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Pick Wheat Grain Varieties for the Texas High Plains & Eastern New Mexico

This summary is derived from High Plains wheat grain testing coordinated by the AgriLife wheat breeding program based at Amarillo. Irrigated and dryland test sites range from Lamesa to Perryton and west, including a test site at NMSU-Clovis.

2015-2016 Wheat Crop in Review

Southern High Plains conditions reflected a wide range of wheat production with some dryland yields above 50 bu/A, but others especially to the south below 20 bu/A. Like the spring of 2015, moist conditions over much of the region again fostered favorable conditions for rust diseases, in particular stripe rust (though generally not as widespread or as severe as 2015). Again, where stronger stripe rust infections occurred (TAM 111 and TAM 112) then yields dropped. Much of the wheat enjoyed good growing conditions in the fall and grazing was good, but moisture became limited in much of the Texas High Plains by the end of January. See Table 9 at the end of this report for a summary of wheat variety disease and insect resistance ratings for the High Plains.

AgriLife High Plains Wheat Picks for 2016-2017

Our ongoing Picks criteria include a minimum of three years of data in Texas A&M AgriLife High Plains wheat variety trials across numerous annual locations. 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. Picks are not necessarily the numerical top yielders as important disease resistance traits (leaf or stripe rust, wheat streak mosaic virus), insect tolerance (greenbugs, Russian wheat aphid), or standability can also be important varietal traits that enable a producer to better manage potential risk. We look for **consistency** of yields, e.g. the regularity with which an individual variety is in the top 25% of yield at each location.

While in some years we make no changes to our Picks list, for 2016-2017 we have made some deletions and additions.

Deletions in 2016: We have not deleted any varieties from the 2015-2016 Picks list. See our notes below on TAM 111 and TAM 304 as we considered removing them from specific categories of the Picks list but concluded to not do so.

Deletions in 2015: At that time we removed TAM 111 from full irrigation in as well as Duster and Hatcher from all production conditions.

Table 1. Texas A&M AgriLife wheat grain variety Picks for the Texas High Plains based on yield performance and consistency from at least 20 multi-year, multi-site trial harvests in 2011-2012 & 2014-2016. Leaf rust and stripe rust are included (see footnote).

Wheat Variety "Picks", Texas High Plains		
<u>Full Irrigation</u>	<u>Limited Irrigation</u>	<u>Dryland</u>
	TAM 111 (S/S)†	TAM 111
	TAM 112 (S/S)	TAM 112
TAM 113 (R/R)	TAM 113	TAM 113
TAM 114 (MR/R)	TAM 114	TAM 114
TAM 304 (R/MR)		
WB Grainfield (MR/R)	WB Grainfield	WB Grainfield
Iba (R/MR)	Iba	Iba
	T158 (MS/MR)	T158
Winterhawk (MS/MR)	Winterhawk	Winterhawk

†Leaf rust/stripe rust resistance ratings: R, Resistant; MR, moderately resistant; MS, moderately susceptible; and S, susceptible

Two & three-year 'watch list.' Based on recent harvest data Gallagher (MR/R; Oklahoma St.) is under consideration as a Pick (comparable to Iba), and it has good rust resistance. Denali (S/MS) and Byrd (S/S) both from PlainsGold/Colorado State show good yields leading to discussion within AgriLife as possible Picks though susceptibility to rusts is a concern.

(Discussion continued)

Additions in 2016: TAM 114 (initially tested as TX07A001505) is added for all production conditions. We would have added it in 2015 but there was little seed available. TAM 114 has good across-the-board resistance to rusts, good straw strength, desirable milling and baking qualities, and also has intermediate resistance to some biotypes of Hessian fly. WB Grainfield grain yields are good and key rust resistance is in place.

A special note on individual varieties:

TAM 111: We initially decided to remove TAM 111 from our Picks list (removed from full irrigation in 2015) due to a modest decline in recent yields and its susceptibility to leaf and stem rust. After further review among AgriLife wheat workers, we conclude that TAM 111 remains as good a choice as some of our other Picks for now. For producers as long as you understand

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that good management, which will include timely scouting for rusts and treatment if needed, is an important key for TAM 111, then it remains a good choice.

TAM 304: TAM 304 remains a viable choice for high-input production systems with high irrigation, high nitrogen fertility applications, etc. where producers are shooting for yields at 100 bushels per acre or more. We discussed removing TAM 304 as a Pick, but poor seed quality in the 2015 planting appears to have curtailed 2016 yields (which were adjusted based on comparisons to other key varieties).

TAM 204 (MS/MR): This beardless variety is not a Pick but has yielded well over 4 years in the Texas High Plains. It offers as well-rounded a package of disease and insect resistance as any wheat variety, including greenbug resistance and moderate resistance to wheat curl mite, the vector for wheat streak mosaic virus (both found otherwise only in TAM 112). Grain quality and test weight are both marginal for this beardless variety and the milling and baking industry would prefer your other varieties. Grazing potential is good. We suggest TAM 204 as a possible dual purpose wheat but not for grain only production.

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

“Pick” varieties with a minimum of three years in High Plains Texas A&M AgriLife testing continue to yield an average of 6 to 10% better as a group than all other varieties in both irrigated and dryland tests. Though you may have a variety for your production conditions that you really like, we encourage you to include one of our Picks in your cropping. We will have full results reported by the week of August 8, 2016 so please contact us for a comprehensive report or visit the wheat pages at <http://amarillo.tamu.edu> and <http://lubbock.tamu.edu>. Perhaps a Pick variety that has a specific disease package—which may have been valuable in the stripe rust outbreaks of 2015 & 2016—or relative maturity that contrasts your current variety would be a good complement to your overall program.

Wheat Variety Grain Picks for Other Texas Regions

Dr. Clark Neely, state small grains extension agronomist, College Station (979.862.1412, cbneely@tamu.edu) compiles our Picks for Texas Rolling Plains, Texas Blacklands (including northeast Texas), South Texas, and Lower Rio Grande Valley. See his updated 2016-2017

Picks list

at <http://varietytesting.tamu.edu/wheat/docs/picks%20list/2017%20Texas%20Wheat%20Pick.pdf>

Final Report with multi-year averages posted to <http://lubbock.tamu.edu> & <http://amarillo.tamu.edu/amarillo-center-programs/agronomy/wheat-publications/>

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