

2019-2020 Texas Rolling Plains Dual-Purpose Trial

June 21, 2020 (*This report will be updated with protein analysis results)

Emi Kimura, Extension Agronomist and State-Extension Peanut Specialist, Vernon, TX
Jonathan Ramirez, Extension Associate, Vernon, TX

Collaborators

Michael Bowman (CEA-Foard), Langdon Reagan (CEA-Wilbarger), Jonathon Reyes (CEA-Haskell)
Jerry Coplen (CEA-Knox), Justin Gilliam (CEA-Hardeman), Josh Kouns (CEA-Baylor), and Karl Winge (CEA-Callahan)

Dual-purpose variety trials were conducted in Foard, Haskell, and Wilbarger County in 2018-2019 and 2019-2020. Trial plots were clipped for estimating forage dry matter until jointing. After each forage clipping, plots were mowed to simulate grazing effects. All plots were harvested for estimating grain yield at the end of season. Texas A&M AgriLife Research and Extension wheat program chose pick's and watch lists each year. **A "Pick" variety means this: given the data, these are the varieties we would choose to include and emphasize on our farm for wheat grain production.** Our "picks" criteria include a minimum of three years of data, while "watch" criteria include a minimum of two years of data. Based on the past two years dual-purpose variety trial results, varieties listed in the table 1 performed well as a dual-purpose wheat variety; therefore, they were selected as watch list for the Texas Rolling Plains.

Table 1. Dual-purpose watch list for Texas Rolling Plains

	Watch list (leaf/stripe rust)*	Source	Forage 2-year	Grain 2-year	% of test average			
					Forage 2019	Forage 2020	Grain 2019	Grain 2020
1	WB 4792 (-/2)	Westbred	109%	121%	119%	98%	117%	124%
2	WB 4595 (-/3)	Westbred	94%	134%	103%	84%	152%	115%
3	Green Hammer (-/0)	Oklahoma	111%	103%	106%	116%	109%	96%
4	TAM 114 (-/0)	Texas A&M	113%	89%	118%	108%	94%	83%
5	Smith's Gold (-/0.7)	Oklahoma	106%	92%	132%	80%	88%	96%
Test Average			1370	33.9	823	1917	28.8	39
			lb/ac	bu/ac	lb/ac	lb/ac	bu/ac	bu/ac

*Leaf rust rating was not taken during 2019/2020 season due to the low leaf rust pressure. Stripe rust rating was taken at the Wilbarger County trial on April 22, 2020. 0 - no rust, 5-high infestation.

Table 2. 2020 Rolling Plains Dual-Purpose Trial: All location summary (Wilbarger, Foard, and Haskell County)

Variety	Source	Stripe rust	2020		Test weight	Protein*
			Forage lb/ac	Grain bu/ac		
			Total	2020	2020	2020
WB4792	Westbred	2	1885	49	62	
WB4595	Westbred	3	1614	45	62	
CP7826	Winfield	2	1613	43	58	
Showdown	OSU	0	1848	42	59	
WB4303	Westbred	1	2649	42	58	
TAM115	TAMU	0	2021	41	61	
GreenHammer	OSU	1	2226	38	61	
Smith'sGold	OSU	0	1533	37	61	
<u>OK12912C</u>	OSU	0	1632	36	61	
Skydance	OSU	0	1542	34	63	
<i>OCW04S717T-6W</i>	OSU	4	1972	34	60	
TAM304	TAMU	1	2507	34	59	
<u>XD4401</u>	Westbred	4	1713	33	60	
TAM114	TAMU	1	2080	33	61	
Mean			1917	39	60	
P			NS	NS	0.0002	

Highlighted values are statistically same as the highest value.

Stripe rust rating: 0 - no rust, 5-high infestation. The rating was obtained at Wilbarger County trial.

Variety name with underline is an experimental line.

Italicized variety names are awnless varieties.

*Protein analysis are being conducted. Results will be included when test results will be available.

Agronomic Information

County	Wilbarger
Cooperator	Bruce Gillis
County Extension Agents	Langdon Reagan
GPS	34.179296, -99.055502
Seeding rate	1.4 M seeds/ac
Forage clipping 1, clipping 2	1/24/2020, 2/21/2020
Grain harvest	6/11/2020
Pre-plant N/ top-dressing	By producer/92# N
Precipitation (Oct-May)	17.72

Table 3. 2020 Rolling Plains Dual-Purpose Trial: Wilbarger County, Harrold, TX

Variety	Source	Ht (in)	Stripe rust	2020 Forage lb/ac			2020 Grain	2020 Test weight	Protein*
				1st clip	2nd clip	Total	bu/ac	lb/bu	
WB4792	Westbred	39	2	1061	1848	2909	66	63	
WB4595	Westbred	38	3	1121	1415	2536	61	64	
CP7826	Winfield	42	2	1593	1637	3229	58	57	
TAM115	TAMU	41	0	1521	1807	3328	56	62	
Showdown	OSU	41	1	905	1985	2889	54	60	
<u>OK12912C</u>	OSU	43	0	1214	1502	2717	51	61	
Smith'sGold	OSU	40	1	1129	1845	2974	50	62	
TAM114	TAMU	43	0	1415	2037	3451	47	64	
<i>OCW04S717T-6W</i>	OSU	40	0	1341	1933	3273	46	63	
GreenHammer	OSU	40	0	1790	1990	3780	46	62	
WB4303	Westbred	34	4	1818	2037	3854	44	58	
Skydance	OSU	40	1	1009	1913	2922	43	64	
<u>XD4401</u>	Westbred	37	4	1420	1787	3207	36	62	
TAM304	TAMU	36	1	3089	1905	4995	34	61	
Mean				1459	1831	3290	49	62	
P				NS	NS	NS	0.0356	0.0016	

Highlighted values are statistically same as the highest value. Height was measured from the ground to the tip of awn. Stripe rust rating: 0 - no rust, 5-high infestation. Stripe rust rating: 0 - no rust, 5-high infestation. Variety name with underline is an experimental line. *Italicized variety names are awnless varieties.*

*Protein analysis are being conducted. Results will be included when test results will be available.

Agronomic Information

County	Foard
Cooperator	Ronnie Allen
County Extension Agents	Michael Bowman
GPS	33.984488, -99.679716
Seeding rate	1.4 M seeds/ac
Plant	10/2/2019
Forage clipping 1	2/21/2020
Grain harvest	6/15/2020
Pre-plant N/ top-dressing	-/92# N on Feb
Precipitation (Oct-May)	14.65

Table 4. 2020 Rolling Plains Dual-Purpose Trial: Foard County, Crowell, TX

Variety	Source	Ht (in)	Stripe rust	2020 Forage lb/ac			2020 Grain	2020 Test weight	Protein*
				1st clip	2nd clip	Total	bu/ac	lb/bu	
WB4303	Westbred	32	0	2204	.	2204	48	60	
WB4595	Westbred	33	0	637	.	637	36	61	
WB4792	Westbred	34	0	625	.	625	34	60	
TAM115	TAMU	35	0	827	.	827	34	60	
Skydance	OSU	34	0	370	.	370	33	61	
GreenHammer	OSU	37	0	1250	.	1250	32	59	
CP7826	Winfield	34	0	366	.	366	31	57	
<u>XD4401</u>	Westbred	31	0	485	.	485	31	58	
Showdown	OSU	34	0	465	.	465	29	59	
TAM304	TAMU	33	0	905	.	905	28	59	
Smith'sGold	OSU	33	0	234	.	234	26	59	
<u>OK12912C</u>	OSU	35	0	613	.	613	24	59	
<i>OCW04S717T-6W</i>	OSU	34	0	670	.	670	23	57	
TAM114	TAMU	36	0	666	.	666	22	58	
Mean		34	0	737		737	31	59	
P		NS	NS	NS		NS	0.0331	NS	

Highlighted values are statistically same as the highest value. Height was measured from the ground to the tip of awn. Stripe rust rating: 0 - no rust, 5-high infestation. Stripe rust rating: 0 - no rust, 5-high infestation. Variety name with underline is an experimental line. *Italicized variety names are awnless varieties.*

*Protein analysis are being conducted. Results will be included when test results will be available.

Agronomic Information

County	Haskell
Cooperator	Mike Urbanzck
County Extension Agents	Jonathon Reyes/Jerry Coplen/Josh Kouns
GPS	33.354880, -99.517570
Seeding rate	1.4 M seeds/ac
Plant	10/3/2019
Forage clipping 1, clipping 2	1/24/2020, 2/21/2020
Grain harvest	6/12/2020
Pre-plant N/top-dressing	By producer
Precipitation (Oct-May)	16.76

Table 5. 2020 Rolling Plains Dual-Purpose Trial: Haskell County, Weinert, TX

Variety	Source	Ht (in)	Stripe rust	2020 Forage lb/ac			2020 Grain	2020 Test weight	Protein*
				1st clip	2nd clip	Total	bu/ac	lb/bu	
WB4792	Westbred	36	0	600	1102	1702	45	63	
Showdown	OSU	38	0	828	902	1730	44	60	
CP7826	Winfield	37	0	384	444	828	41	60	
TAM304	TAMU	32	0	532	556	1088	39	58	
WB4595	Westbred	34	0	751	592	1343	37	61	
Smith's Gold	OSU	35	0	463	493	957	36	62	
WB4303	Westbred	32	0	809	932	1741	35	57	
Green Hammer	OSU	38	0	578	743	1321	35	62	
TAM115	TAMU	37	0	790	721	1510	34	61	
<u>OK12912C</u>	OSU	38	0	444	784	1228	34	62	
TAM114	TAMU	39	0	910	740	1650	28	60	
Skydance	OSU	34	0	441	502	943	27	64	
<i>OCW04S717T-6W</i>	OSU	35	0	850	688	2821	.	59	
<u>XD4401</u>	Westbred	34	0	452	584	1036	.	.	
Mean				631	699	1421	36	61	
P				NS	NS	NS	<.0001	0.0108	

Highlighted values are statistically same as the highest value. Height was measured from the ground to the tip of awn. Stripe rust rating: 0 - no rust, 5-high infestation. Stripe rust rating: 0 - no rust, 5-high infestation. Variety name with underline is an experimental line. *Italicized variety names are awnless varieties.* *Awnless varieties at this site were damaged by deer.*

*Protein analysis are being conducted. Results will be included when test results will be available.