

Irrigated Wheat Grain Variety Trial Results, Southwest South Plains 2004-2008 Five-Year Results, Gaines Co., Texas

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Irrigated grain trials for wheat have been conducted for five years in Gaines Co. Numerous producers in Gaines Co. and surrounding counties have dropped one year of cotton from the 3-year rotation with peanuts and added one year of wheat. This reduces the number of acres of summer irrigation. But as one producer in Gaines noted to me about 2003, “It is not enough to break even on the wheat, and just reduce summer irrigation and improve our rotation. I need to make some money on the wheat crop.”

Trial seeding dates, locations, average yields, and average test weights are as follows:

Drilled 11/13/03, Seagraves, 37.7 bu/A, 49 lbs./bu;
Drilled 12/13/04, west Gaines Co., 50.7 bu/A, 58 lbs./bu;
Drilled 11/23/05, Seminole, 50.9 bu/A, 59 lbs./bu;
Drilled 11/22/06, Seagraves, 46.5 bu/A, 55 lbs./bu;
Drilled 11/16/07, west Gaines Co., 76.8 bu/A, 59 lbs./bu.

Tests were planted in replicated fashion with four plots (6' 8" X 25') per variety then harvested with a small combine.

Top Performers: Wheat varieties that performed well (57-61 bu/A; overall average = 54 bu/A) in the five-year period include (in order of yields):

TAM 111 Overley Jagalene Jagger*

Additional comparisons available from 4-year and 3-year data indicated the following newer releases have also demonstrated good performance: Endurance (4 years, Oklahoma State), T-81 (4, Trio Research, Wichita, KS), greenbug-resistant TAM 112 (4), and Hatcher (3, Colorado State).

Over three to five years these above varieties have proved they are worth hunting for and even paying more for seed. Performance of these varieties has been consistent with other irrigated wheat variety test sites to the north in the Texas High Plains.

*Jagger has short maturity that often breaks dormancy and gets hit with freeze injury; delayed planting and/or grazing can hold it back).

Low Performers: Among full five-year results, lowest yields—beginning with the lowest—have been recorded for Longhorn, TAM 105, TAM W-101.

Traditional beardless wheats for grain: Traditional Russian beardless (WeatherMaster 135, Eldorado, VNS Beardless), Longhorn, Lockett (older data not shown), and even Texas AgriLife

Research' new release TAM 401 continue to demonstrate a yield drag relative to leading bearded grain wheat varieties. Most beardless types were not included in the 2007 harvest, but the four-year average yields for 2004-2006 & 2008 recorded as a group a 10% reduction in yield vs. the trial average and a 15% reduction vs. leading grain wheats in Gaines Co. (TAM 110, 111, 112; Jagalene, Jagger). In contrast, since 2005 Oklahoma State's beardless 'Deliver' has yielded within about 2 bushels of trial averages and reports from Oklahoma indicate this wheat grazes well and has average grain yield.

NK 812: Numerous producers in Terry, Yoakum, and Gaines Counties continue to assert that this is still their best wheat. Pure NK 812 may be hard to come by anymore, and farmer maintained NK 812 seed provided for testing in the Gaines Co. trials (tested 4 of 5 years) has ranged from 1 to 13 bu/A below trial averages, averaging 7 bu/A, 13% less than the trial average (and 18% less than the average of TAM 110, 111, 112, Jagalene, & Jagger). The continued use of NK 812 for grain in the region must be seriously questioned in light of performance of the available varieties noted above. The reduction in yield is much more than what it would cost to buy certified seed of leading varieties.

Dryland Considerations: Of tested varieties TAM 110, TAM 111, TAM 112, TAM 304, Jagalene, Jagger, Hatcher, and Fuller have been noted for their past and recent performance in strictly dryland production in other areas of West Texas.

A note about TAM 110: This long popular wheat variety is no longer on our 'Picks List' among Texas High Plains wheats for irrigated or dryland. Between these two greenbug-resistant varieties TAM 112 should be chosen over 110 for any production condition due to slightly higher grain yield and better grain milling quality.

Other Management Tips for 2008-2009

Seed Quality Guidelines—Test weight of ≥ 58 lbs./bu and germ $\geq 85\%$ —is a key for Gaines Co. wheat production especially as many acres are planted late in cooler conditions after cotton or peanut harvest.

Seeding Rate—This test was included using irrigated Dumas for 30, 60, 90, and 120 lbs./A in 2006 with no trend observed in grain yield. This experiment was repeated for 2008 with TAM 111, and some increase in yield was measured with the highest seeding rate. Extension suggests 60 lbs./A is a good base seeding rate for irrigated grain, but rates should increase for late plantings to perhaps 90 lbs./A if seedings occur in late November into December.

Planting Date—Optimum planting dates for wheat in the Lower South Plains should target around October 25. I would not be concerned about seedings in the first week of November, but after that gradual risk of reduced yield potential increases. Seedings that occur in early December can provide similar yields compared to optimum planting dates in some years, but expect a long-term reduction in yield potential of ~25% (worse in some years). This notes the urgency to hasten wheat seeding after peanuts and cotton to increase chances for good stand establishment prior to lasting cold.

Nitrogen for Wheat Grain Production—Without soil test data, Texas AgriLife Extension suggests 1.2 lbs. N per bushel of yield goal. This is a reliable rule of thumb. The number may be adjusted up if residual soil N fertility is poor, down if residual N fertility is good. Topdressing N typically

targets about 1/3 of N in the fall with 2/3 in the late winter/early spring BEFORE jointing (see below). High fertilizer N costs in budgets for 2008-2009 may force a reduction in N additions to a bare-bones 'what the crop needs' minimum N addition.

Timing of 2009 Topdress N—This past winter/early spring Extension observed that many producers in the southwest South Plains targeted topdress N applications well after jointing. We will address this further over the winter, but delayed N applications much past jointing (growing point differentiates to determining maximum potential spikelets per head and seeds per spikelet; growth often becomes more erect and hollow stem is usually observed a couple days after jointing starts) have reduced the effectiveness of N to increase grain yield. Hence topdress N applications in Gaines Co. are best targeted most likely in mid-February and probably no later than early March.

Herbicide Options for Wheat—Consult the 2008 Extension small grains weed control guide at <http://varietytesting.tamu.edu/wheat/otherpublications/B-6139%202008%20Weed%20Control.pdf>

For further info. on the Gaines Co. wheat trials or other wheat production info. contact your local county/IPM Extension staff or Calvin Trostle.