22	22	19	11
Mean				2983	2799	6129	8763	20674

*Experimental Lines

**Awnless/Awnletted

¹Hard Red Winter Wheat (HRWW)

[†]Varieties ranked according to 2018 total yield

2018 Cool-season Forage Variety Trial- Bushland (Irrigated)

Rank [†]	Variety	Species ¹	Source	Dry Matter Yield (lb/a)	
				2-Year [‡] Total	2018 Total
1	TX11A001295*	HRWW	TAMU	25002	25139
2	Trical 348**	Triticale	Trical Superior Forage	23183	21271
3	Trical 813**	Triticale	Trical Superior Forage	22979	21792
4	SlickTrit II**	Triticale	Watley Seed	22622	20243
5	Trical Gainer 154	Triticale	Trical Superior Forage	21738	22218
6	TAM 204**	HRWW	Watley Seed	21607	22588
7	Trical 131**	Triticale	Trical Superior Forage	21539	21134
8	TX07CS1948*	Oat	TAMU	13488	10876
9	WB4721	HRWW	Westbred/Monsanto		26291
10	Long Branch	HRWW	Dyna-Gro		26099
11	Trical Flex 719**	Triticale	Trical Superior Forage		25139
12	TX13M5625*	HRWW	TAMU		24659
13	TX12V7415*	Triticale	TAMU		24385
14	TX14VT70526*	Triticale	TAMU		23973
15	WB4303	HRWW	Westbred/Monsanto		23438
16	Trical Flex TF01*	Triticale	Trical Superior Forage		23246
17	TX12VT8222-4*	Triticale	TAMU		22368
18	WB4458	HRWW	Westbred/Monsanto		21998
19	WB4418	HRWW	Westbred/Monsanto		21984
20	TX14VT70446*	HRWW	TAMU		21642
21	KWS Bono	Rye	Trical Superior Forage		20627
22	Trical Exp. 30412*	Triticale	Trical Superior Forage		20352
23	DH140760	Barley	Oregro Seed		19118
24	DH140789	Barley	Oregro Seed		19036
25	DH140791	Barley	Oregro Seed		18419
26	KWS Propower	Rye	Trical Superior Forage		18295
27	MW10S4122-001	Barley	Oregon State Univ.		17349
28	DH140797	Barley	Oregro Seed		16073
29	060R-91	Barley	Oregon State Univ.		15950
30	2011-F5 -113-2	Barley	Oregon State Univ.		15744
31	OR101	Barley	Oregon State Univ.		15415
32	MW10S4120-008	Barley	Oregon State Univ.		14716
LSD (5%)				3420	3780
CV(%)				13	11
Mean				21520	20674

*Experimental Lines

**Awnless/Awnletted

[†]Varieties ranked according to 2-year, then 2018 yield averages.

[‡]2-year average based on 2017 and 2018 yields.

¹Hard Red Winter Wheat (HRWW)

2018 Statewide Cool-season Forage Variety Trial- College Station (Limited Irrigation)

Rank [†]	Variety	Species ¹	Source	Dry Matter Yield (lb/a)			
				Clip 1 12/1/17	Clip 2 3/6/18	Clip 3 4/11/18	Total
1	TAMTBO	Ryegrass	Oregro Seeds	27	2070	1954	4050
2	Flying A	Ryegrass	Oregro Seeds	33	2171	1693	3896
3	Trical 813	Triticale	Trical Superior Forage	173	2444	1264	3880
4	TX14OCS5212*	Oat	TAMU	116	3042	579	3737
5	MW09S4080-001*	Barley	Oregon State Univ.	271	3252	189	3711
6	MW10S4120-008*	Barley	Oregon State Univ.	239	3092	283	3614
7	2011-F5-9-2*	Barley	Oregon State Univ.	284	1644	1634	3562
8	TX14OCS5131*	Oat	TAMU	386	2217	927	3530
9	FL720	Oat	Angelina Ag/Oak River	351	2995	160	3505
10	TX13M5625*	HRWW	TAMU	333	2265	876	3474
11	Trical Exp. 30412	Triticale	Trical Superior Forage	251	2900	292	3443
12	08OR-30*	Barley	Oregon State Univ.	185	1628	1614	3428
13	NF95319B*	Rye	Noble Foundation	113	2701	598	3413
14	MW09S4076-001*	Barley	Oregon State Univ.	63	2951	479	3412
15	TX14OCS5154*	Oat	TAMU	155	2754	493	3401
16	TX14OCS5098*	Oat	TAMU	167	2608	620	3395
17	MW10S4118-004*	Barley	Oregon State Univ.	287	2583	524	3394
18	TX14OCS5171*	Oat	TAMU	236	2558	549	3343
19	TX14OCS5061*	Oat	TAMU	141	1771	1404	3315
20	ON14319*	HRWW	Noble Foundation	66	1757	1491	3315
21	ON13P016*	HRWW	Noble Foundation	141	1826	1344	3311
22	NF97117*	HRWW	Noble Foundation	97	2117	1055	3269
23	DH140760*	Barley	Oregro Seeds	288	1601	1377	3266
24	2011-F5-135-4*	Barley	Oregon State Univ.	186	2395	633	3214
25	2011-F5-47-1*	Barley	Oregon State Univ.	437	2598	136	3172
26	2011-F5-64-1*	Barley	Oregon State Univ.	308	1535	1301	3143
27	06OR-91*	Barley	Oregon State Univ.	196	2710	184	3089
28	NF97226*	Triticale	Noble Foundation	81	2487	466	3034
29	DH140791*	Barley	Oregro Seeds	318	1352	1261	2931
30	06OR-59*	Barley	Oregon State Univ.	182	2253	459	2894
31	TX12V7415*	HRWW	TAMU	70	1123	1676	2870
32	NF97325*	Rye	Noble Foundation	36	2277	523	2836
33	OR813*	Barley	Oregon State Univ.	267	2406	108	2781
34	DH140797*	Barley	Oregro Seeds	201	1430	1131	2762
35	Trical 131**	Triticale	Trical Superior Forage	73	1946	737	2756
36	DH140789*	Barley	Oregro Seeds	157	1201	1309	2667
37	Trical Flex 719	Triticale	Trical Superior Forage	16	1359	1239	2627
38	TX11A001295*	HRWW	TAMU	126	1064	1380	2570
39	KWS Propower	Rye	Trical Superior Forage	14	656	1064	1735
40	KWS Bono	Rye	Trical Superior Forage	18	461	661	1141
LSD (5%)				125	360	278	424
CV(%)				43	11	19	8
Mean				178	2098	889	3175

[†]Varieties ranked according to 2018 total yield.

*Experimental Lines

**Awnless/Beardless

¹Hard Red Winter Wheat (HRWW)

2018 Statewide Cool-season Forage Variety Trial- College Station

Rank [†]	Variety	Species ¹	Source	Dry Matter Yield (lb/a)	
				2-Year [‡] Total	2018 Total
1	TX14OCS5098*	Oat	TAMU	2943	3395
2	FL720	Oat	Angelina Ag/Oak River	2440	3505
3	TX11A001295*	HRWW	TAMU	1914	2570
4	TAMTBO	Ryegrass	Oregro Seeds		4050
5	Flying A	Ryegrass	Oregro Seeds		3896
6	Trical 813	Triticale	Trical Superior Forage		3880
7	TX14OCS5212*	Oat	TAMU		3737
8	MW09S4080-001*	Barley	Oregon State Univ.		3711
9	MW10S4120-008*	Barley	Oregon State Univ.		3614
10	2011-F5-9-2*	Barley	Oregon State Univ.		3562
11	TX14OCS5131*	Oat	TAMU		3530
12	TX13M5625*	HRWW	TAMU		3474
13	Trical Exp. 30412	Triticale	Trical Superior Forage		3443
14	08OR-30*	Barley	Oregon State Univ.		3428
15	NF95319B*	Rye	Noble Foundation		3413
16	MW09S4076-001*	Barley	Oregon State Univ.		3412
17	TX14OCS5154*	Oat	TAMU		3401
18	MW10S4118-004*	Barley	Oregon State Univ.		3394
19	TX14OCS5171*	Oat	TAMU		3343
20	TX14OCS5061*	Oat	TAMU		3315
21	ON14319*	HRWW	Noble Foundation		3315
22	ON13P016*	HRWW	Noble Foundation		3311
23	NF97117*	HRWW	Noble Foundation		3269
24	DH140760*	Barley	Oregro Seeds		3266
25	2011-F5-135-4*	Barley	Oregon State Univ.		3214
26	2011-F5-47-1*	Barley	Oregon State Univ.		3172
27	2011-F5-64-1*	Barley	Oregon State Univ.		3143
28	06OR-91*	Barley	Oregon State Univ.		3089
29	NF97226*	Triticale	Noble Foundation		3034
30	DH140791*	Barley	Oregro Seeds		2931
31	06OR-59*	Barley	Oregon State Univ.		2894
32	TX12V7415*	HRWW	TAMU		2870
33	NF97325*	Rye	Noble Foundation		2836
34	OR813*	Barley	Oregon State Univ.		2781
35	DH140797*	Barley	Oregro Seeds		2762
36	Trical 131**	Triticale	Trical Superior Forage		2756
37	DH140789*	Barley	Oregro Seeds		2667
38	Trical Flex 719	Triticale	Trical Superior Forage		2627
39	KWS Propower	Rye	Trical Superior Forage		1735
40	KWS Bono	Rye	Trical Superior Forage		1141
LSD (5%)				270	424
CV(%)				9	8
Mean				2432	3175

*Experimental Lines

**Awnless/Beardless

[†]Varieties ranked according to 2-year, then 2018 yield averages.

[‡]2-year average based on 2017 and 2018 yields.

¹Hard Red Winter Wheat (HRWW)

2018 Statewide Cool-season Forage Variety Trial- Comanche

Rank [†]	Variety	Species ¹	Source	Dry Matter Yield (lb/a)				Growth Stage
				Clip 1 12/8/17	Clip 2 3/7/18	Clip 3 5/2/18	Total 2018	
1	TX12V7415*	HRWW	TAMU	2691	924	6543	10158	Before Boot
2	DH140760*	Barley	Oregro Seeds	3668	313	5992	9973	Before Boot
3	TX11A001295*	HRWW	TAMU	2468	702	6743	9912	Before Boot
4	TX14VT70526*	Triticale	TAMU	2873	819	6201	9893	Before Boot
5	ON13P016*	HRWW	Noble Foundation	2716	826	6170	9712	Before Boot
6	ON14319*	HRWW	Noble Foundation	2528	744	6440	9711	Before Boot
7	2011_F5_64_1*	Barley	Oregon State Univ.	3474	343	5737	9554	Before Boot
8	2011_F5_9_2*	Barley	Oregon State Univ.	2982	340	6206	9528	Before Boot
9	DH140791*	Barley	Oregro Seeds	3244	299	5752	9296	Before Boot
10	TX14VT70446*	Triticale	TAMU	2581	1211	5494	9286	Flag
11	08OR_30*	Barley	Oregon State Univ.	2822	779	5614	9214	Flag
12	WB4418	HRWW	Westbred	2463	617	6110	9191	Before Boot
13	TX14OCS5098*	Oat	TAMU	3210	88	5831	9129	Before Boot
14	NF97325*	Rye	Noble Foundation	2801	1754	4538	9093	Heading
15	DH140789*	Barley	Oregro Seeds	3079	169	5769	9018	Before Boot
16	TX13M5625*	HRWW	TAMU	2838	1093	5047	8978	Before Boot
17	DH140797*	Barley	Oregro Seeds	3249	182	5521	8953	Before Boot
18	NF97226*	Triticale	Noble Foundation	2940	1345	4588	8873	Before Boot
19	WB4721	HRWW	Westbred	2399	1056	5263	8718	Before Boot
20	NF95319B*	Rye	Noble Foundation	2436	1827	3979	8547	Boot
21	TX14OCS5061*	Oat	TAMU	2567	209	5708	8484	Before Boot
22	MW09S4076_001*	Barley	Oregon State Univ.	3371	334	4765	8470	Heading
23	2011_F5_135_4*	Barley	Oregon State Univ.	3428	790	4230	8448	Before Boot
24	MW10S4118_004*	Barley	Oregon State Univ.	3591	283	4565	8439	Flag
25	TAMTBO	Ryegrass	Oregro Seeds	1740	409	6269	8418	Before Boot
26	TX14OCS5171*	Oat	TAMU	3463	59	4615	8255	Before Boot
27	TX12VT8222-4*	Triticale	TAMU	2647	1048	4657	8236	Before Boot
28	06OR_59*	Barley	Oregon State Univ.	3472	430	4303	8205	Before Boot
29	OR813*	Barley	Oregon State Univ.	3426	597	4126	8150	Before Boot
30	WB4303	HRWW	Westbred	2684	1120	4324	8127	Before Boot
31	TX14OCS5154*	Oat	TAMU	2787	104	5175	8065	Before Boot
32	MW10S4120_008*	Barley	Oregon State Univ.	3276	320	4459	8056	Heading
33	NF97117*	HRWW	Noble Foundation	2768	929	4343	8040	Before Boot
34	WB4458	HRWW	Westbred	2680	966	4332	7978	Before Boot
35	Flying A	Ryegrass	Oregro Seeds	1927	505	5534	7966	Before Boot
36	2011_F5_47_1*	Barley	Oregon State Univ.	2911	960	3868	7739	Before Boot
37	06OR_91*	Barley	Oregon State Univ.	2684	530	4061	7276	Flag
38	MW09S4080_001*	Barley	Oregon State Univ.	3266	602	3253	7121	Heading
39	TX14OCS5131*	Oat	TAMU	3066	140	4049	6971	Before Boot
40	TX14OCS5212*	Oat	TAMU	1063	238	4895	6196	Before Boot
LSD (5%)				696	285	1224	1612	
CV(%)				15	26	15	11	
Mean				2844	662	5120	8660	

[†]Varieties ranked according to 2018 total yield.

*Experimental Lines

¹Hard Red Winter Wheat (HRWW)

2018 Statewide Cool-season Forage Variety Trial- Lockett

Rank [†]	Variety	Species ¹	Source	Dry Matter Yield (lb/a)		
				Clip 1 3/2/18	Clip 2 5/10/18	Total 2018
1	TX12VT8222-4*	Triticale	TAMU	1142	9837	10979
2	LCS Bar	Triticale	Limagrain	1800	8770	10570
3	TX11A001295*	HRWW	TAMU	1529	8151	9680
4	WB 4721	HRWW	Westbred/Monsanto	2186	7062	9248
5	TX14VT70446*	Triticale	TAMU	2320	6221	8541
6	Long Branch	HRWW	Dyna-Gro	1250	7246	8496
7	WB 4303	HRWW	Westbred/Monsanto	1448	6757	8204
8	TX14VT70526*	Triticale	TAMU	1696	6481	8177
9	LCS Chrome	HRWW	Limagrain	1445	6260	7705
10	KWS Progas	Rye	Trical Superior Forage	2052	4781	6833
11	T173	HRWW	Limagrain	1237	5489	6726
12	TX13M5625*	HRWW	TAMU	1590	4855	6445
13	TX12V7415*	HRWW	TAMU	1239	5181	6421
14	TAM 204**	HRWW	Watley Seed	1913	4289	6202
15	WB 4418	HRWW	Westbred/Monsanto	1037	5095	6131
16	06OR-75*	Barley	Oregon State Univ.	2421	3675	6095
17	WB 4458	HRWW	Westbred/Monsanto	1407	4320	5728
18	DH140760*	Barley	Oregro Seeds	1769	3680	5449
19	OR76*	Barley	Oregon State Univ.	1518	3179	4698
20	DH140797*	Barley	Oregro Seeds	1262	2964	4226
21	2011-F5 -113-2*	Barley	Oregon State Univ.	1711	2464	4176
22	06OR91*	Barley	Oregon State Univ.	690	3414	4104
23	MW10S4122-001*	Barley	Oregon State Univ.	1027	2759	3786
24	TX07CS1948*	Oat	TAMU	265	3285	3549
25	DH140789*	Barley	Oregro Seeds	1225	1952	3177
26	DH140791*	Barley	Oregro Seeds	888	2012	2900
LSD (5%)				NS	2316	2488
CV(%)				47	27	23
Mean				1510	5203	6713

[†]Varieties ranked according to 2018 total yield.

*Experimental Lines

**Awnless/Beardless

¹Hard Red Winter Wheat (HRWW)

2018 Cool-season Forage Variety Trial- Millersview

Rank [†]	Variety	Species ¹	Source	Dry Matter Yield (lb/a)			
				Clip 1 1/3/18	Clip 2 3/15/18	Clip 3 5/14/18	Total 2018
1	Elbon	Rye	Noble Foundation	584	406	1262	2272
2	TAMO 411	Oat	TAMU	488	411	854	1858
3	Maton II	Rye	Noble Foundation	405	476	954	1810
4	TAM 204**	HRWW	Watley Seed	798	507	658	1796
5	Trical 348	Triticale	Trical Superior Forage	635	389	763	1710
6	Weathermaster 135**	HRWW	Unknown	357	341	881	1671
7	TAMO 606	Oat	TAMU	783	352	683	1619
8	Maton	Rye	Noble Foundation	236	356	914	1521
9	Slicktrit II	Triticale	Watley Seed	428	281	864	1515
10	Fridge**	Triticale	Elliot Plant Breeding	515	342	649	1482
11	PENNbar 66	Barley	Paramount Seed	570	288	539	1468
12	Heavy Grazer 76-30	Oat	East Texas Seed	739	235	627	1445
13	TAM 114	HRWW	Warner Seed	638	342	566	1439
14	TAMbar 501	Barley	Paramount Seed	584	160	665	1377
15	TAMbar 500	Barley	TAMU	842	260	414	1367
LSD (5%)				305	132	392	521
CV(%)				25	23	30	19
Mean				573	343	755	1626

**Awnless/Beardless

[†]Varieties ranked according to 2018 total yield

¹Hard Red Winter Wheat (HRWW)

2018 Cool-season Forage Variety Trial- Millersview

Rank [†]	Variety	Species ¹	Source	Dry Matter Yield (lb/a)	
				2-Year [‡]	2018
				Total	Total
1	TAM 114	HRWW	Warner Seed	6090	1439
2	Weathermaster 135**	HRWW	Unknown	5950	1671
3	TAM 204**	HRWW	Watley Seed	5189	1796
4	Maton	Rye	Noble Foundation	4948	1521
5	Elbon	Rye	Noble Foundation	4662	2272
6	Heavy Grazer 76-30	Oat	East Texas Seed	4485	1445
7	TAMbar 501	Barley	Paramount Seed	4468	1377
8	Fridge**	Triticale	Elliot Plant Breeding	4401	1482
9	TAMO 606	Oat	TAMU	3967	1619
10	TAMO 411	Oat	TAMU	3819	1858
11	Maton II	Rye	Noble Foundation		1810
12	Trical 348	Triticale	Trical Superior Forage		1710
13	Slicktrit II**	Triticale	Watley Seed		1515
14	PENNbar 66	Barley	Paramount Seed		1468
15	TAMbar 500	Barley	TAMU		1367
LSD (5%)				1248	521
CV(%)				24	19
Mean				4798	1626

**Awnless/Beardless

[†]Varieties ranked according to 2-year, then 2018 yield averages.

[‡]2-year average based on 2014 and 2018 yields.

¹Hard Red Winter Wheat (HRWW)

2018 Comanche, TX County Cool-season Forage Variety Trial

Rank [†]	Variety	Species ¹	Source	Dry Matter Yield (lb/a)				Growth Stage
				Clip 1 12/8/17	Clip 2 3/7/18	Clip 3 5/2/18	Total 2018	
1	Oakes	SRWW	Syngenta	2396	657	7084	10137	Before Boot
2	SY Flint	HRWW	Syngenta	2759	1064	5778	10021	Before Boot
3	Heavy Grazer II	Oat	East Texas Seed	3282	243	6408	9933	Before Boot
4	Haybet/TAM 114	Barley/HRWW	--	3184	572	6128	9883	Before Boot
5	TAM 114	HRWW	TAMU	2399	925	6519	9843	Before Boot
6	SlickTrit**	Triticale	Watley Seed	2402	129	7234	9765	Before Boot
7	TAM 204**	HRWW	Watley Seed	2763	1273	5399	9435	Before Boot
8	Elbon	Rye	Noble Foundation	2284	1348	5683	9315	Boot
9	TAMcale 5019	Triticale	TAMU	2694	846	5742	9282	Before Boot
10	SY Razor**	HRWW	Syngenta	2877	1394	4844	9115	Before Boot
11	Prine	Ryegrass	East Texas Seed	1382	488	7031	8997	Before Boot
12	BigMac/Trical 131	Oat/Triticale	--	2816	786	5351	8954	Before Boot
13	Maton II	Rye	Noble Foundation	1883	1723	5085	8690	Boot
14	SY Rugged	HRWW	Syngenta	2520	1187	4944	8650	Before Boot
15	NF 201	Triticale	Noble Foundation	2593	1079	4901	8573	Before Boot
16	P-919**	Winter Barley	Paramount Seed	3485	871	3802	8159	Before Boot
17	Harrison	Oat	LSU	2600	162	5221	7983	Before Boot
18	Trical 131**	Triticale	Trical Superior Forage	2461	1054	4084	7600	Before Boot
19	Nelson	Ryegrass	TAMU	1976	589	4779	7344	Before Boot
20	Bob	Oat	--	1305	115	5607	6740	Before Boot
LSD (5%)				938	346	1086	1460	
CV(%)				22	25	11	10	
Mean				2519	837	5557	8939	

[†]Varieties ranked according to 2018 total yield.

**Awnless/Awnletted

¹Hard Red Winter Wheat (HRWW); Soft Red Winter Wheat (SRWW)

2018 Comanche, TX County Cool-season Forage Variety Trial

Rank [†]	Variety	Species ¹	Source	Dry Matter Yield (lb/a)			
				4-Year [‡]	3-Year	2-Year	2018
				Total	Total	Total	Total
1	TAM 114	HRWW	TAMU	9404	10151	10920	9843
2	Maton II	Rye	Noble Foundation	8791	9300	9860	8690
3	P-919**	Winter Barley	Paramount Seed	8580	9302	9769	8159
4	SY Razor**	HRWW	Syngenta	8185	9209	9347	9115
5	Prine	Ryegrass	East Texas Seed	7989	8343	9501	8997
6	Nelson	Ryegrass	TAMU	7507	7439	8763	7344
7	Heavy Grazer II	Oat	East Texas Seed		10691	11985	9933
8	NF 201	Triticale	Noble Foundation		10140	10870	8573
9	Harrison	Oat	LSU			10236	7983
10	Oakes	SRWW	Syngenta			10212	10137
11	Haybet/TAM 114	Barley/HRWW	--			10007	9883
12	SY Flint	HRWW	Syngenta				10021
13	SlickTrit**	Triticale	Watley Seed				9765
14	TAM 204**	HRWW	Watley Seed				9435
15	Elbon	Rye	Noble Foundation				9315
16	TAMcale 5019	Triticale	TAMU				9282
17	BigMac/Trical 131	Oat/Triticale	--				8954
18	SY Rugged	HRWW	Syngenta				8650
19	Trical 131**	Triticale	Trical Superior Forage				7600
20	Bob	Oat	--				6740
LSD (5%)				1002	1285	1555	1460
CV(%)				15	14	13	10
Mean				8410	9340	10143	8939

**Awnless/Awnletted

[†]Varieties ranked according to 4-year, 3-year, 2-year, then 2018 yield.

[‡]4-year average based on 2015, 2016, 2017, and 2018 yields.

¹Hard Red Winter Wheat (HRWW); Soft Red Winter Wheat (SRWW)

2018 Comanche, TX County Cool-season Silage Variety Trial

Rank [†]	Variety	Species ¹	Source	Dry Matter Yield (lb/a)		
				Clip 1 [‡] 3/7/18	Clip 2 5/2/18	Total 2018
1	SY Razor**	HRWW	Syngenta		10207	10207
2	Oakes	SRWW	Syngenta		9896	9896
3	TAM 114	HRWW	TAMU		9385	9385
4	Okay	Oat	Oklahoma State Univ.		8454	8454
5	Maton II	Rye	Noble Foundation	2445	5442	7887
6	Trical 131**	Triticale	Trical Superior Forage	2888	4695	7583
7	NF 201	Triticale	Noble Foundation	2402	5117	7519
8	Nelson	Ryegrass	TAMU		6682	6682
9	P-919**§	Barley	Paramount Seed		3471	3471
LSD (5%)				NS	1105	1134
CV(%)				9	9	8
Mean				2578	7039	7898

[†]Varieties ranked according to total yield.

[‡]Clip 1 was taken early for entries that had reached boot stage. Regrowth was well on 5/2/18 when remaining plots were harvested for silage.

¹Hard Red Winter Wheat (HRWW); Soft Red Winter Wheat (SRWW)

§ Severe hog damage occurred to P-919 only.

2018 Overton, TX Annual Ryegrass Forage Trial

Variety/Line	Harvest 1	Harvest 2	Harvest 3	Harvest 4	Harvest 5	Harvest 6	Total Season Yield	3-Year [†] Mean Yields
	30-Nov	25-Jan	9-Mar	3-Apr	8-May	7-Jun		
(lbs DM/ac)								
Lonestar	724	450	2754	4134	1947	516	10525	9257
Jackson	515	793	2696	2582	1938	169	8693	9026
Wax Marshall	937	428	3101	3601	2523	790	11380	8956
Flying A	555	607	2901	3840	2239	372	10514	8918
Jumbo	617	1093	2737	4288	2221	273	11229	8886
Gulf	760	783	2834	2766	2484	176	9803	8782
Double Diamond	773	493	2337	4058	2337	464	10462	8618
Triangle T	549	518	2864	4000	2029	495	10455	8489
Winterhawk	533	834	2522	2667	2014	439	9009	8409
PS 15 ^a	574	739	2698	4071	1859	493	10434	8405
ME 4 ^d	632	609	2514	3293	2450	399	9897	8402
M2CVS ^a	340	587	2719	3261	1979	543	9429	8394
Tetrastar	307	1165	2467	2857	2171	334	9301	8282
Diamond T	442	969	2960	4036	2215	437	11059	8221
ME 94 ^a	1048	965	2867	2994	1993	463	10330	8096
Passerel Plus	311	702	1902	2793	1827	481	8016	7948
TAMTBO	512	1004	2412	3174	1985	479	9566	7941
Maximus	275	497	2413	4288	2028	368	9869	7924
Prine	19	485	2144	2610	2015	355	7628	7882
TAM 90	626	450	1922	2904	1719	264	7885	7850
Nelson	543	509	2411	2874	1980	808	9125	7812
B-17.2357 ^a	906	1417	3436	3322	2582	453	12116	- ^b
BARLM17534 ^a	627	904	2980	4745	2128	682	12066	-
PS 12 ^a	708	803	2651	5037	2433	378	12010	-
Angusta	503	1361	3259	3325	2284	380	11112	-
Centurion	139	1888	2699	3450	2411	262	10849	-
Sheriff	465	689	2768	4259	2446	206	10833	-
BARLM17167-1 ^a	470	234	2724	4595	2300	496	10819	-
BARLM1767-4 ^a	270	455	2521	4733	1985	422	10386	-
SARG-FL	518	429	3280	3113	2486	559	10385	-
Kodiak	717	973	2995	3325	2132	172	10314	-
BARLM17478 ^a	282	522	2806	4408	1682	431	10131	-
GO-ARC17 ^a	423	991	2245	4045	1973	402	10079	-
BARLM17477 ^a	102	270	2581	4492	2115	474	10034	-
BARLM17476 ^a	390	157	2269	4191	2113	711	9831	-
BARLM17538 ^a	358	1021	2054	2765	3060	465	9723	-
BARLM17532 ^a	709	676	2322	3079	2127	488	9401	-
BARLM17531 ^a	209	144	2755	3100	2210	684	9102	-
WMWL	523	680	2477	2897	2020	423	9020	-
BAR HAAO ^a	483	1267	2657	2446	1786	226	8865	-
BARLM17490-4 ^a	429	799	2487	3159	1718	190	8782	-
Ribeye	311	668	2256	2874	2030	287	8426	-
BARLM17514 ^a	250	919	2123	2827	1756	490	8365	-
BARLM17490-3 ^a	502	678	2343	2412	1936	376	8247	-
BARLM17533 ^a	303	280	2631	2511	1735	500	7960	-
Koga	121	406	2265	2812	1713	380	7697	-
Fria	216	247	2549	2775	1087	353	7227	-
LSD (5%)	586	831	709	746	543	292	2081	
CV(%)	104	99	23	19	22	58	18	
Mean	478	714	2602	3410	2089	426	9720	

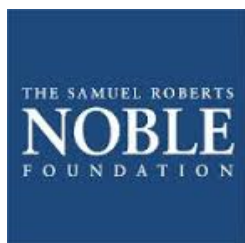
^a Experimental line, seed not commercially available.

^b Entry not tested over last three years.

[†] Varieties ranked according to 3-year average, then 2018 total season yield.

Acknowledgements

The authors of this publication would like to thank the following companies for providing seed and participating in these trials.



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