

# Applied Research Report

## 2018 Comanche County Cool-Season Forage Variety Trials

Indian Creek Farms

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### Summary

With over 25,000 acres planted annually for forage production, small grains and ryegrass are major crops in Comanche County. 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.).

### Objective

The objective of the trials is to assist Comanche County producers when selecting from the many species and varieties of cool-season forages. Variety selection using local data allows producers to get the most from their planting investment. These tests provide producers with sound multiple year research when making their variety selections.

### Materials and Methods

This year we had three separate sets of trials on the location, they consisted of: state research trials, county trials and county silage trials. State trials are mostly experimental lines that companies pay to enter. The county trials are made-up of varieties decided on by county program area committees. The state trials included 40 varieties, the county trials included 20 varieties and the silage trials had 9 varieties. The small grain varieties were planted with a plot planter at a seeding rate of 1.2 million seed/acre. This equates to approximately 75 lbs./acre on small grains. Ryegrass varieties were planted at a rate of 25lbs/acre. The plots were planted on October 6<sup>th</sup>, 2017. All small grain seed was treated with Cruiser Maxx Vibrance for cereals. Triple 15 was applied to the trials preplant at a rate of 200 lbs./acre, an additional 60 lbs of N were added following the first clipping. Forage trials were clipped 3 times, silage trials were clipped

just one time except for 3 varieties that were beginning to boot and had to be cut in March then again in May.

## **Results and Discussion**

**2018 Comanche, TX County Cool-season Forage Variety Trial**

Rank <sup>†</sup>	Variety	Class <sup>1</sup>	Developer	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
	Mean			2519	837	5557	8939	
	LSD			938	346	1086	1460	
	CV			22	25	11	10	

<sup>†</sup>Varieties ranked according to 2018 total yield.

\*\*Awnless/Awnletted

<sup>1</sup>Hard Red Winter Wheat (HRWW); Soft Red Winter Wheat (SRWW)

Trade names of commercial products used in this report is included only for better understanding and clarity. Reference to commercial products or trade names is made with the understanding that no discrimination is intended and no endorsement by Texas AgriLife Extension Service and the Texas A&M University System is implied. Readers should realize that results from one experiment do not represent conclusive evidence that the same response would occur where conditions vary.

2018 Comanche, TX Statewide Cool-season Forage Variety Trial

Rank <sup>†</sup>	Variety	Class <sup>1</sup>	Developer	Dry Matter Yield (lb/a)				Growth Stage
				Clip 1	Clip 2	Clip 3	Total	
				12/8/17	3/7/18	5/2/18	2018	3/7/18
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
	Mean			2844	662	5120	8660	
	LSD			696	285	1224	1612	
	CV			15	26	15	11	

<sup>†</sup>Varieties ranked according to 2018 total yield.

\*Experimental Lines

<sup>1</sup>Hard Red Winter Wheat (HRWW)

**2018 Comanche, TX County Cool-season Forage Variety Trial**

Rank <sup>†</sup>	Variety	Class <sup>1</sup>	Developer	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	NF201	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	TAMU				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	Northern Seed				7600
20	Bob	Oat	UA				6740
Mean				8410	9340	10143	8939
LSD				1002	1285	1555	1460
CV				15	14	13	10

<sup>†</sup>Varieties ranked according to 2018 total yield.

\*Experimental Lines

<sup>‡</sup>4-year average based on 2015, 2016, 2017, and 2018 yields.

<sup>1</sup>Hard Red Winter Wheat (HRWW); Soft Red Winter Wheat (SRWW)

**2018 Comanche, TX Cool-season Forage Variety Trial**

Rank <sup>†</sup>	Species	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
Mean		2844	662	5137	8660
LSD		422	196	858	949
CV		18	35	20	13

<sup>†</sup>Species ranked according to 2018 total yield.

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## 2018 Comanche, TX County Cool-season Silage Variety Trial

Rank <sup>†</sup>	Variety	Class <sup>1</sup>	Developer	Dry Matter Yield (lb/a)		
				Clip 1 <sup>‡</sup> 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
	Mean			2578	7039	7898
	LSD			NS	1105	1134
	CV			9	9	8

<sup>†</sup>Varieties ranked according to total yield.

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

<sup>1</sup>Hard Red Winter Wheat (HRWW); Soft Red Winter Wheat (SRWW)

§ Severe hog damage occurred to P-919 only.

### **Conclusions**

We had unusually low temperatures on a few occasions during this year's trial. Temperatures dipped into the single digits and low teens were not unusual. These low temperatures, though not common, did provide additional information on variety winter hardiness. The yield data comparisons were excellent and provided producers with valuable information they can use in making planting decisions. The addition of multiple years of data is providing more confidence in variety selection and each individual variety's ability to perform under various conditions. Dairy, crops, and livestock and range committees visited the trials, and a field day was held prior to the last harvest. As usual, producers really enjoy having the opportunity to compare the many various species and varieties side by side in the field.

### **Acknowledgements**

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