

SRPN: location of replicated yield trials and regional production zones.

- North central plains
- Central plains
- ⬡ Northern high plains
- ▲ Southern high plains
- ⊕ Southern plains
- ★ Intermountain
- unassigned

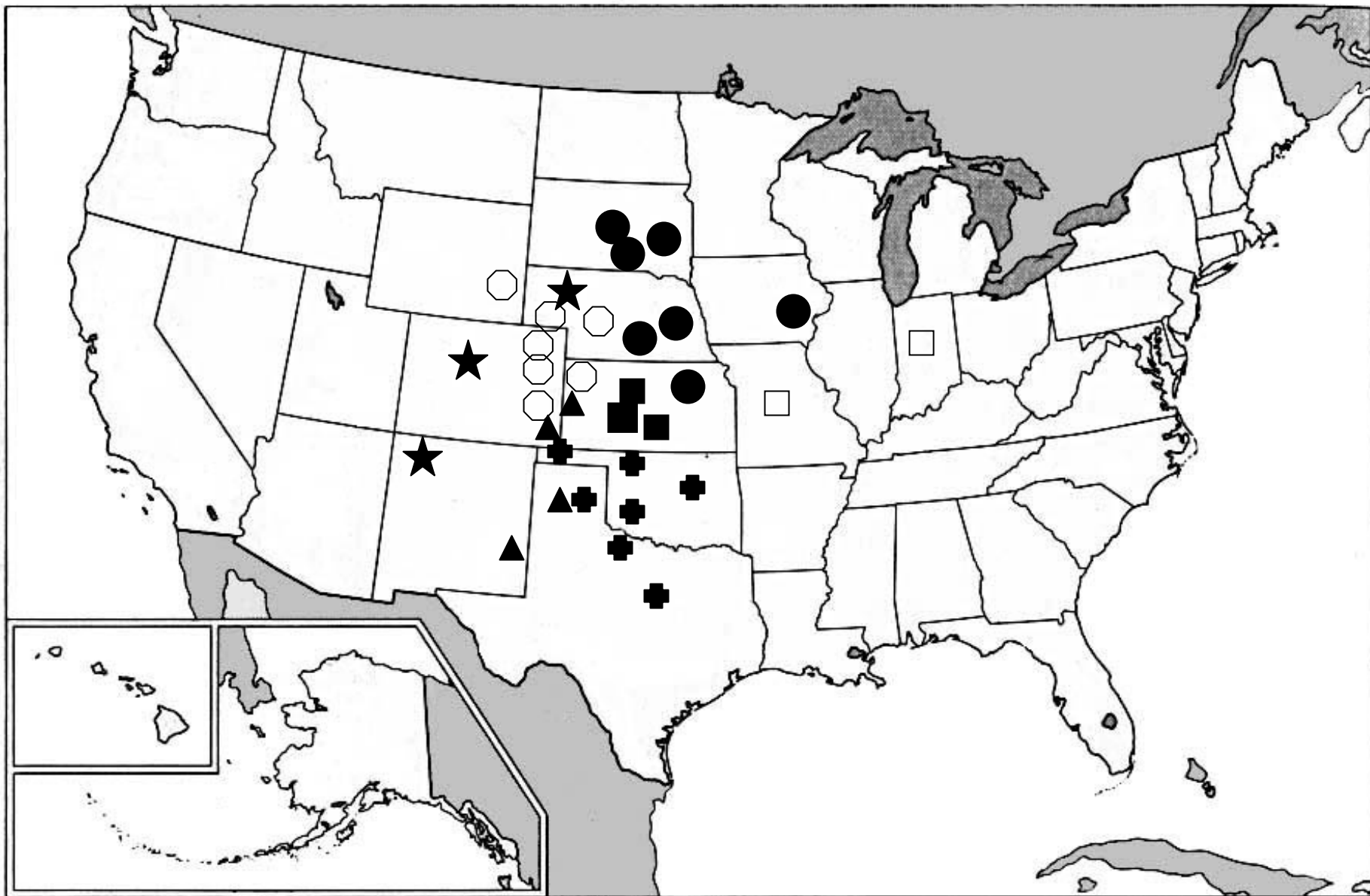


Table 1. Hard Winter Wheat Regional Nursery Program - Contributors

U.S.D.A. – Agricultural Research Service

Hard Winter Wheat Regional Coordination – R. Graybosch, L. Divis, L.E. Hansen, Lincoln, NE

Hard Winter Wheat Quality Lab – B. Seabourn, L. McLaughlin, R. Chen, M. Caley, Manhattan, KS

Regional Molecular Marker Laboratory – Guihua Bai, R. Bowden, Manhattan, KS

Rust investigations – Yue Jin, J. Kolmer St. Paul, MN; Xianming Chen, Pullman, WA

Hessian fly investigations – Ming Chen, C. E. Parker, Manhattan, KS

Russian wheat aphid / greenbug investigations – C. Baker, D. Porter, Stillwater, OK

Texas Agricultural Experiment Station

TAMU Research & Extension Center, Dallas, TX – R. Sutton

TAMU Research & Extension Center, Amarillo, TX –G. Peterson, J. Rudd, R. Devkota

TAMU Research & Extension Center, Vernon, TX - J. Baker

New Mexico Agricultural Experiment Station

Agricultural Science Center, Clovis, NM – R.E. Kirksey, Nichoel Pryor

Agricultural Science Center, Farmington, NM – M.K. O’Neill, C. Owen

Oklahoma Agricultural Experiment Station

Oklahoma State University, Stillwater, OK – B. Carver, R. M. Hunger, A.K. Klatt, W.E. Whitmore, K. Stricklen, R.

Sidwell, B. Weidenmaier, L. Bohl

D. Jones, R. Thacker

Iowa Agricultural Experiment Station

Iowa State University, Ames, IA – R. Skrdla; J. Jannink

Kansas Agricultural Experiment Station

Kansas State University, Manhattan, KS – A. Fritz, K. Suther, KSU

Hays Experiment Station – J. Martin, C. Seaman

Colby Experiment Station – P. Evans

Hutchinson Experiment Station – W. Heer

Colorado Agricultural Experiment Station

Colorado State University, Ft. Collins, CO – Scott Haley, John Stromberger, Josh Butler, Emily Heaton, Hayley Miller.

Nebraska Agricultural Experiment Station

University of Nebraska, Lincoln, NE – S. Baenziger, G. Dorn, M. Montgomery,

North Platte Station – R. Klein UNL

Panhandle Research Station, Scottsbluff – D. Baltensperger UNL

High Plains Ag. Laboratory, Sidney – T. Nightingale, G. Frickel

Wyoming Agricultural Experiment Station

University of Wyoming, Torrington Substation – J. Krall, J. Natchman University of Wyoming

South Dakota Agricultural Experiment Station

South Dakota State University, Brookings, SD – Amir Ibrahim, S. Kalsbeck, R. Little, M. Langham

North Dakota Agricultural Experimental Station

North Dakota State University, Fargo, ND – J. Ransom

NDSU, Williston Branch Station – N. R. Riveland

NDSU, Hettinger Branch Station – E. Eriksmoen

Montana Agricultural Experimental Station

Montana State University, Bozeman, MT – P. Bruckner, J. Berg

Central Ag. Research Center, Moccasin – D.M. Wicham

Illinois Agricultural Experiment Station

University of Illinois – F. Kolb

Minnesota Agricultural Experiment Station

University of Minnesota, St. Paul, MN – J. Anderson, G. Linkert

Ohio Agricultural Experiment Station

Table 1. Hard Winter Wheat Regional Nursery Program - Contributors

The Ohio State University, Wooster – Clay Sneller

Oregon Agricultural Experiment Station

Oregon State University, Corvallis, OR – J. Peterson

Missouri Agricultural Experiment Station

University of Missouri, Columbia, MO – A. McKendry, D. Tague

Agriculture and Agrifoods Canada

Ag. Research Station, Lethbridge, Alberta – R. Graf

Agripro Seeds Inc.

Junction City, KS, R. Sears

Vernon, TX, D. Worrall

Westbred LLC.

Sid Perry, Haven, KS

B. Moreno, Lafayette, IN

TRIO Seed Research

J. Wilson, Wichita, KS

Table 2. Entries in the 2006 Southern Regional Performance Nursery.

Entry	Line	putative market class	pedigree	Source	Protected traits
1	Kharkof	HRW	Kharkof	check	
2	Scout 66	HRW	Scout 66	check	
3	TAM-107	HRW	TAM-107	check	
4	Trego	HWW	Trego	check	
5	KS03HW158	HWW	TREGO/CO960293	KSU-HAYS	
6	KS03HW6-6CL	HWW	FIDEL/97HW150//97HW349/3/TGO	KSU-HAYS	IMI
7	Duster	HRW	W0405D/NE78488//W7469C/TX81V6187	OSU	
8	OK01420	HRW	KS93U206/Jagger	OSU	
9	OK00310-367101	HRW	Jagger/Custer	OSU	
10	OK00224-36805	HRW	OK91724/2180//Pecos	OSU	
11	OK02405	HRW	Tonkawa/GK50	OSU	
12	OK02522W	HWW	KS96WGRC39/Jagger	OSU	
13	T150	HRW	T81/T201	Trio	
14	T151	HRW	T81/KS93U206	Trio	
15	T152	HRW	T88/2180//T811	Trio	
16	T153	HRW	T136//T81/KS93U206	Trio	
17	HV9W94-CB94005R	HRW	RL8400193/PL2180	WestBred	
18	HV9W02-846R	HRW	474S10-1/X87807-26//HBK0736-3	WestBred	
19	HV9W96-1270R-1	HRW	B1551W/KS94U319	WestBred	
20	HV9W96-1383W	HWW	TX91D6913/B1551W	WestBred	
21	CO01212	HRW	Glenson/Akron//Yumar	CSU	
22	CO01385-A1	HRW	Yumar/Arlin	CSU	
23	CO01473	HRW	NE93552/TX93V5922//NE94479	CSU	
24	CO01W171	HWW	96HW100-5/96HW114	CSU	
25	CO01W172	HWW	96HW100-5/96HW114	CSU	
26	NI03418	HRW	W91-248/NE95544 (=MCVEY 78015/NE88521)//THUNDERBIRD	UNL	
27	NI02425	HRW	WAHOO/AP 7601	UNL	
28	NE03490	HRW	WI90-540W/*2 CULVER	UNL	
29	NI04421	HRW	NE96644(=ODESSKAYA P./CODY)/PAVON/*3SCOUT66 //NE94653(=ARAPAHOE/ABILENE//ARAPAHOE)	UNL	
30	Fuller		BULK SELN	KSU-Manhattan	
31	KS00F5-20-3-2		BULK SELN	KSU-Manhattan	
32	KS970197-8-9		WGRC10/3/KS93U69 sib/TA2455//KS93U69/4/JAGGER- RES/5/W1062A*HVA114/W3416	KSU-Manhattan	
33	KS980512-11--2		T67/X84W063-9-45//K92/3/SNF/4/X86509-1-1/X84W063-9-39-2//K92	KSU-Manhattan	
34	AP02T4342	HRW	Coronado/WGRC-27/Karl 92/3/Jagger/2137	Agripro South	
35	AP03T6115	HRW	Karl//Mit/Lancota/3/U1254-4-9-8-V32	Agripro South	

Table 2. Entries in the 2006 Southern Regional Performance Nursery.

Entry	Line	putative market class	pedigree	Source	Protected traits
36	AP03T6126	HRW	2180/Karl//2163/4/KS82W428/Vee"S"//NAPB283/Bow"S"/3/PV1124-79	Agripro South	
37	AP03TA7525	HRW	Ogallala/Mironovskaya 28	Agripro South	
38	TX01A5936	HWW	JAGGER/3/PSN 'S'/BOW 'S'//T200	TAMU	
39	TX01V5314	HRW	TX89V4132/704 L I-2221	TAMU	
40	TX01V6008	HRW	TX90V8410/KS84063-9-39-3	TAMU	
41	TX01A7326	HRW	TX93V5721(TAM-200/TX82D5668)//JAGGER	TAMU	
42	TX99A0153-1	HRW	OGALLALA/TAM-202	TAMU	
43	TX03M1004	HRW	TX97V1613/KS91WGRC11	TAMU	
44	TX03M1096	HRW	MASON/JAGGER	TAMU	
45	TX03M1179	HRW	W95-301/97T1154	TAMU	
46	NW03Y2016	HWW	MO8/REDLAND//KS91H184/3*RIO BLANCO	ARS-LNK	
47	Postrock		OGALLALA/KSU94U261xJAGGER	Agripro North	
48	NuDakota		JAGGERxROMANIAN	Agripro North	
49	98x0338-13		JAGGERxW94-244-132	Agripro North	
50	98x0435-15		W95-091xW96-427	Agripro North	

Table 3. Agronomic summary of 50 hard winter wheats entered in the 2006 SRPN.

Entry	Line/selection	Grain yield, kg/ha		Volume	Days from	Plant
		mean	rank	weight, kg/hl	1/1 to heading	height, cm
1	Kharkof	2046	50	74.8	134	96
2	Scout 66	2683	48	75.9	127	89
3	TAM-107	3315	20	74.2	122	73
4	Trego	3145	35	77.3	127	72
5	KS03HW158	3138	36	76.8	127	69
6	KS03HW6-6CL	3337	18	76.5	125	75
7	Duster	3492	5	75.5	126	74
8	OK01420	3525	2	75.3	122	78
9	OK00310-367101	3500	4	76.4	128	76
10	OK00224-36805	3059	39	75.5	124	71
11	OK02405	3051	41	72.3	128	74
12	OK02522W	3235	25	75.2	125	74
13	T150	3185	30	72.2	124	75
14	T151	3456	10	75.8	123	71
15	T152	3322	19	75.0	121	67
16	T153	3491	6	75.0	122	72
17	HV9W94-CB94005R	3512	3	74.1	124	66
18	HV9W02-846R	3447	11	76.7	125	77
19	HV9W96-1270R-1	3137	37	74.4	122	73
20	HV9W96-1383W	3345	17	74.7	124	68
21	CO01212	3052	40	76.1	127	79
22	CO01385-A1	3489	8	76.5	126	73
23	CO01473	2876	46	76.2	127	79
24	CO01W171	3229	26	75.3	129	77
25	CO01W172	3024	42	75.4	129	77
26	NI03418	3165	32	74.8	129	74
27	NI02425	2907	45	74.2	127	72
28	NE03490	3489	7	73.9	126	70
29	NI04421	3590	1	75.4	127	77
30	Fuller	3346	16	74.9	124	74
31	KS00F5-20-3-2	3415	13	75.1	124	73
32	KS970197-8-9	3062	38	75.2	122	72
33	KS980512-11--2	3408	14	73.5	123	66
34	AP02T4342	3176	31	76.7	124	74
35	AP03T6115	2972	43	73.4	126	71
36	AP03T6126	2952	44	76.5	125	72
37	AP03TA7525	3293	22	75.4	131	72
38	TX01A5936	3155	33	75.7	125	78
39	TX01V5314	3306	21	72.8	125	73
40	TX01V6008	3221	29	75.8	125	72
41	TX01A7326	3149	34	74.9	122	72
42	TX99A0153-1	3487	9	74.5	125	70
43	TX03M1004	3223	28	75.0	123	71
44	TX03M1096	3227	27	73.0	123	73
45	TX03M1179	2767	47	74.4	123	71
46	NW03Y2016	2611	49	75.9	131	68
47	Postrock	3358	15	75.8	125	72
48	NuDakota	3445	12	72.5	129	70
49	98x0338-13	3243	24	74.8	125	73
50	98x0435-15	3247	23	75.4	125	69
	mean	3206		75.1	125	74
	cv (%)	13.3				
	l.s.d. (0.05)	132				
	n	82				

Table 4. Mean grain yield (kg/ha) of 50 entries at individual locations of the 2006 SRPN.

Entry	Line/selection	region		Chilicothe, TX		Bushland, TX, dryland		Bushland, TX, irr.	
		mean	rank	mean	rank	mean	rank	mean	rank
1	Kharkof	2046	50	773	49	699	50	1491	50
2	Scout 66	2683	48	1157	43	986	36	3937	49
3	TAM-107	3315	20	1537	10	1034	31	5278	25
4	Trego	3145	35	1405	23	1301	3	5353	23
5	RonL	3138	36	1357	28	1206	12	6120	4
6	KS03HW6-6CL	3337	18	1590	3	1120	17	5767	8
7	Duster	3492	5	1413	22	1058	27	5135	30
8	OK01420	3525	2	1423	20	1033	32	5422	20
9	OK00310-367101	3500	4	1105	46	959	40	5699	13
10	OK00224-36805	3059	39	1117	45	931	42	5069	33
11	OK02405	3051	41	1236	40	975	38	4670	43
12	OK02522W	3235	25	1562	7	996	35	5047	35
13	T150	3185	30	1413	21	888	43	4356	48
14	T151	3456	10	1740	1	1149	16	5755	9
15	T152	3322	19	1356	29	761	49	5227	28
16	T153	3491	6	1434	18	1231	9	5569	16
17	HV9W94-CB94005R	3512	3	1501	13	1069	25	5681	15
18	HV9W02-846R	3447	11	1533	11	1259	6	5073	32
19	HV9W96-1270R-1	3137	37	1238	39	1038	30	4806	42
20	HV9W96-1383W	3345	17	1224	41	842	46	5896	6
21	CO01212	3052	40	1332	31	1172	15	4391	47
22	CO01385-A1	3489	8	1430	19	1015	33	6078	5
23	CO01473	2876	46	1319	34	1100	20	4948	39
24	CO01W171	3229	26	1097	47	1041	29	5321	24
25	CO01W172	3024	42	1384	24	966	39	5050	34
26	NI03418	3165	32	1572	5	942	41	5720	11
27	NI02425	2907	45	1319	33	857	45	4888	41
28	NE03490	3489	7	1459	16	1251	7	6364	2
29	NI04421	3590	1	1464	15	1054	28	4956	38
30	Fuller	3346	16	1366	25	1224	11	5550	18
31	KS00F5-20-3-2	3415	13	1499	14	1243	8	5407	22
32	KS970197-8-9	3062	38	1305	36	801	47	4415	46
33	KS980512-11--2	3408	14	1310	35	1095	21	5712	12
34	Doans	3176	31	1365	26	1336	1	5246	27
35	AP03T6115	2972	43	1177	42	784	48	5009	36
36	AP03T6126	2952	44	1301	37	1087	23	5421	21
37	AP03TA7525	3293	22	1055	48	1227	10	6369	1
38	TX01A5936	3155	33	1579	4	1117	18	5497	19
39	TX01V5314	3306	21	1453	17	1204	13	5562	17
40	TX01V6008	3221	29	1563	6	1284	5	4614	45
41	TX01A7326	3149	34	1351	30	867	44	4967	37
42	TX99A0153-1	3487	9	1331	32	1288	4	6225	3
43	TX03M1004	3223	28	1361	27	1082	24	4904	40
44	TX03M1096	3227	27	1548	9	1187	14	5075	31
45	TX03M1179	2767	47	1138	44	1095	22	5821	7
46	NW03Y2016	2611	49	773	49	1067	26	5262	26
47	Postrock	3358	15	1502	12	1111	19	5222	29
48	NuDakota	3445	12	1612	2	1003	34	5722	10
49	98x0338-13	3243	24	1283	38	1306	2	4615	44
50	98x0435-15	3247	23	1557	8	979	37	5692	14
	mean	3206		1358		1066		5227	
	cv (%)	13.3		12.1		15.9		5.9	
	l.s.d. (0.05)	264		267		278		503	
	n	82		3		3		3	

Table 4. Mean grain yield (kg/ha) of 50 entries at individual locations of the 2006 SRPN.

Entry	Line/selection	region		Clovis, NM, dryland		Clovis, NM, irr.		Farmington, NM, irr.	
		mean	rank	mean	rank	mean	rank	mean	rank
1	Kharkof	2046	50	799	15	2435	50	3391	27
2	Scout 66	2683	48	860	7	4578	38	3539	24
3	TAM-107	3315	20	851	10	4983	21	4239	9
4	Trego	3145	35	1049	2	4533	39	3334	29
5	RonL	3138	36	638	30	5486	6	4424	8
6	KS03HW6-6CL	3337	18	847	11	5980	2	4173	12
7	Duster	3492	5	710	21	4993	20	2965	44
8	OK01420	3525	2	839	12	5411	7	4069	14
9	OK00310-367101	3500	4	696	25	4796	31	4737	6
10	OK00224-36805	3059	39	527	43	4700	34	3559	23
11	OK02405	3051	41	625	33	4261	46	2282	50
12	OK02522W	3235	25	545	39	5182	14	2865	45
13	T150	3185	30	490	45	4719	33	3164	35
14	T151	3456	10	856	8	5349	8	3737	18
15	T152	3322	19	461	46	5063	18	3154	36
16	T153	3491	6	590	35	5304	9	2674	49
17	HV9W94-CB94005R	3512	3	682	27	5649	4	3698	19
18	HV9W02-846R	3447	11	707	23	4755	32	3080	37
19	HV9W96-1270R-1	3137	37	363	50	4899	27	4888	4
20	HV9W96-1383W	3345	17	367	49	5187	12	3463	25
21	CO01212	3052	40	630	31	4001	49	4760	5
22	CO01385-A1	3489	8	1027	4	5234	11	5794	1
23	CO01473	2876	46	823	13	4585	37	2838	47
24	CO01W171	3229	26	856	9	5913	3	3696	20
25	CO01W172	3024	42	791	16	5033	19	3651	21
26	NI03418	3165	32	696	26	4963	23	2990	41
27	NI02425	2907	45	575	37	4355	44	2695	48
28	NE03490	3489	7	971	5	6275	1	3957	16
29	NI04421	3590	1	1063	1	5490	5	4682	7
30	Fuller	3346	16	860	6	5104	16	3421	26
31	KS00F5-20-3-2	3415	13	749	18	4668	36	3368	28
32	KS970197-8-9	3062	38	455	47	4062	47	3241	32
33	KS980512-11--2	3408	14	697	24	5077	17	3008	40
34	Doans	3176	31	561	38	4454	42	3787	17
35	AP03T6115	2972	43	586	36	5239	10	3184	34
36	AP03T6126	2952	44	629	32	4490	41	3209	33
37	AP03TA7525	3293	22	816	14	4803	30	4219	11
38	TX01A5936	3155	33	669	28	5120	15	2982	43
39	TX01V5314	3306	21	541	40	4407	43	3282	31
40	TX01V6008	3221	29	514	44	4012	48	4954	3
41	TX01A7326	3149	34	538	41	4930	26	3581	22
42	TX99A0153-1	3487	9	1048	3	4682	35	5035	2
43	TX03M1004	3223	28	619	34	4354	45	4235	10
44	TX03M1096	3227	27	442	48	4808	29	3074	38
45	TX03M1179	2767	47	648	29	5184	13	3047	39
46	NW03Y2016	2611	49	741	19	4507	40	2986	42
47	Postrock	3358	15	784	17	4958	24	4071	13
48	NuDakota	3445	12	532	42	4824	28	3986	15
49	98x0338-13	3243	24	711	20	4956	25	2849	46
50	98x0435-15	3247	23	710	22	4981	22	3309	30
	mean	3206		696		4875		3626	
	cv (%)	13.3		36.0		11.6		21.9	
	l.s.d. (0.05)	264		344		797		1126	
	n	82		4		4		4	

Table 4. Mean grain yield (kg/ha) of 50 entries at individual locations of the 2006 SRPN.

Entry	Line/selection	region		Ft. Cobb, OK		Lahoma, OK		Stillwater, OK	
		mean	rank	mean	rank	mean	rank	mean	rank
1	Kharkof	2046	50	1637	49	2602	49	2367	48
2	Scout 66	2683	48	2213	9	4372	26	3088	32
3	TAM-107	3315	20	2029	25	4605	15	3236	25
4	Trego	3145	35	1917	35	4152	37	2782	43
5	RonL	3138	36	1657	48	2475	50	3281	22
6	KS03HW6-6CL	3337	18	2081	20	4809	7	3595	7
7	Duster	3492	5	2177	11	4383	22	3250	24
8	OK01420	3525	2	2240	7	4797	8	3274	23
9	OK00310-367101	3500	4	2013	28	3554	47	2497	45
10	OK00224-36805	3059	39	1684	47	4316	30	2264	49
11	OK02405	3051	41	2065	22	4056	40	3133	30
12	OK02522W	3235	25	2159	13	4020	41	3196	27
13	T150	3185	30	2132	17	4401	20	3176	29
14	T151	3456	10	2054	24	4952	5	3364	17
15	T152	3322	19	1975	30	4728	13	2963	37
16	T153	3491	6	2282	6	4735	11	2891	41
17	HV9W94-CB94005R	3512	3	2177	11	4517	17	3747	2
18	HV9W02-846R	3447	11	2099	18	4486	19	3321	19
19	HV9W96-1270R-1	3137	37	1702	45	4356	29	2896	40
20	HV9W96-1383W	3345	17	1476	50	4159	35	2941	39
21	CO01212	3052	40	1901	37	4110	38	3373	16
22	CO01385-A1	3489	8	2341	1	4365	27	3744	3
23	CO01473	2876	46	1991	29	3653	46	2856	42
24	CO01W171	3229	26	2065	22	3864	44	2439	47
25	CO01W172	3024	42	1875	38	3263	48	2450	46
26	NI03418	3165	32	2016	26	4381	23	3115	31
27	NI02425	2907	45	1700	46	3993	42	3611	6
28	NE03490	3489	7	2311	3	4295	31	3487	12
29	NI04421	3590	1	2309	4	4365	28	4235	1
30	Fuller	3346	16	1957	31	5037	2	3713	4
31	KS00F5-20-3-2	3415	13	2325	2	4965	4	2974	36
32	KS970197-8-9	3062	38	1848	41	4735	12	3503	10
33	KS980512-11--2	3408	14	2226	8	5102	1	3557	9
34	Doans	3176	31	2199	10	4374	24	3393	15
35	AP03T6115	2972	43	2072	21	3964	43	3328	18
36	AP03T6126	2952	44	1861	40	4103	39	3308	20
37	AP03TA7525	3293	22	1919	34	4389	21	3494	11
38	TX01A5936	3155	33	2016	26	4759	10	3060	33
39	TX01V5314	3306	21	1866	39	4975	3	3579	8
40	TX01V6008	3221	29	2300	5	4284	32	3306	21
41	TX01A7326	3149	34	1933	33	4229	33	2999	35
42	TX99A0153-1	3487	9	2134	16	4873	6	3655	5
43	TX03M1004	3223	28	1948	32	4488	18	3236	25
44	TX03M1096	3227	27	1736	44	4773	9	3454	13
45	TX03M1179	2767	47	1763	43	4188	34	3053	34
46	NW03Y2016	2611	49	1776	42	3724	45	1946	50
47	Postrock	3358	15	2088	19	4674	14	3451	14
48	NuDakota	3445	12	2143	14	4374	25	2954	38
49	98x0338-13	3243	24	1917	35	4538	16	3182	28
50	98x0435-15	3247	23	2137	15	4157	36	2515	44
	mean	3206		2009		4309		3165	
	cv (%)	13.3		13.6		8.4		15.3	
	l.s.d. (0.05)	264		446		589		792	
	n	82		3		3		3	

Table 4. Mean grain yield (kg/ha) of 50 entries at individual locations of the 2006 SRPN.

Entry	Line/selection	region		Akron, CO		Fort Collins, CO, irr.		Burlington, CO	
		mean	rank	mean	rank	mean	rank	mean	rank
1	Kharkof	2046	50	1013	35	4255	35	959	27
2	Scout 66	2683	48	1780	10	4447	26	930	32
3	TAM-107	3315	20	2473	1	4660	17	1887	1
4	Trego	3145	35	843	44	5613	4	820	39
5	RonL	3138	36	475	50	4416	27	1276	9
6	KS03HW6-6CL	3337	18	899	42	5813	2	1067	19
7	Duster	3492	5	1226	26	4889	14	1179	14
8	OK01420	3525	2	2132	3	3847	41	971	26
9	OK00310-367101	3500	4	1556	17	5261	8	1141	15
10	OK00224-36805	3059	39	1031	34	4302	30	713	49
11	OK02405	3051	41	1300	24	4515	23	921	34
12	OK02522W	3235	25	1578	16	4660	17	1092	17
13	T150	3185	30	726	47	5214	9	791	42
14	T151	3456	10	901	41	4297	31	906	37
15	T152	3322	19	2015	6	2679	49	1374	6
16	T153	3491	6	1410	20	4389	28	1737	2
17	HV9W94-CB94005R	3512	3	1390	22	4461	25	1338	8
18	HV9W02-846R	3447	11	1094	31	4867	15	1621	3
19	HV9W96-1270R-1	3137	37	1612	15	4634	19	1074	18
20	HV9W96-1383W	3345	17	1536	18	3580	46	836	38
21	CO01212	3052	40	986	37	5470	6	699	50
22	CO01385-A1	3489	8	1887	8	5266	7	1258	10
23	CO01473	2876	46	1166	27	5064	10	751	44
24	CO01W171	3229	26	787	46	4826	16	926	33
25	CO01W172	3024	42	964	39	4943	13	937	30
26	NI03418	3165	32	980	38	5048	11	912	36
27	NI02425	2907	45	614	48	1814	50	984	25
28	NE03490	3489	7	816	45	5963	1	939	29
29	NI04421	3590	1	1446	19	5705	3	1195	13
30	Fuller	3346	16	1244	25	3894	39	1004	24
31	KS00F5-20-3-2	3415	13	1663	12	3883	40	1224	11
32	KS970197-8-9	3062	38	1103	30	3244	48	771	43
33	KS980512-11--2	3408	14	1036	33	3300	47	724	47
34	Doans	3176	31	1968	7	4279	32	1054	21
35	AP03T6115	2972	43	998	36	4075	38	1414	5
36	AP03T6126	2952	44	1107	29	3618	45	937	30
37	AP03TA7525	3293	22	1119	28	4950	12	1049	22
38	TX01A5936	3155	33	1717	11	4322	29	1224	11
39	TX01V5314	3306	21	1047	32	4270	34	1067	19
40	TX01V6008	3221	29	1641	13	4571	22	953	28
41	TX01A7326	3149	34	1796	9	4600	21	746	46
42	TX99A0153-1	3487	9	1370	23	5488	5	919	35
43	TX03M1004	3223	28	892	43	4149	37	1042	23
44	TX03M1096	3227	27	1627	14	3627	44	1352	7
45	TX03M1179	2767	47	2085	4	3661	43	1107	16
46	NW03Y2016	2611	49	542	49	3744	42	809	41
47	Postrock	3358	15	1406	21	4463	24	1417	4
48	NuDakota	3445	12	2473	2	4611	20	751	44
49	98x0338-13	3243	24	953	40	4163	36	811	40
50	98x0435-15	3247	23	2085	4	4275	33	715	48
	mean	3206		1330		4442		1047	
	cv (%)	13.3		37.5		10.5		41.6	
	l.s.d. (0.05)	264		814		761		ns	
	n	82		3		3		3	

Table 4. Mean grain yield (kg/ha) of 50 entries at individual locations of the 2006 SRPN.

Entry	Line/selection	region		Garden City, KS		Hays, KS		Hutchinson, KS		Manhattan, KS	
		mean	rank	mean	rank	mean	rank	mean	rank	mean	rank
1	Kharkof	2046	50	1408	49	1258	50	1954	50	1475	50
2	Scout 66	2683	48	1755	41	2199	46	2091	48	2163	48
3	TAM-107	3315	20	1923	32	3008	8	2612	42	2364	45
4	Trego	3145	35	2042	20	2878	12	2635	40	3778	32
5	RonL	3138	36	2188	11	3461	1	2608	43	4434	16
6	KS03HW6-6CL	3337	18	1908	35	3150	6	2764	36	2673	40
7	Duster	3492	5	1930	31	2789	16	3371	2	5217	1
8	OK01420	3525	2	2159	12	2988	10	2843	31	5017	2
9	OK00310-367101	3500	4	2248	7	2679	22	3254	6	4986	3
10	OK00224-36805	3059	39	1661	46	2378	38	2691	38	4442	15
11	OK02405	3051	41	1825	39	2235	44	2783	35	4140	24
12	OK02522W	3235	25	1923	32	2495	29	2800	32	4568	8
13	T150	3185	30	1847	37	2439	35	2755	37	4537	10
14	T151	3456	10	2374	5	3434	2	2785	34	4455	13
15	T152	3322	19	2074	16	3253	5	3146	9	4450	14
16	T153	3491	6	2221	10	3268	4	2982	23	4948	4
17	HV9W94-CB94005R	3512	3	1800	40	2798	15	3118	11	4841	6
18	HV9W02-846R	3447	11	2060	18	2482	30	3098	14	4558	9
19	HV9W96-1270R-1	3137	37	1320	50	2459	33	2908	26	3678	34
20	HV9W96-1383W	3345	17	1995	24	2730	18	3011	19	4375	17
21	CO01212	3052	40	1731	43	2358	42	3001	21	2543	44
22	CO01385-A1	3489	8	1993	25	2827	13	3337	3	2593	42
23	CO01473	2876	46	1679	45	2466	32	2873	28	1981	49
24	CO01W171	3229	26	2540	2	2213	45	2852	30	4187	21
25	CO01W172	3024	42	2040	21	2423	36	2853	29	3593	35
26	NI03418	3165	32	2650	1	2558	27	2581	45	3983	27
27	NI02425	2907	45	1977	26	2156	47	3056	16	3162	38
28	NE03490	3489	7	2304	6	2641	23	3429	1	2186	47
29	NI04421	3590	1	2002	22	2811	14	3115	12	4515	12
30	Fuller	3346	16	2148	13	2576	25	2628	41	4151	23
31	KS00F5-20-3-2	3415	13	2233	8	2479	31	3325	4	4532	11
32	KS970197-8-9	3062	38	1654	47	2706	20	2384	47	4320	19
33	KS980512-11--2	3408	14	1849	36	2997	9	3317	5	4711	7
34	Doans	3176	31	1970	27	2383	37	3138	10	3945	30
35	AP03T6115	2972	43	1565	48	1908	49	2387	46	3726	33
36	AP03T6126	2952	44	1959	29	2360	41	2907	27	4022	26
37	AP03TA7525	3293	22	2228	9	2961	11	3029	18	2670	41
38	TX01A5936	3155	33	2139	14	3318	3	3009	20	2558	43
39	TX01V5314	3306	21	2053	19	2515	28	2946	24	4347	18
40	TX01V6008	3221	29	2069	17	2441	34	2600	44	3590	36
41	TX01A7326	3149	34	1946	30	2569	26	3191	7	2995	39
42	TX99A0153-1	3487	9	2417	4	3132	7	3159	8	3181	37
43	TX03M1004	3223	28	1724	44	2367	40	3110	13	4864	5
44	TX03M1096	3227	27	1997	23	2692	21	2929	25	3962	29
45	TX03M1179	2767	47	1829	38	1910	48	1987	49	3829	31
46	NW03Y2016	2611	49	1964	28	2786	17	2790	33	2270	46
47	Postrock	3358	15	2130	15	2298	43	3043	17	4091	25
48	NuDakota	3445	12	2434	3	2712	19	2668	39	4197	20
49	98x0338-13	3243	24	1912	34	2374	39	3070	15	3971	28
50	98x0435-15	3247	23	1740	42	2627	24	2995	22	4154	22
	mean	3206		1991		2619		2878		3799	
	cv (%)	13.3		13.7		11.2		11.2		8.8	
	l.s.d. (0.05)	264		446		477		527		543	
	n	82		3		3		3		3	

Table 4. Mean grain yield (kg/ha) of 50 entries at individual locations of the 2006 SRPN.

Entry	Line/selection	region		Salina, KS		Wichita, KS		Winfield, KS	
		mean	rank	mean	rank	mean	rank	mean	rank
1	Kharkof	2046	50	2233	49	1634	50	1979	48
2	Scout 66	2683	48	2433	48	3425	39	2289	45
3	TAM-107	3315	20	4035	9	4606	6	2950	37
4	Trego	3145	35	3141	41	3883	21	3136	29
5	RonL	3138	36	2660	46	4255	13	1569	49
6	KS03HW6-6CL	3337	18	3894	13	3282	43	3026	34
7	Duster	3492	5	3576	30	4630	5	4062	9
8	OK01420	3525	2	3727	22	4519	7	4669	1
9	OK00310-367101	3500	4	3645	26	4464	8	3439	21
10	OK00224-36805	3059	39	3650	25	3908	20	3333	26
11	OK02405	3051	41	3658	24	3803	27	3058	33
12	OK02522W	3235	25	4105	6	3189	45	3705	13
13	T150	3185	30	3916	12	4693	3	4100	6
14	T151	3456	10	4053	7	5375	1	4427	2
15	T152	3322	19	4391	1	3830	26	3506	19
16	T153	3491	6	3836	17	4126	15	4129	5
17	HV9W94-CB94005R	3512	3	3677	23	3871	23	4100	6
18	HV9W02-846R	3447	11	4247	2	4102	16	2737	39
19	HV9W96-1270R-1	3137	37	3609	29	3953	18	3439	22
20	HV9W96-1383W	3345	17	3946	11	4406	11	4149	4
21	CO01212	3052	40	2909	43	3290	42	1305	50
22	CO01385-A1	3489	8	3477	35	3657	32	2715	40
23	CO01473	2876	46	2898	44	2957	48	2024	47
24	CO01W171	3229	26	3850	16	3219	44	3309	27
25	CO01W172	3024	42	2229	50	3313	41	3076	31
26	NI03418	3165	32	2515	47	2639	49	3069	32
27	NI02425	2907	45	3473	36	4219	14	2710	41
28	NE03490	3489	7	4192	4	4448	9	3132	30
29	NI04421	3590	1	4221	3	3935	19	3670	14
30	Fuller	3346	16	3420	38	4729	2	3670	14
31	KS00F5-20-3-2	3415	13	3634	27	3856	24	3990	11
32	KS970197-8-9	3062	38	4038	8	3803	27	3609	17
33	KS980512-11--2	3408	14	4123	5	4669	4	4255	3
34	Doans	3176	31	3530	33	3549	35	3616	16
35	AP03T6115	2972	43	2807	45	3625	33	2497	43
36	AP03T6126	2952	44	3389	39	3714	30	3291	28
37	AP03TA7525	3293	22	3817	19	3589	34	2636	42
38	TX01A5936	3155	33	3948	10	3180	46	2780	38
39	TX01V5314	3306	21	3773	21	3848	25	3425	23
40	TX01V6008	3221	29	3469	37	3536	37	3020	35
41	TX01A7326	3149	34	3549	32	3537	36	2970	36
42	TX99A0153-1	3487	9	3825	18	4436	10	2486	44
43	TX03M1004	3223	28	3574	31	4086	17	4019	10
44	TX03M1096	3227	27	3887	14	3875	22	4100	8
45	TX03M1179	2767	47	3787	20	3401	40	3475	20
46	NW03Y2016	2611	49	3258	40	3132	47	2143	46
47	Postrock	3358	15	3523	34	4303	12	3369	24
48	NuDakota	3445	12	3857	15	3738	29	3876	12
49	98x0338-13	3243	24	3045	42	3447	38	3584	18
50	98x0435-15	3247	23	3614	28	3688	31	3340	25
	mean	3206		3561		3827		3259	
	cv (%)	13.3		15.4		14.2		16.7	
	l.s.d. (0.05)	264		894		1089		890	
	n	82		3		2		3	

Table 4. Mean grain yield (kg/ha) of 50 entries at individual locations of the 2006 SRPN.

Entry	Line/selection	region		Lincoln, NE		Clay Center, NE		North Platte, NE		Alliance, NE	
		mean	rank	mean	rank	mean	rank	mean	rank	mean	rank
1	Kharkof	2046	50	3806	50	2958	50	1796	49	2421	45
2	Scout 66	2683	48	4647	46	3571	49	2409	29	2619	34
3	TAM-107	3315	20	5909	33	4843	30	2312	38	3134	5
4	Trego	3145	35	5846	35	5349	19	2604	21	2845	20
5	RonL	3138	36	6306	15	5483	17	2744	15	1280	50
6	KS03HW6-6CL	3337	18	5971	27	5086	27	2629	20	2482	42
7	Duster	3492	5	6998	3	5677	8	3245	3	2867	18
8	OK01420	3525	2	6656	8	5384	18	2716	16	2901	14
9	OK00310-367101	3500	4	6837	5	5674	9	2560	24	2739	28
10	OK00224-36805	3059	39	5776	38	4518	40	2143	42	2607	35
11	OK02405	3051	41	6169	20	5123	24	2422	28	2795	22
12	OK02522W	3235	25	6282	16	5550	13	2329	36	2443	43
13	T150	3185	30	6084	23	4504	41	2433	27	2652	33
14	T151	3456	10	6186	19	5575	11	2034	45	3046	10
15	T152	3322	19	6355	12	5800	4	2793	14	3124	6
16	T153	3491	6	6605	9	5291	21	2891	9	3000	11
17	HV9W94-CB94005R	3512	3	7016	2	5573	12	2821	11	2428	44
18	HV9W02-846R	3447	11	7100	1	5713	6	3231	4	3330	1
19	HV9W96-1270R-1	3137	37	5829	36	5146	23	2459	26	2261	46
20	HV9W96-1383W	3345	17	5898	34	5546	14	3579	1	2568	37
21	CO01212	3052	40	5963	28	3959	47	3118	6	2887	17
22	CO01385-A1	3489	8	6314	14	4806	32	2833	10	3107	7
23	CO01473	2876	46	4761	44	4252	44	2689	18	2718	30
24	CO01W171	3229	26	5957	30	4971	29	2369	32	2993	12
25	CO01W172	3024	42	5653	39	4524	39	2357	35	3262	3
26	NI03418	3165	32	6119	21	4839	31	2397	30	2496	39
27	NI02425	2907	45	5489	40	4660	36	2109	43	2887	16
28	NE03490	3489	7	6464	11	5121	25	3020	7	3272	2
29	NI04421	3590	1	6536	10	5538	15	3211	5	3065	9
30	Fuller	3346	16	5794	37	5638	10	2318	37	2607	36
31	KS00F5-20-3-2	3415	13	6353	13	5841	1	2366	33	2962	13
32	KS970197-8-9	3062	38	5356	43	4744	33	1982	46	2861	19
33	KS980512-11--2	3408	14	6744	7	5807	3	2598	22	2746	26
34	Doans	3176	31	4729	45	4495	42	2299	39	2563	38
35	AP03T6115	2972	43	5455	42	4572	38	1900	47	2493	40
36	AP03T6126	2952	44	4078	49	4246	45	1744	50	1802	47
37	AP03TA7525	3293	22	5976	25	5343	20	2572	23	2688	31
38	TX01A5936	3155	33	5465	41	4629	37	2364	34	2680	32
39	TX01V5314	3306	21	6202	18	5108	26	2805	12	2895	15
40	TX01V6008	3221	29	6114	22	4692	35	2078	44	3178	4
41	TX01A7326	3149	34	5910	32	4734	34	2477	25	2783	23
42	TX99A0153-1	3487	9	6050	24	5276	22	3348	2	2759	24
43	TX03M1004	3223	28	5961	29	5054	28	2272	40	2812	21
44	TX03M1096	3227	27	6248	17	4440	43	2898	8	2742	27
45	TX03M1179	2767	47	4629	47	4164	46	1890	48	1312	49
46	NW03Y2016	2611	49	4460	48	3745	48	2708	17	1772	48
47	Postrock	3358	15	5943	31	5679	7	2654	19	2739	28
48	NuDakota	3445	12	6890	4	5820	2	2204	41	3092	8
49	98x0338-13	3243	24	6771	6	5786	5	2374	31	2484	41
50	98x0435-15	3247	23	5975	26	5498	16	2795	13	2751	25
	mean	3206		5933		5007		2538		2699	
	cv (%)	13.3		6.9		7.2		11.1		11.3	
	l.s.d. (0.05)	264		664		589		459		496	
	n	82		3		3		3		3	

Table 4. Mean grain yield (kg/ha) of 50 entries at individual locations of the 2006 SRPN.

Entry	Line/selection	region		Brookings, SD		Dakota Lakes, SD		Winner, SD	
		mean	rank	mean	rank	mean	rank	mean	rank
1	Kharkof	2046	50	2897	49	1196	45	2154	23
2	Scout 66	2683	48	3679	48	1234	44	2030	32
3	TAM-107	3315	20	4925	43	1295	41	2225	14
4	Trego	3145	35	4154	46	1643	33	2246	12
5	RonL	3138	36	5765	10	320	50	2397	9
6	KS03HW6-6CL	3337	18	5245	33	1527	34	2190	17
7	Duster	3492	5	5203	35	1356	38	2405	8
8	OK01420	3525	2	5921	7	1354	39	2024	33
9	OK00310-367101	3500	4	6462	2	2029	21	2481	6
10	OK00224-36805	3059	39	5506	24	1496	35	2077	29
11	OK02405	3051	41	4987	41	2380	13	2161	21
12	OK02522W	3235	25	5401	28	1128	46	1641	49
13	T150	3185	30	5130	39	1239	43	2108	27
14	T151	3456	10	5277	32	1366	37	1676	48
15	T152	3322	19	5967	6	1240	42	2180	19
16	T153	3491	6	6020	4	2425	11	1997	34
17	HV9W94-CB94005R	3512	3	5201	36	1847	26	2040	31
18	HV9W02-846R	3447	11	5537	21	2609	6	2081	28
19	HV9W96-1270R-1	3137	37	4393	45	1981	23	1748	46
20	HV9W96-1383W	3345	17	5627	17	2151	17	2119	26
21	CO01212	3052	40	5612	18	2444	10	2566	3
22	CO01385-A1	3489	8	5525	22	2771	2	2532	4
23	CO01473	2876	46	5448	27	2370	14	2200	16
24	CO01W171	3229	26	5744	11	1334	40	2378	10
25	CO01W172	3024	42	5172	37	2707	4	2657	1
26	NI03418	3165	32	5649	15	2317	16	2438	7
27	NI02425	2907	45	5611	19	1707	30	2355	11
28	NE03490	3489	7	5240	34	2053	20	2509	5
29	NI04421	3590	1	4955	42	1923	25	1976	35
30	Fuller	3346	16	5776	8	2138	18	2151	24
31	KS00F5-20-3-2	3415	13	5972	5	1842	27	1869	40
32	KS970197-8-9	3062	38	6625	1	1699	31	1752	45
33	KS980512-11--2	3408	14	5683	13	1801	29	1829	43
34	Doans	3176	31	5773	9	2403	12	2068	30
35	AP03T6115	2972	43	5655	14	1489	36	2171	20
36	AP03T6126	2952	44	5462	26	2100	19	2220	15
37	AP03TA7525	3293	22	5165	38	2560	8	2649	2
38	TX01A5936	3155	33	4732	44	2326	15	1913	37
39	TX01V5314	3306	21	5691	12	2566	7	2157	22
40	TX01V6008	3221	29	5395	29	2446	9	2123	25
41	TX01A7326	3149	34	5646	16	1823	28	1931	36
42	TX99A0153-1	3487	9	5122	40	2025	22	1880	39
43	TX03M1004	3223	28	5328	31	1009	48	1732	47
44	TX03M1096	3227	27	5559	20	1692	32	1834	41
45	TX03M1179	2767	47	1907	50	374	49	1608	50
46	NW03Y2016	2611	49	4102	47	1062	47	1828	44
47	Postrock	3358	15	5377	30	2718	3	2243	13
48	NuDakota	3445	12	5466	25	2626	5	1831	42
49	98x0338-13	3243	24	6136	3	3271	1	1903	38
50	98x0435-15	3247	23	5512	23	1979	24	2184	18
	mean	3206		5287		1868		2110	
	cv (%)	13.3		8.2		33.7		14.6	
	l.s.d. (0.05)	264		866		1258		617	
	n	82		2		2		2	

Table 4. Mean grain yield (kg/ha) of 50 entries at individual locations of the 2006 SRPN.

Entry	Line/selection	region		Crawfordsville, IA		Columbia, MO		Lafayette, IN		Bozeman, MT	
		mean	rank	mean	rank	mean	rank	1 rep	rank	1 rep	rank
1	Kharkof	2046	50	5202	49	1276	50	2603	48	4888	37
2	Scout 66	2683	48	6227	47	2098	49	2616	47	5070	30
3	TAM-107	3315	20	7519	36	3611	12	5454	11	4484	43
4	Trego	3145	35	7424	38	2724	43	3941	41	5650	10
5	RonL	3138	36	7851	25	2988	37	3692	43	5728	7
6	KS03HW6-6CL	3337	18	6937	46	3419	19	3645	44	5548	11
7	Duster	3492	5	8823	3	4488	1	4842	28	5315	19
8	OK01420	3525	2	8716	6	3358	22	5145	20	4969	35
9	OK00310-367101	3500	4	8709	7	4089	4	5696	7	5515	13
10	OK00224-36805	3059	39	7925	22	3313	24	4775	31	4075	46
11	OK02405	3051	41	7354	40	2950	38	5636	9	5436	17
12	OK02522W	3235	25	7996	19	3533	16	5568	10	3181	50
13	T150	3185	30	7680	32	3611	12	4506	35	3341	49
14	T151	3456	10	8326	14	3026	34	5091	21	5018	34
15	T152	3322	19	7969	21	3138	28	5905	3	4456	44
16	T153	3491	6	8547	11	3726	7	5864	4	5198	24
17	HV9W94-CB94005R	3512	3	8736	5	4111	3	5198	17	5308	20
18	HV9W02-846R	3447	11	8702	8	3544	15	4781	30	6345	2
19	HV9W96-1270R-1	3137	37	7122	45	2934	39	5158	19	5221	23
20	HV9W96-1383W	3345	17	8151	17	4131	2	4331	36	5485	14
21	CO01212	3052	40	8534	12	2726	42	5003	23	5523	12
22	CO01385-A1	3489	8	7734	30	3080	30	4862	27	5165	26
23	CO01473	2876	46	7855	24	2529	44	3645	45	5245	22
24	CO01W171	3229	26	8070	18	2863	40	4022	39	4156	45
25	CO01W172	3024	42	7206	43	2134	48	3887	42	4890	36
26	NI03418	3165	32	8823	4	2504	45	4217	37	5816	4
27	NI02425	2907	45	7737	28	3394	20	5373	15	4610	41
28	NE03490	3489	7	8164	16	2827	41	4149	38	5672	9
29	NI04421	3590	1	7737	28	3513	17	4640	34	5455	15
30	Fuller	3346	16	8860	2	3230	27	5441	12	5037	33
31	KS00F5-20-3-2	3415	13	8665	9	3918	6	lost	lost	5040	31
32	KS970197-8-9	3062	38	7623	33	3627	11	5824	5	5038	32
33	KS980512-11--2	3408	14	7431	37	3952	5	5017	22	5156	27
34	Doans	3176	31	7387	39	3069	31	4983	24	5699	8
35	AP03T6115	2972	43	7724	31	3040	32	3988	40	4726	38
36	AP03T6126	2952	44	7142	44	3284	25	4889	26	4566	42
37	AP03TA7525	3293	22	7586	35	3028	33	5178	18	6616	1
38	TX01A5936	3155	33	7300	41	3380	21	4788	29	3516	48
39	TX01V5314	3306	21	7603	34	3723	8	5441	13	3596	47
40	TX01V6008	3221	29	8278	15	3098	29	4728	33	5140	28
41	TX01A7326	3149	34	7909	23	3501	18	4741	32	5447	16
42	TX99A0153-1	3487	9	7996	19	3719	9	lost	lost	5800	5
43	TX03M1004	3223	28	7754	27	3674	10	5407	14	4679	39
44	TX03M1096	3227	27	7236	42	3349	23	6113	1	5181	25
45	TX03M1179	2767	47	4795	50	3006	36	4983	25	5283	21
46	NW03Y2016	2611	49	5478	48	2430	47	3645	46	4660	40
47	Postrock	3358	15	8443	13	2499	46	5649	8	5092	29
48	NuDakota	3445	12	8917	1	3241	26	5925	2	5334	18
49	98x0338-13	3243	24	8625	10	3560	14	5784	6	5782	6
50	98x0435-15	3247	23	7835	26	3013	35	5286	16	6228	3
mean		3206		7767		3220		4834		5088	
cv (%)		13.3		5.6		7.9					
l.s.d. (0.05)		264		871		418					
n		82		2		3					

Lafayette, IN & Bozeman, MT: observation only; not included in regional means

Table 5. Summary of region-wide and state-wide mean grain yields (kg/ha) of entries in the 2006 SRPN.

entry	Line/selection	region		NM State		TX State		OK State		CO State		KS State		NE State		SD State	
		mean	rank	mean	rank	mean	rank	mean	rank	mean	rank	mean	rank	mean	rank	mean	rank
1	Kharkof	2046	50	2208	50	988	50	2204	50	2076	37	1709	50	2745	50	2082	49
2	Scout 66	2683	48	2992	26	2027	49	2931	41	2386	20	2282	49	3312	46	2314	48
3	TAM-107	3315	20	3358	11	2616	24	3293	20	3007	1	2995	33	4050	28	2815	41
4	Trego	3145	35	2972	27	2686	18	2953	39	2425	16	3030	31	4161	21	2681	46
5	RonL	3138	36	3516	6	2894	3	2473	49	2056	38	2964	35	3953	35	2827	39
6	KS03HW6-6CL	3337	18	3667	4	2826	7	3498	5	2593	6	2940	37	4042	29	2988	38
7	Duster	3492	5	2889	35	2535	29	3273	22	2431	14	3605	5	4697	2	2988	37
8	OK01420	3525	2	3440	8	2626	22	3440	10	2316	26	3663	2	4414	11	3100	31
9	OK00310-367101	3500	4	3410	9	2588	28	2691	46	2653	4	3484	7	4453	9	3657	2
10	OK00224-36805	3059	39	2929	30	2372	40	2757	45	2015	43	3114	27	3761	41	3026	34
11	OK02405	3051	41	2389	49	2293	46	3088	35	2245	31	3035	30	4127	24	3176	25
12	OK02522W	3235	25	2864	37	2535	30	3128	31	2443	11	3258	18	4151	22	2724	43
13	T150	3185	30	2791	41	2219	47	3239	24	2244	32	3409	12	3918	38	2826	40
14	T151	3456	10	3314	13	2881	5	3460	9	2035	40	3767	1	4210	20	2773	42
15	T152	3322	19	2893	34	2448	37	3225	26	2023	42	3506	6	4518	4	3129	29
16	T153	3491	6	2856	38	2745	10	3306	17	2512	10	3620	4	4447	10	3481	6
17	HV9W94-CB94005R	3512	3	3343	12	2750	9	3484	7	2396	18	3437	10	4460	8	3029	32
18	HV9W02-846R	3447	11	2847	39	2622	23	3305	18	2527	9	3287	16	4844	1	3409	12
19	HV9W96-1270R-1	3137	37	3383	10	2361	42	2987	38	2440	12	3007	32	3924	37	2707	44
20	HV9W96-1383W	3345	17	3006	23	2654	20	2861	42	1984	44	3472	8	4398	12	3299	18
21	CO01212	3052	40	3130	18	2298	45	3131	30	2385	21	2406	47	3982	32	3541	4
22	CO01385-A1	3489	8	4018	1	2841	6	3487	6	2804	2	2907	40	4265	16	3609	3
23	CO01473	2876	46	2749	44	2456	35	2836	43	2327	25	2384	48	3605	43	3340	15
24	CO01W171	3229	26	3488	7	2486	33	2792	44	2180	34	3164	23	4073	27	3152	26
25	CO01W172	3024	42	3158	17	2467	34	2532	47	2281	29	2763	44	3949	36	3512	5
26	NI03418	3165	32	2883	36	2744	11	3173	28	2313	27	2867	42	3963	34	3468	8
27	NI02425	2907	45	2542	48	2355	43	3104	33	1137	50	2902	41	3786	39	3225	24
28	NE03490	3489	7	3734	3	3025	1	3368	13	2573	8	3127	26	4469	7	3267	20
29	NI04421	3590	1	3745	2	2491	31	3640	1	2782	3	3444	9	4588	3	3147	27
30	Fuller	3346	16	3129	19	2713	16	3572	3	2047	39	3262	17	4089	25	3355	14
31	KS00F5-20-3-2	3415	13	2928	31	2716	15	3425	11	2257	30	3415	11	4380	13	3228	22
32	KS970197-8-9	3062	38	2586	47	2174	48	3365	14	1706	47	3187	21	3736	42	3359	13
33	KS980512-11--2	3408	14	2927	32	2706	17	3632	2	1686	49	3655	3	4474	6	3104	30
34	AP02T4342	3176	31	2934	29	2649	21	3325	15	2434	13	3142	24	3521	45	3415	11
35	AP03T6115	2972	43	3003	24	2323	44	3124	32	2162	35	2596	45	3605	44	3292	19
36	AP03T6126	2952	44	2776	42	2603	26	3094	34	1887	46	3061	28	2967	49	3261	21

Table 5. Summary of region-wide and state-wide mean grain yields (kg/ha) of entries in the 2006 SRPN.

entry	Line/selection	region		NM State		TX State		OK State		CO State		KS State		NE State		SD State	
		mean	rank	mean	rank	mean	rank	mean	rank	mean	rank	mean	rank	mean	rank	mean	rank
37	AP03TA7525	3293	22	3279	14	2884	4	3271	23	2372	23	2960	36	4145	23	3458	9
38	TX01A5936	3155	33	2924	33	2731	14	3281	21	2421	17	2981	34	3784	40	2990	36
39	TX01V5314	3306	21	2743	46	2740	13	3476	8	2128	36	3244	19	4252	19	3472	7
40	TX01V6008	3221	29	3160	16	2487	32	3300	19	2388	19	2932	39	4015	31	3321	16
41	TX01A7326	3149	34	3016	22	2395	39	3056	36	2381	22	2937	38	3976	33	3133	28
42	TX99A0153-1	3487	9	3588	5	2948	2	3558	4	2592	7	3173	22	4358	14	3009	35
43	TX03M1004	3223	28	3070	21	2449	36	3227	25	2028	41	3357	13	4025	30	2690	45
44	TX03M1096	3227	27	2775	43	2603	27	3324	16	2202	33	3323	15	4082	26	3029	33
45	TX03M1179	2767	47	2960	28	2685	19	3004	37	2284	28	2863	43	2999	48	1296	50
46	NW03Y2016	2611	49	2745	45	2367	41	2485	48	1698	48	2595	46	3171	47	2330	47
47	Postrock	3358	15	3271	15	2612	25	3407	12	2428	15	3198	20	4254	18	3446	10
48	NuDakota	3445	12	3114	20	2779	8	3160	29	2612	5	3335	14	4502	5	3308	17
49	98x0338-13	3243	24	2839	40	2401	38	3215	27	1976	45	3038	29	4354	15	3770	1
50	98x0435-15	3247	23	3000	25	2742	12	2939	40	2358	24	3139	25	4255	17	3225	23
	mean	3206		3066		2551		3158		2273		3099		4044		3096	
	cv (%)	13.3		18.9		8.8		13		20.6		13.4		8.4		15.4	
	l.s.d. (0.05)	264		848		679		560		911		507		596		853	
	n	82		12		9		9		9		20		12		6	

Table 6. Mean grain yields (kg/ha) of entries in the 2006 SRPN for regional production zones (after Peterson, 1992, Crop Science 32: 907). Irrigated trials = Clovis and Farmington, NM, Bushland, TX, Goodland, OK (lost in 2006) and Ft. Collins, CO.

Entry	Line/selection	region		Southern Plains		Southern High Plains		Central Plains	
		mean	rank	mean	rank	mean	rank	mean	rank
1	Kharkof	2046	50	1775	50	1375	50	1824	50
2	Scout 66	2683	48	2778	48	2141	37	2420	49
3	TAM-107	3315	20	3339	19	2301	20	3359	16
4	Trego	3145	35	3123	33	2311	17	3081	35
5	RonL	3138	36	2979	42	2477	6	2815	42
6	KS03HW6-6CL	3337	18	3570	6	2600	3	3219	29
7	Duster	3492	5	3273	23	2270	25	3618	5
8	OK01420	3525	2	3433	13	2470	7	3695	3
9	OK00310-367101	3500	4	2975	43	2257	28	3427	14
10	OK00224-36805	3059	39	2891	46	2049	42	3141	32
11	OK02405	3051	41	3034	39	1996	47	3058	38
12	OK02522W	3235	25	3199	28	2262	27	3264	22
13	T150	3185	30	3097	37	2074	41	3501	10
14	T151	3456	10	3575	5	2528	4	3918	1
15	T152	3322	19	3251	24	2186	31	3611	6
16	T153	3491	6	3384	15	2424	11	3636	4
17	HV9W94-CB94005R	3512	3	3526	8	2424	12	3487	11
18	HV9W02-846R	3447	11	3304	22	2272	24	3278	20
19	HV9W96-1270R-1	3137	37	3001	41	2009	46	3225	26
20	HV9W96-1383W	3345	17	3141	32	2195	30	3594	7
21	CO01212	3052	40	3023	40	1945	48	2521	48
22	CO01385-A1	3489	8	3593	2	2433	8	3170	31
23	CO01473	2876	46	2955	45	2141	38	2621	46
24	CO01W171	3229	26	2958	44	2701	2	3079	37
25	CO01W172	3024	42	2806	47	2308	19	2741	44
26	NI03418	3165	32	3362	18	2387	13	2675	45
27	NI02425	2907	45	3104	36	2016	44	3044	39
28	NE03490	3489	7	3585	3	2832	1	3505	9
29	NI04421	3590	1	3468	10	2527	5	3523	8
30	Fuller	3346	16	3527	7	2427	10	3310	19
31	KS00F5-20-3-2	3415	13	3436	12	2292	22	3428	13
32	KS970197-8-9	3062	38	3163	31	1817	49	3273	21
33	KS980512-11--2	3408	14	3583	4	2281	23	3815	2
34	Doans	3176	31	3317	21	2142	36	3221	28
35	AP03T6115	2972	43	3112	34	2168	33	2575	47
36	AP03T6126	2952	44	3201	27	2115	39	3091	34
37	AP03TA7525	3293	22	3447	11	2346	15	3179	30
38	TX01A5936	3155	33	3384	16	2352	14	3252	24
39	TX01V5314	3306	21	3489	9	2112	40	3263	23
40	TX01V6008	3221	29	3215	25	2012	45	2976	40
41	TX01A7326	3149	34	3097	38	2165	34	3137	33
42	TX99A0153-1	3487	9	3646	1	2431	9	3334	18
43	TX03M1004	3223	28	3189	30	2022	43	3385	15
44	TX03M1096	3227	27	3319	20	2182	32	3470	12
45	TX03M1179	2767	47	3194	29	2293	21	2877	41
46	NW03Y2016	2611	49	2698	49	2149	35	2800	43
47	Postrock	3358	15	3389	14	2335	16	3236	25
48	NuDakota	3445	12	3363	17	2267	26	3344	17
49	98x0338-13	3243	24	3109	35	2309	18	3080	36
50	98x0435-15	3247	23	3213	26	2208	29	3222	27
	mean	3206		3212		2247		3186	
	cv (%)	13.3		11.0		16.3		14.3	
	l.s.d. (0.05)	264		514		449		531	
	n	82		15		14		14	

Table 6. Mean grain yields (kg/ha) of entries in the 2006 SRPN for regional production zones (after Peterson, 1992, Crop Science 32: 907).
Irrigated trials = Clovis and Farmington, NM, Bushland, TX, Goodland, OK (lost in 2006) and Ft. Collins, CO.

Entry	Line/selection	region		North-central Plains		Northern High Plains		Intermountain		Irrigated trials	
		mean	rank	mean	rank	mean	rank	mean	rank	mean	rank
1	Kharkof	2046	50	2801	50	1256	49	3359	34	2896	50
2	Scout 66	2683	48	3381	47	1706	21	3536	25	4116	43
3	TAM-107	3315	20	4193	43	2224	1	4034	9	4765	12
4	Trego	3145	35	4462	36	1422	38	3871	14	4598	19
5	RonL	3138	36	4784	21	1498	34	3478	28	5089	6
6	KS03HW6-6CL	3337	18	4293	42	1532	32	4158	8	5382	3
7	Duster	3492	5	5250	4	1883	10	3513	26	4422	26
8	OK01420	3525	2	5129	8	1939	9	3652	20	4695	15
9	OK00310-367101	3500	4	5403	1	1752	18	4295	7	5072	7
10	OK00224-36805	3059	39	4601	28	1296	45	3496	27	4368	34
11	OK02405	3051	41	4709	23	1548	30	3106	44	3838	47
12	OK02522W	3235	25	4796	20	1666	24	3277	38	4379	32
13	T150	3185	30	4570	31	1317	44	3625	22	4303	37
14	T151	3456	10	4820	18	1280	47	3698	18	4750	13
15	T152	3322	19	4972	14	2061	2	3002	46	4042	46
16	T153	3491	6	5207	5	2013	3	3286	37	4413	28
17	HV9W94-CB94005R	3512	3	5173	7	1850	13	3546	24	4844	10
18	HV9W02-846R	3447	11	5293	2	1982	6	3691	19	4368	33
19	HV9W96-1270R-1	3137	37	4379	41	1715	20	4023	10	4819	11
20	HV9W96-1383W	3345	17	4915	15	1984	5	3229	40	4502	23
21	CO01212	3052	40	4453	37	1601	26	4411	4	4616	18
22	CO01385-A1	3489	8	4604	27	1993	4	4830	1	5582	1
23	CO01473	2876	46	4043	46	1535	31	3470	29	4266	39
24	CO01W171	3229	26	4729	22	1361	42	3824	15	4920	9
25	CO01W172	3024	42	4517	34	1419	39	3922	12	4623	17
26	NI03418	3165	32	4899	16	1430	37	3459	31	4580	20
27	NI02425	2907	45	4397	40	1236	50	2488	50	3450	49
28	NE03490	3489	7	4544	33	1592	27	4353	5	5565	2
29	NI04421	3590	1	5061	10	1951	8	4504	2	5191	5
30	Fuller	3346	16	4976	13	1522	33	3319	35	4459	25
31	KS00F5-20-3-2	3415	13	5110	9	1751	19	3401	33	4287	38
32	KS970197-8-9	3062	38	4627	26	1285	46	3128	43	3728	48
33	KS980512-11--2	3408	14	5016	11	1453	35	3017	45	4241	40
34	Doans	3176	31	4398	39	1774	16	3568	23	4396	29
35	AP03T6115	2972	43	4573	30	1437	36	3244	39	4353	35
36	AP03T6126	2952	44	4170	44	1263	48	2910	47	4136	41
37	AP03TA7525	3293	22	4582	29	1580	28	3979	11	5003	8
38	TX01A5936	3155	33	4147	45	1768	17	3293	36	4419	27
39	TX01V5314	3306	21	4883	17	1640	25	3462	30	4304	36
40	TX01V6008	3221	29	4687	24	1557	29	4306	6	4530	21
41	TX01A7326	3149	34	4443	38	1673	23	3647	21	4482	24
42	TX99A0153-1	3487	9	4563	32	1879	11	4488	3	5286	4
43	TX03M1004	3223	28	4664	25	1402	40	3783	17	4394	30
44	TX03M1096	3227	27	4505	35	1959	7	3140	41	4117	42
45	TX03M1179	2767	47	3249	49	1694	22	2711	49	4383	31
46	NW03Y2016	2611	49	3315	48	1353	43	2849	48	4071	45
47	Postrock	3358	15	4982	12	1825	14	3789	16	4655	16
48	NuDakota	3445	12	5200	6	1809	15	3905	13	4731	14
49	98x0338-13	3243	24	5262	3	1379	41	3134	42	4111	44
50	98x0435-15	3247	23	4818	19	1865	12	3431	32	4504	22
	mean	3206		4611		1638		3593		4501	
	cv (%)	13.3		8.9		25.3		16.7		13.1	
	l.s.d. (0.05)	264		588		612		917		846	
	n	82		17		9		10		14	

Table 7. Summary of mean volume weights (kg/hl) of 50 entries in the 2006 SRPN.

Entry	Line/selection	region	Clovis, NM,	Clovis, NM,	Farmington,	Bushland, TX,	Bushland, TX,
			irr.	dryland	NM, irr.	dryland	irr.
1	Kharkof	74.8	74.8	77.0	71.3	74.4	76.5
2	Scout 66	75.9	77.2	78.6	72.2	74.9	78.7
3	TAM-107	74.2	76.2	76.9	72.3	73.8	78.6
4	Trego	77.3	78.4	78.6	74.9	77.3	81.7
5	RonL	76.8	76.8	79.3	74.6	77.8	81.3
6	KS03HW6-6CL	76.5	77.1	77.7	74.4	76.3	81.0
7	Duster	75.5	76.1	78.7	69.8	75.5	80.2
8	OK01420	75.3	76.7	78.3	72.5	74.8	79.6
9	OK00310-367101	76.4	75.2	78.8	75.0	75.0	79.9
10	OK00224-36805	75.5	75.9	78.6	72.7	77.2	80.5
11	OK02405	72.3	74.9	72.4	67.9	72.1	75.8
12	OK02522W	75.2	74.9	78.4	72.2	74.3	78.5
13	T150	72.2	73.9	76.4	69.2	71.1	76.3
14	T151	75.8	77.4	78.2	73.4	75.6	79.8
15	T152	75.0	72.0	78.6	72.4	75.6	79.2
16	T153	75.0	75.4	78.2	71.9	73.5	79.1
17	HV9W94-CB94005R	74.1	74.9	78.4	72.0	73.2	78.3
18	HV9W02-846R	76.7	77.7	78.9	70.9	76.1	79.7
19	HV9W96-1270R-1	74.4	73.1	77.9	72.2	74.2	78.5
20	HV9W96-1383W	74.7	76.2	77.4	71.3	74.5	80.2
21	CO01212	76.1	77.4	78.0	73.8	77.8	81.3
22	CO01385-A1	76.5	77.8	80.5	75.7	77.2	81.7
23	CO01473	76.2	76.3	78.6	70.6	76.1	80.6
24	CO01W171	75.3	75.7	79.6	70.1	73.8	78.7
25	CO01W172	75.4	78.1	80.2	70.3	75.7	79.6
26	NI03418	74.8	73.1	78.5	69.7	74.0	78.4
27	NI02425	74.2	74.9	78.9	70.6	74.3	79.6
28	NE03490	73.9	75.3	78.5	70.3	73.2	79.2
29	NI04421	75.4	77.5	79.1	71.0	74.3	79.9
30	Fuller	74.9	76.3	76.3	71.8	74.7	80.6
31	KS00F5-20-3-2	75.1	75.8	77.1	71.8	74.9	79.2
32	KS970197-8-9	75.2	76.5	77.0	72.2	75.1	78.6
33	KS980512-11--2	73.5	75.2	75.9	70.3	71.2	76.6
34	AP02T4342	76.7	78.4	79.0	72.5	76.0	81.1
35	AP03T6115	73.4	74.4	80.5	70.1	72.6	77.4
36	AP03T6126	76.5	77.3	79.5	73.4	77.1	80.6
37	AP03TA7525	75.4	76.9	75.4	72.1	75.5	79.6
38	TX01A5936	75.7	76.2	78.4	71.6	76.3	81.2
39	TX01V5314	72.8	74.7	76.5	70.5	71.9	76.9
40	TX01V6008	75.8	76.2	79.2	73.9	76.3	80.2
41	TX01A7326	74.9	75.2	78.7	72.4	75.0	79.0
42	TX99A0153-1	74.5	77.8	76.0	72.8	76.1	80.7
43	TX03M1004	75.0	76.3	77.9	71.0	75.4	79.2
44	TX03M1096	73.0	75.3	75.6	70.1	72.9	77.2
45	TX03M1179	74.4	76.5	77.2	70.2	74.3	79.2
46	NW03Y2016	75.9	76.9	77.7	72.4	76.9	79.4
47	Postrock	75.8	73.8	78.3	72.1	75.5	79.3
48	NuDakota	72.5	71.2	75.8	71.1	70.6	75.2
49	98x0338-13	74.8	76.1	79.0	70.7	74.9	78.7
50	98x0435-15	75.4	77.1	78.1	71.2	73.1	77.9
	mean	75.1	75.9	78.0	71.8	74.8	79.2

Table 7. Summary of mean volume weights (kg/hl) of 50 entries in the 2006 SRPN.

Entry	Line/selection	region	Chillicothe,	Stillwater,	Lahoma,	Ft. Cobb,	Manhattan,	Hays, KS
			TX	OK	OK	OK	KS	
1	Kharkof	74.8	68.2	77.9	77.5	78.4		72.5
2	Scout 66	75.9	79.0	79.4	79.5	80.6	73.0	77.4
3	TAM-107	74.2	78.6	58.5	79.0	79.8	69.2	74.4
4	Trego	77.3	82.1	80.9	81.2	82.6	73.1	78.0
5	RonL	76.8	82.5	80.6	80.9	82.8	72.5	78.9
6	KS03HW6-6CL	76.5	81.7	81.4	81.9	82.4	71.1	77.7
7	Duster	75.5	80.9	80.7	80.7	82.5	74.1	75.1
8	OK01420	75.3	79.2	78.3	78.8	80.9	73.8	76.5
9	OK00310-367101	76.4	79.9	79.5	80.2	80.7	76.6	74.7
10	OK00224-36805	75.5	80.5	79.7	78.9	80.7	75.8	75.3
11	OK02405	72.3	78.0	78.2	78.0	78.9	70.1	71.8
12	OK02522W	75.2	79.0	78.6	79.0	79.8	75.5	75.3
13	T150	72.2	76.6	77.9	76.9	79.4	71.4	70.2
14	T151	75.8	79.4	79.9	80.5	80.1	74.0	76.8
15	T152	75.0	79.2	79.0	78.8	80.5	73.9	76.2
16	T153	75.0	78.2	76.9	79.1	80.4	74.9	75.9
17	HV9W94-CB94005R	74.1	77.6	79.1	78.8	81.0	74.6	72.9
18	HV9W02-846R	76.7	81.9	79.7	82.2	83.6	74.6	73.6
19	HV9W96-1270R-1	74.4	79.0	79.8	77.9	80.2	74.0	74.8
20	HV9W96-1383W	74.7	76.6	78.8	79.3	79.8	70.5	76.8
21	CO01212	76.1	79.9	78.4	80.4	82.9	73.0	75.5
22	CO01385-A1	76.5	81.5	80.4	80.8	82.8	72.6	77.2
23	CO01473	76.2	79.9	79.5	81.1	81.7		75.9
24	CO01W171	75.3	80.5	79.3	79.5	80.7	73.5	74.1
25	CO01W172	75.4	80.5	79.1	78.6	80.9	75.2	75.3
26	NI03418	74.8	80.1	79.2	78.8	81.4	75.3	74.3
27	NI02425	74.2	79.6	78.5	78.0	81.1	72.8	73.3
28	NE03490	73.9	78.2	79.1	77.7	80.9	68.0	73.6
29	NI04421	75.4	81.7	81.3	80.2	82.4	73.6	74.4
30	Fuller	74.9	80.7	79.7	80.0	81.5	71.7	74.5
31	KS00F5-20-3-2	75.1	79.0	78.6	79.7	80.6	74.2	74.4
32	KS970197-8-9	75.2	78.8	78.8	79.4	80.1	74.6	74.7
33	KS980512-11--2	73.5	75.0	78.6	77.7	79.0	72.7	75.0
34	AP02T4342	76.7	80.5	80.9	80.8	82.4	76.1	76.3
35	AP03T6115	73.4	78.0	78.2	78.1	80.4	70.3	70.5
36	AP03T6126	76.5	81.1	80.1	80.5	82.6	73.5	78.1
37	AP03TA7525	75.4	76.8	79.7	80.5	82.6	69.2	74.9
38	TX01A5936	75.7	80.7	82.0	81.8	83.1	68.9	76.5
39	TX01V5314	72.8	77.6	76.6	76.9	79.7	69.8	72.6
40	TX01V6008	75.8	80.5	80.4	80.2	82.5	72.9	74.9
41	TX01A7326	74.9	79.2	77.3	78.5	80.3	71.9	73.8
42	TX99A0153-1	74.5	80.3	80.2	80.2	81.7	70.6	76.0
43	TX03M1004	75.0	77.8	78.7	79.7	80.9	73.2	75.3
44	TX03M1096	73.0	75.4	75.3	76.9	79.2	70.3	74.1
45	TX03M1179	74.4	78.8	79.5	80.4	82.2	69.2	75.7
46	NW03Y2016	75.9	79.9	78.0	78.9	81.2	72.5	77.8
47	Postrock	75.8	79.9	78.9	79.9	81.9	75.4	74.9
48	NuDakota	72.5	74.4	77.1	79.0	80.4	71.1	72.1
49	98x0338-13	74.8	80.1	78.2	78.6	80.8	72.5	73.4
50	98x0435-15	75.4	78.6	79.1	79.1	81.8	74.2	76.5
	mean	75.1	79.1	78.7	79.4	81.1	72.8	75.0

Table 7. Summary of mean volume weights (kg/hl) of 50 entries in the 2006 SRPN.

Entry	Line/selection	region	Garden City, KS	Hutchinson, KS	Salina, KS	Fort Collins, CO	Akron, CO
1	Kharkof	74.8	74.0	73.2	75.1	71.1	74.9
2	Scout 66	75.9	76.0	71.8	76.1	72.9	75.1
3	TAM-107	74.2	75.3	73.0	77.1	73.3	74.4
4	Trego	77.3	79.1	73.2	78.7	75.3	77.9
5	RonL	76.8	79.6	73.4	76.5	75.2	
6	KS03HW6-6CL	76.5	78.9	71.5	79.2	74.2	75.8
7	Duster	75.5	75.6	74.1	75.7	71.1	75.9
8	OK01420	75.3	75.6	74.1	74.5	72.0	73.8
9	OK00310-367101	76.4	77.0	74.1	77.5	74.8	74.7
10	OK00224-36805	75.5	76.3	73.8	75.1	73.4	74.1
11	OK02405	72.3	72.8	70.2	73.7	68.1	73.8
12	OK02522W	75.2	75.5	73.6	78.8	71.1	73.4
13	T150	72.2	71.6	67.1	70.4	68.8	72.8
14	T151	75.8	76.1	75.7	77.5	73.6	74.9
15	T152	75.0	74.1	74.5	75.7	70.3	75.1
16	T153	75.0	74.7	73.9	76.3	71.3	73.8
17	HV9W94-CB94005R	74.1	72.6	72.3	75.0	69.0	72.7
18	HV9W02-846R	76.7	76.8	75.6	78.2	72.5	79.0
19	HV9W96-1270R-1	74.4	71.4	74.3	75.0	68.9	72.9
20	HV9W96-1383W	74.7	74.5	72.7	75.5	67.1	73.9
21	CO01212	76.1	75.5	74.9	74.9	74.2	76.7
22	CO01385-A1	76.5	77.7	74.1	76.7	74.3	74.9
23	CO01473	76.2	76.2	74.5	76.2	73.0	77.1
24	CO01W171	75.3	75.4	71.9	75.8	71.9	76.6
25	CO01W172	75.4	76.5	74.0	64.0	72.5	77.0
26	NI03418	74.8	76.4	69.5	72.6	71.1	74.6
27	NI02425	74.2	74.0	69.6	72.7	69.6	75.7
28	NE03490	73.9	74.0	71.7	75.1	69.7	73.9
29	NI04421	75.4	75.2	71.3	76.4	71.7	74.5
30	Fuller	74.9	74.6	72.8	75.4	71.6	74.5
31	KS00F5-20-3-2	75.1	74.6	73.9	76.5	72.1	73.6
32	KS970197-8-9	75.2	74.1	72.3	75.2	71.1	74.6
33	KS980512-11--2	73.5	74.0	70.2	73.8	70.5	72.3
34	AP02T4342	76.7	76.1	75.7	77.0	72.7	75.9
35	AP03T6115	73.4	71.9	69.4	70.4	69.1	72.8
36	AP03T6126	76.5	77.2	73.0	73.6	72.3	76.2
37	AP03TA7525	75.4	76.3	72.4	75.2	73.4	74.9
38	TX01A5936	75.7	77.8	72.3	73.8	73.7	74.2
39	TX01V5314	72.8	71.3	69.8	73.0	67.6	71.8
40	TX01V6008	75.8	75.5	70.8	76.5	71.0	75.6
41	TX01A7326	74.9	74.2	73.7	75.0	71.7	73.7
42	TX99A0153-1	74.5	74.8	66.5	70.3	72.6	74.4
43	TX03M1004	75.0	74.2	73.5	76.0	70.0	74.5
44	TX03M1096	73.0	72.0	70.9	72.7	68.5	73.4
45	TX03M1179	74.4	75.4	68.8	76.1	70.6	74.7
46	NW03Y2016	75.9	76.9	71.2	75.2	72.9	73.5
47	Postrock	75.8	75.0	74.9	78.0	71.8	75.8
48	NuDakota	72.5	72.2	66.6	72.7	69.0	71.5
49	98x0338-13	74.8	73.4	73.1	74.9	69.9	75.2
50	98x0435-15	75.4	75.8	73.2	76.3	71.2	75.4
	mean	75.1	75.1	72.4	75.1	71.5	74.7

Table 7. Summary of mean volume weights (kg/hl) of 50 entries in the 2006 SRPN.

Entry	Line/selection	region	Burlington, CO	Brookings, SD	Dakota Lakes, SD	Winner, SD	Crawfords- ville, IA	Columbia, MO
1	Kharkof	74.8	71.4	76.5	77.3	77.3	78.6	75.0
2	Scout 66	75.9	71.8	76.5	79.9	77.2	77.5	74.8
3	TAM-107	74.2	70.2	76.8	77.0	73.7	76.0	74.0
4	Trego	77.3	73.4	74.6	81.1	77.7	78.7	77.1
5	RonL	76.8	72.5	77.4		78.4	77.3	73.6
6	KS03HW6-6CL	76.5	72.0	76.1	75.9	75.2	79.0	77.6
7	Duster	75.5	69.3	76.2	80.1	74.6	77.3	75.4
8	OK01420	75.3	69.3	76.5	77.5	73.0	77.3	75.2
9	OK00310-367101	76.4	72.2	76.2	79.5	77.1	77.6	75.8
10	OK00224-36805	75.5	71.2	74.7	76.6	74.0	78.0	74.1
11	OK02405	72.3	67.9	72.8	75.2	65.1	77.3	72.2
12	OK02522W	75.2	68.9	76.7	78.0	74.4	77.5	73.7
13	T150	72.2	67.9	72.3	76.8	69.5	74.9	72.3
14	T151	75.8	71.5	75.3	79.3	71.3	77.3	72.5
15	T152	75.0	70.6	76.7	78.9	75.7	77.0	73.5
16	T153	75.0	69.7	75.3	77.3	74.4	76.4	74.1
17	HV9W94-CB94005R	74.1	67.3	73.8	77.5	72.2	74.7	74.5
18	HV9W02-846R	76.7	72.4	76.0	81.1	78.1	79.1	76.0
19	HV9W96-1270R-1	74.4	67.4	75.8	78.8	74.6	76.3	74.9
20	HV9W96-1383W	74.7	71.1	76.5	76.3	73.7	76.6	75.6
21	CO01212	76.1	71.4	76.6	79.9	76.6	78.4	74.3
22	CO01385-A1	76.5	70.2	75.8	79.9	75.1	75.9	74.0
23	CO01473	76.2	71.6	77.9	79.1	73.3	78.9	76.3
24	CO01W171	75.3	70.8	79.0	79.0	74.6	77.8	73.1
25	CO01W172	75.4	70.8	78.0	79.1	76.3	78.1	73.4
26	NI03418	74.8	71.1	77.3	79.7	75.7	78.8	75.1
27	NI02425	74.2	69.1	75.9	79.7	73.7	77.7	72.7
28	NE03490	73.9	69.3	74.2	77.7	69.7	76.2	72.0
29	NI04421	75.4	69.7	74.2	80.1	75.9	77.0	74.7
30	Fuller	74.9	70.8	74.8	79.9	72.3	78.0	73.8
31	KS00F5-20-3-2	75.1	69.9	76.3	79.3	73.7	77.0	74.0
32	KS970197-8-9	75.2	71.9	76.9	79.5	75.3	77.3	74.8
33	KS980512-11--2	73.5	68.7	74.3	77.1	70.2	74.0	71.6
34	AP02T4342	76.7	70.9	78.6	80.2	75.9	79.2	76.5
35	AP03T6115	73.4	68.5	79.5	78.4	70.4	77.1	72.5
36	AP03T6126	76.5	72.7	78.3	82.2	75.5	79.0	76.3
37	AP03TA7525	75.4	72.2	75.9	79.1	75.7	79.6	74.9
38	TX01A5936	75.7	72.6	77.4	80.4	74.1	78.0	75.6
39	TX01V5314	72.8	68.1	76.4	76.6	71.2	75.0	71.3
40	TX01V6008	75.8	72.3	78.0	81.5	77.1	77.7	73.2
41	TX01A7326	74.9	70.0	77.2	79.1	73.3	76.7	73.5
42	TX99A0153-1	74.5	71.0	75.4	79.2	73.1	76.2	74.6
43	TX03M1004	75.0	70.3	76.5	77.9	73.3	78.3	74.6
44	TX03M1096	73.0	69.1	75.8	76.6	69.7	76.6	71.9
45	TX03M1179	74.4	70.9	70.9		72.6	77.4	74.9
46	NW03Y2016	75.9	73.3	74.4	79.9	75.5	78.9	76.1
47	Postrock	75.8	72.1	76.1	80.0	76.4	78.7	75.0
48	NuDakota	72.5	67.1	74.9	76.6	69.2	74.0	71.3
49	98x0338-13	74.8	71.6	75.9	78.8	76.2	77.2	72.8
50	98x0435-15	75.4	70.4	76.0	79.2	73.5	77.8	74.0
	mean	75.1	70.5	76.0	78.7	74.0	77.3	74.2

Table 8. Summary of plant heights (cm) of entries grown in the 2006 SRPN.

Entry	Line/selection	region	Clovis,		Farmington, NM, irr.	Bushland, TX,		Ft. Cobb OK	Lahoma, OK
			NM, dryland.	NM, irr.		dryland	irr.		
1	Kharkof	95	60	127	93	80	106	74	100
2	Scout 66	87	55	110	79	67	83	54	85
3	TAM-107	70	46	82	58	50	64	48	74
4	Trego	69	42	88	60	52	66	44	71
5	RonL	66	39	84	62	51	62	45	63
6	KS03HW6-6CL	72	43	93	67	53	67	53	72
7	Duster	72	42	90	66	57	70	49	68
8	OK01420	75	53	92	67	55	70	54	72
9	OK00310-367101	74	49	88	65	58	72	50	67
10	OK00224-36805	68	43	84	60	50	62	49	65
11	OK02405	72	47	96	70	57	73	53	71
12	OK02522W	71	47	88	64	52	67	51	70
13	T150	72	41	95	62	55	69	49	71
14	T151	68	40	82	58	49	60	47	68
15	T152	63	40	80	50	41	50	50	61
16	T153	70	47	86	51	54	66	53	69
17	HV9W94-CB94005R	62	39	79	58	43	53	46	59
18	HV9W02-846R	74	51	90	65	56	68	51	70
19	HV9W96-1270R-1	71	41	88	69	53	66	44	70
20	HV9W96-1383W	66	39	88	53	48	61	47	63
21	CO01212	76	45	100	68	58	73	48	73
22	CO01385-A1	71	48	89	68	55	71	48	68
23	CO01473	77	45	97	72	61	73	54	72
24	CO01W171	75	47	97	72	61	77	54	70
25	CO01W172	75	52	95	68	61	80	52	73
26	NI03418	73	43	89	62	60	77	46	73
27	NI02425	70	45	82	58	57	72	42	68
28	NE03490	69	47	84	56	58	72	41	67
29	NI04421	75	51	95	67	60	75	43	74
30	Fuller	72	46	91	62	56	70	45	74
31	KS00F5-20-3-2	71	49	87	64	55	69	45	73
32	KS970197-8-9	69	42	84	62	47	59	48	74
33	KS980512-11--2	64	43	76	50	51	61	41	67
34	AP02T4342	71	43	88	65	51	60	46	75
35	AP03T6115	69	41	89	59	56	70	49	69
36	AP03T6126	69	40	86	58	51	61	46	70
37	AP03TA7525	70	50	88	66	57	71	50	73
38	TX01A5936	75	49	94	61	58	70	50	77
39	TX01V5314	71	46	84	61	55	71	51	71
40	TX01V6008	70	42	90	65	55	69	50	74
41	TX01A7326	69	43	88	62	50	61	46	67
42	TX99A0153-1	68	47	81	63	55	69	46	66
43	TX03M1004	70	52	82	62	58	69	53	66
44	TX03M1096	71	48	90	59	57	68	38	68
45	TX03M1179	69	46	89	54	54	65	48	75
46	NW03Y2016	67	44	85	62	56	70	46	64
47	Postrock	70	51	84	64	56	70	47	71
48	NuDakota	69	38	78	60	55	70	45	71
49	98x0338-13	71	46	92	57	55	70	49	72
50	98x0435-15	68	45	84	56	55	70	42	64
	mean	71	45	89	63	55	69	48	70

Table 8. Summary of plant heights (cm) of entries grown in the 2006 SRPN.

Entry	Line/selection	region	Ft.							
			Hays, KS	Garden City, KS	Wichita, KS	Salina, KS	Collins, CO	Akron, CO	Lincoln, NE	Clay Center, NE
1	Kharkof	95	96	85	91	134	91	65	109	106
2	Scout 66	87	97	77	102	117	85	60	113	101
3	TAM-107	70	75	63	76	87	69	53	103	93
4	Trego	69	75	63	76	85	62	50	101	89
5	RonL	66	70	60	71	86	64	41	95	83
6	KS03HW6-6CL	72	75	63	76	92	71	41	104	91
7	Duster	72	78	65	76	92	67	43	103	89
8	OK01420	75	75	70	81	93	67	53	108	100
9	OK00310-367101	74	80	70	86	97	67	48	102	89
10	OK00224-36805	68	69	62	71	80	65	46	106	88
11	OK02405	72	76	63	76	93	64	50	97	86
12	OK02522W	71	74	65	71	91	65	47	98	92
13	T150	72	75	65	81	96	67	43	105	91
14	T151	68	70	67	76	81	66	43	105	90
15	T152	63	71	58	66	74	66	43	98	89
16	T153	70	72	65	76	83	67	41	103	91
17	HV9W94-CB94005R	62	71	52	61	69	55	42	94	88
18	HV9W02-846R	74	77	68	81	103	71	48	103	91
19	HV9W96-1270R-1	71	72	62	76	84	67	55	104	92
20	HV9W96-1383W	66	68	60	66	79	58	46	98	86
21	CO01212	76	83	70	81	97	75	48	111	91
22	CO01385-A1	71	73	67	66	87	67	47	102	87
23	CO01473	77	80	65	66	92	76	48	108	98
24	CO01W171	75	80	72	76	97	66	41	97	88
25	CO01W172	75	80	72	81	92	71	47	100	89
26	NI03418	73	80	70	76	92	66	44	100	91
27	NI02425	70	74	67	71	90	69	50	100	89
28	NE03490	69	72	63	76	90	62	41	96	85
29	NI04421	75	78	65	76	101	65	43	105	95
30	Fuller	72	73	67	76	87	69	46	101	97
31	KS00F5-20-3-2	71	72	67		88	67	43	101	91
32	KS970197-8-9	69	72	60	76	85	65	48	103	96
33	KS980512-11--2	64	64	58	76	80	57	39	94	84
34	AP02T4342	71	72	63	66	92	69	55	100	94
35	AP03T6115	69	71	62	71	81	65	41	98	91
36	AP03T6126	69	68	62	76	91	58	37	105	92
37	AP03TA7525	70	75	63	76	92	66	43	93	80
38	TX01A5936	75	82	73	81	96	74	48	102	96
39	TX01V5314	71	78	67	71	89	66	42	103	94
40	TX01V6008	70	75	67	71	83	60	47	99	86
41	TX01A7326	69	71	62	71	86	65	51	101	91
42	TX99A0153-1	68	75	65	71	81	60	44	91	88
43	TX03M1004	70	75	67	76	83	62	48	95	86
44	TX03M1096	71	73	68	66	87	60	48	102	93
45	TX03M1179	69	67	65		85	60	47	103	85
46	NW03Y2016	67	73	62	71	87	58	39	88	79
47	Postrock	70	74	62	71	87	61	46	98	88
48	NuDakota	69	75	63	76	89	62	47	96	88
49	98x0338-13	71	75	68	66	85	64	50	102	88
50	98x0435-15	68	73	63	66	83	62	44	96	87
	mean	71	75	65	75	89	66	46	101	90

Table 8. Summary of plant heights (cm) of entries grown in the 2006 SRPN.

Entry	Line/selection	region	North Platte,	Alliance,	Brookings,	Dakota	Winner,	Crawfords-	Columbia,
			NE	NE	SD	Lakes, SD	SD	ville, IA	MO
1	Kharkof	95	79	81	117	51	76	121	103
2	Scout 66	87	81	69	109	51	71	119	110
3	TAM-107	70	71	61	94	36	58	99	89
4	Trego	69	64	58	89	48	56	100	87
5	RonL	66	64	56	89	36	46	95	86
6	KS03HW6-6CL	72	69	58	89	51	58	104	91
7	Duster	72	69	58	97	51	56	99	93
8	OK01420	75	74	64	97	46	56	103	97
9	OK00310-367101	74	69	61	99	58	58	101	95
10	OK00224-36805	68	66	64	94	56	64	100	84
11	OK02405	72	69	61	94	51	58	94	86
12	OK02522W	71	69	64	94	56	58	98	93
13	T150	72	74	58	104	43	61	100	93
14	T151	68	69	61	91	43	58	96	87
15	T152	63	74	58	69	43	51	94	80
16	T153	70	74	56	86	48	51	98	93
17	HV9W94-CB94005R	62	64	51	79	48	46	92	85
18	HV9W02-846R	74	76	58	94	46	53	101	92
19	HV9W96-1270R-1	71	79	64	84	61	46	97	90
20	HV9W96-1383W	66	69	56	86	53	53	96	84
21	CO01212	76	81	64	102	61	61	108	91
22	CO01385-A1	71	74	61	86	56	64	95	82
23	CO01473	77	79	74	104	69	61	107	94
24	CO01W171	75	69	58	94	66	56	100	93
25	CO01W172	75	71	58	91	56	58	99	89
26	NI03418	73	74	56	97	56	58	99	88
27	NI02425	70	69	58	89	56	64	93	86
28	NE03490	69	64	56	81	64	58	91	89
29	NI04421	75	76	58	97	58	58	104	91
30	Fuller	72	76	66	84	56	51	98	87
31	KS00F5-20-3-2	71	76	64	81	46	56	94	91
32	KS970197-8-9	69	79	64	86	46	53	95	88
33	KS980512-11--2	64	71	58	84	46	56	88	85
34	AP02T4342	71	71	69	89	48	53	101	88
35	AP03T6115	69	69	58	94	43	61	95	87
36	AP03T6126	69	76	61	97	53	61	100	91
37	AP03TA7525	70	69	53	89	51	56	91	84
38	TX01A5936	75	79	69	89	64	56	102	96
39	TX01V5314	71	79	56	81	53	58	97	87
40	TX01V6008	70	74	58	81	56	53	94	88
41	TX01A7326	69	71	58	86	48	58	100	88
42	TX99A0153-1	68	74	61	76	61	43	95	87
43	TX03M1004	70	71	58	79	48	51	91	85
44	TX03M1096	71	79	56	86	48	51	97	91
45	TX03M1179	69	69	58	79	48	48	89	93
46	NW03Y2016	67	71	56	76	51	43	87	88
47	Postrock	70	74	61	81	61	56	95	89
48	NuDakota	69	69	61	84	58	51	95	88
49	98x0338-13	71	76	61	86	69	51	99	88
50	98x0435-15	68	76	53	81	53	51	92	85
	mean	71	72	60	89	52	56	98	90

Table 9. Summary of days (from 1/1) to heading for entries in the 2006 SRPN.

Entry	Line/selection	region	Clovis, NM, dryland.	Clovis, NM, irr.	Bushland, TX, dryland	Bushland, TX, irr.	Stillwater, OK	Lahoma, OK
1	Kharkof	134	124	121	133	131	122	115
2	Scout 66	127	116	118	125	122	113	109
3	TAM-107	121	113	112	119	115	101	103
4	Trego	125	116	117	122	120	106	108
5	RonL	126	117	119	122	120	107	109
6	KS03HW6-6CL	124	117	115	119	116	105	107
7	Duster	125	117	116	122	122	104	108
8	OK01420	121	112	113	119	116	102	104
9	OK00310-367101	128	121	118	128	126	113	110
10	OK00224-36805	123	115	114	119	116	103	104
11	OK02405	127	118	119	123	122	109	109
12	OK02522W	124	116	114	120	117	105	108
13	T150	123	117	114	119	115	104	104
14	T151	122	114	114	119	115	102	103
15	T152	120	112	113	118	113	99	102
16	T153	121	113	114	119	115	102	102
17	HV9W94-CB94005R	123	114	115	119	115	104	106
18	HV9W02-846R	124	116	116	120	117	104	107
19	HV9W96-1270R-1	121	113	112	117	114	100	103
20	HV9W96-1383W	122	113	115	119	116	102	106
21	CO01212	125	117	116	122	119	105	109
22	CO01385-A1	125	116	116	123	121	104	107
23	CO01473	126	116	116	122	122	105	108
24	CO01W171	128	117	119	125	124	114	110
25	CO01W172	128	117	118	125	123	113	109
26	NI03418	128	119	117	127	124	115	110
27	NI02425	126	117	118	124	121	107	109
28	NE03490	125	114	115	124	120	111	108
29	NI04421	127	115	118	125	124	110	110
30	Fuller	123	113	116	119	116	104	104
31	KS00F5-20-3-2	123	115	115	120	118	105	104
32	KS970197-8-9	121	111	111	118	114	101	102
33	KS980512-11--2	122	115	114	120	115	106	104
34	AP02T4342	122	113	114	118	115	103	105
35	AP03T6115	125	116	116	123	121	106	108
36	AP03T6126	124	114	115	119	115	104	106
37	AP03TA7525	130	121	122	129	127	113	113
38	TX01A5936	124	115	116	121	117	105	106
39	TX01V5314	124	116	117	122	120	105	106
40	TX01V6008	124	117	116	122	119	106	107
41	TX01A7326	121	111	113	118	115	103	104
42	TX99A0153-1	124	114	116	121	119	106	108
43	TX03M1004	122	115	115	118	116	103	104
44	TX03M1096	121	111	114	118	115	104	104
45	TX03M1179	122	112	115	120	115	107	103
46	NW03Y2016	131	120	123	130	129	117	112
47	Postrock	124	113	116	122	118	107	107
48	NuDakota	128	119	119	127	125	116	110
49	98x0338-13	124	115	116	120	119	105	106
50	98x0435-15	124	114	115	124	122	112	108
	mean	124	115	116	122	119	106	107

Table 9. Summary of days (from 1/1) to heading for entries in the 2006 SRPN.

Entry	Line/selection	region	Hays, KS	Garden City, KS	Wichita, KS	Salina, KS	Ft. Collins, CO	Akron, CO	Lincoln, NE
1	Kharkof	134	133	136	119	125	145	149	147
2	Scout 66	127	124	127	112	122	139	144	142
3	TAM-107	121	118	123	108	114	140	140	138
4	Trego	125	124	126	111	120	143	146	141
5	RonL	126	124	127	109	121	143	146	141
6	KS03HW6-6CL	124	123	124	109	120	143	143	141
7	Duster	125	123	125	110	121	141	145	141
8	OK01420	121	117	123	108	114	139	140	138
9	OK00310-367101	128	126	129	114	121	141	144	141
10	OK00224-36805	123	121	125	109	116	139	141	139
11	OK02405	127	125	127	111	121	146	147	141
12	OK02522W	124	123	124	110	120	142	144	140
13	T150	123	121	125	108	117	140	141	140
14	T151	122	118	123	107	116	140	142	138
15	T152	120	116	123	108	113	138	138	137
16	T153	121	118	123	108	114	139	139	137
17	HV9W94-CB94005R	123	122	125	111	118	141	140	138
18	HV9W02-846R	124	121	124	109	120	142	144	139
19	HV9W96-1270R-1	121	117	123	108	114	140	140	137
20	HV9W96-1383W	122	120	124	111	120	141	143	138
21	CO01212	125	124	125	111	121	144	148	140
22	CO01385-A1	125	123	125	111	119	143	145	141
23	CO01473	126	124	126	113	122	143	146	142
24	CO01W171	128	128	130	115	122	142	146	143
25	CO01W172	128	127	129	115	122	142	145	143
26	NI03418	128	127	127	116	122	141	143	144
27	NI02425	126	126	126	115	121	142	145	140
28	NE03490	125	124	125	113	121	140	144	142
29	NI04421	127	128	127	114	121	142	146	141
30	Fuller	123	121	124	109	116	140	145	138
31	KS00F5-20-3-2	123	120	124	108	117	140	142	138
32	KS970197-8-9	121	117	123	108	114	140	140	138
33	KS980512-11--2	122	118	124	109	114	139	140	138
34	AP02T4342	122	124	123	108	119	140	143	138
35	AP03T6115	125	123	126	109	121	141	145	139
36	AP03T6126	124	123	125	108	121	141	148	139
37	AP03TA7525	130	129	131	117	124	145	149	145
38	TX01A5936	124	122	126	107	120	140	144	139
39	TX01V5314	124	123	127	108	121	141	143	139
40	TX01V6008	124	123	126	109	119	140	142	140
41	TX01A7326	121	118	123	108	114	139	140	137
42	TX99A0153-1	124	121	125	111	120	139	142	139
43	TX03M1004	122	120	123	108	119	139	142	138
44	TX03M1096	121	118	124	108	115	139	140	138
45	TX03M1179	122	119	124	108	115	138	138	138
46	NW03Y2016	131	128	132	117	125	142	147	146
47	Postrock	124	122	123	110	120	140	144	139
48	NuDakota	128	126	130	115	122	142	144	142
49	98x0338-13	124	122	124	108	118	140	143	140
50	98x0435-15	124	120	126	108	121	140	140	139
	mean	124	122	126	110	119	141	143	140

Table 9. Summary of days (from 1/1) to heading for entries in the 2006 SRPN.

Entry	Line/selection	region	Brookings,	Dakota	Columbia,
			SD	Lakes, SD	MO
1	Kharkof	134	156	145	143
2	Scout 66	127	153	142	132
3	TAM-107	121	147	141	122
4	Trego	125	152	141	126
5	RonL	126	151	143	126
6	KS03HW6-6CL	124	150	141	124
7	Duster	125	152	142	124
8	OK01420	121	147	140	120
9	OK00310-367101	128	152	143	127
10	OK00224-36805	123	150	140	124
11	OK02405	127	153	143	127
12	OK02522W	124	150	141	121
13	T150	123	151	141	122
14	T151	122	149	141	124
15	T152	120	147	140	119
16	T153	121	147	140	120
17	HV9W94-CB94005R	123	151	141	122
18	HV9W02-846R	124	152	141	124
19	HV9W96-1270R-1	121	147	141	120
20	HV9W96-1383W	122	146	140	121
21	CO01212	125	153	142	126
22	CO01385-A1	125	149	141	124
23	CO01473	126	152	143	127
24	CO01W171	128	152	143	133
25	CO01W172	128	154	142	132
26	NI03418	128	153	141	134
27	NI02425	126	152	141	125
28	NE03490	125	150	142	130
29	NI04421	127	151	142	129
30	Fuller	123	152	140	121
31	KS00F5-20-3-2	123	148	141	120
32	KS970197-8-9	121	149	140	121
33	KS980512-11--2	122	151	142	122
34	AP02T4342	122	150	141	123
35	AP03T6115	125	152	141	125
36	AP03T6126	124	150	142	124
37	AP03TA7525	130	154	145	131
38	TX01A5936	124	148	140	122
39	TX01V5314	124	151	141	124
40	TX01V6008	124	150	142	124
41	TX01A7326	121	148	140	121
42	TX99A0153-1	124	150	142	126
43	TX03M1004	122	149	141	122
44	TX03M1096	121	150	140	121
45	TX03M1179	122	153	142	124
46	NW03Y2016	131	155	143	133
47	Postrock	124	152	141	125
48	NuDakota	128	153	143	131
49	98x0338-13	124	148	142	122
50	98x0435-15	124	149	142	126
	mean	124	151	142	125

Table 10. Grain yield and volume weight stability analyses of wheats grown in the 2006 SPRN.

Entry	Line or selection	grain yield			volume weight		
		regional average (kg/ha)	regression coef. (b)	r ²	regional average (kg/hl)	regression coef. (b)	r ²
1	Kharkof	2046	0.53	0.64	74.8	0.54	0.31
2	Scout 66	2683	0.75	0.87	75.9	0.90	0.91
3	TAM-107	3315	0.92	0.91	74.2	0.54	0.12
4	Trego	3145	0.97	0.94	77.3	0.91	0.81
5	RonL	3138	1.12	0.85	76.8	0.95	0.79
6	KS03HW6-6CL	3337	1.00	0.91	76.5	0.98	0.73
7	Duster	3492	1.12	0.94	75.5	1.19	0.95
8	OK01420	3525	1.12	0.95	75.3	0.93	0.92
9	OK00310-367101	3500	1.15	0.95	76.4	0.73	0.81
10	OK00224-36805	3059	1.06	0.98	75.5	0.85	0.83
11	OK02405	3051	0.95	0.95	72.3	1.14	0.76
12	OK02522W	3235	1.06	0.95	75.2	0.91	0.83
13	T150	3185	1.03	0.93	72.2	1.15	0.90
14	T151	3456	1.11	0.94	75.8	0.87	0.79
15	T152	3322	1.03	0.91	75.0	0.91	0.84
16	T153	3491	1.07	0.95	75.0	0.86	0.89
17	HV9W94-CB94005R	3512	1.13	0.97	74.1	1.07	0.86
18	HV9W02-846R	3447	1.08	0.95	76.7	1.04	0.82
19	HV9W96-1270R-1	3137	0.97	0.94	74.4	1.03	0.81
20	HV9W96-1383W	3345	1.07	0.94	74.7	1.00	0.81
21	CO01212	3052	1.00	0.85	76.1	0.92	0.88
22	CO01385-A1	3489	0.97	0.89	76.5	1.03	0.84
23	CO01473	2876	0.92	0.89	76.2	1.00	0.92
24	CO01W171	3229	1.08	0.96	75.3	1.06	0.90
25	CO01W172	3024	0.91	0.91	75.4	1.00	0.53
26	NI03418	3165	1.08	0.93	74.8	1.08	0.82
27	NI02425	2907	0.95	0.88	74.2	1.21	0.94
28	NE03490	3489	1.09	0.91	73.9	1.20	0.90
29	NI04421	3590	1.01	0.94	75.4	1.21	0.92
30	Fuller	3346	1.12	0.97	74.9	1.12	0.94
31	KS00F5-20-3-2	3415	1.08	0.96	75.1	0.95	0.94
32	KS970197-8-9	3062	1.00	0.91	75.2	0.88	0.94
33	KS980512-11--2	3408	1.08	0.92	73.5	0.93	0.85
34	AP02T4342	3176	0.90	0.95	76.7	1.00	0.94
35	AP03T6115	2972	1.01	0.96	73.4	1.28	0.83
36	AP03T6126	2952	0.89	0.92	76.5	1.05	0.91
37	AP03TA7525	3293	1.00	0.93	75.4	0.97	0.79
38	TX01A5936	3155	0.90	0.93	75.7	1.21	0.86
39	TX01V5314	3306	1.01	0.97	72.8	1.12	0.94
40	TX01V6008	3221	0.98	0.94	75.8	1.10	0.90
41	TX01A7326	3149	1.01	0.98	74.9	0.95	0.93
42	TX99A0153-1	3487	1.03	0.93	74.5	1.18	0.77
43	TX03M1004	3223	1.04	0.95	75.0	1.00	0.94
44	TX03M1096	3227	0.95	0.95	73.0	0.97	0.88
45	TX03M1179	2767	0.72	0.67	74.4	1.21	0.83
46	NW03Y2016	2611	0.78	0.88	75.9	0.88	0.82
47	Postrock	3358	1.03	0.97	75.8	0.89	0.85
48	NuDakota	3445	0.96	1.10	72.5	1.12	0.84
49	98x0338-13	3243	1.11	0.93	74.8	1.01	0.90
50	98x0435-15	3247	1.01	0.97	75.4	0.98	0.92
	mean	3206			75.1		

Table 11. Reactions of wheats grown in the 2006 SRPN to various viral infections.

Entry	Line	WSMV - Hays, KS 1-10; 1= resistant	WSBMV/WSSMV, Stillwater, OK, 1-4, 1 = resistant		BYDV, Columbia, MO, % flag leaves 5/19/2006
			3/2/2006	3/10/2006	
1	Kharkof	7	3	3	36
2	Scout 66	8	4	4	34
3	TAM-107	5	2	2	21
4	Trego	5	2	2	25
5	RonL	8	1	1	31
6	KS03HW6-6CL	8	3	2	20
7	Duster	7	1	1	13
8	OK01420	5	1	1	17
9	OK00310-367101	5	1	1	18
10	OK00224-36805	5	1	1	13
11	OK02405	8	1	1	20
12	OK02522W	5	1	1	19
13	T150	7	1	1	19
14	T151	5	1	1	23
15	T152	5	1	1	37
16	T153	7	1	2	26
17	HV9W94-CB94005R	7	1	1	17
18	HV9W02-846R	5	1	1	26
19	HV9W96-1270R-1	5	1	1	27
20	HV9W96-1383W	8	1	1	21
21	CO01212	8	4	4	22
22	CO01385-A1	6	4	4	45
23	CO01473	7	4	4	32
24	CO01W171	7	1	1	23
25	CO01W172	7	1	1	28
26	NI03418	8	1	1	27
27	NI02425	7	3	2	15
28	NE03490	7	3	3	13
29	NI04421	7	2	2	20
30	Fuller	5	1	1	26
31	KS00F5-20-3-2	7	1	1	18
32	KS970197-8-9	6	2	2	20
33	KS980512-11--2	5	1	1	13
34	AP02T4342	7	1	1	29
35	AP03T6115	8	1	1	39
36	AP03T6126	7	1	1	10
37	AP03TA7525	4	4	3	25
38	TX01A5936	6	3	3	22
39	TX01V5314	6	1	1	26
40	TX01V6008	7	3	2	26
41	TX01A7326	7	3	3	28
42	TX99A0153-1	7	3	3	15
43	TX03M1004	5	1	1	19
44	TX03M1096	5	2	2	19
45	TX03M1179	8	1	1	30
46	NW03Y2016	1	3	3	25
47	Postrock	7	2	2	31
48	NuDakota	7	1	1	25
49	98x0338-13	6	1	1	40
50	98x0435-15	8	1	1	28

Table 12. Reactions of entries in the 2006 SRPN to selected isolates of stem rust.

Entry	Line/selection	Seedling reactions - greenhouse							Field SR 7/3/06 dough stage
		QFCS 03ND76C	MCCF 59KS19	RKQQ 99KS76A-1	TPMK 74MN1409	QTHJ 75ND717C	TTTT 01MN84A-1-2	TTKS 04 KEN 156 2/15/06	
1	Kharkof	S	0/S	2/S	S	S/2	S	S	5MR
2	Scout 66	S	0/S	2/S	S	2	S	2++	5MR-MS
3	TAM-107	1	2	;	2/S	2	2	2	0
4	Trego	;	0	;	0	2	2	2-	0
5	RonL	2	2	2-	S	2	2	2	20MR
6	KS03HW6-6CL	1	0	0	2	2	2	2	0/20 MS
7	Duster	2	1	S	2+	S	S	S	30 MR-MS
8	OK01420	;	;/S	2/S	S	S	;/1	S	30 MS-S
9	OK00310-367101	0	;	;	;	;	;	S	0
10	OK00224-36805	S	;/S	S	S	2	2+	S/2	30 MS
11	OK02405	S	S	S	S	S	S	S	60 S
12	OK02522W	1	S/2	;	S	;/32	;/1	S	30 MS-S
13	T150	2	S	2+	S	2	S	S	30 MS
14	T151	0	1+	;	;/2	2-	2	2	0
15	T152	0	0	0	0/2	;/2-	2	2	T MS
16	T153	1	;	;	;/S	;/2+	S	2/S	10 MR-MS
17	HV9W94-CB94005R	;/1	0	1	1	;	;/1	;/12-	5 R-MR
18	HV9W02-846R	S	S/2	S	S	S	S	S	40 MS
19	HV9W96-1270R-1	2	;/1	0	1	2	2++	2	5 MR
20	HV9W96-1383W	2	2	2	2	2	2+	2/S	T MR
21	CO01212	2	0	0	;/S	2	S	2++/S	20 MR-MS/40 MS
22	CO01385-A1	S	0	S	0/S	S	0;2	S	30 MR-MS
23	CO01473	;	;	;	S	2+	2+	S/2	10 MR-MS
24	CO01W171	2	S	S	S	2	2+	2++	20 MR-MS
25	CO01W172	S/2	S	2/S	S	2	2	S	50 MS-S
26	NI03418	;/1	;	0	0	2	S;	2	10 MR
27	NI02425	;	;/S	S	0	S/2	S	S	40 MR-MS
28	NE03490	;	;/1	2	S	S	S	S	50 MR-MS
29	NI04421	2/S	S	;	0/S	2+/2	;/2	S	50 MR-MS
30	Fuller	2C	;/S	;/1	S	;/3	0;	S	30 MS
31	KS00F5-20-3-2	;	;	;	0/S	;/1	S	S	30 MR
32	KS970197-8-9	;/S	;/S	;	0/S	0;	;/2/S	S	40 MR-MS
33	KS980512-11--2	0	;	;	0	0	S	S/2	10 MR-MS/0
34	AP02T4342	0	;	0	;	0;	S	S	T R-MR
35	AP03T6115	0	1	0	S	2	2	2++	40 MR-MS/60 S
36	AP03T6126	;	1	1	2	2-	2	2	20 MR
37	AP03TA7525	1	1	2+	2-	2-	2	2	30 MR-MS
38	TX01A5936	;	;	0	;/1	;/S	2	2	5 MR-R
39	TX01V5314	;	;	0	0	;	S	S	5 MR
40	TX01V6008	1	23C	;	0/23	;	S	S	40 MS
41	TX01A7326	;	;	0	0	0;	S	S	10 MS
42	TX99A0153-1	;/2	;	;	1	2-	2	2-	50 MS-S
43	TX03M1004	;	2	0	;	0;	2	2	30 MR
44	TX03M1096	;/S	;	;	S	0;3	S	S	10 MR
45	TX03M1179	0	0	0	;/S	0	;/1	S	30 MS-S
46	NW03Y2016	2	1	1/2	;/1	2	2	2-	10 MR
47	Postrock	;/2	;	S	;/S	0;3	0;	S	40 MS
48	NuDakota	;	;	;	S/0	0;	S	S	20 MS-S
49	98x0338-13	0	;	0	;	0	;	S/2	T R-MR
50	98x0435-15	0;	;	;	;	;/1-	S	S	0

"S" denotes susceptible, infection type (IT) 3 or 4. "/" denotes heterogeneous, the predominant type given first. "low IF" denotes low infection frequency or low pustule density. "N" denotes prominent necrosis associated with pustules. "C" denotes prominent chlorosis associated with pustules.

Table 13. Seedling reactions of entries in the 2006 SRPN to selected isolates of leaf rust.

Entry	Line/selection	Leaf rust isolates							Postulated Genes*
		MCDS	KFBJ	THBJ	TNRJ	KDBG	TLGF	MJBJ	
1	Kharkof	3+	3+	3+	3+	X	3+	3+	Lr14a
2	Scout 66	3+	3+	3+	3+	X	3+	3+	Lr14a
3	TAM-107	3+	3+	3+	3+	3+	3+	3+	---
4	Trego	0	;	0;	0;	;	;	;	+
5	RonL	;	;	;	;	;	;	;	+
6	KS03HW6-6CL	;	;	;	;	;	;	;	+
7	Duster	;	;	;	;	;	;	;	+
8	OK01420	;	0;	0;	3+	0;	3+	0;	Lr9
9	OK00310-367101	2	;	;	;	;	;	;	+
10	OK00224-36805	;	;	;	;	;	;	;	+
11	OK02405	3+	23	3+	3+	0;	3+	3+	Lr14a
12	OK02522W	3+	0	0;	;2	0;	0;	0;	Lr17
13	T150	3+	3+	3+	3+	3+	3+	3+	+
14	T151	3+	0	0	3+	3+	3+	0;	+
15	T152	3+	3+	3+	3+	3+	3+	3+	+
16	T153	3+	3+	3+	3+	3+	3+	0;/3+	---
17	HV9W94-CB94005R	;	3+	;	3+	3+	;	3+	Lr24
18	HV9W02-846R	0;	0;	0;	;2	0;	;	0;	+
19	HV9W96-1270R-1	0	0;	0;	3+	0;	3+	0;	Lr9
20	HV9W96-1383W	3+	3+	3+	3+	3+	;1	3+	Lr10
21	CO01212	3+	;	3+;/2-	;	;1-	3+	3+	+
22	CO01385-A1	3+	3+	2+	3+	;	2	3+	Lr14a
23	CO01473	;3+	;1-	3+	3+	;1-	;	3+	Lr14a, Lr24
24	CO01W171	3+	3+	3+	3+	3+;/1-	3+	;3+	Lr14a
25	CO01W172	3+;/1-	;	3+	3+	3+	1+	3+	Lr1, Lr10
26	NI03418	0	3+	;	3+	;	;	3+	Lr24
27	NI02425	;1	0;	2	;1-	;	;	3+	Lr16, Lr24
28	NE03490	3+	3+	3+	3+	;	;1-	3+	Lr10, Lr14a
29	NI04421	3+	3+	3+	3+	3+	;	3+	Lr10
30	Fuller	0;	0;	0;	;1-	0;	;	0;	+
31	KS00F5-20-3-2	3+	0;	0;	0;	;	;	;	Lr17
32	KS970197-8-9	0	0;	0;	3+	0;	3+	0;	Lr9
33	KS980512-11--2	;	;	;1-	0;	0;	0;	;1	+
34	AP02T4342	;	;	;	;	3+	;	;	+
35	AP03T6115	;	0;	;	2	;	;	3+	Lr16, Lr24
36	AP03T6126	;3+	0;	0	3+	0;	;	0;	Lr9, Lr24 or Lr41
37	AP03TA7525	;	;	;	;	;	;	;	+
38	TX01A5936	;3+	3+	;	3+	3+	;	3+	Lr24
39	TX01V5314	0	0;	0	;1-	;	;	;	+
40	TX01V6008	2-	3+	;	;1-	2+	;	3+	Lr24, +
41	TX01A7326	;3+	;3+	0	3+	x/3+	;	;1-/3+	Lr24
42	TX99A0153-1	;3+	3+	;	2+	;	;	3+	Lr14a, Lr24
43	TX03M1004	22+	;	;	;	;	;	;	Lr17
44	TX03M1096	0	0;	0;	;2+3	;	;	0;	Lr9, Lr24, or Lr41
45	TX03M1179	3+	0;	;	;	;	;	;	Lr17
46	NW03Y2016	;	3+	;	3+	3+	;	3+	Lr24
47	Postrock	0	0;	0;	0;	;2+3	0;	3+	Lr9
48	NuDakota	;	;2+3	;	;1/3	;1-	;1-	;2+3	Lr14a, Lr24
49	98x0338-13	;	;	;	;2+3	;	;	;	Lr9, Lr24, or Lr41
50	98x0435-15	3+	;2	;	;	X	;2-	;3+	+

*:+ = not able to identify Lr genes with races used in this test; Races MCDS, THBJ, TNRJ, and KDBG are common in the U.S.

Table 14. Field reactions to leaf rust, 2006 SPRN.

Entry No.	Line/selection	Castroville, TX		Stillwater, OK: seedling, Stakeman scores			Stillwater, OK: Adult plant (1-9); 5-16-2006. LD = 100% leaf death.			St. Paul, MN	Brookings, SD	
		(Rep 1)	(Rep 2)	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	reaction type	1-9	IT
1	Kharkof	40MSMR	40MS	3+	3	3+	2	3	2	20 MS	7	S
2	Scout 66	60MSMR	30MS	3+	3+	3	2	3	2	30 S	5.5	S
3	TAM-107	100S	100S	3	3+	3+	LD	6	LD	30 MS	6.5	S
4	Trego	100S	100S	X;3	X;3	X;3-	LD	4	3	10 MS	4	S
5	RonL	80S	60S	X;3	X;3	X;3-	1	3	2	10 MS	3.5	S
6	KS03HW6-6CL	30MRMS	TR	X;3	X;3-	X;3-	3	4	3	10 MS	3	MS
7	Duster	10MR	no leaf	X;3=	X;3-	X;3=	LD	2	2	10 MR-MS	1	R
8	OK01420	TR	20MS	X;3-	X;3-	X;3	LD	2	2	30 MS	2.5	S
9	OK00310-367101	20MR/80S	10MRMS	X;3	X;3	X;3-	2	2	1	10 MR	1.5	MS
10	OK00224-36805	10MR	TR	3	3	3-	3	LD	3	10 MS	2.5	S
11	OK02405	TR	TR	3+	3+	3	1	1	1	40 S	1.5	R
12	OK02522W	TR/30S	10MS	X;3-	X;3-	X;3	2	1	1	5 MR	3.5	S
13	T150	60S	60MS	3	3	3+	4	5	3	40 MS	4.5	MS
14	T151	TMS	60MS	3+	3	3	LD	2	LD	20 MS	2.5	S
15	T152	80S	60MS	3+	3	3	LD	LD	LD	40 MS	2.5	MS
16	T153	TMS	no leaf	3-	3-	3-	5	LD	LD	10 MR-MS	4	S
17	HV9W94-CB94005R	no leaf	no leaf	X;3	X;3-	X;3	LD	LD	LD	10 MR-MS	1	R
18	HV9W02-846R	TR	20MS	3=	3-	3=	2	2	1	10 MS	2	S
19	HV9W96-1270R-1	40MSS	60S	X;3-	X;3-	X;3	LD	LD	LD	10 MR-MS	3	S
20	HV9W96-1383W	60MRR;	60MR;	3+	3	3+	3	LD	LD	10 R	1.5	R
21	CO01212	40MS	40S	3+	3+	3+	2	2	2	10 MS	2.5	S
22	CO01385-A1	60MS	TR	3	3+	3	2	2	2	30 MS	2	R
23	CO01473	no leaf	20MS	3	3	3+	3	3	1	10 MS	2.5	MS
24	CO01W171	40MS	40MSMR	3	3	3+	2	4	3	40 MS	3.5	S
25	CO01W172	60S	40S	X;3-	X;3	X;3-	5	4	6	40 S	4.5	S
26	NI03418	40S	40S	X;3=	X;3-	X;3-	2	2	2	10 MS	2	MS
27	NI02425	40MSMR	60S	3-	3-	3-	4	3	2	30 MR-MS	3	MS
28	NE03490	10R;	TR	3+	3+	3	3	2	2	40 MR-MS	1	R
29	NI04421	40MS	TR	3-	3-	3-	3	2	1	30 MR-MS	5	S
30	Fuller	TR	TR	3	3+	3+	2	LD	2	TR	1.5	S
31	KS00F5-20-3-2	TR	TR	3=	3=	3-	2	2	1	TR	1	R
32	KS970197-8-9	20MS	20MS	X;3=	X;3=	X;3-	LD	LD	LD	20 MS	2	S
33	KS980512-11--2	TR	20MS	X;3-	X;3-	X;3=	3	2	2	5 R	5	S
34	AP02T4342	TR	TR	X;3	X;3	X;3	2	2	2	TR	1	R
35	AP03T6115	TR	TR	3-	3-	3-	2	LD	2	10 MR	1	R
36	AP03T6126	TR	TR	X;3=	X;3=	X;3-	1	2	1	20 MS	1	R
37	AP03TA7525	TR	TR	3-	3-	3-	1	1	1	5 R	1	R
38	TX01A5936	80S	80S	X;3	X;3	X;3+	5	5	5	20 MS	6.5	S
39	TX01V5314	no leaf	no leaf	;	;	;	2	2	2	TR	1	R
40	TX01V6008	30MR;	20MR	3	3=	3	2	2	2	10 MS	1	R
41	TX01A7326	20MR	20MR	X;3	X;3	X;3-	3	3	2	5 R	1	R
42	TX99A0153-1	40MRMS	TR	x;3	X;3-	X;3-	2	LD	2	20 MR	1	R
43	TX03M1004	20R	TR	3	3	3=	1	1	1	5 R	2	S
44	TX03M1096	TR	20S	X;3-	X;3-	X;3=	LD	1	1	TR	1	R
45	TX03M1179	60S	40S	X;3-	X;3-	X;3-	1	1	1	TR	1	R
46	NW03Y2016	no leaf	no leaf	3	3+	3	6	5	6	20 MS	7	S
47	Postrock	TR	TR	3-	3-	3-	1	2	1	TR	2	R
48	NuDakota	10R;	TR	3=	3=	3-	1	1	1	5 R	1	R
49	98x0338-13	20MR	TR	3-	3-	3-	2	1	2	TR	2	R
50	98x0435-15	10R;	TR	3+	3	3	2	2	2	TR	1	R

Table 15. Field reactions to stripe rust, 2006 SPRN.

Entry No.	Line/selection	Bozeman, MT %	Pullman, WA*		Mt. Vernon, WA*			
			7/7/2006	6/28 S. dough IT	4/19 Stem elong. IT	6/7 Flowering IT	6/7 Flowering %	
1	Kharkof	5	5	10	2	5	2	2
2	Scout 66	60	8	60	5	10	2	20
3	TAM-107	95	8	100	8	30	8	100
4	Trego	85	8	90	8	50	8	100
5	RonL	60	8	20	8	40	5	30
6	KS03HW6-6CL	10	8	20	8	30	5	40
7	Duster	85	8	100	5	10	5	30
8	OK01420	70	8	90	8	10	8	50
9	OK00310-367101	10	2	2	2,8	5	2	2
10	OK00224-36805	65	5	70	3	10	8	100
11	OK02405	40	8	70	3	10	5	30
12	OK02522W	30	8	20	5	10	8	50
13	T150	10	8	10	8	30	8	2
14	T151	80	8	70	-	-		100
15	T152	10	2	2	-	-	2	30
16	T153	50	8	60	8	10	8	20
17	HV9W94-CB94005R	0	2	2	-	-	2	50
18	HV9W02-846R	5	8	5	2	2	2	10
19	HV9W96-1270R-1	5	8	5	5	10	8	80
20	HV9W96-1383W	10	2	2	-	-	8	80
21	CO01212	80	8	100	8	20	8	80
22	CO01385-A1	75	8	100	8	20	8	100
23	CO01473	80	8	90	8	20	8	80
24	CO01W171	90	8	100	8	30	8	100
25	CO01W172	80	8	90	8	30	8	80
26	NI03418	15	8	20	5	10	5	15
27	NI02425	10	8	20	8	20	2	20
28	NE03490	10	8	10	8	30	8	80
29	NI04421	5	8	10	5	20	5	40
30	Fuller	0	2	2	8	40	8	70
31	KS00F5-20-3-2	5	2	2	8	20	8	90
32	KS970197-8-9	40	8	10	8	20	8	90
33	KS980512-11--2	10	8	10	5	10	2	10
34	AP02T4342	10	2	2	2	5	2	10
35	AP03T6115	35	5	30	5	10	2	20
36	AP03T6126	5	2	2	5	20	5	40
37	AP03TA7525	10	2	5	5	20	5	40
38	TX01A5936	5	2	2	8	40	8	60
39	TX01V5314	15	8	10	8	30	8	50
40	TX01V6008	25	8	30	8	40	8	90
41	TX01A7326	40	8	30	8	40	8	60
42	TX99A0153-1	35	5	40	2	10	5	60
43	TX03M1004	15	8	10	8	30	8	90
44	TX03M1096	5	2	2	8	20	5	60
45	TX03M1179	10	8	5	8	40	8	90
46	NW03Y2016	10	8	5	8	40	8	90
47	Postrock	20	8	5	8	30	8	80
48	NuDakota	10	8	10	8	30	8	90
49	98x0338-13	10	8	20	2	5	2	10
50	98x0435-15	5	8	20	8	30	8	80

*Stripe rust percent (%) and infection type (T) under natural infestation. IT: 0=no visible symptoms; 1=necrotic &/or chlorotic flecks; no sporulation; 2=necrotic and/or chlorotic blotches or stripes; no sporulation; 3=necrotic &/or chlorotic blotches or stripes; no sporulation; 4=necrotic &/or chlorotic blotches or stripes, trace sporulation; 5=necrotic &/or chlorotic blotches or stripes, intermediate sporulation; 6=necrotic &/or chlorotic blotches or stripes; moderate sporulation; necrotic &/or chlorotic blotches or stripes; abundant sporulation; 8=chlorosis behind sporulating area; abundant sporulation; 9=no necrosis of chlorosis; abundant sporulation. From Xianming Chen, USDA-ARS.

Table 16. Field reactions of entries in the 2006 SRPN to fungal pathogens, Lafayette, IN.

Entry	Line/selection	1-9 scale		
		Powdery mildew	Septoria	Fusarium Head Blight
1	Kharkof	7	8	
2	Scout 66	7	9	
3	TAM-107	2	8	8
4	Trego	7	6	8
5	RonL	8	6	6
6	KS03HW6-6CL	6	6	7
7	Duster	5	8	6
8	OK01420	5	6	5
9	OK00310-367101	3	4	5
10	OK00224-36805	7	8	6
11	OK02405	2	5	4
12	OK02522W	8	5	6
13	T150	7	9	7
14	T151	2	8	5
15	T152	1	8	4
16	T153	3	7	6
17	HV9W94-CB94005R	1	8	6
18	HV9W02-846R	4	7	4
19	HV9W96-1270R-1	1	5	5
20	HV9W96-1383W	6	9	3
21	CO01212	5	5	4
22	CO01385-A1	6	8	6
23	CO01473	5	7	3
24	CO01W171	6	7	2
25	CO01W172	6	8	2
26	NI03418	7	7	4
27	NI02425	2	6	3
28	NE03490	7	8	4
29	NI04421	7	8	4
30	Fuller	5	5	4
31	KS00F5-20-3-2	6	6	6
32	KS970197-8-9	7	5	5
33	KS980512-11--2	3	8	6
34	AP02T4342	4	8	7
35	AP03T6115	6	8	6
36	AP03T6126	5	7	4
37	AP03TA7525	6	7	3
38	TX01A5936	7	7	9
39	TX01V5314	4	6	3
40	TX01V6008	7	6	7
41	TX01A7326	5	9	6
42	TX99A0153-1	2	8	4
43	TX03M1004	2	3	6
44	TX03M1096	4	4	2
45	TX03M1179	5	6	8
46	NW03Y2016	8	7	2
47	Postrock	7	4	5
48	NuDakota	3	5	8
49	98x0338-13	7	7	4
50	98x0435-15	4	4	5

Table 17. Acid soil reactions of entries in the 2006 SRPN.

Entry	Line or Selection	Acid soil tolerance, Enid, OK*		
		AST1	AST2	AST3
1	Kharkof	4	4	4
2	Scout 66	4	3	4
3	TAM-107	4	3	3
4	Trego	4	3	4
5	RonL	5	5	5
6	KS03HW6-6CL	1	2	3
7	Duster	1	2	2
8	OK01420	3	2	2
9	OK00310-367101	2	2	3
10	OK00224-36805	3	2	3
11	OK02405	2	2	3
12	OK02522W	2	3	2
13	T150	2	1	1
14	T151	4	3	3
15	T152	3	2	3
16	T153	3	1	2
17	HV9W94-CB94005R	1	1	2
18	HV9W02-846R	3	4	4
19	HV9W96-1270R-1	2	1	3
20	HV9W96-1383W	2	3	4
21	CO01212	3	1	2
22	CO01385-A1	4	2	1
23	CO01473	4	4	5
24	CO01W171	3	3	3
25	CO01W172	3	2	3
26	NI03418	3	2	2
27	NI02425	3	4	4
28	NE03490	3	2	3
29	NI04421	3	2	2
30	Fuller	4	3	3
31	KS00F5-20-3-2	1	1	0
32	KS970197-8-9	4	4	3
33	KS980512-11--2	0	2	2
34	AP02T4342	1	2	3
35	AP03T6115	3	3	4
36	AP03T6126	2	2	2
37	AP03TA7525	2	2	2
38	TX01A5936	2	2	2
39	TX01V5314	5	4	4
40	TX01V6008	3	1	1
41	TX01A7326	2	1	2
42	TX99A0153-1	1	1	2
43	TX03M1004	2	2	3
44	TX03M1096	1	1	2
45	TX03M1179	4	5	5
46	NW03Y2016	2	2	2
47	Postrock	1	2	1
48	NuDakota	3	4	3
49	98x0338-13	2	0	0
50	98x0435-15	1	1	2

*Readings taken at Enid, OK (pH = 4.6, 70 ppm Al, and Al saturation = 11%). Scale of 1 (highly tolerant) to 5 (highly susceptible), in which Jagger = 2. First reading could be biased by winter dormancy pattern; second reading could be biased by extreme differences in growth habit; third reading yielded greatest confidence.

Table 18. Reactions of entries in the 2006 SRPN to various insects.

Entry	Line or Selection	Russian Wheat Aphid Biotype 1	Greenbug biotype E	Hessian fly
1	Kharkof	S	S	S
2	Scout 66	S	S	S
3	TAM-107	S	S	S
4	Trego	S	S	S
5	RonL	S	S	S
6	KS03HW6-6CL	S	S	H
7	Duster	S	S	H-
8	OK01420	S	S	S
9	OK00310-367101	S	S	S
10	OK00224-36805	S	S	S
11	OK02405	S	S	S
12	OK02522W	S	S	S
13	T150	S	R	H-
14	T151	S	S	S
15	T152	S	S	S
16	T153	S	S	S
17	HV9W94-CB94005R	S	S	S
18	HV9W02-846R	S	S	S
19	HV9W96-1270R-1	S	S	H-
20	HV9W96-1383W	S	S	H
21	CO01212	S	S	S
22	CO01385-A1	R	S	S
23	CO01473	S	S	S
24	CO01W171	S	S	S
25	CO01W172	S	S	S
26	NI03418	S	S	S
27	NI02425	S	S	S
28	NE03490	S	S	S
29	NI04421	S	S	S
30	Fuller	S	S	S
31	KS00F5-20-3-2	S	S	S
32	KS970197-8-9	S	S	S
33	KS980512-11--2	S	S	S
34	AP02T4342	S	S	S
35	AP03T6115	S	S	S
36	AP03T6126	S	S	H
37	AP03TA7525	S	S	S
38	TX01A5936	S	S	S
39	TX01V5314	S	S	S
40	TX01V6008	S	S	S
41	TX01A7326	S	S	S
42	TX99A0153-1	S	S	S
43	TX03M1004	S	S	S
44	TX03M1096	S	S	S
45	TX03M1179	S	S	S
46	NW03Y2016	S	S	S
47	Postrock	S	S	S
48	NuDakota	S	S	S
49	98x0338-13	S	S	S
50	98x0435-15	S	S	H-

Summary of Genotyping Data from the 2006 Regional Performance Nurseries

Hard winter wheat breeding lines from the 2006 Northern and Southern Regional Performance Nurseries were analyzed for 22 traits using 43 markers. The complete data set is included in the attached spreadsheet. The expected size (in base pairs) of each target band is included in the data set. Sizes preceded with the letter "T" are based on tailed primers and should be 18 base pairs longer than published reports. In the spreadsheet, a "+" indicates that the target band was positively identified, a "-" indicates that the target band was not present, and a "?" indicates that it was not possible to clearly determine the presence or absence of the band. The "NR" indicates that the assay was not run and is only used for excess control lines.

Except where noted, protocols used for all assays are listed on the MASWheat website (<http://maswheat.ucdavis.edu/protocols/index.htm>).

Fungal Resistance Traits

1. Wheat Scab (3BS QTL)

Three SSR markers (GWM389, GWM493, and GWM533; TAG 2003 107:503-508) were used to detect the presence of a QTL on chromosome 3BS that confers resistance to wheat scab. No line contained all three of the expected bands found in the controls Sumai 3 and Ning. No line contained any two of the three markers. Two lines, 98x0435-15 and NI02425, did have the GWM493 band (211 bp). The data suggests that none of the lines have the 3BS QTL.

2. Lr21

Newly designed primers were used for detecting the Lr21 resistance gene. These primers were based on the gene sequence provided by Li Huang. Known positive (WGRC07, WGRC27) and negative (WGRC02, Wichita) control lines were tested and found to be genotyped as expected using the new primers. No entries had the 669 bp band found in the positive controls. All entries had the larger bands (757-774 bp) seen in the susceptible check line and are likely susceptible.

3. Lr24/Sr24

Two STS markers were used to screen for Lr24/Sr24. Sr24#12 and Sr24#50 (Theor Appl Genet (2005) 111: 496-504) are both STS markers closely linked to Sr24 and typically amplify only one band. Resistant germplasm LcSr24Ag was positive for both markers. Thirty one lines were positive for marker Sr24#50. Eighteen lines were positive for marker Sr24#12 (512 bp). An additional three lines had slightly longer fragments (522, 524, and 525 bp) which appear to also be

positive for Sr24#12 since these three lines were positive for Sr24#24. The following 21 lines were positive for both markers (if we include the 3 lines with longer Sr24#12 fragments): AP03T6126, AP03TA7525, Harding, HV9W94-CB94005R, KS03HW158, KS03HW6-6CL, NI03418, NI03427, NW03Y2016, NW03Y2023, OK00224-36805, SD01W064, SD02286, SD02771, SD96240-3-1, SD98W175-1, TAM107, Trego, TX01A5936, TX01A7326, and TX99A0153-1. These 21 lines are likely Lr24/Sr24 resistant.

4. Lr34/Yr18

The slow leaf rusting gene Lr34 and yellow rust resistance gene Yr18 are flanked by three SSR markers (BARC352, GWM130, and GWM295). Marker GWM295 is reported to be close to the peak of the slow rusting QTL and GWM130 is reported to be much closer to GWM295 than to BARC352. Chinese Spring and Thatcher-Lr34 have the Lr34 resistance gene. CS7DS-4 (a deletion line of Chinese Spring) and Thatcher are both susceptible to Lr34. Chinese Spring and 44 lines have the “resistant” BARC352 263 bp band. CS7DS-4, Thatcher, and Thatcher-Lr34 have the “susceptible” BARC352 269 bp band. Chinese Spring and 6 lines have the “resistant” GWM130 131 bp band. CS7DS-4, Thatcher, and Thatcher-Lr34 have the “susceptible” GWM130 133 bp band. Chinese Spring has a GWM295 270 bp band. CS7DS-4 and Thatcher have a GWM295 260 bp band. Thatcher-Lr34 has a GWM295 272 bp band and another band at 260 bp. It appears that marker BARC352 is too far from the Lr34 gene to be useful for Lr34 screening. Marker GWM130 may also be too far away to be useful when screening for this trait. The GWM295 270 and 272 bp bands are likely both closely linked to the Lr34 resistance gene. No entries in the test had the GWM295 270 bp band or the GWM295 272 bp band. It is likely that no tested entries have the Lr34/Yr18 resistance genes.

5. Lr37/SR38/Yr17

These three rust resistance genes are on a chromosome segment that does not appear to recombine with bread wheat chromosomes. The STS marker (VENTRIUP-LN2) is therefore completely linked with the resistance genes. The following 26 lines were positive for the marker and very likely have all three genes: 98x0338-13, 98x0435-15, AP02T4342, APW03-20, BC97ROM-50W, CO01W172, HV9W94-CB94005R, KS00F5-14-7, KS00F5-20-3-2, KS970197-8-9, KS980512-11-2, NW03Y2022, OK00310-367101, OK01420, OK02522W, SD02480, SD98W175-1, T153, TAM107, TX01A5936, TX01A7326, TX01V5314, TX01V6008, TX03M1004, TX03M1096, and TX03M1179.

6. Lr39/Lr41

These two resistance genes appear to be the same gene and are linked with SSR marker GDM35. No line had the expected 183 bp band clearly found in the

positive controls WGRC02 and WGRC10. The data suggests that none of the lines have Lr39/Lr41.

7. Lr50

Lr50 is flanked by microsatellite markers GWM382 (6.7 cM) and GDM87 (9.4 cM) on wheat chromosome arm 2BL. In the resistant line WGRC36, marker GDM87 produces one distinct band of 124 bp. This same band is also seen in known susceptible lines such as TAM107. However, TAM107 and many other tested lines have a band at 120, 121, or 122 bp in addition to the 124 bp band. The following 6 lines have one distinct GDM87 124 bp band as found in the positive control WGRC36: NW03Y2022, NW03Y2023, OK00224-36805, OK02405, T150, and TX03M1179. None of the lines have the 156 bp band found in WGRC36 for marker GWM382. It is likely that none of the tested lines have the Lr50 gene. The 6 lines with the GDM87 124 bp band may have the Lr50 gene if they are from a pedigree with known resistance. Last year multiple bands were considered as positive for both markers. It now appears likely that all 11 lines designated as having Lr50 in the 2005 test do not have the Lr50 gene.

8. Sr2

The Sr2 resistance gene has been effective worldwide for more than 50 years. It has recessive inheritance and is expressed primarily during the adult-plant stage. It is located on 3BS in the same region as the FHB QTL. The SSR marker, GWM533, will produce a 133 bp band in resistant lines (Spielmeyer, 2003. *Crop Sci.* 43:333-336) and is only 1 to 2 cm away from the gene. The 133 bp band was present in all 15 Sr2 resistant lines tested from the US, Mexico, Canada, Kenya, and India and was present in all 12 Sr2 resistant lines from Australia; but was also present in 4 susceptible Australian lines (Spielmeyer, 2003. *Crop Sci.* 43:333-336). The 133 bp band was present in our positive controls (Eagle(USA), Sonalika) and was in the following 36 lines: AP03T6126, BC97ROM-50W, CO01385-A1, CO01W171, CO01W172, Harding, HV9W02-942R, HV9W96-1383W, KS00F5-14-7, KS03HW158, KS03HW6-6CL, KS970197-8-9, KS980512-11-2, NE01604, NI03418, NI03427, Nuplains, NW03638, NW03681, NW03Y2016, NW03Y2022, NW03Y2023, NX02Y4481, OK00224-36805, OK02405, Scout66, SD02286, SD02480, SD96240-3-1, SD98W175-1, T152, T153, Trego, TX01V5314, TX03M1004, and TX03M1096.

9. Sr26

One STS marker (Sr26#43) was used to screen for Sr26 (Theor Appl Genet (2005) 111: 496-504). Three Sr26 resistant lines were positive for marker Sr26#43 (6AL-Ag-TA3933, Argus-Isoline-TA4025, Eagle-Aus). None of the tested entries appears to have the Sr26 gene.

Insect Resistance Traits

10. Hessian Fly (H9)

One STS marker was used to test lines for the presence of gene H9 which confers resistance to Hessian fly biotype L. The following 11 lines had the expected 909 bp band found in the positive control 'Iris' and likely have H9: BC97ROM-50W, Harding, Kharkof, KS00F5-20-3-2, NH03614, NI03418, NI03427, NW03Y2016, NW03Y2022, NW03Y2023, NX02Y4481, SD00151-7, SD02286, SD02771, T150, and T152.

11. Hessian Fly (H13)

Two SSR markers (GDM36 and CFD132) were used to test lines for the presence of gene H13 which also confers resistance to Hessian fly biotype L. None of the tested lines had either of the positive bands found in the positive control 'Molly'.

12. Russian Wheat Aphid (Dn4)

The SSR markers GWM106 (7.4 cm) and GWM337 (12.9 cm) flank the resistance gene Dn4. The resistant control 'Turcikum 57' was clearly positive for both markers. Four lines were positive for GWM106: KS03HW158, CO01212, CO01385-A1, and CO01473. Three lines were positive for both GWM106 and GWM337 (CO01212, CO01385-A1, and CO01473) and likely carry the Dn4 resistance gene.

Dn1, Dn2, Dn5, Dn6, Dnx, RWA genes....

We have data on GWM44 and GWM111, but since we do not have controls for all of the RWA genes, we don't know what bands are the positive bands. I can't tell for sure just from the publication.

Viral Resistance Traits

13. Barley Yellow Dwarf Virus (Bydv2)

One SCAR marker (BYAgi) was used to detect the presence of the Bydv2 gene. No line had the expected 567 bp band clearly found in the positive control P961341. The data suggests that none of the lines have Bydv2.

14. Wheat Streak Mosaic Virus (Wsm1)

One STS marker (J15) was used to detect the chromosome segment containing the Wsm1 gene translocated from *Agropyron intermedium*. One STS marker (G43) was used as a positive PCR control since marker J15 will not amplify any bands unless the translocated segment is present. All lines amplified the expected 700 bp fragment using marker G43, verifying DNA quality and suitability for this and all other PCR assays. The following 3 lines amplified the expected 431 bp

band found in the positive control KS93WGRC27 and very likely have Wsm1: NW03Y2016, NW03Y2022, NW03Y2023. Line HV9W96-1270R-1, amplified a strong band of 419 bp which may be an indel event with unknown effect.

Quality Traits

15. 1RS Translocation

One rye SSR marker (SCM9, Euphytica 2003 132: 243–250, <http://maswheat.ucdavis.edu/protocols/drought/index.htm>) was used to detect the presence of the 1RS rye translocation. SCM9 amplified the 1B/1R sized band (225 bp) in check cultivar 'Aurora' and in 4 lines. SCM9 amplified the 1A/1R sized band (242 bp) in check cultivar TAM107 and in 12 lines. The following 4 lines were positive for the SCM9 225bp band and likely have the 1B/1R translocation: 98x0338-13, HV9W02-942R, OK00310-367101, and OK93P656H3299-2C04. The following 12 lines were positive for the SCM9 242bp band and likely have the 1A/1R translocation: HV9W94-CB94005R, HV9W96-1270R-1, HV9W96-1383W, KS00F5-20-3-2, SD01058, T151, T152, T153, TAM107, TX03M1004, TX03M1179, and TX99A0153-1.

16. High Grain Protein Content, HGPC

One STS marker (UCW89) very closely (0.1 cM) linked with the Gpc-B1 gene was used to test for HGPC. The positive control 'Glupro' produces a band of 138 bp. All entries had a band of 142 bp. It appears that no entry has the Gpc-B1 gene.

17. High Molecular Weight Glutenins

Three STS markers (Euphytica 2003 134:51-60) were used to determine some of the alleles at the 3 loci controlling high molecular weight glutenins. Marker HMWAx2* will produce one band of 1319 bp for Ax2* genotypes, or no band for Ax1 genotypes. HMWBx will produce one band of 669 bp for Bx17 genotypes, or 2 bands (630 and 766 bp) for all other, non-Bx17 genotypes. HMWDx5 will produce one 478 bp band for Dx5 genotypes, or no band for all other, non-Dx5 genotypes. These three markers appear to be extremely sensitive to small changes in PCR conditions. Reproducibility of the data using these markers is low to moderate.

Nineteen lines without the HMWAx2* band are Ax1 genotypes (98x0435-15, AP02T4342, AP03T6115, HV9W02-846R, KS00F5-14-7, KS00F5-20-3-2, KS970197-8-9, NE01604, NI02425, OK00224-36805, OK00310-367101, OK02522W, OK93P656H3299-2C04, SD00151-7, SD96240-3-1, SD98W175-1, TX01A5936, TX01V5314, TX01V6008) and the remainders have the Ax2* subunit gene. Five lines with the HMWBx 669 bp band are Bx17 genotypes (OK01420, OK02522W, TX01V5314, TX01V6008, TX03M1004) and the remainders are non-Bx17

genotypes. Most of the lines tested with HMWDx5 produced a band of 478 bp and are therefore Dx5 genotypes. Ten lines (AP02T4342, AP03T6126, KS00F5-20-3-2, KS980512-11-2, NE02584, OK01420, Scout66, T151, T153, TAM107) amplified no band and are likely non-Dx5 genotypes.

18. Grain Texture (Pina-D1, Pinb-D1)

One dominant STS marker (Pina-D1) was used to screen for the presence of wild-type (Pina-D1a), soft alleles. The positive control, 'Newana' yielded the expected band size of 348 bp which is associated with soft texture. Fifty six lines had the 348 bp band, indicating the presence of the Pina-D1a (soft) allele. The following lines were missing the 348 bp band and likely have the null allele (Pina-D1b) associated with hard texture: CO01473, HV9W02-942R, KS00F5-20-3-2, NE01604, NE02528, NE02584, NE03458, NH03609, NW03638, NW03681, OK00310-367101, OK01420, OK93P656H3299-2C04, SD01W064, SD02279, SD98W175-1, TX01V5314, TX01V6008, TX03M1004, and TX03M1096.

A codominant PCR-CAPs marker (Pinb-D1) was used to screen for Pinb-D1 alleles. After PCR amplification and restriction using Bsr BI, a 320 bp band indicates the soft, wild allele (Pinb-D1a). A band of 200 bp indicates the hard, mutant allele (Pinb-D1b). Fifteen lines had the 320 bp band and therefore have the soft allele Pinb-D1a (CO01385-A1, CO01473, Harding, Kharkof, KS00F5-20-3-2, KS03HW158, NI04430, OK00310-367101, OK01420, OK93P656H3299-2C04, SD01W064, TX01V5314, TX01V6008, TX03M1004, TX03M1096). The remaining lines had the 200 bp band and the hard allele Pinb-D1b.

19. Waxy Mutants

One STS marker (Waxy4) was used to detect null mutants at all three loci controlling granule-bound starch synthase (GBSS) or waxy protein. Sixty three lines had all three bands and are non-mutants or non-waxy lines. No lines were missing more than one band. One line, NH03609, was missing only the 314 bp band and is a partially waxy null-mutant for the Wx-D1 locus on 7DS. Six lines (CO01W171, CO01W172, KS00F5-14-7, AP02T4342, TX01V5314, NI04430) were missing only the 273 bp band and are partially waxy null-mutants for the Wx-A1 locus on 7AS. Six lines (Trego, KS03HW6-6CL, OK93P656H3299-2C04, NI03418, AP03TA7525, NW03638) were missing only the 243 bp band and are partially waxy null-mutants for the Wx-B1 locus on 4AL. Four lines (KS00F5-14-7, OK93P656H3299-2C04, AP03TA7525, HV9W02-942R) had strong, distinct bands of other sizes which may be due to indel events. The effects of these additional bands is unknown.

Abiotic Stress and Agronomic Traits

20. Aluminum Tolerance

One gene specific, PCR-CAPs marker (ALMT1, Plant Journal 2004 37:645-653) was used to screen for the Al-activated malate transporter gene associated with aluminum tolerance. This gene has been mapped to 4DL where the major QTL for Al tolerance have been mapped. After PCR amplification and restriction using Xmn I, two bands are detected. The 107 bp band indicates presence of the Al-activated malate transporter gene on 4DL. Two SSR markers (GDM125 and WMC331) linked to aluminum tolerance were also used for screening. Eleven entries (NI03418, KS00F5-20-3-2, AP02T4342, AP03T6126, TX01A5936, TX01A7326, TX03M1004, TX03M1096, 98x0338-13, NH03609, and NH03614) were positive for both SSR markers and the PCR-CAPs marker. Three lines were positive for the PCR-CAPs marker and one of SSR flanking markers (OK02522W, SD96240-3-1 and Wesley).

21. Plant Height (Rht1, Rht2, Rht8)

Two gene specific STS markers were used to detect the Rht1 and Rht2 genes (TAG 2002 105:1038-1042). One linked SSR marker (GWM261, TAG 1998 96:1104-1109) was used to detect Rht8. All but nine lines (AP02T4342, Harding, HV9W96-1383W, Kharkof, NW03Y2022, NW03Y2023, Scout66, SD00151-7, SD02771) had the 255 bp band indicating the presence of the Rht1 gene. Only 2 lines (HV9W96-1383W, SD02771) had the 270 bp band indicating the presence of the Rht2 gene. Seven lines (CO01385-A1, CO01473, NH03609, NI03418, TX01A7326, TX03M1004, Wesley) had the 212 bp band linked with Rht8 and may carry the Rht8 gene.

22. Vernalization (VRN-1)

Three STS primer sets (MGG 2005 273:54-65) were used to determine if deletions were present in the first intron of the VRN-1 gene in the A (Intr1/C/F & Intr1/AB/R), B (Intr1/B/F & Intr1/B/R4), and D (Intr1/D/F & Intr1/D/R4) genomes. One STS primer set (VRNAIF-VRNA1R, TAG 2004 109:1677-1686) was used to determine the presence of insertions or deletions (indels) in the VRN-A1 promoter. Winter genotypes have no intron deletions in the VRN-A1, VRN-B1, or VRN-D1 genes and no VRN-A1 promoter indels. Either an indel in the VRN-A1 promoter or a deletion in the VRN-A1 gene itself is associated with a strong spring growth habit. A deletion in the intron of VRN-B1 or VRN-D1 indicates the dominant Vrn-B1 and Vrn-D1 alleles associated with spring growth habit. The deletions in Vrn-B1 and Vrn-D1 do not have as great an effect as the dominant Vrn-A1 alleles, and usually flower later than the Vrn-A1 spring types, but much earlier than winter types. There are other alleles associated with spring growth that are not detected by the primer sets used here, so it is possible to have no promoter mutations and no deletions in any of the VRN-1 genes yet still have a spring type.

Six entries (NH03609, NH03614, NW03638, NW03681, SD02279, and TX03M1179) appear to have indels in the VRN-A1 promoter and are likely strong spring types. No entries have a deletion in the VRN-A1 gene. One entry, HV9W02-942R, appears to have a deletion in the VRN-B1 gene contributing to spring growth habit. Two entries (NW03638 and NX02Y4481) appear to have a deletion in the VRN-D1 gene contributing to spring growth habit. Entry NW03638 has an indel in the VRN-A1 promoter and a deletion in the VRN-D1 gene. It likely has a very strong spring growth habit.

Table 19. Summary of DNA marker experiments, 2006 SRPN (from USDA-ARS Hard Winter Wheat Genotyping Laboratory, Manhattan, KS).

Trait	FHB 3BS	FHB 3BS	FHB 3BS	Lr21	Lr24/Sr24	Lr24/Sr24	Lr24/Sr24	Lr24/Sr24
Marker	GWM389	GWM493	GWM533	Lr21-669	Sr24#12	Sr24#12	Sr24#12	Sr24#12
Band Size (bp)	T151	T211	T159	669	T512	T522	T524	T525
Marker Type	SSR	SSR	SSR	STS	STS	STS	STS	STS
1	Kharkof	.	-	-	-	-	-	-
2	Scout 66	-	-	-	-	-	-	-
3	TAM-107	-	-	-	+	-	-	-
4	Trego	-	-	-	+	-	-	-
5	RonL	-	-	-	+	-	-	-
6	KS03HW6-6CL	-	-	-	+	-	-	-
7	Duster	-	-	-	-	-	-	-
8	OK01420	.	-	-	-	-	-	-
9	OK00310-367101	-	-	-	-	-	-	-
10	OK00224-36805	-	-	-	+	-	-	-
11	OK02405	-	-	-	-	-	-	-
12	OK02522W	-	-	-	-	-	-	-
13	T150	-	-	-	-	-	-	-
14	T151	-	-	-	-	-	-	-
15	T152	-	-	-	-	-	-	-
16	T153	-	-	-	-	-	-	-
17	HV9W94-CB94005R	-	-	-	+	-	-	-
18	HV9W02-846R	-	-	-	-	-	-	-
19	HV9W96-1270R-1	-	-	-	-	-	-	-
20	HV9W96-1383W	-	-	-	-	-	-	-
21	CO01212	-	-	-	-	-	-	-
22	CO01385-A1	-	-	-	-	-	-	-
23	CO01473	-	-	-	-	-	-	-
24	CO01W171	-	-	-	-	-	-	-
25	CO01W172	-	-	-	-	-	-	-
26	NI03418	-	-	-	+	-	-	-
27	NI02425	-	+	-	-	-	-	-
28	NE03490	-	-	-	-	-	-	-
29	NI04421	-	-	-	-	-	-	-
30	Fuller	-	-	-	-	-	-	-
31	KS00F5-20-3-2	-	-	-	-	-	-	-
32	KS970197-8-9	-	-	-	-	-	-	-
33	KS980512-11--2	-	-	-	-	-	-	-
34	Doans	-	-	-	-	-	-	-
35	AP03T6115	-	-	-	-	-	-	-
36	AP03T6126	-	-	-	+	-	-	-
37	AP03TA7525	-	-	-	+	-	-	-
38	TX01A5936	-	-	-	+	-	-	-
39	TX01V5314	-	-	-	-	-	-	-
40	TX01V6008	-	-	-	-	-	-	-
41	TX01A7326	.	-	-	-	-	-	+
42	TX99A0153-1	-	-	-	+	-	-	-
43	TX03M1004	-	-	-	-	-	-	-
44	TX03M1096	-	-	-	-	-	-	-
45	TX03M1179	-	-	-	-	-	-	-
46	NW03Y2016	-	-	-	+	-	-	-
47	Postrock	-	-	-	-	-	-	-
48	NuDakota	-	-	-	-	-	-	-
49	98x0338-13	-	-	-	-	-	-	-
50	98x0435-15	-	+	-	-	-	-	-

Table 19. Summary of DNA marker experiments, 2006 SRPN (from USDA-ARS Hard Winter Wheat Genotyping Laboratory, Manhattan, KS).

Trait	Marker	Lr24/Sr24	Lr34/Yr18	Lr34/Yr18	Lr34/Yr18	Lr34/Yr18	Lr34/Yr18	
		Sr24#24	BAR352	BAR352	GWM130	GWM130	GWM295	GWM295
Band Size (bp)		T213	T263/264	T269	T131	T133	T260	T270
Marker Type		STS	SSR	SSR	SSR	SSR	SSR	SSR
1	Kharkof	-	+	-	-	-	.	.
2	Scout 66	-	+	-	-	+	-	-
3	TAM-107	+	+	-	-	+	+	-
4	Trego	+	-	-	-	+	-	-
5	RonL	+	-	-	-	+	-	-
6	KS03HW6-6CL	+	.	.	-	-	-	-
7	Duster	-	-	-	-	-	-	-
8	OK01420	-	+	-	-	+	-	-
9	OK00310-367101	-	-	-	-	+	-	-
10	OK00224-36805	+	+	-	-	+	-	-
11	OK02405	-	+	-	-	-	-	-
12	OK02522W	-	+	-	-	+	-	-
13	T150	-	-	-	-	-	+	-
14	T151	-	-	-	-	-	+	-
15	T152	-	-	-	-	-	+	-
16	T153	-	-	-	-	-	+	-
17	HV9W94-CB94005R	+	+	-	-	-	-	-
18	HV9W02-846R	-	+	-	-	-	-	-
19	HV9W96-1270R-1	-	+	+	-	-	+	-
20	HV9W96-1383W	-	+	-	-	-	+	-
21	CO01212	-	-	-	-	-	-	-
22	CO01385-A1	-	-	+	-	+	-	-
23	CO01473	-	-	+	-	-	-	-
24	CO01W171	-	-	+	-	-	-	-
25	CO01W172	-	+	+	-	-	+	-
26	NI03418	+	-	-	-	+	+	-
27	NI02425	-	+	+	-	+	+	-
28	NE03490	-	+	-	-	+	+	-
29	NI04421	-	+	-	-	-	-	-
30	Fuller	-	+	-	-	+	-	-
31	KS00F5-20-3-2	-	+	-	-	-	-	-
32	KS970197-8-9	+	+	-	-	+	-	-
33	KS980512-11--2	-	+	-	+	-	-	-
34	Doans	-	-	-	-	+	+	-
35	AP03T6115	-	+	-	-	-	-	-
36	AP03T6126	+	-	-	-	-	-	-
37	AP03TA7525	+	-	-	-	-	-	-
38	TX01A5936	+	-	+	-	+	-	-
39	TX01V5314	-	+	-	-	+	-	-
40	TX01V6008	-	+	-	-	-	-	-
41	TX01A7326	+	+	-	-	+	-	-
42	TX99A0153-1	+	-	-	-	-	-	-
43	TX03M1004	-	+	-	-	+	-	-
44	TX03M1096	-	+	-	-	+	-	-
45	TX03M1179	-	+	-	-	+	-	-
46	NW03Y2016	+	-	+	+	-	+	-
47	Postrock	-	+	-	-	+	-	-
48	NuDakota	-	-	-	-	+	-	-
49	98x0338-13	-	+	-	-	+	-	-
50	98x0435-15	-	+	-	-	+	-	-

Table 19. Summary of DNA marker experiments, 2006 SRPN (from USDA-ARS Hard Winter Wheat Genotyping Laboratory, Manhattan, KS).

Trait	Marker	Lr34/Yr18	Lr37/Sr38/Yr17	Lr39/Lr41	Lr50	Lr50	Sr2	Sr26
		GWM295	VentriupLn2	GDM35	GDM87	GWM382	GWM533	Sr26#43
	Band Size (bp)	T272	T274	T183	T124	T156	T133	T231
	Marker Type	SSR	STS	SSR	SSR	SSR	SSR	STS
1	Kharkof	.	-	-	-	-	-	-
2	Scout 66	-	-	-	-	-	+	-
3	TAM-107	-	+	-	-	-	-	-
4	Trego	-	-	-	-	-	+	-
5	RonL	-	-	-	-	-	+	-
6	KS03HW6-6CL	-	-	-	-	-	+	-
7	Duster	-	-	-	-	-	-	-
8	OK01420	-	+	-	-	-	-	-
9	OK00310-367101	-	+	-	-	-	-	-
10	OK00224-36805	-	-	-	+	-	+	-
11	OK02405	-	-	-	+	-	+	-
12	OK02522W	-	+	-	-	-	-	-
13	T150	-	-	-	+	-	-	-
14	T151	-	-	-	-	-	-	-
15	T152	-	-	-	-	-	+	-
16	T153	-	+	-	-	-	+	-
17	HV9W94-CB94005R	-	+	-	-	-	-	-
18	HV9W02-846R	-	-	-	-	-	-	-
19	HV9W96-1270R-1	-	-	-	-	-	-	-
20	HV9W96-1383W	-	-	-	-	-	+	-
21	CO01212	-	-	-	-	-	-	-
22	CO01385-A1	-	-	-	-	-	+	-
23	CO01473	-	-	-	-	-	-	-
24	CO01W171	-	-	-	-	-	+	-
25	CO01W172	-	+	-	-	-	+	-
26	NI03418	-	-	-	-	-	+	-
27	NI02425	-	-	-	-	-	-	-
28	NE03490	-	-	-	-	-	-	-
29	NI04421	-	-	-	-	-	-	-
30	Fuller	-	+	-	-	-	+	-
31	KS00F5-20-3-2	-	+	-	-	-	-	-
32	KS970197-8-9	-	+	-	-	-	+	-
33	KS980512-11--2	-	+	-	-	-	+	-
34	Doans	-	+	-	-	-	-	-
35	AP03T6115	-	-	-	-	-	-	-
36	AP03T6126	-	-	-	-	-	+	-
37	AP03TA7525	-	-	-	-	-	-	-
38	TX01A5936	-	+	-	-	-	-	-
39	TX01V5314	-	+	-	-	-	+	-
40	TX01V6008	-	+	-	-	-	-	-
41	TX01A7326	-	+	-	-	-	-	-
42	TX99A0153-1	-	-	-	-	-	-	-
43	TX03M1004	-	+	-	-	-	+	-
44	TX03M1096	-	+	-	-	-	+	-
45	TX03M1179	-	+	-	+	-	-	-
46	NW03Y2016	-	-	-	-	-	+	-
47	Postrock	-	+	-	-	-	-	-
48	NuDakota	-	+	-	-	-	+	-
49	98x0338-13	-	+	-	-	-	-	-
50	98x0435-15	-	+	-	-	-	-	-

Table 19. Summary of DNA marker experiments, 2006 SRPN (from USDA-ARS Hard Winter Wheat Genotyping Laboratory, Manhattan, KS).

Trait Marker	Hessian Fly, H9	Hessian Fly, H13	Hessian Fly, H13	RWA, Dn4	RWA, Dn4	BYDV2
	H9 909	GDM36 T186	CFD132 T166	GWM106 T136	GWM337 T183	BYAgi T567
Band Size (bp)	STS	SSR	SSR	SSR	SSR	SSR
Marker Type	STS	SSR	SSR	SSR	SSR	SSR
1	Kharkof	+	-	-	-	-
2	Scout 66	-	-	-	-	-
3	TAM-107	-	-	-	-	-
4	Trego	-	-	-	-	-
5	RonL	-	-	-	+	-
6	KS03HW6-6CL	-	-	-	-	-
7	Duster	-	-	-	-	-
8	OK01420	-	-	-	-	-
9	OK00310-367101	-	-	-	-	-
10	OK00224-36805	-	-	-	-	-
11	OK02405	-	-	-	-	-
12	OK02522W	-	-	-	-	-
13	T150	+	-	-	-	-
14	T151	-	-	-	-	-
15	T152	+	-	-	-	-
16	T153	-	-	-	-	-
17	HV9W94-CB94005R	-	-	-	-	-
18	HV9W02-846R	-	-	-	-	-
19	HV9W96-1270R-1	-	-	-	-	-
20	HV9W96-1383W	-	-	-	-	-
21	CO01212	-	-	-	+	+
22	CO01385-A1	-	-	-	+	+
23	CO01473	-	-	-	+	+
24	CO01W171	-	-	-	-	-
25	CO01W172	-	-	-	-	-
26	NI03418	+	-	-	-	-
27	NI02425	-	-	-	-	-
28	NE03490	-	-	-	-	-
29	NI04421	-	-	-	-	-
30	Fuller	-	-	-	-	-
31	KS00F5-20-3-2	+	-	-	-	-
32	KS970197-8-9	-	-	-	-	-
33	KS980512-11--2	-	-	-	-	-
34	Doans	-	-	-	-	-
35	AP03T6115	-	-	-	-	-
36	AP03T6126	-	-	-	-	-
37	AP03TA7525	-	-	-	-	-
38	TX01A5936	-	-	-	-	-
39	TX01V5314	-	-	-	-	-
40	TX01V6008	-	-	-	-	-
41	TX01A7326	-	-	-	-	-
42	TX99A0153-1	-	-	-	-	-
43	TX03M1004	-	-	-	-	-
44	TX03M1096	-	-	-	-	-
45	TX03M1179	-	-	-	-	-
46	NW03Y2016	+	-	-	-	-
47	Postrock	-	-	-	-	-
48	NuDakota	+	-	-	-	-
49	98x0338-13	-	-	-	-	-
50	98x0435-15	-	-	-	-	-

Table 19. Summary of DNA marker experiments, 2006 SRPN (from USDA-ARS Hard Winter Wheat Genotyping Laboratory, Manhattan, KS).

Trait Marker	WSM1	WSM1	1B/1R	1A/1R	1RS	HGPC	HMW Glutenins
	J15, Unknown	J15	SCM0009	SCM0009	Secalin	UCW89	HMWA
Band Size (bp)	T419	T431	T225	T242	SDS-PAGE	T138	1319
Marker Type	STS	STS	SSR	SSR	Lincoln, NE	STS	STS
1 Kharkof	-	-	-	-	non-1RS	-	+
2 Scout 66	-	-	-	-	non-1RS	-	+
3 TAM-107	-	-	-	+	1AL.1RS	-	+
4 Trego	-	-	-	-	non-1RS	-	+
5 RonL	-	-	-	-	non-1RS	-	+
6 KS03HW6-6CL	-	-	-	-	non-1RS	-	+
7 Duster	-	-	+	-	non-1RS	-	-
8 OK01420	-	-	-	-	non-1RS	-	+
9 OK00310-367101	-	-	+	-	1BL.1RS	-	-
10 OK00224-36805	-	-	-	-	non-1RS	-	-
11 OK02405	-	-	-	-	non-1RS	-	+
12 OK02522W	-	-	-	-	non-1RS	-	-
13 T150	-	-	-	-	non-1RS	-	+
14 T151	-	-	-	+	1AL.1RS	-	+
15 T152	-	-	-	+	1AL.1RS	-	+
16 T153	-	-	-	+	1AL.1RS	-	+
17 HV9W94-CB94005R	-	-	-	+	1AL.1RS	-	+
18 HV9W02-846R	-	-	-	-	non-1RS	-	-
19 HV9W96-1270R-1	+	-	-	+	1AL.1RS	-	+
20 HV9W96-1383W	-	-	-	+	1AL.1RS	-	+
21 CO01212	-	-	-	-	non-1RS	-	+
22 CO01385-A1	-	-	-	-	non-1RS	-	+
23 CO01473	-	-	-	-	non-1RS	-	+
24 CO01W171	-	-	-	-	non-1RS	-	+
25 CO01W172	-	-	-	-	non-1RS	-	+
26 NI03418	-	-	-	-	non-1RS	-	+
27 NI02425	-	-	-	-	non-1RS	-	-
28 NE03490	-	-	-	-	non-1RS	-	+
29 NI04421	-	-	-	-	1BL.1RS	-	+
30 Fuller	-	-	-	-	non-1RS	-	-
31 KS00F5-20-3-2	-	-	-	+	non-1RS	-	-
32 KS970197-8-9	-	-	-	-	non-1RS	-	-
33 KS980512-11--2	-	-	-	-	non-1RS	-	+
34 Doans	-	-	-	-	non-1RS	-	-
35 AP03T6115	-	-	-	-	non-1RS	-	-
36 AP03T6126	-	-	-	-	non-1RS	-	+
37 AP03TA7525	-	-	-	-	non-1RS	-	+
38 TX01A5936	-	-	-	-	non-1RS	-	-
39 TX01V5314	-	-	-	-	non-1RS	-	-
40 TX01V6008	-	-	-	-	non-1RS	-	-
41 TX01A7326	-	-	-	-	non-1RS	-	+
42 TX99A0153-1	-	-	-	+	1AL.1RS	-	+
43 TX03M1004	-	-	-	+	non-1RS	-	+
44 TX03M1096	-	-	-	-	non-1RS	-	+
45 TX03M1179	-	-	-	+	non-1RS	-	+
46 NW03Y2016	-	+	-	-	non-1RS	-	+
47 Postrock	-	-	-	-	non-1RS	-	+
48 NuDakota	-	-	-	-	non-1RS	-	+
49 98x0338-13	-	-	+	-	1BL.1RS	-	+
50 98x0435-15	-	-	-	-	non-1RS	-	-

Table 19. Summary of DNA marker experiments, 2006 SRPN (from USDA-ARS Hard Winter Wheat Genotyping Laboratory, Manhattan, KS).

Trait Marker	HMW Glutenins	HMW Glutenins	HMW Glutenins	Grain Texture	Grain Texture
	HMWB	HMWB	HMWD	PinA-D1	Pinb-D1b
Band Size (bp)	630+766	669	478	T348/350	200
Marker Type	STS	STS	STS		CAP
1	Kharkof	+	-	+	-
2	Scout 66	+	-	-	+
3	TAM-107	+	-	-	+
4	Trego	+	-	+	+
5	RonL	+	-	+	-
6	KS03HW6-6CL	+	-	+	+
7	Duster	+	-	+	-
8	OK01420	-	+	-	-
9	OK00310-367101	+	-	+	-
10	OK00224-36805	+	-	+	+
11	OK02405	+	-	+	+
12	OK02522W	-	+	+	+
13	T150	+	-	+	+
14	T151	+	-	-	+
15	T152	+	-	+	+
16	T153	+	-	-	+
17	HV9W94-CB94005R	+	-	+	+
18	HV9W02-846R	+	-	+	+
19	HV9W96-1270R-1	+	-	+	+
20	HV9W96-1383W	+	-	+	+
21	CO01212	+	-	+	+
22	CO01385-A1	+	-	+	-
23	CO01473	+	-	+	-
24	CO01W171	+	-	+	+
25	CO01W172	+	-	+	+
26	NI03418	+	-	+	+
27	NI02425	+	-	+	+
28	NE03490	+	-	+	+
29	NI04421	+	-	+	+
30	Fuller	+	-	+	+
31	KS00F5-20-3-2	+	-	-	-
32	KS970197-8-9	+	-	+	+
33	KS980512-11--2	+	-	-	+
34	Doans	+	-	-	+
35	AP03T6115	+	-	+	+
36	AP03T6126	+	-	-	+
37	AP03TA7525	+	-	+	+
38	TX01A5936	+	-	+	+
39	TX01V5314	-	+	+	-
40	TX01V6008	-	+	+	-
41	TX01A7326	+	-	+	+
42	TX99A0153-1	+	-	+	+
43	TX03M1004	-	+	+	-
44	TX03M1096	+	-	+	-
45	TX03M1179	+	-	+	+
46	NW03Y2016	+	-	+	+
47	Postrock	+	-	+	+
48	NuDakota	+	-	+	+
49	98x0338-13	+	-	+	+
50	98x0435-15	+	-	+	+

Table 19. Summary of DNA marker experiments, 2006 SRPN (from USDA-ARS Hard Winter Wheat Genotyping Laboratory, Manhattan, KS).

Trait Marker	Grain Texture	Waxy	Waxy	Waxy	Waxy	
	Pinb-Wild	Waxy4,Unknown	Waxy4,Unknown	Waxy4,Unknown	Waxy4,4A	
Band Size (bp)	320	T224	T254	T276	T243	
Marker Type	CAP	STS	STS	STS	STS	
1	Kharkof	+	-	-	-	+
2	Scout 66	-	-	-	-	+
3	TAM-107	-	-	-	-	+
4	Trego	-	-	-	-	-
5	RonL	+	-	-	-	+
6	KS03HW6-6CL	-	-	-	-	-
7	Duster	+	-	-	+	-
8	OK01420	+	-	-	-	+
9	OK00310-367101	+	-	-	-	+
10	OK00224-36805	-	-	-	-	+
11	OK02405	-	-	-	-	+
12	OK02522W	-	-	-	-	+
13	T150	-	-	-	-	+
14	T151	-	-	-	-	+
15	T152	-	-	-	-	+
16	T153	-	-	-	-	+
17	HV9W94-CB94005R	-	-	-	-	+
18	HV9W02-846R	-	-	-	-	+
19	HV9W96-1270R-1	-	-	-	-	+
20	HV9W96-1383W	-	-	-	-	+
21	CO01212	-	-	-	-	+
22	CO01385-A1	+	-	-	-	+
23	CO01473	+	-	-	-	+
24	CO01W171	-	-	-	-	+
25	CO01W172	-	-	-	-	+
26	NI03418	-	-	-	-	-
27	NI02425	-	-	-	-	+
28	NE03490	-	-	-	-	+
29	NI04421	-	-	-	-	+
30	Fuller	-	-	+	-	+
31	KS00F5-20-3-2	+	-	-	-	+
32	KS970197-8-9	-	-	-	-	+
33	KS980512-11--2	-	-	-	-	+
34	Doans	-	-	-	-	+
35	AP03T6115	-	-	-	-	+
36	AP03T6126	-	-	-	-	+
37	AP03TA7525	-	+	-	-	-
38	TX01A5936	-	-	-	-	+
39	TX01V5314	+	-	-	-	+
40	TX01V6008	+	-	-	-	+
41	TX01A7326	-	-	-	-	+
42	TX99A0153-1	-	-	-	-	+
43	TX03M1004	+	-	-	-	+
44	TX03M1096	+	-	-	-	+
45	TX03M1179	-	-	-	-	+
46	NW03Y2016	-	-	.	.	.
47	Postrock	-	-	-	-	+
48	NuDakota	-	-	-	-	+
49	98x0338-13	-	-	-	-	+
50	98x0435-15	-	-	-	-	+

Table 19. Summary of DNA marker experiments, 2006 SRPN (from USDA-ARS Hard Winter Wheat Genotyping Laboratory, Manhattan, KS).

Trait	Marker	Waxy		AI Tolerance	AI Tolerance	AI Tolerance	Height, Rht1
		Waxy4,7A	Waxy4,7D	ALMT1	GDM125	WMC331	Rht1BF-MR1
	Band Size (bp)	T273	T314	107	T161	T149	T255
	Marker Type	STS	STS	CAP	SSR	SSR	STS
1	Kharkof	+	+	-	+	.	-
2	Scout 66	+	+	-	+	-	-
3	TAM-107	+	+	-	+	-	+
4	Trego	+	+	+	-	-	+
5	RonL	+	+	+	-	-	+
6	KS03HW6-6CL	+	+	+	-	-	+
7	Duster	+	+	-	-	-	+
8	OK01420	+	+	-	+	-	+
9	OK00310-367101	+	+	-	-	-	+
10	OK00224-36805	+	+	-	-	-	+
11	OK02405	+	+	-	+	-	+
12	OK02522W	+	+	+	+	-	+
13	T150	+	+	-	-	-	+
14	T151	+	+	-	+	-	+
15	T152	+	+	-	+	-	+
16	T153	+	+	?	+	-	+
17	HV9W94-CB94005R	+	+	-	-	-	+
18	HV9W02-846R	+	+	-	-	-	+
19	HV9W96-1270R-1	+	+	-	-	-	+
20	HV9W96-1383W	+	+	-	-	-	-
21	CO01212	+	+	-	+	-	+
22	CO01385-A1	+	+	-	-	-	+
23	CO01473	+	+	-	-	-	+
24	CO01W171	-	+	-	-	-	+
25	CO01W172	-	+	-	-	-	+
26	NI03418	+	+	+	+	+	+
27	NI02425	+	+	?	-	-	+
28	NE03490	+	+	-	-	-	+
29	NI04421	+	+	-	-	-	+
30	Fuller	-	+	-	-	-	+
31	KS00F5-20-3-2	+	+	+	+	+	+
32	KS970197-8-9	+	+	-	-	-	+
33	KS980512-11--2	+	+	-	-	-	+
34	Doans	-	+	+	+	+	-
35	AP03T6115	+	+	-	-	-	+
36	AP03T6126	+	+	+	+	+	+
37	AP03TA7525	+	+	-	-	-	+
38	TX01A5936	+	+	+	+	+	+
39	TX01V5314	-	+	-	+	-	+
40	TX01V6008	+	+	-	-	-	+
41	TX01A7326	+	+	+	+	+	+
42	TX99A0153-1	+	+	-	-	-	+
43	TX03M1004	+	+	+	+	+	+
44	TX03M1096	+	+	+	+	+	+
45	TX03M1179	+	+	-	-	-	+
46	NW03Y2016	.	.	-	+	-	+
47	Postrock	+	+	-	-	-	+
48	NuDakota	+	+	-	-	-	+
49	98x0338-13	+	+	+	+	+	+
50	98x0435-15	+	+	-	-	-	+

Table 19. Summary of DNA marker experiments, 2006 SRPN (from USDA-ARS Hard Winter Wheat Genotyping Laboratory, Manhattan, KS).

Trait Marker	Height, Rht2	Height, Rht8	Vernalization	Vernalization	Vernalization
	Rht2,DF-MR2	GWM261	VRN1AProm	VRN-A1,NON-Del	VRN-B1,Del
Band Size (bp)	T270	T212	T492	1068	709
Marker Type	STS	SSR	STS	STS	STS
1 Kharkof	-	-	+	+	-
2 Scout 66	-	-	+	+	-
3 TAM-107	-	-	+	+	-
4 Trego	-	-	+	+	-
5 RonL	-	-	+	+	-
6 KS03HW6-6CL	-	-	+	+	-
7 Duster	-	-	+	+	-
8 OK01420	-	-	+	+	-
9 OK00310-367101	-	.	+	+	-
10 OK00224-36805	-	-	+	+	-
11 OK02405	-	-	+	+	-
12 OK02522W	-	-	+	+	-
13 T150	-	-	+	+	-
14 T151	-	-	+	+	-
15 T152	-	-	+	+	-
16 T153	-	-	+	+	-
17 HV9W94-CB94005R	-	-	+	+	-
18 HV9W02-846R	-	-	+	+	-
19 HV9W96-1270R-1	-	-	+	+	-
20 HV9W96-1383W	+	-	+	+	-
21 CO01212	-	-	+	+	-
22 CO01385-A1	-	+	+	+	-
23 CO01473	-	+	+	+	-
24 CO01W171	-	-	+	+	-
25 CO01W172	-	-	+	+	-
26 NI03418	-	+	+	+	-
27 NI02425	-	-	+	+	-
28 NE03490	-	-	+	+	-
29 NI04421	-	-	+	+	-
30 Fuller	-	-	+	+	-
31 KS00F5-20-3-2	-	-	+	+	-
32 KS970197-8-9	-	-	+	+	-
33 KS980512-11--2	-	-	+	+	-
34 Doans	-	-	+	+	-
35 AP03T6115	-	-	+	+	-
36 AP03T6126	-	-	+	+	-
37 AP03TA7525	-	-	+	+	-
38 TX01A5936	-	-	+	+	-
39 TX01V5314	-	-	+	+	-
40 TX01V6008	-	-	+	+	-
41 TX01A7326	-	+	+	+	-
42 TX99A0153-1	-	-	+	+	-
43 TX03M1004	-	+	+	+	-
44 TX03M1096	-	-	+	+	-
45 TX03M1179	-	-	-	+	-
46 NW03Y2016	-	-	+	+	-
47 Postrock	-	-	+	+	-
48 NuDakota	-	-	+	+	-
49 98x0338-13	-	-	+	+	-
50 98x0435-15	-	-	+	+	-

Table 19. Summary of DNA marker experiments, 2006 SRPN (from USDA-ARS Hard Winter Wheat Genotyping Laboratory, Manhattan, KS).

Trait Marker	Vernalization	Vernalization	Vernalization	PCR Control	RWA
	VRN-B1,NON-Del 1149	VRN-D1,Del 1671	VRN-D1,NON-Del 997	G43 700	GWM0044 Tailed
Band Size (bp)	STS	STS	STS	STS	SSR
1 Kharkof	+	-	+	+	192
2 Scout 66	+	-	+	+	196
3 TAM-107	+	-	+	+	175, 194
4 Trego	+	-	+	+	175, 192
5 RonL	+	-	+	+	196
6 KS03HW6-6CL	+	-	+	+	196
7 Duster	+	-	+	+	202
8 OK01420	+	-	+	+	182, 200
9 OK00310-367101	+	-	+	+	182
10 OK00224-36805	+	-	+	+	182, 188
11 OK02405	+	-	+	+	182, 194, 200
12 OK02522W	+	-	+	+	182
13 T150	+	-	+	+	198
14 T151	+	-	+	+	182
15 T152	+	-	+	+	182
16 T153	+	-	+	+	182, 190
17 HV9W94-CB94005R	+	-	+	+	195
18 HV9W02-846R	+	-	+	+	201
19 HV9W96-1270R-1	+	-	+	+	191, 195
20 HV9W96-1383W	+	-	+	+	195
21 CO01212	+	-	+	+	181
22 CO01385-A1	+	-	+	+	191, 199
23 CO01473	+	-	+	+	191, 199
24 CO01W171	+	-	+	+	193
25 CO01W172	+	-	+	+	193
26 NI03418	+	-	+	+	193
27 NI02425	+	-	+	+	193
28 NE03490	+	-	+	+	179
29 NI04421	+	-	+	+	204
30 Fuller	+	-	+	+	181
31 KS00F5-20-3-2	+	-	+	+	.
32 KS970197-8-9	+	-	+	+	197
33 KS980512-11--2	+	-	+	+	195
34 Doans	+	-	+	+	203
35 AP03T6115	+	-	+	+	203
36 AP03T6126	+	-	+	+	203
37 AP03TA7525	+	-	+	+	195
38 TX01A5936	+	-	+	+	199
39 TX01V5314	+	-	+	+	199
40 TX01V6008	+	-	+	+	199
41 TX01A7326	+	-	+	+	199
42 TX99A0153-1	+	-	+	+	201
43 TX03M1004	+	-	+	+	195
44 TX03M1096	+	-	+	+	199
45 TX03M1179	+	-	+	+	193
46 NW03Y2016	+	-	+	+	189
47 Postrock	+	-	+	+	199
48 NuDakota	+	-	+	+	194
49 98x0338-13	+	-	+	+	199
50 98x0435-15	+	-	+	+	193

Table 19. Summary of DNA marker experiments, 2006 SRPN (from USDA-ARS Hard Winter Wheat Genotyping Laboratory, Manhattan, KS).

Trait Marker Band Size (bp)	RWA GWM111 Tailed
Marker Type	SSR
1 Kharkof	154, 168, 204
2 Scout 66	154, 232
3 TAM-107	131, 154, 168, 203
4 Trego	156, 203
5 RonL	156, 203
6 KS03HW6-6CL	151, 168, 203, 220
7 Duster	156, 203
8 OK01420	154, 205
9 OK00310-367101	155, 232
10 OK00224-36805	168, 205, 234
11 OK02405	154, 203
12 OK02522W	156, 168, 203
13 T150	154, 224
14 T151	154, 203
15 T152	133, 156, 203
16 T153	154, 205
17 HV9W94-CB94005R	155, 167, 202
18 HV9W02-846R	131, 154, 222
19 HV9W96-1270R-1	131, 154, 202, 232
20 HV9W96-1383W	133, 155, 202
21 CO01212	155, 167, 226
22 CO01385-A1	131, 153, 204, 228
23 CO01473	131, 153, 167, 204, 228
24 CO01W171	167, 202, 218
25 CO01W172	155, 167, 219
26 NI03418	131, 153
27 NI02425	133, 155, 202, 218
28 NE03490	133, 155, 230
29 NI04421	133, 155, 230
30 Fuller	153, 167, 204
31 KS00F5-20-3-2	131, 153, 202
32 KS970197-8-9	133, 155, 204
33 KS980512-11--2	133, 155, 202
34 Doans	131, 153, 232
35 AP03T6115	131, 153, 222
36 AP03T6126	155, 167, 224
37 AP03TA7525	133, 155, 202
38 TX01A5936	167, 204
39 TX01V5314	133, 155, 230
40 TX01V6008	167, 202
41 TX01A7326	133, 155, 219
42 TX99A0153-1	133, 155, 203
43 TX03M1004	133, 155, 222, 230
44 TX03M1096	167, 204
45 TX03M1179	133, 153, 222
46 NW03Y2016	133, 155, 222
47 Postrock	131, 153, 224, 230
48 NuDakota	133, 155, 204
49 98x0338-13	133, 155, 204
50 98x0435-15	133, 155, 230