

HRS Wheat Variety Trials – Results for 2009

Robert G. Hall, *Extension agronomist – crops*, John Rickertsen, *Research associate*, Kevin K. Kirby, *Agricultural research mgr.*,

Bruce Swan, *Senior, agricultural research technician*, Jesse Hall, *Agricultural research mgr.*

INTRODUCTION

These trial results are from the South Dakota Crop Performance Testing (CPT) Program and include averages for 2009 and the last three years (2007-09). A detailed version of these results and the procedures used to obtain the results are available at: <http://plantsci.sdstate.edu/varietytrials/>.

TEST PERFORMANCE RESULTS

Yields (Table 1) – The entries Traverse, Faller, Howard, and Steele-ND at 100%; Briggs at 83%, RB07 at 67%; and Brick at

50% were to top-yield frequency entries for the past 3-years (2007-09). These entries exhibited very good yield stability or the ability to adapt to a wide range of production environments by being in the top-performance group for yield at more than 50% of the test locations. The entries Faller at 89%, Traverse at 78%, and Albany at 67% were to top-yield frequency entries for 2009.

Grain protein content (Table 2) – The entries Vantage at 15.8%; Kelby, Alsen, and Glenn at 15.1%, and RB07 at 15.0% produced protein values of 15% or higher.

Bushel weight (Table 2) - The top bushel weight entries include the varieties Brick (59.1), Glenn (59.0), Barlow (58.7), and Breaker (58.6).

Lodging (Table 2) – The entries Kelby, Kuntz, Samson, Brogan, Reeder, Breaker, Vantage, and Mott with lodging scores of 1 were better in lodging resistance compared to the other varieties.

Height (Table 2) - The long-term check variety Chris at 38” and Granger and Mott at 35” were the tallest while Kelby, Kuntz, and Samson were the shortest entries.

Table 1. Spring wheat yield results- South Dakota six eastern and three western locations, 2007-2009, sorted by 3-yr then 2009 state yield average. Variety performance is evaluated on a test trial basis: only released varieties are reported in these results.

Variety, Heading [1]	Location Yield Averages -- Bu/a at 13% moisture																		State			
	Eastern Locations												Western Locations						Yield Avg. bu/a		Top-Yield Freq. % [2]	
	Brookings		So. Shore		Miller		Spink Co.		Selby		Brown Co.		Wall		Bison		Ralph					
	2009	3-Yr	2009	3-Yr	2009	3-Yr	2009	3-Yr	2009	3-Yr	2009	3-Yr	2009	3-Yr	2009	3-Yr	2009	3-Yr	2009	3-Yr	2009	3-Yr
Faller, 6	75	55	82	75	43	.	76	68	60	52	81	71	47	.	28	28	58	.	61	58	89	100
Traverse, 2	66	52	84	72	49	.	66	66	57	50	82	70	49	.	32	31	52	.	60	57	78	100
Howard, 6	64	50	78	76	42	.	62	63	58	47	72	69	43	.	27	29	48	.	55	56	11	100
RB07, 4	58	47	63	70	42	.	67	61	60	53	73	70	48	.	27	32	55	.	55	56	33	67
Steele-ND, 5	59	49	77	74	43	.	59	60	55	49	72	68	42	.	30	29	47	.	54	55	11	100
Briggs-Ck, 2	58	49	73	71	41	.	67	60	54	45	69	65	43	.	27	30	51	.	54	53	11	83
Granger, 2	62	50	69	68	46	.	53	55	50	45	73	64	49	.	31	30	52	.	54	52	33	33
Brick, 0	56	48	72	69	44	.	66	59	51	42	64	61	45	.	30	32	46	.	53	52	33	50
Tom, 4	56	46	72	67	42	.	68	59	55	44	71	68	42	.	22	26	45	.	53	52	0	33
Glenn, 5	60	43	70	67	42	.	65	58	49	42	71	60	39	.	30	28	45	.	52	50	11	17
Kuntz, 4	53	42	66	64	38	.	66	57	56	42	74	68	43	.	21	26	35	.	50	50	11	17
Kelby, 3	52	44	63	65	40	.	66	56	49	40	63	61	39	.	21	29	37	.	48	49	0	17
Reeder, 5	52	42	67	61	40	.	73	53	51	41	72	64	37	.	21	27	50	.	51	48	0	17
Alsen, 6	57	43	62	61	36	.	63	55	47	39	68	61	40	.	22	28	46	.	49	48	0	17
Chris, 5	50	37	53	46	27	.	45	39	45	33	56	50	32	.	20	22	43	.	41	38	0	0
Albany, 6	71	.	77	.	40	.	83	.	61	.	83	.	39	.	30	.	54	.	60	.	67	
Barlow, 3	65	.	78	.	45	.	67	.	53	.	74	.	42	.	31	.	50	.	56	.	11	
Breaker, 5	60	.	75	.	41	.	68	.	53	.	74	.	42	.	30	.	53	.	55	.	22	
Sabin, 3	61	.	71	.	45	.	63	.	61	.	71	.	47	.	22	.	57	.	55	.	44	
Brogan, 5	56	.	64	.	41	.	74	.	53	.	76	.	44	.	22	.	44	.	53	.	0	
Samson, 4	58	.	78	.	38	.	73	.	55	.	70	.	44	.	29	.	36	.	53	.	11	
Brennan, 4	56	.	70	.	40	.	65	.	54	.	66	.	44	.	24	.	42	.	51	.	0	
Mott, 6	50	.	70	.	27	.	64	.	51	.	68	.	36	.	21	.	54	.	49	.	11	
Vantage, 9	54	.	61	.	28	.	58	.	56	.	65	.	36	.	23	.	42	.	47	.	11	
Test avg. :	59	47	72	67	41	.	67	58	53	44	72	65	43	.	26	29	47	.	54	52		
High avg. :	75	55	86	76	49	.	83	68	61	53	83	71	49	.	34	32	58	.	61	58		
Low avg. :	50	37	53	46	27	.	45	39	45	33	56	50	32	.	19	22	32	.	41	38		
LSD (0.05):	6	6	7	7	5	.	7	9	5	6	4	6	4	.	6	5	6	.				
TPG-value :	69	49	79	69	44	.	76	59	56	47	79	65	45	.	28	27	52	.				
C.V. :	7	8	7	7	8	.	7	7	7	9	4	6	7	.	14	12	9	.				

[1] Heading- days earlier or later (- or +) than Briggs, maturity check (Ck) variety. **Bold type** values within a column are top-performance yield values.

[2] Percentage of test locations where the variety was in the top performance group for yield for 2009 or 3-yr yield averages.

Table 2. Origin, performance averages, traits, and disease reactions for spring wheat varieties tested in 2009.

Variety, sorted by Rel Hdg	Origin [1]	Rel Hdg [2]	Six Location Avg. -- 2009 [3]				Disease Reactions [4]				PVP Status
			Prot %	Bu. Wt lb	Lodg score	Plant Ht inch	Rusts			Fuarium Head Blight	
							Stripe	Stem	Leaf		
Brick	SD-08	0	14.9	59.1	2	34	-	MR	MR	MR+	Yes
Briggs-Ck	SD-02	2	14.7	58.1	3	34	MR	R	MR	M+	Yes
Granger	SD-04	2	14.7	57.0	2	35	MR	R	MR	M+	Yes
Traverse	SD-06	2	14.4	56.4	2	35	MR	R	MR	MR+	Yes
Barlow	ND-09	3	14.6	58.7	2	34	-	R	R	MR+	Yes
Kelby	AC-06	3	15.1	57.2	1	29	-	MR	R	MR	Yes
Sabin	MN-09	3	14.8	57.4	2	32	-	R	MR	MR+	Yes
Brennan	AC-09	4	14.9	57.2	2	29	-	R	MR	M+	Pending
Samson	WB-07	4	14.5	56.7	1	30	S	R	MR	S	Yes
Tom	MN-08	4	14.5	57.7	2	33	-	MR	MR	MR+	Yes
Kuntz	AC-07	4	14.4	56.9	1	30	MS	MR	MR	MR	Yes
RB07	MN-07	4	14.9	56.7	2	31	MS	MR	MR	MS	Yes
Breaker	WB-07	5	14.6	58.6	1	32	S	R	MR	MR	Yes
Brogan	WB-09	5	14.6	57.6	1	31	S	MR	MR	MS	Yes
Glenn	ND-05	5	15.0	59.0	2	34	MR	R	R	MR+	Yes
Reeder	ND-99	5	14.9	57.0	1	32	MR	R	MS	MS	Yes
Steele-ND	ND-04	5	14.6	57.9	3	33	MR	MR	R	MR+	Yes
Albany	TS-09	6	13.6	58.0	2	31	R	R	MS	MR+	Yes
Alsen	ND-00	6	15.1	57.5	2	32	R	R	MS	MR+	Yes
Howard	ND-06	6	14.5	58.1	2	34	-	R	R	MR+	Yes
Faller	ND-07	6	14.2	57.5	2	33	-	R	R	MR+	Yes
Mott	ND-09	6	14.4	56.0	1	35	-	MR	MS	S	Yes
Vantage	WB-07	9	15.8	57.4	1	32	S	R	MS	MS	Yes
Six Location Average:			14.6	57.5	2	33					

[1] AC=AgriPro Coker; TS=Trigen Seed, LLC; WB= West Bred, LLC [2] Heading- days earlier or later (- or +) than Briggs, the check (Ck) variety for maturity.
 [2] Locations: Brookings, South Shore, Miller, Spink Co., Selby, and Brown County.
 [3] Resistant =R, moderately resis.=MR, susceptible=S, mod. susc.=MS, mix of both R and S types=M.
 + Sign indicates variety has consistent tolerance to head blight in regards to yield and quality.

The efforts of the following people are gratefully acknowledged:
 SDSU Oat Breeding Project - L. Hall
 SDSU Spring Wheat Breeding Project - K. Glover and J. Kleinjan
 Brookings Agronomy Farm - D. Doyle and Staff
 N.E. Research Farm (South Shore) - A. Heuer
 S.E. Research Farm (Beresford) - R. Berg and Staff

The cooperation and resources of these farm cooperators are gratefully acknowledged:

Cooperator	Location	Cooperator	Location
A. & I. Ryckman	Brown Co.	Tom Fiedler	Selby
R. Seidel	Bison	S. Masat	Spink Co.
Nelson Brothers	Miller	D. Patterson	Wall
H. Roghair	Okaton	D. Wilson	Sturgis
L. Erickson	Ralph		

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Hard Red Spring Wheat Variety Recommendations for 2010

Recommendations are based on information from the South Dakota Crop Performance Testing (CPT) Program and regional university trials. Variety performance depends on genetics and environmental factors like temperature, moisture, plant pests, soil fertility, soil type, and management practices. The performance of recommended varieties in response to environmental conditions is generally better than that of other varieties. The better performance of a recommended variety, however, cannot always be guaranteed due to its complex response to the environment. Variety recommendations, including crop adaptation area (CAA) where each is most suited, are listed below:

PVP Plant variety protection has been issued or is anticipated; seed sales are restricted to classes of certified seed.

VARIETY RECOMMENDATIONS			
Recommended Variety	CAA	Acceptable/Promising Variety	CAA
Brick ^{PVP}	Statewide	Albany ^{PVP}	Statewide
Briggs ^{PVP}	All except 3	Glenn ^{PVP}	Statewide
Faller ^{PVP}	Statewide	Tom ^{PVP}	3, 4
Granger ^{PVP}	All except 3		
Howard ^{PVP}	Statewide		
RB07 ^{PVP}	All except 3		
Steele-ND ^{PVP}	All except 3		
Traverse ^{PVP}	Statewide		

Crop Adaptation Areas for South Dakota

