

2011 Wheat Variety Trials Conducted in the Texas And New Mexico High Plains *Brent Bean*¹

2010-2011 Wheat Crop in Review

Unfortunately 2011 will go down as one of the driest years on record. Much of the dryland wheat acreage throughout the area was not harvested due to drought. Those that were harvested were generally planted late and on land fallowed in 2010. Irrigated yields were also down. Many producers had to quit watering wheat early in order to concentrate their irrigation water on establishing corn or cotton. Insect infestation and disease infection were low throughout most of the region, although wheat streak mosaic and barley yellow dwarf could be found in some fields. A few low lying fields in the southwest panhandle were damaged from freeze injury during flowering. In isolated cases freeze damage was severe.

Variety Trial Results and Recommendations

Irrigated Trials

Variety trials were planted and harvested at six irrigated locations around the Texas Panhandle and at the New Mexico State University station near Clovis (Table 1). Even though trials were irrigated, yields were lower than normal due to drought conditions, hot air temperatures during flowering and late freeze damage in a few of the trials. Highest average yields were recorded in the Dimmitt trial. Three varieties, *TAM 112*, *Winterhawk*, and *TAM 113* yielded in the top 25% of five of the six locations. This is only the second year we have had *Winterhawk*, a Westbred variety, in our trials. *TAM 113* was released this year by Texas AgriLife Research and will not be commercially available until 2012. Other top varieties were *TAM 111*, *OKO7209* (OSU experimental), *Duster* and *Bill Brown*. Other varieties of note were *Hatcher* and the Texas AgriLife experimental *TX05A001188*.

Dryland Trials

Surprisingly, in spite of the drought, we were able to harvest seven of the nine dryland trials planted. Lowest average yield (12.1 bushels) was at Etter and the highest average yield (34.7 bushels) was at the Groom location (Table 2). All of the dryland locations were located on fallowed land. Those locations in the eastern part of the Panhandle (Groom, Silverton, Perryton) yielded the highest, greatly benefiting from a late fall rain event. Varieties yielding in the top 25% in at least 4 of the 7 locations were *TAM 113*, *TAM 112*, *OKO7209* (OSU experimental), *Armour*, *Winterhawk* and Texas AgriLife experimental *TX05A001188*. Other varieties of note were *Hatcher*, *AP 503 CL*, *OK07214* (OSU experimental), *TAM 111*, *Duster* and *Mace*. *Mace* is a Nebraska variety with good wheat streak mosaic tolerance. This is the second year it has been in our trials and overall its yield has been average.

¹ Professor and Extension Agronomist, Texas A&M Research and Extension Center, 6500 Amarillo Blvd. West, Amarillo, TX, 79106, b-bean@tamu.edu.

Recommendations

Varieties are recommended after reviewing their performance at multiple locations over a minimum of three years. Emphasis is placed on the consistency of varieties yielding in the top 25%. For example, *TAM 111* and *TAM 112* have each been in the top 25% of 18 of 28 dryland variety trials in the High Plains over the last five years. Their consistent high yield across a range of conditions easily qualifies them as recommended varieties for dryland production. Other varieties that are recommended for dryland are *Hatcher*, *Endurance*, *Duster*, *Bill Brown* and *Armour*. *Endurance* is especially good as a dual-purpose wheat for grazing and grain production. *Hatcher* and *Bill Brown* are Colorado State varieties with Russian wheat aphid tolerance. *Armour* is a Westbred variety making its debut on the recommendation list. *Armour* is an early maturing variety and can be short, although we did not have any trouble with harvest. The varieties recommended for full and limited irrigation are the same as those listed for dryland with just a couple of exceptions.

Variety Recommendations		
Full Irrigation	Limited Irrigation	Dryland
TAM 111	TAM 111	TAM 111
TAM 304	TAM 112	TAM 112
Hatcher	Hatcher	Hatcher
Bill Brown	Bill Brown	Bill Brown
Endurance	Endurance	Endurance
Duster	Duster	Duster
		Armour

TAM 112 is not recommended for full irrigation only because straw strength can become an issue under high water and nitrogen conditions. *TAM 304* will work well under full irrigation because of its excellent straw strength and good disease resistance. *Armour* would likely be okay for limited irrigation but yields have only been slightly above average under full irrigation. *TAM 113* does not make the recommendation list only because it will not be available until 2012.

Other Comments

Yield data from previous years as well as variety descriptions and other information can be found at the following website under the agronomy link at <http://amarillo.tamu.edu/amarillo-center-programs>. Test weights as well as other information is available upon request.

Acknowledgments

Funds for conducting these variety trials were partially provided for by the TEXAS WHEAT PRODUCERS BOARD through grower check-off funds.

Table 1. Irrigated Wheat Variety Trials Harvested in 2011 in the Texas and New Mexico High Plains.

Brent Bean^{1,2}, Jackie Rudd², Ravindra Devkota², Rex Kirksey³

Variety ⁴	Source	AVG	Dimmitt	Clovis	Bushland	Etter	Dalhart	Perryton
		bu/acre ⁵						
TAM 111	TAMU	66	81	85	67	57	45	61
TAM 112	TAMU	66	72	66	71	59	63	63
Winterhawk	Westbred	64	78	72	70	57	48	61
TAM 113 (TX02A0252)	TAMU	64	69	68	75	59	52	61
OK07209	OSU	63	62	73	73	59	47	64
Duster	OSU	63	80	72	70	54	45	56
AP 503 CL	Syngenta	62	68	65	76	53	47	61
TAM 203	TAMU	61	88	55	66	50	56	54
Bill Brown	CSU	61	75	68	70	55	44	52
Garrison (OK05212)	OSU	60	71	69	66	52	49	55
Armour	Westbred	60	67	64	67	54	51	56
OK07214	OSU	60	68	65	74	54	44	53
TX05A001188	TAMU	59	72	63	55	51	52	60
Hatcher	CSU	58	58	67	68	58	43	56
AP08T6224	Syngenta	58	69	59	57	48	56	58
Cedar	Westbred	58	67	70	63	44	41	61
TAM 304	TAMU	57	63	63	58	50	50	60
Billings	OSU	57	69	58	58	54	48	53
TX06A001263	TAMU	57	68	54	58	50	49	61
Endurance	OSU	57	84	49	58	49	48	51
Greer	Syngenta	56	66	68	56	45	48	52
T197	Trio	56	68	55	64	47	44	58
Bullet	OSU	56	73	59	65	49	42	47
Santa Fe	Westbred	56	76	58	65	48	37	48
Jagalene	Syngenta	55	65	61	59	47	42	57
APH09T1122	Syngenta	55	61	50	64	48	50	55
T136	Trio	54	60	62	62	42	45	56
Fuller	KSU	54	66	53	57	44	51	51
AP08T5913	Syngenta	53	60	57	59	51	37	51
Shocker	Westbred	52	75	46	56	42	44	50
Jackpot	Syngenta	52	65	48	59	46	42	53
Pete BL	OSU	52	51	53	63	38	53	52
TX06A001281	TAMU	51	62	51	61	39	37	58
Mace	Nebraska	51	49	59	62	52	23	63
Jagger	KSU	50	59	56	49	41	49	48
TAM W-101	TAMU	50	60	51	52	51	34	54
AP08TA6927	Syngenta	49	57	47	60	49	39	43
TAM 401 BL	TAMU	47	57	40	50	47	40	46
Fannin	Syngenta	45	62	46	50	38	37	37
Mean		56	67.3	59.3	62.0	49.3	45.4	54.8
LSD (P=.05)			14.3	11.6	12.2	5.1	7.7	5.6
CV			13.1	11.1	12.3	4.1	10.4	6.2

¹ Texas AgriLife Extension, ² Texas AgriLife Research, ³ New Mexico State, Clovis

⁴ CL= Clearfield wheat, BL=beardless. ⁵ Bold numbers indicate top 25% yield by location.

Table 2. Dryland Wheat Variety Trials Harvested in 2011 in the Texas and New Mexico High Plains.

Brent Bean^{1,2}, Jackie Rudd², Ravindra Devkota², Rex Kirksey³

Variety ⁴	Source	AVG	Silverton	Groom	Bushland	Hereford	Clovis	Etter	Perryton
		bu/acre ⁵							
TAM 113 (TX02A0252)	TAMU	26	35	39	13	16	21	19	38
TAM 112	TAMU	26	36	39	17	15	21	16	37
OK07209	OSU	25	37	36	16	15	19	14	39
Armour	Westbred	25	34	42	16	17	18	13	33
Winterhawk	Westbred	24	32	36	15	14	16	14	38
TX05A001188	TAMU	24	33	39	15	15	17	14	32
Hatcher	CSU	23	30	37	14	15	17	13	38
Jagalene	Syngenta	23	32	42	13	13	15	15	31
AP 503 CL	Syngenta	23	30	38	15	16	16	10	34
Endurance	OSU	22	29	36	14	18	16	13	33
OK07214	OSU	22	32	37	13	17	13	14	31
TAM 203	TAMU	22	35	34	13	15	13	11	34
Mace	Nebraska	22	28	32	8	17	15	14	40
Duster	OSU	22	29	31	14	19	17	10	35
TAM 111	TAMU	22	33	35	15	14	18	10	29
Bill Brown	CSU	22	28	39	13	16	14	9	34
Santa Fe	Westbred	22	32	31	16	16	16	12	29
Jackpot	Syngenta	22	28	34	12	15	15	14	33
APH09T1122	Syngenta	22	28	33	12	13	16	15	33
Greer	Syngenta	22	33	43	11	13	13	12	27
TAM W-101	TAMU	21	25	35	15	16	16	13	30
Garrison (OK05212)	OSU	21	32	35	12	12	15	12	32
Shocker	Westbred	21	30	39	13	14	11	12	29
T197	Trio	21	26	37	12	16	14	13	31
TX06A001263	TAMU	21	26	35	12	17	13	11	34
TAM 304	TAMU	21	29	37	13	12	10	11	34
T136	Trio	21	25	34	12	17	14	12	31
AP08T5913	Syngenta	21	24	33	12	14	16	16	29
Cedar HV9W96-1383R	Westbred	21	26	37	14	15	12	8	32
Fuller	KSU	20	19	34	13	15	15	15	30
AP08T6224	Syngenta	20	26	23	12	17	16	11	33
Billings	OSU	20	28	29	13	15	13	11	28
Bullet	OSU	20	27	34	12	14	11	10	29
AP08TA6927	Syngenta	20	26	29	12	17	16	10	26
Jagger	KSU	19	23	34	9	16	12	13	25
TX06A001281	TAMU	19	20	34	11	16	10	9	30
Pete BL	OSU	19	23	32	11	15	11	7	31
Fannin	Syngenta	19	20	31	12	16	14	13	23
TAM 401 BL	TAMU	18	23	30	10	19	12	5	31
Mean		21.6	28.5	35.0	13.0	15.5	14.8	12.1	32.0
LSD (P=.05)			5.8	5.3	2.9	3.3	11.9	18.5	4.9
CV			12.5	9.4	14.0	12.8	2.9	3.7	9.4

¹ Texas AgriLife Extension, ² Texas AgriLife Research, ³ New Mexico State, Clovis

⁴ CL= Clearfield wheat, BL=beardless. ⁵ Bold numbers indicate top 25% yield by location.