

2003 Wheat Variety Trials in the Texas Panhandle

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2003 Wheat Crop

The year started out with great hopes of making an excellent dryland wheat crop. Abundant late summer and fall rains got the crop off to one of the best starts in years. As a result excellent grazing was achieved on a large percentage of Texas Panhandle wheat. Unfortunately, once it quit raining in the fall it really never started back up again until the late spring. Wheat began to suffer from lack of moisture around the first of March. A two inch rain during this time would have greatly increased yield. Many dryland fields were not worth harvesting. Those that were tended to yield in the 10 to 15 bu/acre range. Yield was further reduced in a few fields due to a late freeze and an occasional field was infected with wheat streak mosaic. Stripe rust was also seen around the area but for the most part was not significant enough to reduce grain yield. Although greenbug and Russian wheat aphids were not much of a problem we did see an unusual high infestation of bird cherry oat aphid in a few fields that reached population levels that were necessary to treat.

Wheat Variety Trial Results

Uniform wheat variety trials were initiated near Perryton, Canadian, Claude, Groom, Dalhart, Bushland, Silverton, Wilderado, Hereford, Nazareth, Dumas, and Bushland. Of these the Perryton, Silverton, Wilderado, and Dumas sites were abandoned due to drought or hail damage. Each trial consisted of a uniform set of 35 wheat varieties (see accompanying table). The irrigated locations received varying amounts of water and inputs.

Dryland

In the accompanying table bold type indicates those varieties that yielded in the top 20% at each location. In the three dryland locations tested, only two varieties, TAM 107 and Kalvesta finished in the top 20% in at least two locations. This is not unusual in a particularly dry year when variability within a field and between locations can be very high. Excellent dryland yields were obtained at the Canadian site, where our cooperating farmer, Gary Jahnel averaged 50 bu/acre in the field where the test was located. This is one of the few areas in the Panhandle that received timely rainfall. In choosing a variety it is always best to examine yield results from multiple locations and years. When looking at two and three year averages at Bushland, Claude, and Canadian, the old standbys TAM 105 and those varieties similar to TAM 107 (TAM 110, Prairie Red, Above, AP502 CL) are still very hard to beat. Only at Canadian where the average 3-YR yield was 41.8 bu/acre did some of the newer varieties out perform these trusted older varieties. At Canadian only Cutter and Jagger yielded better than TAM 105 when averaged over three years. Other newer varieties that are showing promise under dryland are Dumas, Thunderbolt, Stanton, Kalvesta, Cisco, and TAM 111. TAM 111 will be available as foundation seed in 2003, but was somewhat disappointing this year under our very dry conditions.

Irrigated

Irrigated trials from five locations are reported. Average yield at the different locations ranged from 57.2 to 111.5 bu/acre. The variety that really stood out in 2003 was Dumas. This variety yielded in the top 20% in four of the five locations. Another variety, TAM 111 yielded in the top 20% at three of the locations. This was a little surprising in that TAM 111 has been developed primarily as a dryland wheat. At the Nazareth location where the average wheat yield in 2003 was 111.5 bu/acre two varieties yielded exceptionally well. These were OK 102 and Stanton. Both of these varieties yielded over 150 bu/acre. We will keep an eye on these two varieties at this location next year. Other varieties yielding well in irrigated trials were Cutter and Jagalene. TAM 302 continues to yield well, but because of its historically low test weight it is generally not recommended.

Variety Recommendations

Each year is different. For this reason, always look at yield data from at least three years before selecting a variety for planting. It is also a good idea to plant more than one variety since varieties perform differently under various environmental conditions. Some varieties also tend to perform better in different parts of the Panhandle. Additional information on this year's trials as well as results from previous years can be viewed at the following web site:

<http://amarillo.tamu.edu/amaweb/Programs/Agronomy/publications/Wheat/index.htm>

Based on what I have observed over the last three years Dumas should be a very consistent high yielding wheat variety. Dumas has excellent straw strength and should perform well under a wide range of irrigated conditions. TAM 110 and TAM 200 are consistent performers that may not top the test but will seldom be a disappointment. TAM 202 is an excellent dual purpose wheat to be used for grazing and grain production. For dryland it is simply very hard to consistently beat the older varieties TAM 110 and TAM 105. TAM 110 is especially appealing because of its greenbug tolerance. Thunderbolt is a taller wheat that has at least some tolerance to stripe rust and wheat streak mosaic. Cutter is a wheat that has been very consistent over the last three years. It also gets a little taller than many of the varieties and should be an excellent fall producer of forage. Varieties to watch next year are TAM 111 and Jagalene.

<i>Variety Recommendation</i>	
Irrigated	Dryland
TAM 110	TAM 110
Dumas	TAM 105
TAM 200	Thunderbolt
TAM 202	Cutter

2003 Wheat Seed

Reports of low test weight wheat were common this year. In acquiring wheat seed for planting be sure to use seed with a test weight of at least 58 lb/bu. Not only will test weight effect yield, but it can also greatly influence fall forage production.

Acknowledgments

These wheat variety trials were partially funded through checkoff dollars received by the Texas Wheat Producers Board.

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Texas Panhandle Uniform Variety Trial -- 2003

Studies conducted by Brent Bean, Jackie Rudd, Bruce Porter, Matt Rowland, Gary Peterson, and Jonny Simmons. Assisted by county agents Dan Cornett, Scott Myer, Mike Bragg, Kirk Dahl, Rick Auckerman, Dennis Newton, and Danny Nusser.

Variety	Dryland*				Irrigated*					
	Canadian	Bushland	Claude	Mean	Dalhart	Nazareth	Hereford	Groom	Bushland	Mean
	bu/acre									
2137	58.9	13.5	22.7	31.7	56.1	119.7	69.9	77.7	88.3	82.4
2145	56.3	9.4	22.9	29.6	54.8	116.7	63.7	70.9	94.2	80.1
2174	60.1	8.4	15.6	28.0	55.7	118.4	69.7	72.8	91.2	81.5
Above	58.8	10.0	22.7	30.5	58.1	119.1	79.2	70.6	95.3	84.5
AP 502 CL	54.3	9.0	23.5	28.9	60.3	115.6	87.7	74.6	91.2	85.9
Cisco	64.6	9.0	22.4	32.0	63.4	107.3	62.5	69.2	86.8	77.8
Coronado	54.1	8.6	16.2	26.3	58.2	129.9	54.5	70.8	94.4	81.6
Custer	55.1	9.8	15.2	26.7	57.7	123.5	69.8	71.7	87.1	82.0
Cutter	65.1	6.7	15.1	29.0	51.4	98.7	65.9	84.9	98.7	79.9
Dumas	62.4	6.6	15.2	28.1	63.5	126.9	86.8	84.4	93.7	91.1
Intrada (white)	59.2	11.0	22.8	31.0	55.3	98.4	78.2	71.9	91.9	79.1
Jagalene	62.3	10.1	19.3	30.6	61.2	114.5	74.6	89.3	98.0	87.6
Jagger	60.6	15.0	21.4	32.3	58.2	98.4	57.6	77.3	89.4	76.2
Kalvesta	63.6	13.4	19.6	32.2	54.1	110.3	63.2	84.9	91.7	80.8
Lockett	49.5	8.9	23.6	27.3	50.4	82.2	64.7	48.2	84.1	65.9
Longhorn	50.4	8.7	17.7	25.6	53.6	111.1	59.4	71.8	77.3	74.6
Ogallala	53.8	7.2	22.7	27.9	55.3	109.0	72.4	71.4	95.0	80.6
OK101	55.3	8.8	20.8	28.3	63.8	123.2	71.4	83.6	94.9	87.4
OK102	56.7	10.6	13.2	26.8	54.5	150.0	70.3	80.2	91.5	89.3
Prairie Red	52.4	12.0	22.5	29.0	47.0	121.4	65.1	69.2	88.1	78.1
Scout 66	44.3	5.8	28.3	26.1	52.8	77.1	51.6	69.3	74.4	65.0
Stanton	64.2	5.6	21.4	30.4	58.2	152.4	70.8	83.8	95.4	92.1
TAM 105	56.1	10.9	28.3	31.8	61.8	112.6	90.3	78.3	97.2	88.1
TAM 107	52.2	13.4	25.8	30.5	59.4	130.5	66.2	67.0	83.9	81.4
TAM 110	59.2	8.6	25.0	30.9	62.4	117.8	90.1	73.5	86.2	86.0
TAM 111	62.6	6.3	12.4	27.1	52.6	117.2	86.4	86.9	103.2	89.2
TAM 200	54.9	6.8	18.4	26.7	61.4	88.6	92.5	79.1	108.6	86.0
TAM 202	58.1	11.6	22.6	30.8	57.0	98.5	74.7	76.8	94.8	80.4
TAM 302	54.2	6.6	17.7	26.2	62.1	97.4	81.5	81.4	97.7	84.0
TAM 400	59.0	8.5	16.8	28.1	60.5	111.4	74.7	70.2	101.6	83.7
Thunderbolt	60.9	7.0	19.4	29.1	49.1	98.6	56.8	79.8	91.6	75.2
Trego (white)	61.4	6.7	14.3	27.5	61.8	91.6	78.4	86.6	97.4	83.2
Triumph 64	57.2	12.8	14.0	28.0	56.2	69.6	44.5	58.8	63.8	58.6
TAM 110CL	56.2	12.0	21.1	29.7	58.4	136.3	57.5	67.6	91.5	82.3
Venango	58.0	4.8	11.9	24.9	56.3	110.0	78.2	70.4	94.6	81.9
Mean	57.5	9.3	19.8		57.2	111.5	70.9	75.0	91.6	
CV	7.6	22.8	19.1		13.4	10.4	14.4	9.2	4.1	
LSD (P=.05)	7.2	3.5	6.3		12.6	18.9	16.7	11.1	6.0	

* Numbers in bold indicate the yield was in the top 20%.