

## 2011 Wheat Variety Trials Conducted in the Texas And New Mexico High Plains *Brent Bean*<sup>1</sup>

### ***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.

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## 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<sup>1,2</sup>, Jackie Rudd<sup>2</sup>, Ravindra Devkota<sup>2</sup>, Rex Kirksey<sup>3</sup>

Variety <sup>4</sup>	Source	AVG	Dimmitt	Clovis	Bushland	Etter	Dalhart	Perryton
		bu/acre <sup>5</sup>						
TAM 111	TAMU	<b>66</b>	<b>81</b>	<b>85</b>	67	<b>57</b>	45	<b>61</b>
TAM 112	TAMU	<b>66</b>	<b>72</b>	66	<b>71</b>	<b>59</b>	<b>63</b>	<b>63</b>
Winterhawk	Westbred	<b>64</b>	<b>78</b>	<b>72</b>	<b>70</b>	<b>57</b>	48	<b>61</b>
TAM 113 (TX02A0252)	TAMU	<b>64</b>	69	<b>68</b>	<b>75</b>	<b>59</b>	<b>52</b>	<b>61</b>
OK07209	OSU	<b>63</b>	62	<b>73</b>	<b>73</b>	<b>59</b>	47	<b>64</b>
Duster	OSU	<b>63</b>	<b>80</b>	<b>72</b>	<b>70</b>	<b>54</b>	45	56
AP 503 CL	Syngenta	<b>62</b>	68	65	<b>76</b>	53	47	<b>61</b>
TAM 203	TAMU	<b>61</b>	<b>88</b>	55	66	50	<b>56</b>	54
Bill Brown	CSU	<b>61</b>	<b>75</b>	<b>68</b>	<b>70</b>	<b>55</b>	44	52
Garrison (OK05212)	OSU	60	71	<b>69</b>	66	52	49	55
Armour	Westbred	<b>60</b>	67	64	<b>67</b>	<b>54</b>	<b>51</b>	56
OK07214	OSU	<b>60</b>	68	65	<b>74</b>	54	44	53
TX05A001188	TAMU	59	72	63	55	51	<b>52</b>	60
Hatcher	CSU	58	58	<b>67</b>	<b>68</b>	<b>58</b>	43	56
AP08T6224	Syngenta	58	69	59	57	48	<b>56</b>	58
Cedar	Westbred	58	67	<b>70</b>	63	44	41	<b>61</b>
TAM 304	TAMU	57	63	63	58	50	<b>50</b>	60
Billings	OSU	57	69	58	58	<b>54</b>	48	53
TX06A001263	TAMU	57	68	54	58	50	49	<b>61</b>
Endurance	OSU	57	<b>84</b>	49	58	49	48	51
Greer	Syngenta	56	66	<b>68</b>	56	45	48	52
T197	Trio	56	68	55	64	47	44	58
Bullet	OSU	56	<b>73</b>	59	65	49	42	47
Santa Fe	Westbred	56	<b>76</b>	58	65	48	37	48
Jagalene	Syngenta	55	65	61	59	47	42	57
APH09T1122	Syngenta	55	61	50	64	48	<b>50</b>	55
T136	Trio	54	60	62	62	42	45	56
Fuller	KSU	54	66	53	57	44	<b>51</b>	51
AP08T5913	Syngenta	53	60	57	59	51	37	51
Shocker	Westbred	52	<b>75</b>	46	56	42	44	50
Jackpot	Syngenta	52	65	48	59	46	42	53
Pete BL	OSU	52	51	53	63	38	<b>53</b>	52
TX06A001281	TAMU	51	62	51	61	39	37	58
Mace	Nebraska	51	49	59	62	52	23	<b>63</b>
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

<sup>1</sup> Texas AgriLife Extension, <sup>2</sup> Texas AgriLife Research, <sup>3</sup> New Mexico State, Clovis

<sup>4</sup> CL= Clearfield wheat, BL=beardless. <sup>5</sup> 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<sup>1,2</sup>, Jackie Rudd<sup>2</sup>, Ravindra Devkota<sup>2</sup>, Rex Kirksey<sup>3</sup>

Variety <sup>4</sup>	Source	AVG	Silverton	Groom	Bushland	Hereford	Clovis	Etter	Perryton
		bu/acre <sup>5</sup>							
TAM 113 (TX02A0252)	TAMU	<b>26</b>	<b>35</b>	<b>39</b>	13	16	<b>21</b>	<b>19</b>	<b>38</b>
TAM 112	TAMU	<b>26</b>	<b>36</b>	<b>39</b>	<b>17</b>	15	<b>21</b>	<b>16</b>	<b>37</b>
OK07209	OSU	<b>25</b>	<b>37</b>	36	<b>16</b>	15	<b>19</b>	<b>14</b>	<b>39</b>
Armour	Westbred	<b>25</b>	<b>34</b>	<b>42</b>	<b>16</b>	<b>17</b>	<b>18</b>	13	33
Winterhawk	Westbred	<b>24</b>	<b>32</b>	36	<b>15</b>	14	16	<b>14</b>	<b>38</b>
TX05A001188	TAMU	<b>24</b>	<b>33</b>	39	<b>15</b>	15	<b>17</b>	<b>14</b>	32
Hatcher	CSU	<b>23</b>	30	37	14	15	<b>17</b>	13	<b>38</b>
Jagalene	Syngenta	<b>23</b>	32	<b>42</b>	13	13	15	<b>15</b>	31
AP 503 CL	Syngenta	<b>23</b>	30	<b>38</b>	<b>15</b>	16	16	10	<b>34</b>
Endurance	OSU	22	29	36	14	<b>18</b>	16	13	33
OK07214	OSU	<b>22</b>	<b>32</b>	<b>37</b>	13	<b>17</b>	13	14	31
TAM 203	TAMU	<b>22</b>	<b>35</b>	34	13	15	13	11	34
Mace	Nebraska	<b>22</b>	28	32	8	<b>17</b>	15	<b>14</b>	<b>40</b>
Duster	OSU	<b>22</b>	29	31	14	<b>19</b>	<b>17</b>	10	<b>35</b>
TAM 111	TAMU	<b>22</b>	<b>33</b>	35	<b>15</b>	14	<b>18</b>	10	29
Bill Brown	CSU	<b>22</b>	28	<b>39</b>	13	16	14	9	34
Santa Fe	Westbred	<b>22</b>	32	31	<b>16</b>	16	16	12	29
Jackpot	Syngenta	<b>22</b>	28	34	12	15	15	14	33
APH09T1122	Syngenta	<b>22</b>	28	33	12	13	<b>16</b>	<b>15</b>	33
Greer	Syngenta	<b>22</b>	<b>33</b>	<b>43</b>	11	13	13	12	27
TAM W-101	TAMU	21	25	35	<b>15</b>	16	16	13	30
Garrison (OK05212)	OSU	21	32	35	12	12	15	12	32
Shocker	Westbred	21	30	<b>39</b>	13	14	11	12	29
T197	Trio	21	26	37	12	16	14	13	31
TX06A001263	TAMU	21	26	35	12	<b>17</b>	13	11	<b>34</b>
TAM 304	TAMU	21	29	37	13	12	10	11	34
T136	Trio	21	25	34	12	<b>17</b>	14	12	31
AP08T5913	Syngenta	21	24	33	12	14	16	<b>16</b>	29
Cedar HV9W96-1383R	Westbred	21	26	<b>37</b>	14	15	12	8	32
Fuller	KSU	20	19	34	13	15	15	<b>15</b>	30
AP08T6224	Syngenta	20	26	23	12	<b>17</b>	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	<b>17</b>	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	<b>19</b>	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

<sup>1</sup> Texas AgriLife Extension, <sup>2</sup> Texas AgriLife Research, <sup>3</sup> New Mexico State, Clovis

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