

**2012 Wheat Variety Trials Conducted in the Texas and New Mexico High Plains**

SCS‐2012‐XX



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***2011-2012 Wheat Crop in Review***



Unfortunately, the High Plains wheat crop in 2012 was still experiencing the fallout from the extreme drought in 2011. Moisture conditions were extremely dry to start the season, but there were some scattered rains throughout the winter and spring. Locations that received timely rains had above average yields while yields in some areas were similar to the drought yields of 2011. By mid-April, wheat was still reported to be mostly in the “poor” condition across the High Plains region. Diseases and insects in this region were not prevalent this year due to the warm and abnormally dry climate though some light rust, whether leaf or stripe, were noted in some fields. In addition, season-long windy conditions in the High Plains kept this area’s soil moisture low. Some irrigated fields with marginal grain yield potential were diverted to hay which commanded good prices, and many dryland wheat fields were cut for hay production where forage production was sufficient.



***Variety Trial Results and Variety Picks***



In this year’s report the annual 2011-2012 harvest results of irrigated and dryland wheat trials (Tables 1 & 2) are complemented by multi-year averages for yield and test weight—up to four years—where results are available that long (Tables 3 to 6).

The popular “Picks” list of wheat varieties for the Texas High Plains is based on a minimum of three years of data, which sometimes begins when a commercially available variety was first entered as an advanced experimental line. This selection includes a ranking of wheat variety performance at each site where a variety is noted if its yield is in the top 25%. The cumulative number of top yielding sites is then calculated across irrigated or dryland sites. Though this means a variety may not be in the top 25% variety because of a yield difference <1 bu/A, the availability of data from 15 or more sites in a 3-year period makes this comparison very useful.

All test sites include at least three replications with each test, and the test sites are a mix of farmer’s fields and Texas AgriLife research station settings (as well as one at NMSU-Clovis). Producer cooperators are instructed to treat their test site no differently than the rest of the field.



**Irrigated Trials**



Variety trials were planted and harvested at six irrigated locations around the Texas Panhandle and at the New Mexico State University Clovis station (Table 1). Yields ranged from mediocre (38 bu/A) to excellent at Clovis (91 bu/A). Winterhawk (Westbred) followed its strong performance in 2011 irrigated harvests by yielding in the top 25% at all six sites (averaging 8 bu/A above average for the 3-year period, Table 3), and this was followed closely by Texas and Oklahoma experimentals (OK07209, since released as Iba, 9 bu/A above average for 2 years) at five sites. One additional commercial line in the second year

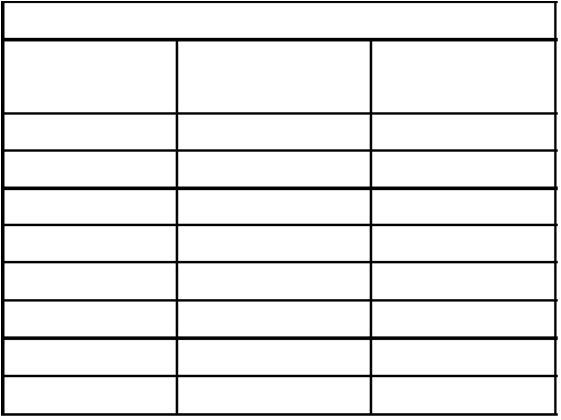
trials, Cedar (Westbred), also yielded well above average at five sites. TAM 111 and TAM 112 performance in 2012 was slightly reduced from recent years, but these two varieties trail only Winterhawk by 1-2 bu/A for 3-year top average yields per acre among 17 sites. Their yield is essentially matched by TAM 113, which was released in 2011 by Texas AgriLife Research and is now commercially available for 2012. Other top varieties in 2012 tests included Oklahoma experimental OK7214 (now released as Gallagher), Duster (Oklahoma State), and TAM 304. Three beardless wheats (Razor, Syngenta; Pete, Oklahoma State; TAM 401), which are more intended for grazing, yield 5 bu/A lower than average wheat grain yields.

**Dryland Trials**

Due to lingering drought only three of five seeded dryland trials achieved harvest, and yields reflected spotty rains (17 bu/A at Bushland to 54 bu/A at Groom, Table 2). With limited data available, we note 39 bu/A average yields from Cedar, Winterhawk, and Ruby Lee (Oklahoma State) which were in the top 25% of yielding varieties at all three locations. Otherwise three sites and divergent yields make summarization of 2012 dryland yield results less certain, and we hope 2013 harvest will return to more harvested sites. TAM lines 111, 112, and 113 (all 36 bu/A) were slightly above average yield but retain consistently good test weight. Hatcher and Bill Brown yields tapered off significantly from previous years. Beardless wheats yielded 3 bu/A below average.

**Wheat Varieties—The “Picks”**

As noted above, varieties become top Picks after reviewing their performance at multiple locations (emphasizing consistency in yield in the top 25% at each location) over a minimum of three years. Varietal Picks are not exclusively top yielding but risk management considerations will also enable some slightly lower yielding varieties to become Picks due strong disease tolerance, standability, etc. For example, TAM 111 and TAM 112 have each been in the top 25% 13 and 15 times a m o n g 2 2 d r y l a n d variety trials in the High Plains over the last four years (Table 4). Their consistent high yield across a range of conditions easily qualifies

them as varietal Picks for dryland production.

Duster, Hatcher, and Endurance remain solid **Wheat Variety “Picks”, TX High Plains**

dryland performers (9 to 12 sites among 22 in top 25%). Hatcher offers Russian wheat aphid

**Full**

**Irrigation**

**Limited**

**Irrigation Dryland**

tolerance, and though its yields have tailed off some in the past two years, it has a solid record of long- term performance.

The dryland Picks include two new members beginning in 2012. TAM 113 (formerly TX02A0252) has broader disease resistance to leaf and strip rust and excellent bread making quality. Winterhawk now has 3 years of yield trial data, and

it is the top yielding dryland wheat variety by 2 bu/A over the 3-year period (Table 4). One potential concern for this variety, however, is near annual

TAM 111 TAM 111 TAM 111

TAM 112 TAM 112

TAM 113 TAM 113 TAM 113

TAM 304

Duster Duster Duster Hatcher Hatcher Hatcher Winterhawk Winterhawk Winterhawk

Endurance

susceptibility to stem rust which is otherwise rare to non-existent on other wheat varieties in the Texas High Plains. Producers interested in Winterhawk are encouraged to limit plantings, perhaps no more than 25% of total acreage, to ensure that conditions favorable for stem rust do not damage your entire crop.

The Pick varieties for full and limited irrigation are nearly the same as those listed for dryland, including the addition of TAM 113 and Winterhawk (top average irrigated yield over 3 years) in 2012, with just a couple of exceptions. 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 though we believe its potential for outperformance is best in high input production.

*Watch List*: Oklahoma’s Iba has only two years of data, but at this point it certainly has strong yield potential. We will be watching to see how its disease package compares to current Pick varieties. Sister line Gallagher from Oklahoma may also be possible consideration in the future with more data.

**Is TAM 113 a “Replacement” for TAM 111 or TAM 112?**

This is a common early question from producers. Texas AgriLife believes that TAM 113 will fit well into any production system where producers have used either 111 or 112, but no, it is not a replacement—rather a *compliment*—to existing TAM 111 and TAM 112 production.

**Table 7.** Comparison of TAM 111, TAM 112, and TAM 113 for 4-year Texas High Plains irrigated and dryland production performance (2009-2012) and varietal traits important for Texas High Plains wheat.

**Varietal Production**

Irrigated, 2009-2012 Dryland, 2009-2012

# of sites in top Test # of sites in top Test

Yield 25% of yield Weight Yield 25% of yield Weight

*Bu/A Lbs./bu Bu/A Lbs./bu*

TAM 111 67.6 14 59.7 35.2 13 59.6

TAM 112 65.4 13 59.6 36.1 15 59.5

TAM 113 63.7 12 59.4 35.6 12 59.8

Trial Averages 60.3 22 sites 58.6 32.6 22 sites 58.3

**Varietal Traits**

Disease Reaction†

Relative Leaf Stripe Wheat Streak Greenbug

Maturity Standability Rust Rust Mosaic Virus Tolerance

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| TAM 111 | Medium | Good | S | MR | MS | S |
| TAM 112 | Early | Lower with high inputs | S | S | MR | MR |
| TAM 113 | Medium | Good | R | R | ? | S |

†S−Susceptible, MS−Moderately Susceptible, MR−Moderately Resistant, R−Resistant.

Based on absolute yield numbers TAM 111 appears to be a better choice than TAM 113 for irrigated production. The past four years, however, have largely been absent any major leaf or stripe rust concerns, which TAM 113 would handle better. We do not see any issue with TAM 113 that might preclude it from use in full irrigation like we do for TAM 112 (potential stalk strength/standability issue under high inputs). Though producers can get lulled into disregarding key traits like resistance to leaf or stripe rust if they haven’t had a problem with this for a few years, TAM 113 offers a better package of resistance to these two diseases. For this reason, you may consider having TAM 113 share some of your acreage, especially if you have planted either TAM 111 or TAM 112 exclusively in either irrigated or dryland production. TAM 112 has provided strong performance in tough dryland conditions, and brings greenbug tolerance but no rust tolerance to that situation, whereas if TAM 113 proves of similar hardiness, it can introduce significant disease tolerance to rusts in dryland production.

**Wheat Variety “Pick” Deletions Since 2010**

In addition to the reasoning behind adding new varieties to our Picks, it is also informative to note what varieties have been removed from the Picks list and why.

 TAM 304, limited irrigation: Removed (2011) as modest yields fells below several other Pick varieties. Low test weight is a concern. TAM 304 remains a Pick for high input production, in part due to data from other states demonstrating outperformance under heavy irrigation.

 Bill Brown, dryland and all irrigated: Added in 2011 but deleted in 2012. Early performance (2009 & 2010) was exceptional; but yields, though still solid, have tailed off since 2010. It is susceptible to stem rust nearly annually, which is essentially non-existent on all other wheat varieties except Winterhawk. Sister line Hatcher (also tolerant to Russian wheat aphid) is still a Pick and a better choice.

 Armour, dryland: Added in 2011 after one exceptional year but now removed. Performance has been solid, but other recent dryland Picks have achieved better long-term performance.

 Endurance, full and limited irrigation: Endurance is not performing well under irrigation relative to other Picks (top 25% only 4 of 22 trials since 2009), but it continues to enjoy good performance on dryland (top 25% 10 of 22 sites, 2009-2012) and it has good dual purpose grazing/grain potential.

**The Advantage of Variety Picks in Multi-Year Wheat Production**

Texas AgriLife notes the relative outperformance of Pick varieties, averaged as a group, versus the non- pick varieties in the same trial for irrigated (Table 3) and dryland (Table 4) production. This is another means to demonstrate the potential for improvements in your wheat yield and ultimately your profit potential when you consider Pick wheat varieties for the Texas High Plains. These results are tabulated at the bottom for the above tables for yield and also for test weight (Tables 5 & 6).

For example, in 2012, the average yield of Pick wheat varieties under irrigation was 68.4 bu/A, which was 10% higher than non-Pick varieties (62.2 bu/A, Table 3). Furthermore, the 4-year average yield advantage for Pick varieties has a 12% yield advantage over non-Pick varieties. The same varieties had a 2% higher test weight over four years (Table 5). A similar advantage also exists among dryland varieties where Picks out-yielded non-Picks by 4 bu/A (12% increase, Table 4) over four years.

***For Further Information***

For updated wheat variety trial results, variety descriptions, past annual summaries and other Texas High Plains wheat production information, view reports online at

<http://amarillo.tamu.edu/amarillo-center-programs/agronomy/wheat-publications>(the Agronomy link) or <http://varietytesting.tamu.edu/wheat>

***Acknowledgments***

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**Table 1. Irrigated Wheat Variety Trials Harvested in 2012 in the Texas and New Mexico High Plains.**

Jackie Rudd2, Ravindra Devkota2, Rex Kirksey3, Brent Bean1,2

|  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Variety4** | **Source** | **Irrigated**  **Average** | Bushland  Full  Irrigated | Clovis  Full  Irrigated | Dalhart  Full  Irrigated | Plainview  Partial  Irrigated | Etter  Partial  Irrigated | Perryton  Partial  Irrigated | Test  Weight | Average  Height |
| Bushels per Acre5 | | | | | | | Lbs./bu5 | Inches |
| **Winterhawk** | Westbred | 75.0 | **83.2** | **114.3** | **76.9** | **60.8** | **43.0** | **71.6** | **60.1** | 29 |
| Iba (OK07209) | Okla. St. | 73.4 | **89.0** | 96.4 | **78.5** | **59.4** | **49.8** | **67.2** | **60.0** | 29 |
| TX06V7266 | Texas A&M | 71.8 | **84.3** | **101.0** | **79.9** | **62.6** | 36.8 | **66.4** | 57.6 | 29 |
| TX03A0563-07 | Texas A&M | 70.5 | **82.5** | **108.3** | 72.3 | **59.6** | **45.7** | 54.8 | **59.4** | 28 |
| Gallagher (OK07214) | Okla. St. | 69.8 | **79.7** | 92.2 | 75.2 | 51.0 | **45.9** | **74.5** | 58.7 | 28 |
| **TAM 304** | Texas A&M | 68.2 | 69.5 | **106.1** | **79.9** | 52.3 | 38.8 | **62.8** | 56.7 | 26 |
| **Duster** | Okla. St. | 67.3 | **81.3** | 94.0 | 73.5 | 48.5 | **45.3** | 61.2 | 58.8 | 28 |
| Cedar | Westbred | 66.5 | 43.9 | **113.8** | **80.2** | **54.1** | 42.0 | **65.1** | 57.9 | 26 |
| **TAM 113** | Texas A&M | 66.3 | **90.6** | 79.6 | 76.0 | 46.7 | 42.3 | **62.4** | **60.0** | 28 |
| TX07A001505 | Texas A&M | 65.5 | **81.7** | 95.9 | 73.7 | 34.6 | **47.0** | 60.1 | **60.4** | 28 |
| T158 | Trio Res. | 65.3 | 67.7 | **103.4** | 76.1 | 47.0 | 40.1 | 57.7 | **59.1** | 28 |
| **TAM 112** | Texas A&M | 64.9 | 68.4 | 87.0 | 76.8 | **59.7** | 40.7 | 56.6 | **59.2** | 29 |
| Everest | Kansas St. | 64.9 | 55.5 | **98.0** | **80.2** | **63.6** | 38.5 | 53.3 | 57.4 | 27 |
| Fuller | Kansas St. | 64.7 | 69.8 | 91.3 | 70.8 | **55.2** | 36.9 | **64.2** | 58.3 | 29 |
| **Hatcher** | Colo. St. | 64.5 | **82.0** | 82.4 | **77.1** | **55.1** | 33.8 | 56.9 | 58.9 | 26 |
| **TAM 111** | Texas A&M | 64.2 | **78.7** | **96.7** | 73.3 | 38.2 | 41.2 | 56.9 | **59.8** | 29 |
| Hitch | Westbred | 63.8 | 72.3 | 86.7 | **79.4** | 51.9 | 36.8 | 55.9 | 57.6 | 27 |
| Jackpot | Syngenta | 63.5 | 62.1 | 90.9 | 76.0 | **63.0** | 33.6 | 55.3 | 57.8 | 28 |
| TAM 305 (TX06A001263) | Texas A&M | 63.3 | 69.7 | 85.4 | 76.7 | 50.7 | 35.4 | **61.8** | **59.1** | 26 |
| Bill Brown | Colo. St. | 63.0 | 77.9 | 89.8 | 75.5 | 44.0 | 38.9 | 52.0 | **59.2** | 26 |
| Billings | Okla. St. | 61.9 | 75.9 | 90.7 | 66.2 | 44.6 | **43.3** | 50.5 | 58.2 | 29 |
| Endurance | Okla. St. | 61.4 | 67.0 | 85.3 | 73.1 | 49.1 | **42.5** | 51.4 | 58.4 | 28 |
| Greer | Syngenta | 61.2 | 64.4 | 86.6 | 70.1 | 53.2 | 38.4 | 54.8 | 56.2 | 28 |
| Armour | Westbred | 61.1 | 70.1 | 86.8 | 72.8 | 49.8 | 39.9 | 47.1 | 57.5 | 27 |
| TAM 203 | Texas A&M | 61.0 | 70.0 | 82.0 | 70.4 | 43.7 | 37.5 | **62.3** | 55.9 | 29 |
| Ripper | Colo. St. | 60.1 | 70.1 | 90.5 | 70.1 | 45.6 | **42.9** | 41.5 | 56.8 | 28 |
| Santa Fe | Westbred | 59.8 | 49.8 | 92.3 | 72.3 | 50.2 | 33.3 | 60.7 | 57.7 | 29 |
| Garrison | Okla. St. | 59.4 | 75.8 | 92.0 | 70.4 | 37.2 | 38.2 | 42.6 | 57.5 | 28 |
| Ruby Lee | Okla. St. | 58.3 | 54.8 | 79.0 | 75.0 | 40.1 | **49.7** | 51.1 | 58.7 | 30 |
| TAM 401 (BL) | Texas A&M | 58.1 | 65.7 | 90.0 | 68.8 | 33.4 | 33.1 | 57.4 | 57.1 | 30 |
| TAM W-101 | Texas A&M | 57.8 | 70.0 | 90.4 | 68.3 | 34.8 | 33.2 | 50.3 | 58.4 | 27 |
| Jagger | Kansas St. | 57.3 | 47.5 | **101.4** | 68.9 | 36.6 | 35.9 | 53.8 | 57.5 | 28 |
| Pete (BL) | Okla. St. | 56.5 | 46.2 | **98.9** | 73.0 | 41.5 | 35.0 | 44.5 | 57.7 | 26 |
| APH09T9614 | Syngenta | 55.9 | 58.5 | 80.6 | 75.3 | 40.7 | 32.4 | 47.7 | 58.8 | 26 |
| Razor (AP08TA6927) (BL) | Syngenta | 55.8 | 69.1 | 68.9 | **78.9** | 35.3 | 34.0 | 48.6 | 58.7 | 31 |
| Doans | Syngenta | 55.3 | 67.4 | 82.9 | 64.9 | 22.8 | 34.4 | 59.5 | **59.1** | 28 |
| CJ | Syngenta | 53.7 | 44.1 | 84.1 | 70.0 | 43.2 | 32.3 | 48.3 | 58.7 | 30 |
| Mace | Nebraska | 53.0 | 64.7 | 82.7 | 67.9 | 28.2 | 27.5 | 47.3 | 57.5 | 27 |
| Fannin | Syngenta | 47.7 | 47.5 | 77.5 | 67.1 | 19.7 | 27.2 | 47.5 | 58.5 | 29 |
| APH09T2620 | Syngenta | 46.5 | 48.9 | 64.6 | **77.0** | 39.9 | 22.3 | 26.6 | 58.8 | 30 |
| **Average**  Coefficient of Variation (%CV) Least Siginificant Diff. (5%)†  Number of Locations | | 62.0  12.3  8.7  6 | 67.9 90.5 73.7 46.2 38.1 55.3  7.9 8.2 7.3 11.1 11.5 8.5  8.8 8.9 7.9 8.3 6.2 7.6 | | | | | | 58.3  1.8  1.3  5 | 28  2.7  2.7  4 |

†Values in the same column that differ by less than the LSD are not statistically different at the 95% confidence level.

1Texas AgriLife Extension, 2Texas AgriLife Research, 3New Mexico State Univ.

4Variety names in bold are TX AgriLife irrigated variety Picks; BL-Beardless wheat; 5Bold yields mark top 25% by location.

**Table 2. Dryland Wheat Variety Trials Harvested in 2012 in the Texas High Plains.**

Jackie Rudd2, Ravindra Devkota2, Brent Bean1,2

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **Variety4** | **Source** | **Dryland**  **Average** | Bushland  Dryland | Groom  Dryland | Perryton  Dryland | Avg. Test  Weight | Average  Height |
| Bushels per Acre5 | | | | Lbs./bu5 | Inches |
| Cedar | Westbred | 40.4 | **19.2** | **62.3** | **39.6** | 55.7 | 20 |
| **Winterhawk** | Westbred | 40.1 | **20.4** | **59.8** | **40.0** | 59.9 | 22 |
| TX06V7266 | Texas A&M | 39.2 | 18.0 | **60.3** | **39.1** | 55.7 | 22 |
| Ruby Lee | Okla. St. | 39.1 | **20.7** | **58.1** | **38.6** | 57.7 | 24 |
| Jackpot | Syngenta | 39.1 | 17.7 | **57.8** | **41.7** | 55.2 | 22 |
| TAM 304 | Texas A&M | 38.2 | 17.9 | **60.5** | 36.3 | 53.3 | 21 |
| Iba (OK07209) | Okla. St. | 38.1 | **18.7** | 57.1 | **38.4** | 59.7 | 20 |
| Endurance | Okla. St. | 37.7 | **18.9** | 56.1 | **38.1** | 56.4 | 21 |
| Gallagher (OK07214) | Okla. St. | 37.5 | 18.4 | 56.2 | **37.9** | 58.0 | 20 |
| Santa Fe | Westbred | 36.4 | 17.4 | 56.7 | 35.1 | 55.7 | 22 |
| Greer | Syngenta | 36.2 | 14.9 | **57.9** | 35.9 | 53.4 | 20 |
| **TAM 111** | Texas A&M | 36.1 | **19.0** | 55.0 | 34.5 | 58.7 | 22 |
| **Duster** | Okla. St. | 36.1 | 17.8 | 54.1 | 36.4 | 57.9 | 21 |
| Billings | Okla. St. | 36.1 | **19.2** | **58.3** | 30.6 | 56.4 | 21 |
| T158 | Trio Res. | 35.8 | 17.2 | **57.4** | 32.9 | 56.6 | 20 |
| **TAM 112** | Texas A&M | 35.8 | **19.5** | 53.5 | 34.4 | 58.7 | 22 |
| **TAM 113** | Texas A&M | 35.8 | 17.4 | 54.9 | 35.1 | 58.3 | 21 |
| TX07A001505 | Texas A&M | 35.6 | 14.8 | **58.0** | 34.2 | 57.9 | 21 |
| APH09T9614 | Syngenta | 35.3 | 15.1 | 49.7 | **41.2** | 56.7 | 20 |
| CJ | Syngenta | 35.3 | 16.8 | 48.5 | **40.6** | 56.7 | 23 |
| Fuller | Kansas St. | 35.2 | 16.3 | 55.0 | 34.2 | 56.3 | 22 |
| Hitch | Westbred | 35.1 | 15.3 | 54.4 | 35.6 | 56.4 | 20 |
| Jagger | Kansas St. | 34.8 | 16.5 | 54.1 | 33.8 | 54.8 | 22 |
| Armour | Westbred | 34.8 | 16.0 | 54.3 | 34.0 | 56.2 | 19 |
| Everest | Kansas St. | 34.2 | 18.3 | 54.0 | 30.3 | 56.9 | 20 |
| Doans | Syngenta | 34.0 | 16.5 | 51.8 | 33.6 | 57.3 | 22 |
| TX03A0563-07 | Texas A&M | 33.4 | **18.5** | 54.6 | 27.1 | 57.2 | 21 |
| TAM 305 (TX06A001263) | Texas A&M | 33.2 | 17.0 | 48.0 | 34.6 | 57.2 | 21 |
| Garrison | Okla. St. | 33.1 | **18.5** | 54.4 | 26.5 | 57.2 | 20 |
| Razor (AP08TA6927) (BL) | Syngenta | 32.9 | 16.3 | 48.4 | 34.0 | 58.3 | 23 |
| **Hatcher** | Colo. St. | 32.8 | 13.8 | 54.1 | 30.5 | 56.4 | 20 |
| Fannin | Syngenta | 32.1 | 14.9 | 48.3 | 33.3 | 57.6 | 21 |
| APH09T2620 | Syngenta | 31.9 | 16.8 | 43.7 | 35.2 | 56.4 | 22 |
| TAM 203 | Texas A&M | 31.9 | 15.8 | 47.8 | 32.0 | 54.6 | 20 |
| Pete (BL) | Okla. St. | 31.7 | 16.4 | 53.1 | 25.7 | 57.1 | 21 |
| Bill Brown | Colo. St. | 31.5 | 14.3 | 52.4 | 27.8 | 57.8 | 20 |
| TAM 401 (BL) | Texas A&M | 31.3 | 16.5 | 45.4 | 31.9 | 54.5 | 22 |
| Ripper | Colo. St. | 29.5 | 14.8 | 50.8 | 22.9 | 56.5 | 21 |
| TAM W-101 | Texas A&M | 28.0 | 14.4 | 46.1 | 23.6 | 57.2 | 20 |
| Mace | Nebraska | 27.2 | 12.3 | 45.3 | 24.2 | 56.1 | 19 |
| **Average** Coefficient of Variation (%CV) Least Siginificant Difference (5%)†  Number of Locations | | 34.8  7.8  5.5  3 | 16.9 53.7 33.8  9.6 6.7 9.0  2.7 5.8 5.0 | | | 56.8  1.4  1.6  2 | 21  1.4  1.5  2 |

†Values in the same column that differ by less than the LSD are not statistically different at the 95% confidence level.

1Texas AgriLife Extension, 2Texas AgriLife Research, 3New Mexico State Univ.

4Variety names in bold are TX AgriLife dryland variety Picks; BL-Beardless wheat; 5Bold yields mark top 25% by location.

**Table 3**. Multi-year Irrigated Wheat Variety Trial Yields, 2009-2012, Texas & NM High Plains.

*Variety names in bold indicate Pick varieties for irrigated production.*

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Variety** | **Source** | 4-Year | 3-Year | 2-Year | 2012 |
| Multi-year Bushels per Acre Average | | | |
| **TAM 111** | Texas A&M | 67.6 | 70.4 | 62.2 | 66.1 |
| **Hatcher** | Colorado St. | 67.5 | 66.7 | 63.0 | 65.2 |
| Bill Brown | Colorado St. | 65.9 | 67.0 | 65.7 | 65.6 |
| **Duster** | Oklahoma St. | 65.5 | 69.2 | 65.7 | 68.5 |
| **TAM 112‡** | Texas A&M | 65.4 | 69.8 | 66.3 | 66.5 |
| Billings | Oklahoma St. | 64.0 | 66.9 | 60.4 | 64.2 |
| **TAM 113** | Texas A&M | 63.7 | 67.2 | 65.5 | 67.1 |
| **TAM 304§** | Texas A&M | 63.6 | 67.9 | 63.3 | 69.3 |
| TAM 203 | Texas A&M | 63.0 | 66.0 | 61.1 | 60.7 |
| Armour | Westbred | 62.2 | 66.6 | 61.8 | 63.9 |
| Endurance | Oklahoma St. | 61.0 | 63.5 | 60.0 | 63.4 |
| Greer | Syngenta | 60.7 | 64.7 | 59.2 | 62.5 |
| Fuller | Kansas St. | 59.1 | 63.6 | 59.3 | 64.8 |
| Jackpot | Syngenta | 58.4 | 62.7 | 58.6 | 65.1 |
| Santa Fe | Westbred | 58.4 | 61.4 | 57.4 | 59.6 |
| Jagger | Kansas St. | 56.3 | 58.3 | 54.2 | 58.1 |
| TAM W‐101 | Texas A&M | 55.5 | 59.2 | 54.8 | 59.3 |
| TAM 401 (BL) | Texas A&M | 54.1 | 57.1 | 52.4 | 58.2 |
| Fannin | Syngenta | 49.7 | 51.8 | 46.4 | 47.8 |
| **Winterhawk** | Westbred |  | 71.4 | 70.0 | 75.6 |
| Garrison | Oklahoma St. |  | 65.6 | 61.5 | 62.7 |
| Mace | Nebraska |  | 59.2 | 52.7 | 54.2 |
| Pete (BL) | Oklahoma St. |  | 57.3 | 55.3 | 58.9 |
| Iba (OK07209) | Oklahoma St. |  | | 68.8 | 74.6 |
| Gallagher (OK07214) | Oklahoma St. |  | | 64.3 | 68.8 |
| Cedar | Westbred |  | | 62.2 | 66.8 |
| TAM 305 (TX06A001263) | Texas A&M |  | | 60.1 | 63.6 |
| Razor (BL) | Syngenta |  | | 53.2 | 57.2 |
| TX03A0563-07 | Texas A&M |  | | | 73.7 |
| TX06V7266 | Texas A&M |  | | | 72.9 |
| Everest | Kansas St. |  | | | 67.2 |
| T158 | Trio Res. |  | | | 66.9 |
| TX07A001505 | Texas A&M |  | | | 66.6 |
| Hitch | Westbred |  | | | 65.4 |
| Ripper | Colorado St. |  | | | 63.8 |
| Ruby Lee | Oklahoma St. |  | | | 59.7 |
| APH09T9614 | Syngenta |  | | | 57.5 |
| CJ | Syngenta |  | | | 54.7 |
| Doans | Syngenta |  | | | 54.5 |
| APH09T2620 | Syngenta |  | | | 50.5 |

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Annual Average, All Varieties¶** | **60.3** | **63.7** | **59.9** | **63.3** |
| Average of Pick Varieties | 65.9 | 68.9 | 65.5 | 68.4 |
| Average of Non-pick Varieties | 59.1 | 62.5 | 58.7 | 62.2 |
| **%YIeld, Picks over Non-Picks** | **12%** | **11%** | **12%** | **10%** |
| Number of total test sites | 22 | 17 | 12 | 6 |

‡TAM 112 is a Pick for limited irrigation only; §TAM 304 is a Pick for full irrigation only. BL = Beardless

¶Reports all varieties included in each individual year; only 2012 test varieties are listed from previous year's trials.

**Table 4**. Multi-year Dryland Wheat Variety Trial Yields, 2009-2012, Texas & NM High Plains.

*Varieties in bold indicate Pick varieties for dryland production.*

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Variety** | **Source** | 4-Year | 3-Year | 2-Year | 2012 |
| Multi-year Bushels per Acre Average | | | |
| **Hatcher** | Colorado St. | 36.5 | 35.6 | 28.7 | 33.9 |
| **TAM 112** | Texas A&M | 36.1 | 36.7 | 31.2 | 36.5 |
| **TAM 113** | Texas A&M | 35.6 | 36.2 | 31.0 | 36.1 |
| **TAM 111** | Texas A&M | 35.2 | 35.7 | 29.5 | 37.0 |
| **Endurance** | Oklahoma St. | 35.0 | 36.0 | 30.1 | 37.5 |
| **Duster** | Oklahoma St. | 34.8 | 36.0 | 29.0 | 35.9 |
| TAM 304 | Texas A&M | 33.9 | 35.7 | 30.0 | 39.2 |
| Bill Brown | Colorado St. | 33.9 | 34.0 | 27.6 | 33.3 |
| Armour | Westbred | 33.8 | 35.1 | 29.9 | 35.2 |
| Billings | Oklahoma St. | 33.8 | 35.3 | 29.2 | 38.8 |
| Greer | Syngenta | 32.7 | 34.2 | 29.0 | 36.4 |
| Santa Fe | Westbred | 32.6 | 33.6 | 29.4 | 37.0 |
| Jackpot | Syngenta | 32.5 | 34.1 | 29.7 | 37.8 |
| Fuller | Kansas St. | 31.7 | 33.2 | 27.9 | 35.6 |
| TAM 203 | Texas A&M | 31.2 | 32.9 | 27.0 | 31.8 |
| Jagger | Kansas St. | 31.0 | 31.6 | 27.1 | 35.3 |
| TAM W‐101 | Texas A&M | 30.3 | 31.3 | 25.8 | 30.2 |
| Fannin | Syngenta | 29.3 | 29.7 | 25.0 | 31.6 |
| TAM 401 (BL) | Texas A&M | 28.3 | 28.9 | 24.8 | 31.0 |
| **Winterhawk** | Westbred |  | 38.6 | 31.8 | 40.1 |
| Garrison | Oklahoma St. |  | 35.3 | 28.9 | 36.5 |
| TAM 305 (TX06A001263) | Texas A&M |  | 33.2 | 26.8 | 32.5 |
| Mace | Nebraska |  | 31.1 | 25.4 | 28.8 |
| Pete | Oklahoma St. |  | 31.0 | 26.7 | 34.8 |
| Iba (OK07209) | Oklahoma St. |  | | 31.5 | 37.9 |
| Cedar | Westbred |  | | 30.7 | 40.7 |
| Gallagher (OK07214) | Oklahoma St. |  | | 29.9 | 37.3 |
| Razor (AP08TA6927) (BL) | Syngenta |  | | 25.9 | 32.4 |
| Ruby Lee | Oklahoma St. |  | | | 39.4 |
| TX06V7266 | Texas A&M |  | | | 39.2 |
| T158 | Trio Res. |  | | | 37.3 |
| TX03A0563-07 | Texas A&M |  | | | 36.5 |
| TX07A001505 | Texas A&M |  | | | 36.4 |
| Everest | Kansas St. |  | | | 36.1 |
| Hitch | Westbred |  | | | 34.8 |
| Doans | Syngenta |  | | | 34.1 |
| Ripper | Colorado St. |  | | | 32.8 |
| CJ | Syngenta |  | | | 32.6 |
| APH09T9614 | Syngenta |  | | | 32.4 |
| APH09T2620 | Syngenta |  | | | 30.3 |

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| --- | --- | --- | --- | --- |
| **Annual Average, All Varieties¶** | **32.6** | **33.6** | **28.3** | **35.1** |
| Average of Pick Varieties | 35.8 | 36.4 | 30.2 | 36.7 |
| Average of Non-Pick Varieties | 31.9 | 33.0 | 28.1 | 35.0 |
| **%YIeld, Picks over Non-Picks** | **12%** | **10%** | **9%** | **5%** |
| Number of sites per year | 22 | 17 | 10 | **3** |

¶Reports all varieties included in each individual year; only 2012 test varieties are listed from previous year's trials. BL = Beardless

**Table 5**. Multi-year Irrigated Wheat Variety Trial Test Weights, 2009-2012, Texas & NM High Plains.

*Variety names in bold indicate Pick varieties for irrigated production.*

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Variety** |  | 4-Year | 3-Year | 2-Year | 2012 |
| **Source** | Multi-year Pounds per Bushel Average | | | |
| **TAM 111** | Texas A&M | 59.7 | 60.1 | 59.9 | 59.8 |
| **TAM 112‡** | Texas A&M | 59.6 | 60.0 | 60.0 | 59.2 |
| Bill Brown | Colorado St. | 59.5 | 59.8 | 60.0 | 59.2 |
| **Hatcher** | Colorado St. | 59.5 | 59.6 | 59.8 | 58.9 |
| **TAM 113** | Texas A&M | 59.4 | 60.0 | 60.1 | 59.0 |
| Fannin | Syngenta | 59.4 | 59.8 | 59.8 | 58.5 |
| Billings | Oklahoma St. | 59.4 | 59.8 | 59.5 | 58.2 |
| **Duster** | Oklahoma St. | 59.3 | 59.7 | 59.7 | 58.8 |
| TAM W‐101 | Texas A&M | 58.8 | 59.1 | 58.7 | 58.4 |
| Fuller | Kansas St. | 58.6 | 59.3 | 59.1 | 58.3 |
| Endurance | Oklahoma St. | 58.6 | 59.1 | 59.3 | 58.4 |
| Santa Fe | Westbred | 58.3 | 59.0 | 58.8 | 57.7 |
| Armour | Westbred | 58.3 | 58.9 | 59.1 | 57.5 |
| Jackpot | Syngenta | 58.2 | 59.0 | 58.8 | 57.8 |
| Jagger | Kansas St. | 57.8 | 58.6 | 58.5 | 57.5 |
| **TAM 304§** | Texas A&M | 57.2 | 57.9 | 58.1 | 56.7 |
| Greer | Syngenta | 56.9 | 57.4 | 57.3 | 56.2 |
| TAM 203 | Texas A&M | 56.5 | 56.9 | 56.9 | 55.9 |
| TAM 401 (BL) | Texas A&M | 56.4 | 57.4 | 57.9 | 58.0 |
| **Winterhawk** | Westbred |  | 60.2 | 60.2 | 60.1 |
| TAM 305 (TX06A001263) | Texas A&M |  | 59.4 | 59.4 | 59.1 |
| Pete (BL) | Oklahoma St. |  | 59.1 | 59.1 | 57.7 |
| Garrison | Oklahoma St. |  | 58.9 | 58.7 | 57.5 |
| Mace | Nebraska |  | 58.4 | 58.7 | 57.5 |
| Iba (OK07209) | Oklahoma St. |  | | 60.5 | 60.0 |
| Gallagher (OK07214) | Oklahoma St. |  | | 59.4 | 58.7 |
| Cedar | Westbred |  | | 59.1 | 57.9 |
| Razor (BL) | Syngenta |  | | 58.9 | 58.7 |
| TX07A001505 | Texas A&M |  | | | 60.4 |
| TX03A0563-07 | Texas A&M |  | | | 59.4 |
| Doans | Syngenta |  | | | 59.1 |
| T158 | Trio Res. |  | | | 59.1 |
| APH09T2620 | Syngenta |  | | | 58.8 |
| APH09T9614 | Syngenta |  | | | 58.8 |
| CJ | Syngenta |  | | | 58.7 |
| Ruby Lee | Oklahoma St. |  | | | 58.7 |
| Hitch | Westbred |  | | | 57.6 |
| TX06V7266 | Texas A&M |  | | | 57.6 |
| Everest | Kansas St. |  | | | 57.4 |
| Ripper | Colorado St. |  | | | 56.8 |

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Annual Average, All Varieties¶** | **58.6** | **59.2** | **59.2** | **58.3** |
| Average of Pick Varieties | 59.2 | 59.7 | 59.7 | 59.0 |
| Average of Non-Pick Varieties | 58.1 | 58.5 | 58.2 | 56.5 |
| **%TW, Picks over Non-Picks** | **2%** | **2%** | **3%** | **4%** |
| Number of sites per year | 22 | 17 | 12 | **6** |

‡TAM 112 is a Pick for limited irrigation only; §TAM 304 is a Pick for full irrigation only. BL = Beardless

¶Reports all varieties included in each individual year; only 2012 test varieties are listed from previous year's trials.

**Table 6**. Multi-year Dryland Wheat Variety Trial Test Weights, 2009-2012, Texas & NM High Plains.

*Varieties in bold indicate Pick varieties for dryland production.*

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Variety†** | **Source** | 4-Year | 3-Year | 2-Year | 2012 |
| Multi-year Pounds per Bushel Average | | | |
| **TAM 113** | Texas A&M | 59.8 | 59.8 | 60.2 | 58.3 |
| Bill Brown | Colo. St. | 59.6 | 59.3 | 59.5 | 57.8 |
| **TAM 111** | Texas A&M | 59.6 | 59.7 | 60.5 | 58.7 |
| **TAM 112** | Texas A&M | 59.5 | 59.6 | 60.1 | 58.7 |
| Fannin | Syngenta | 59.3 | 59.3 | 59.6 | 57.6 |
| **Hatcher** | Colo. St. | 59.1 | 58.7 | 59.0 | 56.4 |
| **Endurance** | Okla. St. | 58.5 | 58.5 | 58.7 | 56.4 |
| **Duster** | Okla. St. | 58.4 | 58.0 | 57.9 | 57.9 |
| TAM W‐101 | Texas A&M | 58.3 | 58.1 | 58.4 | 57.2 |
| Billings | Okla. St. | 58.3 | 58.1 | 58.0 | 56.4 |
| Fuller | Kansas St. | 58.1 | 58.0 | 58.2 | 56.3 |
| Jackpot | Syngenta | 57.7 | 57.5 | 57.0 | 55.2 |
| Armour | Westbred | 57.7 | 57.9 | 58.3 | 56.2 |
| Santa Fe | Westbred | 57.6 | 57.5 | 57.8 | 55.7 |
| Jagger | Kansas St. | 57.2 | 57.1 | 57.4 | 54.8 |
| TAM 304 | Texas A&M | 56.4 | 56.6 | 56.6 | 53.3 |
| TAM 203 | Texas A&M | 56.2 | 56.0 | 56.0 | 54.6 |
| TAM 401 (BL) | Texas A&M | 55.8 | 55.8 | 56.3 | 54.5 |
| Greer | Syngenta | 55.7 | 55.7 | 55.9 | 53.4 |
| **Winterhawk** | Westbred |  | 60.1 | 60.4 | 59.9 |
| Pete | Okla. St. |  | 58.7 | 58.8 | 57.1 |
| Garrison | Okla. St. |  | 58.3 | 58.9 | 57.2 |
| TAM 305 | Texas A&M |  | 58.2 | 58.4 | 57.2 |
| Mace | Nebraska |  | 57.8 | 58.1 | 56.1 |
| Iba (OK07209) | Okla. St. |  | | 60.9 | 59.7 |
| Razor (AP08TA6927) (BL) | Syngenta |  | | 59.2 | 58.3 |
| Gallagher (OK07214) | Okla. St. |  | | 59.0 | 58.0 |
| Cedar | Westbred |  | | 57.3 | 55.7 |
| TX07A001505 | Texas A&M |  | | | 57.9 |
| Ruby Lee | Okla. St. |  | | | 57.7 |
| Doans | Syngenta |  | | | 57.3 |
| TX03A0563-07 | Texas A&M |  | | | 57.2 |
| Everest | Kansas St. |  | | | 56.9 |
| APH09T9614 | Syngenta |  | | | 56.7 |
| CJ | Syngenta |  | | | 56.7 |
| T158 | Trio Res. |  | | | 56.6 |
| Ripper | Colo. St. |  | | | 56.5 |
| APH09T2620 | Syngenta |  | | | 56.4 |
| Hitch | Westbred |  | | | 56.4 |
| TX06V7266 | Texas A&M |  | | | 55.7 |

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Annual Average, All Varieties¶** | **58.3** | **58.3** | **58.5** | **56.8** |
| Average of Pick Varieties | 59.4 | 59.4 | 59.8 | 58.0 |
| Average of Non-Pick Varieties | 58.1 | 58.1 | 58.2 | 56.5 |
| **%TW, Picks over Non-Picks** | **2%** | **2%** | **3%** | **3%** |
| Number of sites per year | 22 | 17 | 10 | **3** |

¶Reports all varieties included in each individual year; only 2012 test varieties are listed from previous year's trials. BL = Beardless