

Spring Oat Variety Trials – Results for 2009

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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 Souris, HiFi, and Beach at 100%; Stallion at 80%; and Colt and Morton at 60% were the 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 Beach and Rockford at 67% and Souris at 56% were the top-yield frequency entries for 2009.

Grain protein content (Table 2) – The entries Hytest at 16.5%, Streaker at 15.7%, and Buff at 15.4% produced protein values higher than 15%.

Bushel weight (Table 2) - The top bushel weight entries among the hullless varieties included Buff at 43.9 lb and Streaker at 43.4 lb. Among the standard hulled varieties the top weight entry was

Hytest at 39.3 lb, followed by Beach, Colt, Stallion, and Reeves at 37-37.5 lb.

Lodging score (Table 2) – The entries Rockford, Souris, Buff, HiFi, Morton, Beach, and Don with lodging scores of “2” were better in lodging resistance compared to the other varieties.

Plant Height (Table 2) - The variety Beach at 45” and Granger at 44” were the tallest varieties, while Don at 33” and Buff and Colt at 35” were the shortest entries.

Table 1a. Spring oat yield results- South Dakota six eastern and three western locations, 2007-2009, table sorted by 3-yr 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		Beresford		Miller		Selby		Brown Co.		Wall		Bison		Okaton					
	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
Souris, 7	167	141	207	168	105	125	148	.	146	.	165	145	86	.	86	78	55	.	129	131	56	100
HiFi, 8	171	138	192	161	124	124	149	.	141	.	157	143	85	.	85	73	53	.	129	128	67	100
Beach, 7	157	139	174	155	126	127	130	.	132	.	130	130	90	.	90	74	56	.	121	125	44	100
Stallion, 9	138	132	136	141	97	122	138	.	133	.	141	135	92	.	92	76	53	.	113	121	44	80
Morton, 8	112	114	155	148	119	122	136	.	130	.	128	123	77	.	77	73	58	.	110	116	11	60
Colt, 0	109	117	140	135	124	129	130	.	126	.	127	124	81	.	81	75	48	.	107	116	11	60
Don, 1	119	114	127	127	105	117	125	.	126	.	125	124	80	.	80	69	49	.	104	110	0	40
Reeves, 2	108	112	117	125	117	122	130	.	141	.	124	116	79	.	79	65	42	.	104	108	11	40
Jerry, 5	102	109	134	131	107	115	129	.	110	.	123	114	74	.	74	73	53	.	101	108	11	40
Buff Hls, 3	112	90	130	116	98	95	102	.	106	.	110	99	74	.	78	63	40	.	94	93	0	20
Streaker Hls, 3	114	97	110	113	54	78	103	.	94	.	113	105	86	.	90	68	45	.	90	92	0	20
Hytest, 4	103	96	111	107	94	85	94	.	98	.	112	101	67	.	67	63	41	.	87	90	0	20
Stark Hls, 7	113	78	137	101	92	79	105	.	115	.	132	97	80	.	84	54	46	.	100	82	0	0
Rockford, 8	184	.	195	.	94	.	143	.	134	.	157	.	97	.	97	.	61	.	129	.	67	.
Test avg. :	131	114	148	133	112	111	127	.	126	.	135	120	81	.	82	70	50	.				
High avg. :	184	141	207	168	141	129	149	.	152	.	165	145	97	.	97	78	61	.	110	109		
Low avg. :	98	78	110	101	54	78	94	.	94	.	109	97	67	.	67	54	31	.	130	131		
LSD (0.05):	13	24	11	25	19	21	11	.	12	.	15	19	7	.	7	15	8	.	87	82		
TPG-value :	171	117	196	143	122	108	138	.	140	.	150	126	90	.	90	63	53	.				
C.V. :	7	7	5	7	12	9	6	.	7	.	8	8	6	.	6	7	12	.				

[1] Heading- days earlier or later (- or +) than Don, maturity check (Ck) variety. Hls = hullless variety. **Bold type** values within a column are top-performance group (TPG) 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 1b. Origin, variety traits, and disease reactions for oat entries tested in 2009.
Table sorted early to late maturity by relative heading (Rel Hdg).

Variety	Origin & Year	Rel Hdg [1]	Grain Color	Six Location Avg. -- 2009 [2]				Disease Reactions [3]				PVP Status
				Prot %	Bu. Wt lb	Lodg score	Plant Ht inch	Smut	Rust			
									Stem	Crown	Leaf	
Colt	SD-08	0	White	13.9	37.0	3	35	VR	MS	MS	MS	PVP
Don	IL-85	1	White	13.7	35.2	3	33	R	MS	S	MR	No
Reeves	SD-02	2	White	14.7	37.0	4	39	MR	S	MS	MS	No
Buff Hls	SD-02	3	Hulless	15.4	43.9	2	35	R	S	MS	MR	No
Streaker Hls	SD-09	3	Hulless	15.7	43.4	4	38	-	MR	MS	R	-
Hystest	SD-86	4	Lt.Cream	16.5	39.2	3	42	MR	MS	S	S	No
Jerry	ND-94	5	White	14.1	36.5	3	40	MS	MS	S	MS	Yes
Beach	ND-04	7	White	13.3	37.5	2	45	R	S	MS	MS	Yes
Stark Hls	ND-04	7	Hulless	14.6	41.6	3	43	-	MR	MS	S	Yes
Souris	ND-06	7	White	13.5	36.2	2	38	MR	MS	R	MS	Yes
HiFi	ND-01	8	White	13.5	36.0	2	41	MR	R	MR	MS	Yes
Morton	ND-01	8	White	13.7	35.3	2	44	R	MR	R	MS	Yes
Rockford	ND-09	8	White	13.5	36.7	2	42	-	S	MR	-	-
Stallion	SD-06	9	White	14.4	37.1	3	41	S	S	MR	MR	Yes

[1] Heading- days earlier or later (- or +) than Don, the check variety (Ck) for maturity. Hls = Hulless variety.

[2] Locations include: Brookings, Beresford, South Shore, Miller, Selby, and Brown Co.

[3] Very resistant=VR, resis.=R, moderately resis.=MR, susceptible=S, and mod. susc.=MS.

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- N.E. Research Farm (South Shore) - A. Heuer
- S.E. Research Farm (Beresford) - R. Berg and Staff

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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		

Oat 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.

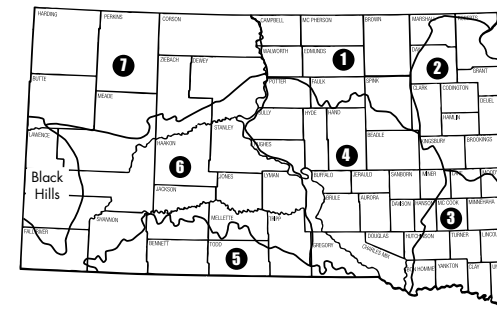
^{#PVP} Plant variety protection with non-title V status.

^{#PVP/SLR} Plant variety protection with non-title V status and seed licensing requirements.

VARIETY RECOMMENDATIONS

Recommended		Acceptable/Promising	
Variety	CAA	Variety	CAA
Beach ^{PVP}	5, 6, 7	Buff (hulless)	Statewide
Colt ^{PVP}	Statewide	Don	5, 6, 7
Souris ^{PVP,SLR}	Statewide	Hi Fi ^{#PVP}	1, 2, 7
Stallion ^{PVP}	Statewide	Jerry ^{#PVP}	5, 6, 7
		Reeves	5, 6, 7
		Rockford	1, 2, 7
		Streaker ^{PVP} (hulless)	Statewide

Crop Adaptation Areas for South Dakota



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