



Result Demonstration Report

Multi-Year Evaluation of Hard Red Winter Wheat Varieties

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Summary: Since 2009, small grain producers have experienced drought, late freeze, scattered germination dates, lack of tillering, fungal disease, pressure, armyworm infestations, excessive rainfall, and Hessian Fly infestations. These challenges require producers to make well informed decisions when selecting varieties of wheat that can withstand the extreme Central Texas environmental growing conditions.

Objective: This report was written to compare multi-year data of hard red winter wheat varieties over several growing seasons.

Materials and Methods: Varieties planted in the McLennan County Small Grain Variety Trials are planted side-by-side for comparison in strip trials. Test plots are planted with the producer's tractor and grain drill. All varieties are planted on the same drill setting. Plots are all harvested and data taken on all acres production. All fertilizer applications consist of 100 pounds an acre of 18-46-0 and Anhydrous.

Results and Discussion: The varieties compared in the result demonstration vary from one growing season to seven growing seasons. Yields vary greatly from year to year, however yields are similar across varieties on a yearly basis.

Conclusions: The varieties producing the highest grain yield naturally generate the highest gross income and net income. Production practices and cost of production were equal for all varieties. Rainfall amounts have more effect on yield than any other single factor. Producers are encouraged to consult results from previous years result demonstration handbooks to determine how varieties perform under various growing conditions over multiple years before deciding on specific varieties to plant. It is important to compare varieties to each other in a growing season as yields increase dramatically depending on available moisture in a growing season.

Table I. Evaluation of Hard Red Winter Wheat Varieties Over Multiple Years McLennan County, 2009-2015

Years of Data	Variety	2009	2010	2011	2012	2013	2014	2015	Avg
7	TAM 304	79	80	15	21	60	29	35	46.05
	Duster	73	86	21	19	46	37	53	48.27
	Fannin	74	73	19	10	11	19	37	35.21
6	TAM 401	70	70	19	22	23		36	40.40
5	Coronado	60	73	23		24	29		42.47
	Greer			22	16	7	20	29	19.15
4	Fuller	71	86	16	6				45.30
	TAM 203	74	76	12	22				46.38
	Billings			17	20	14	25		19.57
3	Jackpot	81	80	16					59.15
	Cedar					73	34	65	57.88
2	Deliver	81		17					49.80
	Gallagher						37	58	47.59
	Iba						39	57	48.23
1	Shocker					51			51.05
	Red Hawk						38		38.09
	Doans			13					13.09
	TAM114							52	52
	Armour							47	47
	Average	73.94	78.45	17.96	17.57	35	31.25	46.90	42.46

Disease resistance, especially leaf rust, is extremely important in selecting varieties because of substantial yield reductions from high leaf rust infections. Because disease is so unpredictable from year to year, producers should plant more than one variety to prevent a build-up of specific strains of leaf rust. Characteristics to consider, other than disease resistance when choosing a variety include: winter hardiness, straw strength, maturity, plant height and residue carry-over, tillering, Hessian Fly resistance and yielding ability.

Producers should use multiple tools when selecting varieties of wheat to plant. Evaluating research data on multiple years allows producers to select the best variety for their area.

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