1998

Western Plains Regional Performance Nursery

Entry No.	Variety or Pedigree	Sel. No.	Source
1	Larned	CI17650	Check
2	Siouxland	PI483469	"
3	Lamar	PI559719	"
4	Arapahoe	PI518591	"
5	Lamar-R32	CO940750	Colorado
6	NE82413/3/Newton sib/Agate//Sage sib	NE92652	Nebraska
7	NE82419/Arapahoe	NE93554	"
8	NE89584/NE88528	NE95632	"
9	TX81V6599/TX80GH2679-T4	TX92V5535	Texas
10	TX87V1534/TX84V1317	TX93A2361	"
11	FL302/TX79D1103//Karl	TX94V3305	"
12	KS85WGRC01*HBZ308B/TAM-200	TX94V4829	"
13	PI137739/3*TAM-202	TX94VT9016	"
14	TX87V1534/TX84V1317	TX95V5315	"
15	TX84V1317/TX85V1326	TX95V6409	"
16	TX88V4924/TX84V1317	TX95V6524	"
17	TXGH13622/Karl	TX95V6629	"
18	Abilene/KS90WGRC10	W95-188	Agripro
19	KS87809-10/Arapahoe	N95S004	NE,ARS
20	Abilene/KS831862	N94L205	"
21	Rio Blanco/90IWWSN-113	N96S031	"
22	Karl//OK86216/Crr sib	OK95550	Oklahoma
23	OK87W663/2157//2180	OK95567	"
24	AG/TMP//TBR/CAN/3/LND/4/CO2643//CAN/ERA/5/T107	G14314	Goertzen
25	Olesen/Bison//Sxld	R824-23	Trigen
26	SD8026/RRI//SD76598-7/Agassiz	SD93267	S. Dakota

Table 1. Yield and agronomic data for 26 wheats grown in the 1998 WPRPN.

Bushland (dryland), Texas			Three Replications	
Line/selection	Entry No.	Yield kg/ha	Plant height cm	Days to heading from 1/1
TX95V6409	15	2763	67	123
TX93A2361	10	2707	74	124
TX94VT9016	13	2521	73	123
TX95V5315	14	2475	70	125
TX95V6629	17	2446	68	129
TX92V5535	9	2417	70	125
W95-188	18	2378	72	125
OK95567	23	2329	76	124
TX95V6524	16	2328	71	126
NE92652	6	2208	69	128
N94L205	20	2190	65	129
TX94V3305	11	2160	70	128
TX94V4829	12	2103	63	127
OK95550	22	2089	70	125
N96S031	21	2068	60	129
Arapahoe	4	2067	65	125
R824-23	25	2017	54	125
NE93554	7	1990	67	127
Siouxland	2	1957	74	128
G14314	24	1935	69	125
SD93267	26	1879	80	128
CO940750	5	1802	76	128
Lamar	3	1704	75	127
N95S004	19	1688	73	127
NE95632	8	1406	67	129
Larned	1	1289	71	128
mean		2112		
LSD (0.05)		298		
CV (%)		15.1%		

Table 1. contd.

ereford, Texas 2 Replication		
Line/selecti	Entry No.	Yield kg/ha
TX95V5315	14	2911
TX94VT9016	13	2837
TX92V5535	9	2794
Lamar	3	2749
Arapahoe	4	2709
G14314	24	2695
SD93267	26	2695
R824-23	25	2687
TX93A2361	10	2620
NE92652	6	2594
TX95V6409	15	2594
TX94V4829	12	2568
W95-188	18	2546
TX95V6524	16	2508
OK95567	23	2508
CO940750	5	2507
Larned	1	2483
NE93554	7	2454
OK95550	22	2384
NE95632	8	2380
TX95V6629	17	2346
N95S004	19	2277
Siouxland	2	2269
TX94V3305	11	2263
N94L205	20	2210
N96S031	21	2184
mean		2523
LSD (0.05)		412
CV (%)		8.2

Table 1. contd.

Goodwell, Oklahoma Three Replications					
Line/selection	Entry No.	Yield kg/ha	Volume weight kg/hl	Plant height cm	Days to heading from
W95-188	18	2611	65.0	74	127
OK95567	23	2446	63.6	76	126
TX94VT9016	13	2416	58.4	74	126
OK95550	22	2394	63.5	65	124
TX95V6629	17	2367	61.1	71	135
Siouxland	2	2326	57.8	68	128
SD93267	26	2312	62.4	82	127
TX94V4829	12	2292	58.8	66	128
NE93554	7	2281	59.5	70	126
Arapahoe	4	2274	60.6	68	128
TX93A2361	10	2179	61.7	73	124
Larned	1	2114	63.2	80	125
NE95632	8	2102	59.3	68	136
Lamar	3	2073	61.8	72	130
NE92652	6	2068	64.9	68	132
N94L205	20	2044	61.1	64	132
G14314	24	2039	59.9	71	125
TX95V6409	15	1987	58.7	72	124
TX94V3305	11	1879	63.0	71	135
TX95V5315	14	1842	60.0	68	127
R824-23	25	1836	55.1	63	127
CO940750	5	1786	60.1	73	131
N95S004	19	1731	62.4	75	135
TX92V5535	9	1725	64.1	71	125
TX95V6524	16	1637	57.9	71	125
N96S031	21	1564	57.8	63	130
mean		2134			
LSD (0.05)		424			
CV (%)		12.2			

Table 1. contd.

Colby, Kansas Three Replications					
Line/selection	Entry No.	Yield kg/ha	Volume weight kg/hl	Plant height cm	Days to heading from 1/1
Arapahoe	4	5492	79.6	85	138
NE95632	8	5223	78.9	95	142
OK95550	22	5221	79.9	81	138
TX93A2361	10	5163	79.1	86	139
NE93554	7	5140	78.7	88	141
Siouxland	2	5129	79.4	102	141
CO940750	5	5071	81.2	98	141
TX95V6409	15	5021	79.7	80	138
N94L205	20	5010	81.6	83	143
OK95567	23	4885	77.7	83	138
TX95V6629	17	4876	80.1	88	143
TX94VT9016	13	4867	78.0	85	138
NE92652	6	4838	81.5	90	142
TX95V5315	14	4786	77.7	85	141
N95S004	19	4779	78.4	98	140
SD93267	26	4734	80.4	105	141
Larned	1	4676	80.0	98	139
W95-188	18	4636	80.3	88	139
TX95V6524	16	4577	79.2	81	139
TX92V5535	9	4575	81.1	86	140
TX94V4829	12	4571	79.2	86	140
Lamar	3	4562	79.6	97	140
TX94V3305	11	4555	79.9	86	142
N96S031	21	4553	75.2	85	143
G14314	24	4530	76.1	86	139
R824-23	25	4389	75.4	73	140
mean		4840			
LSD (0.05)		457			
CV (%)		5.8			

Table 1. contd.

Goodland, Kansas Four Replications				
Line/selection	Entry No.	Yield kg/ha	Volume weight kg/hl	% over 6.5/64 screen
SD93267	26	3890	80.9	11.2
TX94VT9016	13	3828	79.3	5.6
OK95567	23	3780	81.1	16.8
Arapahoe	4	3756	81.1	10.3
TX93A2361	10	3734	79.2	9.6
NE95632	8	3717	79.7	3.2
TX95V6629	17	3636	79.7	19.7
TX95V6409	15	3557	80.8	4.6
OK95550	22	3533	81.1	16.1
TX94V4829	12	3510	78.4	8.2
TX95V6524	16	3472	80.0	2.5
NE93554	7	3409	79.2	19.9
NE92652	6	3408	82.0	12.7
W95-188	18	3332	80.1	35.3
Larned	1	3329	79.3	11.0
CO940750	5	3327	80.0	9.3
Lamar	3	3271	82.0	9.4
G14314	24	3266	78.6	23.4
TX92V5535	9	3235	82.0	3.1
N94L205	20	3149	80.5	7.2
TX94V3305	11	3145	80.1	8.2
N95S004	19	3135	77.0	3.0
N96S031	21	3087	74.2	5.0
TX95V5315	14	3036	76.9	2.6
Siouxland	2	2879	80.4	11.4
R824-23	25	2863	76.2	11.9
mean		3360		
LSD (0.05)		524		
CV (%)		11.1		

Table 1. contd.

Woodrow, Colorado	Two Replications	
Line/selection	Entry No.	Yield
TX92V5535	9	2631
Siouxland	2	2484
Arapahoe	4	2445
OK95567	23	2393
N96S031	21	2389
SD93267	26	2378
NE93554	7	2355
TX93A2361	10	2324
TX95V5315	14	2322
N95S004	19	2303
NE95632	8	2292
OK95550	22	2287
TX94V3305	11	2211
TX94V4829	12	2211
TX95V6524	16	2195
CO940750	5	2168
Larned	1	2158
TX95V6629	17	2152
TX94VT9016	13	2139
TX95V6409	15	2089
W95-188	18	2082
NE92652	6	1878
G14314	24	1861
R824-23	25	1733
Lamar	3	1614
N94L205	20	1586
mean		2220
LSD (0.05)		ns
CV (%)		16.5

Table 1. contd.

Burlington, Colorado Three Replications			
Line/selection	Entry No.	Yield kg/ha	Volume weight kg/hl
Arapahoe	4	3933	76.6
TX95V6629	17	3842	74.9
OK95567	23	3827	75.7
NE93554	7	3622	74.3
OK95550	22	3622	76.6
Siouxland	2	3612	76.2
NE92652	6	3603	77.6
TX94VT9016	13	3600	75.6
TX94V4829	12	3545	73.3
NE95632	8	3504	74.4
TX95V5315	14	3500	74.4
N94L205	20	3493	75.7
N95S004	19	3466	72.3
G14314	24	3464	72.8
TX95V6524	16	3460	76.5
TX92V5535	9	3382	79.4
W95-188	18	3359	76.6
Lamar	3	3308	76.9
Larned	1	3249	76.4
TX94V3305	11	3159	76.9
R824-23	25	3158	71.4
SD93267	26	3126	75.1
TX95V6409	15	3087	77.0
TX93A2361	10	3050	76.5
N96S031	21	3045	69.3
CO940750	5	3036	74.5
mean		3425	
LSD (0.05)		507	
CV (%)		9.1	

Table 1. contd.

Scottsbluff, Nebraska Four Replications				
Line/selection	Entry No.	Yield kg/ha	Volume weight kg/hl	Plant height cm
TX94V4829	12	4010	79.6	77
Arapahoe	4	4010	80.9	73
TX95V6629	17	3967	81.1	77
W95-188	18	3907	82.2	81
OK95567	23	3892	79.6	75
N94L205	20	3868	82.2	75
TX94VT9016	13	3839	79.9	73
NE93554	7	3803	79.4	76
TX92V5535	9	3795	81.1	76
TX93A2361	10	3765	79.6	76
NE95632	8	3760	79.9	79
R824-23	25	3676	78.0	67
SD93267	26	3640	81.2	93
NE92652	6	3634	82.1	76
TX95V6409	15	3615	79.3	69
N95S004	19	3560	79.0	89
TX94V3305	11	3499	80.2	76
Larned	1	3486	80.1	87
CO940750	5	3479	81.9	88
OK95550	22	3454	80.0	74
Lamar	3	3384	81.8	87
N96S031	21	3351	78.5	71
G14314	24	3343	78.6	75
Siouxland	2	3203	79.8	89
TX95V6524	16	3169	79.7	76
TX95V5315	14	3108	78.2	72
mean		3622		
LSD (0.05)		420		
CV (%)		8.2		

Table 1. contd.

Archer, Wyoming Three Replications						
Line/selection	Entry No.	Yield kg/ha	Volume weight kg/hl	Days to heading from 1/1	Plant height cm	Winter survival (%)
TX93A2361	10	2697	75.5	153	52	90
SD93267	26	2656	76.8	155	58	96
OK95567	23	2634	74.2	153	52	94
TX92V5535	9	2600	77.1	154	50	94
NE95632	8	2490	73.9	157	53	95
TX94V4829	12	2482	76.0	158	47	93
Siouxland	2	2399	73.4	159	53	93
TX95V6409	15	2396	75.6	154	50	92
W95-188	18	2381	76.7	154	50	93
N95S004	19	2378	75.5	156	51	95
TX95V6524	16	2369	77.7	155	50	95
Arapahoe	4	2367	75.9	154	48	94
NE92652	6	2358	77.9	155	52	95
TX94VT9016	13	2349	75.0	153	51	91
Lamar	3	2329	77.8	156	53	91
CO940750	5	2304	77.1	156	52	94
TX95V6629	17	2287	73.6	157	52	94
R824-23	25	2255	72.9	158	47	90
N96S031	21	2246	73.5	158	47	93
NE93554	7	2246	75.0	156	49	94
G14314	24	2219	73.3	156	47	94
TX95V5315	14	2172	74.1	157	48	94
OK95550	22	2141	75.0	155	49	92
Larned	1	2125	75.8	153	52	95
TX94V3305	11	2109	76.2	159	52	94
N94L205	20	2062	79.2	160	47	94
mean		2343				
LSD (0.05)		341				
CV (%)		8.9				

Table 1. contd.

Dakota Lakes, South Dakota Three Replications					
Line/selection	Entry No.	Yield kg/ha	Days to heading from 1/1	Plant height cm	Lodging (0-9)
N94L205	20	6265	151	102	1
N96S031	21	5588	149	97	2
TX94V4829	12	5490	149	101	1
NE93554	7	5319	148	105	4
N95S004	19	5299	148	118	2
TX93A2361	10	5279	146	102	1
W95-188	18	5140	148	107	1
OK95550	22	5140	148	97	3
G14314	24	5071	148	100	1
NE92652	6	5059	149	107	1
TX92V5535	9	5010	148	103	1
TX94VT9016	13	5008	148	102	1
TX95V6409	15	4992	146	99	4
TX95V5315	14	4990	151	102	2
OK95567	23	4974	148	102	1
TX95V6629	17	4911	150	102	1
Arapahoe	4	4882	149	106	4
R824-23	25	4873	149	88	1
NE95632	8	4770	149	110	4
TX95V6524	16	4676	147	96	1
CO940750	5	4674	150	109	6
Siouxland	2	4481	149	113	3
Lamar	3	4100	150	113	8
SD93267	26	3835	146	119	5
TX94V3305	11	3537	152	119	7
Larned	1	2970	147	116	9
mean		4793			
LSD (0.05)		792			
CV (%)		10.2			

Table 2 . Summary of mean yields (kg/ha) and ranks for 26 wheats grown in the 1998 Western Plains Regional Performance Nursery.

Entry No.	Line	Regional		Burlington, Colorado		Woodrow, Colorado		Colby, Kansas		Goodland, Kansas		Scottsbluff, Nebraska		Goodwell, Oklahoma		Dakota Lakes, South Dakota		Bushland, Texas		Hereford, Texas		Archer, Wyoming	
		mean	rank	mean	rank	mean	rank	mean	rank	mean	rank	mean	rank	mean	rank	mean	rank	mean	rank	mean	rank	mean	rank
4	Arapahoe	3481	1	3933	1	2445	3	5492	1	3756	4	4010	2	2274	10	4882	17	2067	16	2709	5	2367	12
23	OK95567	3444	2	3827	3	2393	4	4885	10	3780	3	3892	5	2446	2	4974	15	2329	8	2508	14	2634	3
10	TX93A2361	3437	3	3050	24	2324	8	5163	4	3734	5	3765	10	2179	11	5279	6	2707	2	2620	9	2697	1
13	TX94VT9016	3430	4	3600	8	2139	19	4867	12	3828	2	3839	7	2416	3	5008	12	2521	3	2837	2	2349	14
17	TX95V6629	3386	5	3842	2	2152	18	4876	11	3636	7	3967	3	2367	5	4911	16	2446	5	2346	21	2287	17
12	TX94V4829	3370	6	3545	9	2211	13	4571	21	3510	10	4010	1	2292	8	5490	3	2103	13	2568	12	2482	6
7	NE93554	3342	7	3622	4	2355	7	5140	5	3409	12	3803	8	2281	9	5319	4	1990	18	2454	18	2246	20
18	W95-188	3324	8	3359	17	2082	21	4636	18	3332	14	3907	4	2611	1	5140	7	2378	7	2546	13	2381	9
22	OK95550	3298	9	3622	4	2287	12	5221	3	3533	9	3454	20	2394	4	5140	7	2089	14	2384	19	2141	23
20	N94L205	3295	10	3493	12	1586	26	5010	9	3149	20	3868	6	2044	16	6265	1	2190	11	2210	25	2062	26
15	TX95V6409	3293	11	3087	23	2089	20	5021	8	3557	8	3615	15	1987	18	4992	13	2763	1	2594	10	2396	8
9	TX92V5535	3270	12	3382	16	2631	1	4575	20	3235	19	3795	9	1725	24	5010	11	2417	6	2794	3	2600	4
8	NE95632	3258	13	3504	10	2292	11	5223	2	3717	6	3760	11	2102	13	4770	19	1406	25	2380	20	2490	5
6	NE92652	3250	14	3603	7	1878	22	4838	13	3408	13	3634	14	2068	15	5059	10	2208	10	2594	10	2358	13
26	SD93267	3197	15	3126	22	2378	6	4734	16	3890	1	3640	13	2312	7	3835	24	1879	21	2695	6	2656	2
14	TX95V5315	3144	16	3500	11	2322	9	4786	14	3036	24	3108	26	1842	20	4990	14	2475	4	2911	1	2172	22
19	N95S004	3132	17	3466	13	2303	10	4779	15	3135	22	3560	16	1731	23	5299	5	1688	24	2277	22	2378	10
2	Siouxland	3118	18	3612	6	2484	2	5129	6	2879	25	3203	24	2326	6	4481	22	1957	19	2269	23	2399	7
24	G14314	3111	19	3464	14	1861	23	4530	25	3266	18	3343	23	2039	17	5071	9	1935	20	2695	6	2219	21
16	TX95V6524	3104	20	3460	15	2195	15	4577	19	3472	11	3169	25	1637	25	4676	20	2328	9	2508	14	2369	11
5	CO940750	3086	21	3036	26	2168	16	5071	7	3327	16	3479	19	1786	22	4674	21	1802	22	2507	16	2304	16
21	N96S031	3070	22	3045	25	2389	5	4553	24	3087	23	3351	22	1564	26	5588	2	2068	15	2184	26	2246	19
25	R824-23	3019	23	3158	21	1733	24	4389	26	2863	26	3676	12	1836	21	4873	18	2017	17	2687	8	2255	18
3	Lamar	2986	24	3308	18	1614	25	4562	22	3271	17	3384	21	2073	14	4100	23	1704	23	2749	4	2329	15
11	TX94V3305	2924	25	3159	20	2211	13	4555	23	3145	21	3499	17	1879	19	3537	25	2160	12	2263	24	2109	25
1	Larned	2861	26	3249	19	2158	17	4676	17	3329	15	3486	18	2114	12	2970	26	1289	26	2483	17	2125	24
Mean		3290		3425		2220		4840		3360		3622		2134		4793		2112		2523		2343	
LSD (0.05)		174		507		n.s		457		524		420		424		792		298		412		341	
CV (%)		10		9		17		6		11		8		12		10		15		8		9	

Table 3. Summary of agronomic and yield data for 26 wheats grown in the 1998 WPRPN.

Line/selection	Entry No.	Yield kg/ha	Volume weight kg/hl	Days to heading from 1/1	Plant height cm
No. locations		10	6	6	7
Arapahoe	4	3481	77.1	142	75
OK95567	23	3444	76.5	142	78
TX93A2361	10	3437	76.7	141	81
TX94VT9016	13	3430	76.3	142	81
TX95V6629	17	3386	76.9	145	79
TX94V4829	12	3370	76.1	144	79
NE93554	7	3342	75.9	142	77
W95-188	18	3324	78.1	143	82
OK95550	22	3298	76.8	143	78
N94L205	20	3295	78.4	145	79
TX95V6409	15	3293	76.8	141	76
TX92V5535	9	3270	78.2	142	81
NE95632	8	3258	75.9	144	83
NE92652	6	3250	78.8	144	76
SD93267	26	3197	77.2	143	89
TX95V5315	14	3144	75.3	144	79
N95S004	19	3132	75.2	143	84
Siouxland	2	3118	76.2	144	83
G14314	24	3111	74.7	143	77
TX95V6524	16	3104	76.9	143	79
CO940750	5	3086	77.5	144	81
N96S031	21	3070	73.4	145	75
R824-23	25	3019	73.8	144	70
Lamar	3	2986	78.1	143	81
TX94V3305	11	2924	77.6	146	83
Larned	1	2861	77.2	141	83

Table 4. Adult plant field reaction of the 1998 Western Plains Regional Winter Wheat Performance Nursery inoculated to leaf and stem rust at St. Paul, MN. (USDA-ARS, Cereal Disease Laboratory, St. Paul, MN 55108, by D.V. McVey.) and presence/absence of rye chromosome arm 1RS (from R. Graybosch, USDA-ARS, Lincoln, NE.)

No.	Line/selection	LR 6/23	SR 6/29	1RS*
1	Larned	5 S	10 R	non-1RS
2	Siouxland	10 S	5 R-MR	1BL.1RS
3	Lamar	10 S	10 MR	non-1RS
4	Arapahoe	T S	10 MS	non-1RS
5	CO940750	T S	30 MR-MS	non-1RS
6	NE92652	T MS-S	0	non-1RS
7	NE93554	10 S	5 MR	non-1RS
8	NE95632	20 S	0	non-1RS
9	TX92V5535	5 S	10 MR-MS	1AL.1RS
10	TX93A2361	5 S	30 S	non-1RS
11	TX94V3305	5 S	5 MR-S	non-1RS
12	TX94V4829	10 S	60 S	1AL.1RS
13	TX94VT9016	10 S	20 MS	non-1RS
14	TX95V5315	T S	5 MR-MS	non-1RS
15	TX95V6409	5 MS-S	40 S	non-1RS
16	TX95V6524	T S	30 MR-MS	non-1RS
17	TX95V6629	40 S	60 S	non-1RS
18	W95-188	40 S	60 S	non-1RS
19	N95S004	10 S	40 S	non-1RS
20	N94L205	10 MS-S	10 R-MR	non-1RS
21	N96S031	T S	10 R-MR	1BL.1RS
22	OK95550	T MR-MS	5 MR	1BL.1RS
23	OK95567	20 S	60 S	nd
24	G14314	20 S	40 S	non-1RS
25	R824-23	5 S	5 R-MR	1BL.1RS
26	SD93267	5 S	10 MR-S	non-1RS

*Inferred from presence/absence of rye secalin proteins.