

UNITED STATES DEPARTMENT OF AGRICULTURE
AGRICULTURAL RESEARCH SERVICE

in cooperation with

STATE AGRICULTURAL EXPERIMENT STATIONS

*COMPARISON OF
WINTER WHEAT VARIETIES GROWN IN COOPERATIVE
NURSERY EXPERIMENTS IN THE
HARD RED WINTER WHEAT REGION
IN 1993*

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This is a joint progress report of cooperative investigations under way in the State Agricultural Experiment Stations and the Agricultural Research Service of the U. S. Department of Agriculture containing preliminary data which have not been sufficiently confirmed to justify general release. Interpretations may be modified with additional experimentation. Confirmed results will be published through established channels. The report is primarily a tool for use of cooperators and their official staffs and for those persons having direct and special interest in the development of agricultural research programs.

The report includes data furnished by the State Agricultural Experiment Stations as well as by the Agricultural Research Service and was compiled in the Northern Plains Area, U. S. Department of Agriculture. The report is not intended for publication and should not be referred to in literature citations nor quoted in publicity or advertising. Use of the data may be granted for certain purposes upon written request to the agency or agencies involved.

Lincoln, Nebraska
April, 1994

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NORTHERN PLAINS AREA**

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By

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REGIONAL NOTES

The 1993 Hard Red Winter Wheat Breeders Field Day was held June 7, 1993 at Lincoln, Nebraska, hosted by USDA-ARS and University of Nebraska wheat researchers. The 1994 Breeders Field Day is scheduled for May 24 at Stillwater, OK and will be hosted by Oklahoma State University wheat researchers.

The North American Wheat Workers Workshop was held on March 7-9, 1994 in Kansas City, MO. Hosted by the National Wheat Improvement Committee, the workshop was attended by 160 wheat researchers from the U.S., Mexico, and Canada. This was the first such workshop in over 25 years.

The 20th Hard Red Winter Wheat Workers Workshop is tentatively scheduled for January/February 1995. The Workshop will be hosted by Oklahoma State University researchers. Date and location have yet to be determined.

Dr. Scott Haley is the new winter wheat breeder at Brookings, South Dakota with SDSU. Dr. Haley received his Ph.D. from Colorado State University and was on a Post-Doc position at Michigan State University prior to joining SDSU. He replaces Dr. Jeffery Gellner, who resigned his position in 1992.

NOTE: The response reaction of entries to leaf and stem rust infection has been coded on a 1-9 scale to facilitate generation of this report. This same scale has been used in past reports. The response data can be interpreted as follows:

<u>Response scale</u>		<u>Reaction type</u>
1	-	VR
2	-	R
3	-	MR
4	-	M
5	-	M
6	-	M
7	-	MS
8	-	S
9	-	VS

NEW VARIETIES AND GERMPLASM

The following is only a partial list of new wheat varieties and germplasms available in the region. Included are those for which we have current information.

VARIETIES

The Nebraska Agricultural Experiment Station and USDA-ARS announced the release of 'Alliance' hard red winter wheat in cooperation with the South Dakota Agricultural Experiment Station. Alliance (P.I. 573096) has the pedigree 'Arkan/Colt//Chisholm' and was tested in the SRPN in 1991 and 1992, and NRPN in 1993, as NE88595. Alliance is targeted for dryland production in the Nebraska panhandle. It possesses moderate resistance to stem rust (Sr17, which is no longer effective, plus other genes which are effective) and may possess H3 gene for resistance to Hessian fly. Alliance is susceptible to leaf rust and has winterhardiness similar to Scout 66 and superior to Vona, TAM-200, and Rawhide. It averages 1.5 days earlier in anthesis date compared to Arapahoe and Redland. Alliance is similar in test weight to Arapahoe and superior to Redland. Dough mixing properties are similar to Arapahoe and baking properties considered as acceptable.

The Kansas Agricultural Experiment Station and USDA-ARS announced the release of 'Ike' hard red winter wheat in cooperation with the Nebraska Agricultural Experiment Station. Ike has the pedigree 'Dular/Eagle//2* Larned/Cheney/3/Colt' and was tested in the SRPN in 1992 and 1993 as KS89H48-1. Ike is a tall semidwarf targeted for western Kansas production. It has coleoptile length similar to Newton and winterhardiness similar to Larned. Ike carries effective levels of resistance to leaf rust, stem rust, Hessian fly, SBMV, and WSSMV; it is susceptible to WSMV. Ike heads approximately 5 days later than TAM-107 and 1 day earlier than Larned. Milling and baking properties are similar to Larned, except that Ike has stronger mixing requirements.

The Texas Agricultural Experiment Station announced the release of TAM-300 hard red winter wheat. TAM-300 has the pedigree 'TAM-106/Collin' and was tested in the 1990 and 1991 SRPN under the designation TX86D1332. The majority of plants in TAM-300 possess the leaf rust resistance genes Lr1, Lr10, and Lr16; however, some plants possess only genes Lr2a and Lr24. TAM-300 is resistant to soil-borne mosaic virus, moderately resistant to stem rust, moderately susceptible to septoria tritici and powdery mildew. At Dallas, TX heading of TAM-300 is similar to Thunderbird, and slightly later than Siouxland 89 and 2163. TAM-300 has shown high test weight patterns and good overall baking quality. It is primarily adapted to the Blacklands of Texas.

AgriPro Bioscience announced the release of 'Hickok' hard red winter wheat. Hickok has the pedigree 'TX81V6610/W82-163' and is entered in the 1994 SRPN under the designation WI89-273-13. Hickok is a daylength sensitive, short semidwarf with early maturity. It is resistant to soilborne and spindle streak mosaic viruses and is resistant to current races of leaf rust. Hickok is moderately susceptible to Septoria tritici and is

susceptible to wheat streak mosaic virus. Hickok has high test weight patterns and overall milling and baking quality is excellent. Plant height and straw strength are adequate for most aquifer production conditions. Hickok is well adapted to eastern Colorado, central and western Kansas, southern Nebraska, central and western Oklahoma, and the high plains and rolling plains of Texas.

GERMPLASMS

The Plant Sciences and Water Conservation Laboratory, USDA-ARS, Stillwater, OK, announced the release of two semi-dwarf hard red facultative wheats STARS-9302W and STARS-9303W possessing resistance to the Russian wheat aphid. Both lines were derived from the cross 'Bobwhite/PI149898'. PI149898 was initially thought to be a triticale, but cytogenetic analyses have indicated that this line is, in fact, a wheat. Inheritance of resistance appears to be controlled by at least two genes. The mechanisms of resistance are tolerance and antibiosis.

The USDA-ARS, Kansas Agricultural Experiment Station, and the Wheat Genetics Resources Center at KSU announced the release of several hard red winter wheat germplasms in 1993:

KS92WGRC17, KS92WGRC18, KS92WGRC19, and KS92WGRC20 are Hessian fly resistant hard red winter wheat germplasms. These germplasms carry the H25 gene for resistance to Hessian fly. The gene is located on chromosome arm 6RL from the rye cultivar Balbo, and three different translocations are present among the four germplasms. KS92WGRC17 carries almost the complete arm of 6RL translocated to the long arm of 6B. KS92WGRC18 and 19 each carry a smaller segment of 6RL translocated to the long arm of 4B. A second translocation, T1AL/1RS, is absent from KS92WGRC18 and present in KS92WGRC19. KS92WGRC20 carries a very short segment of 6RL as an intercalary translocation in the proximal region of 4AL.

KS92WGRC26 is a hard red winter wheat germplasm derived from the cross 'Karl*3/TA2473', where TA2473 is an accession of *Triticum tauschii*. It carries a single, dominant gene for resistance to Hessian fly located on chromosome 4D. The gene segregates independently of all other known resistance genes. KS92WGRC26 is similar to Karl in height, heading date, disease reactions, and overall phenotype.

KSWGRC27 is a wheat streak mosaic virus resistant hard red winter wheat germplasm derived from the cross 'CI17884*4/Karl'. CI17884 is a *T. aestivum* germplasm homozygous for T7AS-7SS:7SL *T. aestivum*-*T. Speltoides*, T4DL:4Ai#2S *T. aestivum*-*Agropyron* intermedium chromosome translocations. The 4Ai#2S chromosome arm has the gene Wsm1 that conditions effective levels of resistance to WSMV.

KSWGRC28 is powdery mildew resistant hard red winter wheat germplasm derived from the cross 'MS6RL(6D)/TAM-104'. MS6RL(6D) is a monosomic 6RL(6D) wheat-rye chromosome substitution line with the rye chromosome line derived from the rye cultivar 'Prolific'. KS93WGRC28 is homozygous for the recombined T6BS:6RL translocated chromosome and carries the gene Pm20 which conditions resistance to powdery mildew.

1993
Southern Regional Performance Nursery

<u>Entry No.</u>	<u>Variety or Pedigree</u>	<u>Sel. No.</u>	<u>Source</u>
1**	Kharkof	CI1442	Check
2**	Scout 66	CI13996	"
3**	TAM-107	PI495594	"
4*	F29-76/TAM-105//Chisholm	OK88767-11	Oklahoma
5*	" " "	OK88767-02	"
6*	" " "	OK88767-15	"
7*	" " "	OK88767-24	"
8	Siouxland/TAM-101	TX88A6480	Texas
9	TX71A889/TAM-101	TX88A6533	"
10*	TAM-200//Sxl/Tan 's'	TX90D9277	"
11*	TAM-105/10334	TX89A7137	"
12*	TAM-200//TX38949-2/TAM-107	TX91V4931	"
13*	TX81V6603/TX78A3345-V34	TX90V8410	"
14*	TX78V2430-2/TX86V1540	TX90V7911	"
15*	TX86V1540//Lind/Tan	TX91V5739	"
16*	TAM-108/Vee's'//TX84V2029	TX91V3308	"
17*	TAM-105/10334	TX89A7141	"
18*	Lov 13/2*Ctk78//TAM-105	CO880054	Colorado
19*	TAM-107/Hail	CO880169	"
20*	TAM-107/TX3006	CO880210	"
21*	Colt/TX3006	CO880240	"
22	Karl sib	KS831374-142	Kansas
23*	KS82W418/Stephens	KS84063-9-7	"
24*	WX11088/2165//W8447	KS92PO59E	"
25*	(Sturdy/2/Coker 68-15/Mow7510/3/Tam101)/5/ (In494A4-18-2/Mow7718/4/Sturdy/Kaw)/6/2163	KS92PO263-137	"
26*	WX12907/4/Tam108/5/(Sturdy/2/ Coker 68-15/Mow7510/3/Tam101)	KS92PO363-134	"
27*	W8447D/W2436//W3420	KS92PO425-155	"
28	Dular/Eagle//2*Cheney/Larned/3/Colt	KS89H48-1	"
29	NE69565//NE65671/NE69655/3/Homestead /4/Ctk/3/At66/Cmn//TX2607-6	N87V106	NE, USDA
30	Centura/Dawn//Colt sib	NE88584	Nebraska
31*	KS83H2510/Brule composite	NE90479	"
32*	Brule seIn/4/Bez 1/3/Ctk//Arthur/Ctk78	NE90524	"
33*	Rodeo/Brule seIn//Arapahoe	NE90574	"
34*	Quantum Hybrid Wheat	XH1455	HybriTech
35*	" " "	XH1485	"
36*	" " "	XH1520	"
37*	" " "	XH1529	"
38*	" " "	XH1610	"
39*	W81-133/Thunderbird (Ponderosa)	W87-017-44	Agripro
40*	TX81V6187/Abilene (Ogallala)	W189-055	"
41	TAM-107/TAM-105	T13	Trio
42*	T14//Brule/TAM-108	T4731	"
43*	Coker 68-151/TAM-107	T70	"
44*	Osage/TAM-105	T64	"
45*	HRW Hybrid	TH905	"

* New Entry
** New Seed Provided

TEST SITE INFORMATION - SRPN

Clovis, NM -- The irrigated nursery was planted on 9/21/92 in fallow land that was in sorghum during 1991. Plots were irrigated on 9/17/92, 2/16/93, 4/19/93, 5/14/93 and 5/31/93. Fertilizer rates consisted of 180 lbs/a N and 30 lbs/a P_2O_5 . Seeding rate was 90 lbs/a. Harvested on June 24, 1993. The dryland nursery was planted on 9/15/92 at a rate of 40 lbs/a. Fertilizer rates were 6 lb/a N and 30 lb/a P_2O_5 . Extremely dry conditions from January to harvest caused the dryland nursery to ripen very quickly. Precipitation from July, 1992 through June, 1993 was 11.8 inches, compared with the long term average of 16.7 inches. Harvested June 16, 1993.

Farmington, NM -- Fertilizer of 136 lbs/a N was applied through the center pivot irrigation water.

Bushland, TX -- The nursery was seeded late. Due to dry fall conditions it did not emerge until after January 1.

Chillicothe, TX -- No additional information.

Prosper, TX -- The winter was mild and wet, followed by a wet spring. Barley yellow dwarf was present and erratically distributed over the field, contributing to a higher than normal CV. Test weights were quite low. Approximate ripeness date: June 7.

Stillwater, OK -- Leaf rust and septoria leaf blotch were factors at all sites in Oklahoma except for Goodwell.

Lahoma, OK -- The nursery experienced substantial hail damage in early June, prior to harvest.

Altus, OK -- Nursery was not planted due to extended wet conditions.

Goodwell, OK -- The nursery experienced some Russian wheat aphid damage.

Hutchinson, KS -- No additional information.

Manhattan, KS -- Eighteen inches of rain and flooding in July destroyed the nursery. Prior to this, the nursery was in excellent condition. Septoria and leaf rust were the primary leaf diseases.

Hays, KS -- The nursery experienced high winds in late June, just prior to harvest. Substantial shattering occurred and affected yields. Levels of shattering varied among entries. The nursery was considered ripe on 7/3/93.

Garden City, KS -- The nursery had excellent moisture. Leaf rust was present, but no insect pressure. Nursery was harvested on July 29.

Colby, KS – The nursery was planted on 9/18/92 and received 40 lbs/a N in the spring. Good stands were obtained in the fall and the nursery was snow covered from late November through March with no winterkill. Spring was wet until June, when it turned warm and dry. High wind, hail, and heavy rain occurred on July 6, causing severe lodging and shattering.

Ft. Collins, CO – No additional information provided.

Julesburg, CO – No additional information provided.

Akron, CO – No additional information provided.

Walsh, CO – The nursery was abandoned.

Burlington, CO – No additional information provided.

Lincoln, NE – Nebraska was affected by a cooler than normal growing season and above average rainfall throughout most of the state, leading to a higher incidence of foliar diseases in eastern Nebraska. Leaf rust, BYDV, and scab were prevalent at Lincoln. The Lincoln nursery was abandoned due to extended rains in July.

Clay Center, NE – The nursery was abandoned due to extended rains in July.

North Platte, NE – No additional information.

Sidney, NE – The nursery was abandoned due to hail damage in June.

Hemingford, NE – No additional information.

Brookings, SD – Planted on 9/19/92 and harvested on 8/5/93. Approximate ripeness date of 8/1/93. The nursery planted into summer fallow ground with good soil moisture. Cool, wet weather contributed to the lateness of the crop (approximately 2 weeks later than normal). Leaf rust was observed in the nursery in June, yet its continued development and spread was prevented by cool and wet weather in July. A high level of scab was observed and responsible for significant reductions in both yield and test weight.

Pierre, SD – Planted on 9/15/92 and harvested on 7/28/93. Approximate ripeness date of 7/25/93. The nursery was planted in good soil moisture on no-till lentil stubble. Cool, wet weather and the absence of foliar pathogens during grain filling contributed to a two-week delay in harvest and exceptionally high yields.

Winner, SD – Planted on 9/14/92 and harvested on 8/2/93. Approximate ripeness date of 7/29/93. The nursery was planted into summer fallow ground with good soil moisture. Cool, wet weather and the absence of foliar pathogens during grain filling contributed to a two-week delay in harvest and exceptionally high yields.

Columbia, MO -- Planted on 10/1/92 with seeding rate of 1.5 bu/a. Fall fertilizer consisted of 40-40-40, with additional 80 lbs/a N applied on 3/31/93. Cool wet spring and virus disease complex worsened as the season progressed. Leaf rust and scab were present in addition to diseases noted. Rains delayed harvest of the nursery until 7/12/93. Average ripeness date was June 30.

Crawfordsville, IA -- Planted on 10/2/92 in moist soil following soybeans. Adequate moisture during the fall allowed for good stand establishment. Snow cover and mild winter provided for good winter survival. Diseases reduced yields and test weights due to cool weather and heavy rains during 1993.

Lind, WA -- The nursery was abandoned.

Aberdeen, ID -- Growing conditions were cool for the whole year. Frost damage reduced yield an estimated 15-20% on wheats with maturity similar to Meridian, the local check. Most nursery entries were earlier than Meridian and were likely not affected. The nursery was planted on 9/21/92 and harvested between 8/13 and 9/4/93. The SRPN received a total of 29.7 inches of moisture; 16.25 inches supplied by irrigation. N was applied at 160 lbs/a. The NRPN received a total of 25.2 inches of moisture; 11.8 inches supplied by irrigation. The NRPN received 110 lbs/a N.

Table 1. Yield and agronomic data for 45 wheats in the Southern Regional Performance Nursery in 1993.

CLOVIS (DRYL.)

NEW MEXICO

THREE REPLICATIONS

C.I. OR SEL. NO.	: ENTRY: NO.	: YIELD : KG/HA	: VOLUME : WEIGHT : KG/HL	: PLANT : HEIGHT : CM	: DAYS TO : HEADING : FROM 1/1
NE88584	30	1506	68.8	49	120
T70	43	1366	66.3	51	121
TAM-107	3	1327	62.7	49	117
TX90V8410	13	1168	68.2	52	119
TX89A7141	17	1141	70.7	46	119
CO880210	20	1098	71.1	51	119
TX91V4931	12	1084	72.3	47	118
KS92P0263-137	25	1031	66.7	47	120
KS92P0425-155	27	1022	63.8	45	118
KS92P0363-134	26	971	64.4	51	120
WI89-055	40	947	57.7	46	117
XH1529	37	937	63.3	47	117
TX89A7137	11	927	64.8	49	119
Scout66	2	864	66.3	52	120
XH1455	34	797	62.4	47	123
XH1520	36	788	67.4	52	119
T13	41	756	71.7	45	119
TX88A6480	8	745	69	49	119
XH1610	38	723	66.7	46	125
NE90574	33	714	63	50	120
CO880169	19	708	69.1	47	119
XH1485	35	707	67	51	120
KS89H48-1	28	700	68	45	118
W87-017-44	39	659	70.6	45	118
NE90524	32	658	69.4	51	120
TX90V7911	14	657	68.8	42	117
KS831374-142	22	635	69.8	45	117
NE90479	31	626	73	47	121
TX88A6533	9	610	60.8	47	119
TX91V3308	16	595	64.5	47	120
CO880240	21	582	64.5	44	127
N87V106	29	563	67.6	45	120
CO880054	18	541	63.3	47	120
Kharkof	1	532	63.6	56	129
KS92P059E	24	519	60.9	43	127
KS84063-9-7	23	498	68.5	47	122
OK88767-24	7	496	71.2	48	118
OK88767-02	5	485	69.1	43	119
OK88767-11	4	474	72.6	45	119
TH905	45	445	61.7	44	119
TX90D9277	10	439	62.4	41	127
T64	44	432	70.2	40	119
OK88767-15	6	431	68.1	47	120
MEAN		765			
LSD(.05)		578			
C.V.		46.5			

CLOVIS (IRR.)
NEW MEXICO
THREE REPLICATIONS

C.I. OR SEL. NO.	: ENTRY: : NO. :	: YIELD : KG/HA :	: VOLUME : WEIGHT : KG/HL :	: PLANT : HEIGHT : CM :	: DAYS TO : HEADING : FROM 1/1 :
TX89A7141	17	7254	67.9	78	122
T13	41	6710	71.3	76	122
TX89A7137	11	6566	70.5	81	121
CO880210	20	6524	72.5	75	124
XH1485	35	6435	69.2	76	125
TX88A6533	9	6398	74.1	77	121
TAM-107	3	6372	70.4	75	120
TX90V8410	13	6241	65.4	79	125
T70	43	6203	64.6	79	123
CO880054	18	6161	67	75	126
XH1455	34	6009	67.4	75	124
TX91V4931	12	5870	66.8	77	120
OK88767-11	4	5866	69.1	75	120
CO880169	19	5786	69.8	74	125
OK88767-24	7	5701	70.1	78	120
XH1520	36	5646	68.7	80	121
XH1529	37	5587	72.4	77	120
OK88767-15	6	5549	68.3	74	122
KS92P0263-137	25	5528	66.2	79	125
TX88A6480	8	5507	68.6	78	124
T64	44	5486	71.8	78	120
NE90479	31	5435	65.4	79	124
WI89-055	40	5431	70	77	122
NE90524	32	5406	67.6	83	125
KS89H48-1	28	5288	71	76	123
KS92P059E	24	5178	68.5	72	125
NE90574	33	5072	69.7	80	125
KS92P0425-155	27	5034	67.3	67	125
CO880240	21	4874	69.1	77	130
XH1610	38	4832	66.3	73	125
N87V106	29	4802	71.1	83	120
KS92P0363-134	26	4790	66.7	75	125
W87-017-44	39	4785	71.4	76	121
Scout66	2	4739	69.1	88	124
TX90V7911	14	4423	70.9	71	120
TH905	45	4389	66.3	82	120
TX90D9277	10	4380	68.3	75	125
KS831374-142	22	4279	70.3	74	120
OK88767-02	5	4241	68.4	80	123
TX91V3308	16	4169	62.3	78	125
KS84063-9-7	23	4093	68.9	80	125
T4731	42	4089	62.3	77	125
TX91V5739	15	3604	66.2	74	120
NE88584	30	3591	68.8	82	125
Kharkof	1	2557	72.5	87	132

MEAN	5264
LSD(.05)	1105
C.V.	12.9

FARMINGTON
NEW MEXICO
FOUR REPLICATIONS

C.I. OR SEL. NO.	: ENTRY: : NO. :	: YIELD : : KG/HA :	: VOLUME : : WEIGHT : : KG/HL :	: PLANT : : HEIGHT : : CM :	: LODGING : : % :
TX88A6533	9	8402	78	97	58
TAM-107	3	8231	77.2	99	68
TX89A7137	11	8097	76.8	95	50
TX89A7141	17	8060	77.4	91	58
WI89-055	40	7816	79	91	25
TX90V8410	13	7413	76.9	95	100
T13	41	7047	76.9	97	73
XH1529	37	6705	78.7	90	38
OK88767-24	7	6644	77.2	94	10
T70	43	6631	77.6	101	93
CO880210	20	6497	76.9	97	88
TX91V3308	16	6460	75.9	102	45
CO880054	18	6363	76.8	96	53
XH1520	36	6351	76.6	104	68
KS92P0263-137	25	6155	76.9	102	56
NE90524	32	6021	77.6	101	65
TX88A6480	8	5996	76.6	100	70
KS89H48-1	28	5838	76.8	102	69
XH1485	35	5825	77.7	97	79
KS92P059E	24	5801	74.5	93	60
OK88767-11	4	5752	78.2	91	13
NE88584	30	5740	77.1	100	65
TX91V4931	12	5703	78.2	91	63
KS92P0363-134	26	5630	75.5	93	25
TH905	45	5618	75.6	98	50
XH1610	38	5581	76.3	102	65
KS84063-9-7	23	5520	76.8	102	40
T4731	42	5496	74.3	95	63
XH1455	34	5471	77.1	99	90
W87-017-44	39	5410	77.4	100	10
KS92P0425-155	27	5386	75.9	92	93
CO880240	21	5374	75.6	100	83
KS831374-142	22	5190	76.6	93	50
NE90479	31	5129	77.9	94	65
TX90V7911	14	5093	77.9	93	50
TX90D9277	10	5044	75.5	102	55
CO880169	19	4995	76.1	102	73
N87V106	29	4983	75.8	107	55
TX91V5739	15	4934	76.3	83	10
OK88767-02	5	4775	76.4	93	8
T64	44	4690	77.4	97	53
OK88767-15	6	4629	76.6	89	0
NE90574	33	4629	75.9	102	93
Scout66	2	4250	76.9	107	98
Kharkof	1	3151	76.4	102	90

MEAN	5878
LSD(.05)	1458
C.V.	17.7

BUSHLAND (IRR.)
TEXAS
THREE REPLICATIONS

C.I. OR SEL. NO.	: ENTRY: NO.	: YIELD KG/HA	: VOLUME WEIGHT KG/HL	: PLANT HEIGHT CM	: DAYS TO HEADING FROM 1/1:	: LODGING %
XH1529	37	8393	82.6	83	121	0
TX90V8410	13	8323	81.3	85	126	0
KS92P0425-155	27	8081	65.8	82	129	0
TX90V7911	14	8009	81.3	84	124	0
TX88A6533	9	7960	81.3	83	126	0
XH1485	35	7855	80	86	127	0
XH1520	36	7835	78.7	88	124	0
TX91V4931	12	7810	82.6	81	123	0
KS92P059E	24	7678	77.4	84	127	0
XH1610	38	7660	78.7	87	127	0
TX88A6480	8	7658	81.3	84	124	0
XH1455	34	7505	80	87	126	3
CO880210	20	7357	78.7	88	127	0
TX89A7141	17	7346	78.7	83	123	0
WI89-055	40	7303	81.3	79	124	0
T64	44	7294	78.7	80	126	0
TX89A7137	11	7243	78.7	81	124	0
CO880169	19	7241	78.7	93	127	0
NE90524	32	7216	81.3	93	127	0
NE90479	31	7207	81.3	98	128	0
T70	43	7176	80	81	127	0
KS89H48-1	28	7113	80	88	125	0
TX91V5739	15	7032	80	91	123	5
NE90574	33	6864	77.4	99	128	0
NE88584	30	6855	80	98	128	0
KS92P0263-137	25	6772	80	88	126	0
TAM-107	3	6747	78.7	83	123	0
T13	41	6662	77.4	87	127	0
TX91V3308	16	6638	77.4	85	126	0
T4731	42	6620	74.8	81	126	0
W87-017-44	39	6534	81.3	84	125	0
CO880240	21	6478	78.7	99	134	0
OK88767-24	7	6434	80	76	123	0
KS831374-142	22	6431	78.7	79	123	0
OK88767-11	4	6389	80	75	123	0
TH905	45	6344	77.4	87	124	0
Scout66	2	6185	81.3	98	128	17
KS84063-9-7	23	6149	78.7	93	128	0
OK88767-15	6	6068	80	77	125	0
N87V106	29	6055	78.7	88	124	0
KS92P0363-134	26	6030	77.4	85	127	0
TX90D9277	10	6026	77.4	91	129	3
CO880054	18	6021	80	87	128	0
OK88767-02	5	5833	80	78	125	0
Kharkof	1	4252	76.1	116	137	37
MEAN		6948				
LSD(.05)		667				
C.V.		5.9				

CHILLICOTHE
TEXAS
THREE REPLICATIONS

C.I. OR SEL. NO.	: ENTRY: NO.	: YIELD KG/HA	: VOLUME KG/HL	: PLANT HEIGHT CM	: DAYS TO HEADING FROM 1/1
TX91V3308	16	5671	76.3	81	119
XH1529	37	5671	78.3	76	116
KS84063-9-7	23	5436	79.2	89	120
TX91V5739	15	5349	78	89	116
TX90V7911	14	5239	79.5	84	123
KS92P0425-155	27	5216	74.9	74	120
XH1455	34	5194	79.8	86	117
KS92P0263-137	25	5163	78.7	82	120
NE90524	32	5122	79.3	95	120
XH1520	36	5035	78.6	84	117
OK88767-11	4	4997	77.7	72	115
TX90D9277	10	4988	77.4	83	120
KS92P059E	24	4927	76.8	81	119
W87-017-44	39	4833	78.9	81	121
KS831374-142	22	4826	77.7	75	116
KS92P0363-134	26	4817	77.9	83	120
WI89-055	40	4811	78.9	75	119
TX91V4931	12	4797	82	76	117
XH1610	38	4748	77.4	81	117
N87V106	29	4723	78.6	87	118
TX90V8410	13	4721	77.3	77	118
OK88767-24	7	4716	78.9	69	115
TX89A7141	17	4656	74.9	77	116
OK88767-15	6	4651	78.9	66	116
TX89A7137	11	4640	75.9	77	117
T4731	42	4636	73	79	119
OK88767-02	5	4620	78.8	73	116
XH1485	35	4618	77.6	84	119
CO880054	18	4582	75.1	79	119
TH905	45	4553	77	84	117
NE90479	31	4548	79.9	89	124
KS89H48-1	28	4492	78.5	88	124
CO880210	20	4474	75.9	79	119
CO880169	19	4432	77.1	86	119
TX88A6480	8	4430	76.1	74	117
T70	43	4400	77.8	76	118
NE88584	30	4356	78.6	95	120
T64	44	4268	77.7	87	121
NE90574	33	4199	75.6	91	124
CO880240	21	4185	76.7	89	127
TAM-107	3	4055	74.2	73	115
Scout66	2	3916	79.3	103	124
T13	41	3818	73.7	80	124
TX88A6533	9	3795	75.7	73	124
Kharkof	1	3002	78.3	105	132

MEAN	4674
LSD(.05)	304
C.V.	4.0

PROSPER
TEXAS
THREE REPLICATIONS

C.I. OR SEL. NO.	: ENTRY: NO.	: YIELD KG/HA	: VOLUME KG/HL	: PLANT HEIGHT CM	: DAYS TO HEADING FROM 1/1:	: LEAF RUST: SEV.: %	: RESP: 0-9:	: BYDV 0-9
XH1529	37	5100	72.8	90	103	20	8	1
TX90D9277	10	4900	71.1	94	109	2	2	3
KS92P0263-137	25	4829	71.3	87	110	30	5	0.7
KS92P0425-155	27	4817	70.7	83	110	50	8	1
TX91V4931	12	4761	73.7	88	108	97	8	2.7
KS831374-142	22	4725	72.4	87	106	93	8	1
OK88767-11	4	4699	73	87	102	17	5	1.7
XH1455	34	4672	72.5	90	108	40	8	1.7
OK88767-24	7	4663	73	86	103	8	5	2.3
KS92P0363-134	26	4651	71.1	88	110	0	2	1
WI89-055	40	4642	72.9	85	109	13	7	1.3
KS92P059E	24	4598	69	88	109	27	7	0.7
NE90524	32	4553	70.8	101	110	23	5	1
XH1520	36	4535	73	92	106	50	8	0.7
XH1610	38	4488	71	93	107	20	8	1.7
N87V106	29	4450	71.1	91	108	37	7	1
OK88767-15	6	4423	72.6	86	104	0	2	2
TX91V3308	16	4342	69.3	88	105	17	3	1
KS84063-9-7	23	4317	71.6	93	111	2	2	1.7
TX89A7141	17	4255	70	92	103	97	8	1.7
TX91V5739	15	4243	69.5	98	105	1	2	2
CO880210	20	4208	69.7	89	106	67	8	2.3
OK88767-02	5	4172	72.6	92	105	4	2	1.7
TX88A6480	8	4172	68.4	83	102	93	8	1.7
TH905	45	4170	70.8	98	106	40	7	2.7
TX90V8410	13	4167	69.3	88	109	33	7	1
XH1485	35	4161	71.1	93	110	93	8	1
TX89A7137	11	4158	69.8	88	103	83	8	2.3
W87-017-44	39	4158	71.2	91	116	7	3	3
TAM-107	3	4131	69.3	88	103	97	8	2
T4731	42	4127	67	87	109	93	8	2
KS89H48-1	28	4071	70.7	101	119	90	8	1
CO880169	19	4017	70.7	95	110	77	8	1.7
CO880054	18	3959	68.4	89	108	53	7	2.7
TX90V7911	14	3827	68.6	102	118	12	3	2.7
T70	43	3791	71.6	83	108	67	8	3
NE90574	33	3764	67.9	101	119	87	8	0.7
NE90479	31	3714	70.8	103	118	67	8	0.7
Scout66	2	3605	70.4	114	122	93	8	2
TX88A6533	9	3551	69.1	84	115	97	8	1.7
T64	44	3515	70.2	91	116	57	7	1.3
NE88584	30	3484	69.4	105	113	33	7	1.7
CO880240	21	3275	69.8	97	119	73	8	2
T13	41	3015	70.8	93	119	97	8	2.7
Kharkof	1	1955	69.7	108	124	97	8	3.7

MEAN 4174
LSD(.05) 535
C.V. 7.9

STILLWATER
OKLAHOMA
THREE REPLICATIONS

C.I. OR SEL. NO.	: ENTRY: NO.	: YIELD KG/HA	: VOLUME WEIGHT KG/HL	: PLANT HEIGHT CM	: DAYS TO HEADING FROM 1/1
KS92P0425-155	27	3985	70.3	84	124
KS92P0263-137	25	3924	76	93	124
KS92P0363-134	26	3836	73.1	91	125
XH1529	37	3653	78	94	120
T4731	42	3635	69.9	91	124
KS84063-9-7	23	3599	74.4	98	124
KS92P059E	24	3574	72.8	86	124
XH1610	38	3511	75.7	98	123
OK88767-02	5	3501	76.6	91	121
W87-017-44	39	3481	74	88	125
TX91V3308	16	3463	71.1	94	123
WI89-055	40	3420	74.9	84	123
OK88767-15	6	3407	76.6	84	122
OK88767-11	4	3328	77.3	87	121
XH1455	34	3321	75.5	96	123
TX90V7911	14	3163	74.9	86	126
XH1520	36	3154	75.9	93	121
TH905	45	3142	75.3	91	122
TX90D9277	10	3120	75.1	89	125
OK88767-24	7	3081	73.9	88	121
NE90479	31	3024	78.2	90	126
N87V106	29	2887	71.9	90	122
XH1485	35	2855	74.9	98	124
KS831374-142	22	2846	76.1	87	121
KS89H48-1	28	2839	72.8	94	126
T70	43	2699	72.2	90	122
NE90574	33	2593	71.1	89	127
TX88A6533	9	2566	69.9	84	125
TX88A6480	8	2518	71.2	84	121
CO880054	18	2518	71.9	89	124
TX89A7141	17	2468	73.9	91	121
CO880210	20	2333	71.5	87	123
TX91V4931	12	2304	76.8	84	123
TAM-107	3	2295	71.6	87	121
NE88584	30	2292	77	92	126
TX89A7137	11	2287	72.6	84	121
NE90524	32	2283	75.1	89	126
CO880169	19	2227	71	90	124
T64	44	2095	71.3	89	126
TX90V8410	13	2073	74	83	125
CO880240	21	1946	68.5	92	131
T13	41	1915	68.2	86	126
TX91V5739	15	1558	68.9	83	120
Scout66	2	1406	76.2	91	127
Kharkof	1	1203	74.9	102	133

MEAN	2830
LSD(.05)	547
C.V.	11.9

LAHOMA
OKLAHOMA
THREE REPLICATIONS

C.I. OR SEL. NO.	: ENTRY: NO.	: YIELD : KG/HA	: VOLUME : KG/HL	: PLANT : HEIGHT CM	: DAYS TO HEADING FROM 1/1
OK88767-24	7	3335	69.7	83	127
OK88767-11	4	3146	69.4	85	127
TX91V3308	16	3046	64.2	85	130
OK88767-15	6	3038	72	75	127
OK88767-02	5	3021	73.3	83	127
KS92P0363-134	26	2917	65.8	93	131
XH1529	37	2901	68	90	126
XH1455	34	2816	68.5	88	129
KS92P0263-137	25	2773	66.3	90	131
KS831374-142	22	2649	67.5	80	127
TX90D9277	10	2589	67.3	88	131
KS92P059E	24	2581	62.7	90	130
XH1610	38	2579	66.3	88	129
N87V106	29	2538	64.5	85	130
KS84063-9-7	23	2443	62	93	131
WI89-055	40	2438	71.7	80	128
TX89A7141	17	2363	64.8	83	127
KS92P0425-155	27	2347	61.9	78	132
XH1485	35	2346	64.4	88	130
T4731	42	2346	59.9	83	131
TX89A7137	11	2314	62.8	83	128
TH905	45	2292	65.7	85	129
W87-017-44	39	2279	63.9	83	132
XH1520	36	2246	65.1	88	127
TX91V4931	12	2173	70.6	83	127
T70	43	2147	63.2	83	129
KS89H48-1	28	2076	65	88	132
NE90524	32	2069	66.4	95	132
TAM-107	3	2055	61.5	83	127
TX90V8410	13	2024	65.9	85	129
NE90479	31	1992	69.9	98	132
TX90V7911	14	1985	63.6	90	133
CO880054	18	1964	60.1	85	128
CO880210	20	1896	60.6	83	131
TX88A6533	9	1875	61.5	80	132
NE90574	33	1790	62.4	100	134
NE88584	30	1786	64.8	90	131
T64	44	1756	62.6	93	132
TX88A6480	8	1741	59	83	129
TX91V5739	15	1666	55.3	85	128
CO880169	19	1643	61.7	93	131
T13	41	1553	60.2	90	131
CO880240	21	1051	62.4	95	138
Scout66	2	935	65.5	100	136
Kharkof	1	315	61.9	105	141

MEAN	2218
LSD(.05)	286
C.V.	7.9

GOODWELL
OKLAHOMA
THREE REPLICATIONS

C.I. OR SEL. NO.	: ENTRY: NO.	: YIELD : KG/HA	: VOLUME : WEIGHT : KG/HL	: PLANT : HEIGHT : CM	: DAYS TO : HEADING : FROM 1/1
OK88767-11	4	7033	78.8	86	131
TX88A6480	8	6813	76.4	89	132
XH1529	37	6714	80.9	91	132
XH1485	35	6603	78.8	97	137
XH1520	36	6471	79.2	94	133
XH1610	38	6467	76.4	98	138
WI89-055	40	6456	80.1	86	137
XH1455	34	6380	77.5	96	138
OK88767-02	5	6240	79.1	92	133
TX90V7911	14	6180	77.1	93	139
TX91V4931	12	6138	80.6	95	138
KS92P0263-137	25	6117	79.5	97	137
NE90524	32	6087	78.7	107	138
NE90479	31	6082	79.3	103	136
T64	44	6077	78.6	99	138
W87-017-44	39	6074	79.2	92	136
OK88767-24	7	6051	77.1	87	133
TX89A7137	11	6050	76.4	92	135
KS92P0425-155	27	5970	74.8	87	137
TX90V8410	13	5947	76.9	90	138
OK88767-15	6	5915	78.3	80	138
KS92P059E	24	5914	77.8	93	138
TX91V3308	16	5887	76.1	93	139
CO880210	20	5881	76.1	96	137
TX88A6533	9	5871	77.5	86	136
T4731	42	5869	71.9	91	137
KS92P0363-134	26	5849	77.4	94	138
NE90574	33	5804	74.6	104	140
CO880169	19	5760	76.1	99	139
TH905	45	5757	77.5	96	133
KS89H48-1	28	5754	78.7	95	138
KS831374-142	22	5719	78.6	88	133
TAM-107	3	5716	75.6	90	132
CO880054	18	5684	76.1	93	140
TX90D9277	10	5565	74.7	91	140
KS84063-9-7	23	5510	77.1	94	139
T70	43	5478	77	89	139
TX91V5739	15	5404	77.5	94	133
TX89A7141	17	5377	77	86	132
T13	41	5343	73.9	97	137
N87V106	29	5242	77.8	94	136
CO880240	21	5195	76	97	142
Scout66	2	5141	77.8	105	138
NE88584	30	5029	79.5	110	141
Kharkof	1	3147	74.6	106	144
MEAN		5861			
LSD(.05)		678			
C.V.		7.1			

HUTCHINSON, KANSAS; THREE REPLICATIONS

C.I. OR SEL. NO.	: ENTRY: : NO. :	: YIELD : KG/HA :	: VOLUME : KG/HL :	: PLANT : HEIGHT : CM :	: DAYS TO : HEADING : : FROM 1/1:	: LODGING : % :	: LEAF RUST: : SEV.: : % :	: SEPTORIA: : RESP:TRITICI : 0-9:	: SEPTORIA : HEAD BL. : : 0-9 :	: GREEN LF : DURATION : 0-9 :
KS92P0363-134	26	3598	76.6	94	141	0	0 2	4	.	4
XH1529	37	3461	73.8	94	138	0	20 7	8	.	7
KS92P0263-137	25	3451	77.7	95	141	0	0 2	3	3	3
KS84063-9-7	23	3145	73.1	100	140	0	0 2	2	8	2
N87V106	29	3097	75.3	103	139	10	20 7	8	.	8
T4731	42	3097	71.5	91	140	10	40 8	9	.	9
KS92P0425-155	27	3079	69.7	84	142	0	1 5	5	.	5
XH1455	34	2936	74.2	99	140	0	10 8	7	.	7
KS92P059E	24	2894	66.8	93	141	0	0 2	5	5	4
NE90479	31	2811	76.9	104	140	0	40 8	8	.	7
TX90D9277	10	2775	70.6	98	141	0	0 2	.	2	5
KS831374-142	22	2655	73.7	86	137	0	40 8	7	3	7
OK88767-02	5	2649	75.5	92	139	0	0 2	8	2	8
XH1610	38	2649	74.1	100	141	0	10 3	9	.	8
TX91V3308	16	2590	74.3	92	141	0	10 7	5	6	5
XH1520	36	2572	74.4	94	139	0	20 8	8	.	8
WI89-055	40	2560	77.2	82	140	0	10 3	8	.	8
NE90524	32	2471	70.8	105	141	0	10 3	7	.	7
TH905	45	2447	74.3	100	140	0	20 8	7	.	7
OK88767-11	4	2423	72.1	88	137	0	0 2	8	2	8
OK88767-15	6	2333	74.2	81	139	0	0 2	8	2	7
TX90V7911	14	2291	71.7	93	142	10	10 7	6	2	5
XH1485	35	2291	73.8	96	140	0	30 8	9	.	8
KS89H48-1	28	2274	75.1	99	142	0	10 8	9	.	9
C0880240	21	2250	73.7	100	145	0	10 8	9	3	9
NE88584	30	2214	78.1	115	142	10	20 8	8	.	7
TX89A7137	11	2070	66.4	91	139	0	80 8	9	4	9
T70	43	2053	69.1	87	140	0	40 8	9	.	9
NE90574	33	2023	69.1	100	143	0	20 7	9	.	8
TX91V4931	12	1987	76.2	90	140	0	20 7	9	4	9
W87-017-44	39	1969	71.7	92	141	0	1 3	9	.	9
C0880169	19	1957	72.5	98	142	0	20 8	9	9	9
TX90V8410	13	1951	66.4	94	140	10	10 7	7	7	6
TX91V5739	15	1922	66	103	137	0	0 2	6	7	5
TX89A7141	17	1838	71.7	86	138	0	40 8	9	5	9
T64	44	1838	72.9	97	141	0	40 8	9	.	9
Scout66	2	1796	44.3	116	145	90	60 8	9	2	9
OK88767-24	7	1766	69	87	138	0	0 2	8	3	8
C0880054	18	1761	65.6	91	142	0	40 8	9	7	9
T13	41	1647	68	93	142	0	60 8	9	.	9
TX88A6533	9	1605	66.7	83	141	0	80 8	9	3	9
TAM-107	3	1450	66.8	87	139	0	80 8	9	2	9
C0880210	20	1432	66.8	91	142	0	60 8	9	4	9
TX88A6480	8	1331	62.7	90	140	20	80 8	9	2	9
Kharkof	1	376	51.9	122	150	100	50 8	8	3	9

MEAN 2306
LSD(.05) 513
C.V. 13.7

MANHATTAN, KANSAS; THREE REPLICATIONS

C.I. OR SEL. NO.	: ENTRY: NO.	: PLANT HEIGHT CM	: DAYS TO HEADING FROM 1/1:	: LEAF RUST SEV.: %	: SEEDLING RESP: 0-9:	: SEEDLING RUST: 0-9	: SEPTORIA LEAF RUST: 0-9	: GREEN LF TRITICI 0-9	: SEEDLING DURATION 0-9	: SEEDLING FLY 1-3
Kharkof	1	117	.	50	8	9	9	9	9	3
Scout66	2	113	145	20	8	8	9	9	9	3
TAM-107	3	87	139	60	8	5	8	9	9	3
OK88767-11	4	85	139	10	3	5	0	8	8	3
OK88767-02	5	87	140	5	3	3	1	7	8	1
OK88767-15	6	76	142	10	3	3	1	7	7	3
OK88767-24	7	85	139	10	3	3	3	7	8	3
TX88A6480	8	84	140	50	8	9	9	9	9	3
TX88A6533	9	83	143	40	8	3	9	9	9	2
TX90D9277	10	91	143	1	3	3	3	6	6	2
TX89A7137	11	88	141	30	8	8	8	9	9	3
TX91V4931	12	87	142	40	8	3	1	9	9	3
TX90V8410	13	86	143	40	8	3	1	9	9	3
TX90V7911	14	88	144	10	3	5	0	5	5	3
TX91V5739	15	95	139	5	3	9	2	8	9	3
TX91V3308	16	86	142	10	3	0	0	7	7	3
TX89A7141	17	85	138	60	8	8	8	9	9	3
CO880054	18	85	141	15	3	3	3	9	9	2
CO880169	19	95	140	10	3	9	3	9	9	3
CO880210	20	89	140	20	8	3	8	9	9	3
CO880240	21	102	149	5	3	3	8	9	9	1
KS831374-142	22	83	138	40	8	5	3	5	9	3
KS84063-9-7	23	94	142	5	3	7	3	3	2	3
KS92P059E	24	91	143	20	7	0	5	4	5	1
KS92P0263-137	25	91	142	20	7	5	3	3	4	1
KS92P0363-134	26	94	142	5	3	2	.	4	5	1
KS92P0425-155	27	86	144	30	8	2	8	7	8	1
KS89H48-1	28	93	144	30	8	2	4	8	9	1
N87V106	29	94	142	10	3	0	4	8	9	3
NE88584	30	105	144	60	8	2	5	9	9	2
NE90479	31	95	142	40	7	5	5	5	8	2
NE90524	32	102	144	15	3	2	2	7	8	2
NE90574	33	99	145	20	7	2	1	7	8	3
XH1455	34	98	142	10	3	2	2	8	8	3
XH1485	35	97	142	20	8	3	9	8	9	3
XH1520	36	95	139	10	3	.	7	9	9	3
XH1529	37	91	139	15	3	5	3	8	7	1
XH1610	38	95	139	5	3	2	8	9	9	3
W87-017-44	39	90	142	5	3	5	6	9	9	2
WI89-055	40	82	142	10	8	8	7	9	9	3
T13	41	91	144	80	8	7	9	9	9	3
T4731	42	86	143	40	8	5	9	9	9	1
T70	43	88	142	40	8	7	6	9	9	3
T64	44	92	141	50	8	8	4	9	9	3
TH905	45	94	140	30	8	8	8	9	9	3

COLBY
KANSAS
THREE REPLICATIONS

C.I. OR SEL. NO.	: ENTRY: NO.	: YIELD : KG/HA	: VOLUME : WEIGHT : KG/HL	: PLANT : HEIGHT : CM	: DAYS TO HEADING : FROM 1/1
XH1529	37	3065	74.4	88	141
XH1485	35	2887	73.6	93	143
XH1455	34	2822	75.6	93	144
OK88767-15	6	2696	76.2	81	143
XH1520	36	2624	74.8	93	142
TX91V4931	12	2610	76.8	87	142
TX88A6480	8	2608	71.9	86	142
KS89H48-1	28	2549	74	92	144
XH1610	38	2512	73.4	93	145
T64	44	2499	73.1	95	142
NE90479	31	2495	74.3	101	145
OK88767-02	5	2479	76.6	86	143
TAM-107	3	2434	70.8	91	141
KS92P059E	24	2429	71.6	85	146
TX88A6533	9	2346	73.4	81	144
CO880169	19	2299	72.6	91	146
T70	43	2279	73.3	86	145
TX90V8410	13	2254	72.5	89	145
T13	41	2179	71.6	91	143
TX91V5739	15	2174	70.2	92	143
OK88767-11	4	2167	73.6	86	142
CO880240	21	2156	73.1	96	148
OK88767-24	7	2101	75	84	142
CO880210	20	2038	72.5	86	143
TX89A7141	17	1988	70	89	142
Scout66	2	1948	74	113	144
TX90D9277	10	1941	71.3	89	146
TX90V7911	14	1830	73.4	89	145
TX89A7137	11	1816	69.7	89	142
KS92P0425-155	27	1768	71.8	85	148
KS831374-142	22	1681	72.6	86	142
NE90574	33	1604	71.3	101	145
NE90524	32	1542	73	107	145
CO880054	18	1487	68.8	90	146
WI89-055	40	1473	74.2	82	144
TH905	45	1434	71.3	95	142
NE88584	30	1415	73.5	113	145
KS92P0263-137	25	1382	71.3	87	145
N87V106	29	1264	73.7	91	143
Kharkof	1	1204	73.6	124	131
KS84063-9-7	23	1197	72.7	91	145
TX91V3308	16	1108	69.4	88	145
KS92P0363-134	26	801	68.2	91	145
T4731	42	693	67	91	145
W87-017-44	39	341	58.7	90	142
MEAN		1969			
LSD(.05)		346			
C.V.		10.8			

HAYS

KANSAS

THREE REPLICATIONS

C.I. OR SEL. NO.	: ENTRY: NO.	: YIELD KG/HA	: VOLUME WEIGHT KG/HL	: PLANT HEIGHT CM	: DAYS TO HEADING FROM 1/1
XH1529	37	5030	77	93	139
OK88767-11	4	4409	76.9	97	141
XH1520	36	4338	76.5	97	140
KS89H48-1	28	4158	75.7	101	142
XH1455	34	4145	76.5	101	143
TX89A7141	17	4073	74.2	96	141
TX88A6533	9	4048	74.4	86	143
TAM-107	3	4028	74.1	104	140
KS831374-142	22	3977	76.1	93	140
OK88767-15	6	3945	76.4	80	142
KS92PO425-155	27	3901	72.6	85	144
XH1485	35	3856	75.9	102	142
OK88767-02	5	3818	77	90	141
TX90V8410	13	3813	74	91	142
NE90479	31	3811	75.9	98	142
T13	41	3741	72	97	143
KS92PO263-137	25	3717	72.6	93	143
OK88767-24	7	3712	76.2	89	142
TX91V5739	15	3701	74.5	97	139
KS92PO59E	24	3674	69.7	91	144
TX88A6480	8	3658	74.5	89	142
T64	44	3598	74.9	98	142
T70	43	3589	74.6	91	143
TX89A7137	11	3571	73.2	93	141
CO880169	19	3566	73.1	102	143
WI89-055	40	3537	76.7	88	141
CO880210	20	3488	74	91	143
CO880240	21	3468	73.5	99	147
TX91V4931	12	3459	78	91	142
TX90V7911	14	3450	73.2	89	144
TH905	45	3360	72.8	101	141
NE90574	33	3199	70.6	102	143
TX90D9277	10	3109	71.3	91	144
CO880054	18	3040	71.7	92	144
Scout66	2	3031	76.3	119	145
XH1610	38	3020	72	95	143
KS92PO363-134	26	2887	73.6	97	143
W87-017-44	39	2589	75.6	93	142
T4731	42	2401	67.4	95	143
TX91V3308	16	2091	72.6	95	143
KS84063-9-7	23	2062	72.9	100	142
NE88584	30	2040	74.8	108	142
NE90524	32	2024	75.2	108	142
Kharkof	1	1986	74.2	113	151
N87V106	29	1892	74.9	102	140
MEAN		3422			
LSD(.05)		485			
C.V.		8.7			

GARDEN CITY
KANSAS
THREE REPLICATIONS

C.I. OR SEL. NO.	: ENTRY: NO.	: YIELD KG/HA	: VOLUME WEIGHT KG/HL	: PLANT HEIGHT CM	: DAYS TO HEADING FROM 1/1:	: LODGING %
KS92P0425-155	27	4980	74	79	143	0
XH1529	37	4655	78.7	86	139	0
T64	44	4590	77.8	90	140	0
XH1455	34	4498	79.6	89	140	0
T70	43	4482	79.6	86	141	2
NE90524	32	4461	77.8	101	140	0
KS89H48-1	28	4428	77.4	91	141	0
KS92P059E	24	4402	74.4	85	142	0
CO880210	20	4377	77.8	86	140	0
XH1485	35	4377	77.8	89	141	2
TX90V8410	13	4287	75.7	85	142	0
XH1610	38	4258	77.4	89	141	0
TAM-107	3	4256	76.1	85	139	2
KS92P0263-137	25	4225	78.7	84	141	0
TX90V7911	14	4130	77.8	85	141	0
NE90479	31	4105	79.6	95	141	0
Scout66	2	4090	78.3	108	141	0
WI89-055	40	4054	80	80	140	0
OK88767-11	4	4037	79.6	83	140	8
CO880240	21	4019	77.4	94	144	0
T4731	42	3976	75.7	89	141	0
TX89A7141	17	3907	77	83	139	0
KS831374-142	22	3907	77.8	85	138	0
KS92P0363-134	26	3891	76.5	88	141	0
CO880169	19	3885	78.3	92	142	2
T13	41	3858	76.1	85	141	0
XH1520	36	3854	78.7	86	139	7
NE90574	33	3847	76.5	99	142	0
TH905	45	3833	76.5	92	139	2
CO880054	18	3821	77	83	141	0
TX91V4831	12	3770	79.6	81	141	7
OK88767-24	7	3672	78.3	80	140	3
TX90D9277	10	3660	75.3	82	142	0
OK88767-15	6	3645	77	80	141	0
TX91V3308	16	3615	76.1	86	141	0
N87V106	29	3610	77	91	140	2
TX89A7137	11	3591	75.3	80	140	0
NE88584	30	3523	77.8	108	142	3
OK88767-02	5	3508	78.7	80	140	0
TX88A6480	8	3460	76.5	86	140	0
TX88A6533	9	3373	77	76	141	2
W87-017-44	39	3341	78.7	84	140	0
KS84063-9-7	23	3274	76.1	89	141	2
TX91V5739	15	3086	72.7	81	140	0
Kharkof	1	2836	74.4	108	146	2
MEAN		3943				
LSD(.05)		546				
C.V.		8.5				

FORT COLLINS

COLORADO

THREE REPLICATIONS

C.I. OR SEL. NO.	: ENTRY: NO.	: YIELD KG/HA	: VOLUME WEIGHT KG/HL	: PLANT HEIGHT CM	: DAYS TO HEADING FROM 1/1:	: LEAF RUST SEVERITY 0-9
TX91V4931	12	7373	83.7	97	148	0
XH1520	36	7012	80.6	102	150	1
NE88584	30	6998	81.3	112	150	1
XH1485	35	6797	79.1	104	152	3
TX90V8410	13	6780	80.2	91	151	1
XH1455	34	6728	78.6	107	151	3
KS92P0263-137	25	6559	79.1	104	151	0
WI89-055	40	6541	82.2	86	150	0
XH1529	37	6411	79.5	94	147	1
NE90524	32	6385	79.7	112	150	0
KS92P059E	24	6367	76.1	109	151	0
CO880210	20	6296	81.1	97	151	7
CO880054	18	6279	74.2	99	152	3
KS831374-142	22	6267	80.4	94	147	1
KS84063-9-7	23	6260	79.7	107	151	0
KS92P0363-134	26	6250	79.5	97	150	0
W87-017-44	39	6206	81.8	97	152	0
TX91V3308	16	6140	77	94	152	0
TX89A7137	11	6126	80.1	97	149	4
CO880169	19	6119	78	107	153	4
NE90574	33	6104	76	109	152	5
Scout66	2	6100	81.1	122	151	5
N87V106	29	6099	79.1	102	150	0
TX89A7141	17	6044	81.1	94	149	8
TX88A6480	8	6035	79.1	94	151	3
OK88767-15	6	6008	80.6	89	151	0
TX90V7911	14	5989	80.6	94	150	0
TAM-107	3	5972	78.6	102	149	9
TX90D9277	10	5917	79.2	102	152	0
TX88A6533	9	5912	82.4	89	150	3
KS92P0425-155	27	5882	75.7	86	151	0
KS89H48-1	28	5876	80.1	99	150	4
XH1610	38	5875	75.7	102	153	1
OK88767-24	7	5862	79.1	91	150	1
OK88767-02	5	5794	80.2	91	150	0
TH905	45	5777	78.9	94	151	2
CO880240	21	5758	75.7	109	156	3
OK88767-11	4	5716	77.8	91	150	0
YUMA	46	5707	78.6	97	152	4
T70	43	5613	76.1	86	154	1
T64	44	5512	79.5	89	154	7
TX91V5739	15	5264	81.3	94	148	0
T13	41	5246	78.6	94	150	9
NE90479	31	5123	82	107	152	0
JULES	47	5086	74.9	99	159	1
T4731	42	4961	72.4	94	153	1
Kharkof	1	4834	79.1	132	161	3
LAMAR	48	4549	80	102	153	1
CO840186	49	4345	77.8	99	159	7
MV16-85	50	4253	75.2	84	153	0

MEAN 5942
LSD(.05) 1207
C.V. 12.5

JULESBURG

COLORADO

THREE REPLICATIONS

C.I. OR SEL. NO.	: ENTRY: NO.	: YIELD KG/HA	: VOLUME WEIGHT KG/HL	: HAIL DAMAGE 0-9
KS92P059E	24	4632	73.9	1
XH1520	36	4620	77.1	0
XH1485	35	4531	76	0
XH1529	37	4411	77.5	0
OK88767-11	4	4335	77.3	0
KS92P0263-137	25	4297	76.5	0
TX90V8410	13	4247	75.9	0
OK88767-15	6	4219	78	0
NE90479	31	4217	79.1	0
NE90574	33	4200	73.9	0
TX91V4931	12	4122	79.6	1
TX88A6533	9	4119	77.1	0
XH1610	38	4093	75.1	0
XH1455	34	4054	77	0
MV16-85	50	4039	73.3	0
KS831374-142	22	4033	76.4	0
C0880210	20	4021	76.2	1
KS92P0425-155	27	4019	74.9	1
TX90D9277	10	3936	74.9	1
JULES	47	3905	72.6	0
T64	44	3832	76.5	0
OK88767-24	7	3824	78	0
KS89H48-1	28	3815	76.9	0
C0880169	19	3766	76.5	0
C0880240	21	3740	76	0
T13	41	3701	75.7	0
OK88767-02	5	3680	78.6	0
TAM-107	3	3636	74.4	1
YUMA	46	3614	74.6	1
TX91V5739	15	3562	75.2	0
TX89A7137	11	3542	75.2	3
NE90524	32	3540	77.8	3
T70	43	3532	77.9	1
TX88A6480	8	3526	74.4	1
WI89-055	40	3485	78.3	2
KS92P0363-134	26	3440	74.4	1
TX90V7911	14	3394	77.9	0
KS84063-9-7	23	3375	76.6	1
T4731	42	3374	71.6	1
TX89A7141	17	3362	75.2	1
C0880054	18	3262	74.7	1
LAMAR	48	3250	77.3	2
TH905	45	3242	74.8	1
N87V106	29	3163	76.8	2
TX91V3308	16	3098	75.2	2
W87-017-44	39	3050	77.5	4
Scout66	2	2914	77.4	1
C0840186	49	2710	76.5	0
NE88584	30	2095	77.3	3
Kharkof	1	1765	75.9	0

MEAN	3687
LSD(.05)	510
C.V.	8.5

AKRON

COLORADO

THREE REPLICATIONS

C.I. OR SEL. NO.	: ENTRY: NO.	: YIELD : KG/HA	: VOLUME : WEIGHT : KG/HL	: DAYS TO : HEADING : FROM 1/1
XH1529	37	5224	73.9	148
CO880240	21	4932	74.6	151
XH1520	36	4841	73.9	151
TX89A7141	17	4816	73.4	148
CO880169	19	4812	72.4	151
CO880210	20	4779	75.9	148
T70	43	4767	75.9	151
KS831374-142	22	4764	73.4	148
T13	41	4691	76.1	150
YUMA	46	4665	71.9	151
TH905	45	4600	72.1	150
TX88A6480	8	4583	74.6	150
T64	44	4558	74.3	150
CO880054	18	4555	72.1	150
T4731	42	4533	69.9	151
KS89H48-1	28	4520	73.9	150
KS92P0263-137	25	4499	73.4	151
TX89A7137	11	4492	75.5	150
OK88767-24	7	4449	74.9	149
XH1485	35	4441	74.6	151
TX91V4931	12	4437	78.9	150
KS92P0425-155	27	4431	70.6	151
KS92P059E	24	4387	70.8	151
TAM-107	3	4386	73.4	147
NE88584	30	4359	74.6	151
OK88767-11	4	4352	74.3	148
TX90V8410	13	4339	74.6	151
KS84063-9-7	23	4307	74.6	151
TX91V3308	16	4298	72.1	150
NE90574	33	4286	72.8	152
LAMAR	48	4284	77.4	152
TX88A6533	9	4280	76.8	150
NE90524	32	4275	75.5	152
XH1455	34	4261	70.8	151
XH1610	38	4184	72.4	151
MV16-85	50	4148	70.3	151
WI89-055	40	4142	75.9	148
OK88767-02	5	4113	77	149
NE90479	31	4112	77.7	151
W87-017-44	39	4107	76.1	150
TX90V7911	14	4101	73	150
JULES	47	4090	70.8	153
TX91V5739	15	4035	72.4	148
KS92P0363-134	26	4027	69.3	152
OK88767-15	6	3984	76.5	150
N87V106	29	3936	72.1	150
Scout66	2	3918	76.5	150
TX90D9277	10	3897	71.2	151
CO840186	49	3677	76.1	151
Kharkof	1	3321	74.6	152

MEAN	4360
LSD(.05)	597
C.V.	8.4

BURLINGTON

COLORADO

THREE REPLICATIONS

C.I. OR SEL. NO.	: ENTRY: : NO. :	: YIELD : : KG/HA :	: VOLUME : : WEIGHT : : KG/HL :	: PLANT : : HEIGHT : : CM :	: LODGING : : 0-9 :	: LEAF RUST : : SEVERITY : : 0-9 :
XH1520	36	5765	75.7	91	0	1
XH1529	37	5574	77	86	0	1
KS92P0425-155	27	5568	73.9	76	0	0
T70	43	5201	75.1	86	0	1
MV16-85	50	5139	73	86	0	0
YUMA	46	5099	73.9	86	0	2
XH1610	38	5058	73.8	91	0	1
KS92P059E	24	5044	73.7	86	0	0
OK88767-11	4	5039	77.5	86	0	0
XH1485	35	5025	74.4	91	0	2
KS92P0263-137	25	5009	75.2	91	0	0
KS89H48-1	28	4972	75.5	91	0	1
WI89-055	40	4965	76.6	81	0	1
CO880240	21	4942	74.9	97	0	5
KS831374-142	22	4939	76.2	86	0	1
KS92P0363-134	26	4891	75.2	91	0	1
NE90479	31	4817	76.4	91	0	2
TX91V3308	16	4684	74.8	76	0	0
W87-017-44	39	4682	76.5	86	0	0
KS84063-9-7	23	4678	76.5	102	0	0
TAM-107	3	4670	75.3	86	0	7
T64	44	4646	76	91	0	5
TH905	45	4627	74.2	91	0	1
TX88A6533	9	4617	75.7	81	0	3
NE90574	33	4612	73.4	97	0	5
XH1455	34	4608	77	86	0	1
NE90524	32	4607	76.1	97	0	0
LAMAR	48	4606	76.4	102	2	1
CO880169	19	4599	76.5	97	0	2
T13	41	4582	74.4	86	0	7
CO880210	20	4555	75.5	86	0	7
TX88A6480	8	4466	75.2	86	0	1
T4731	42	4452	71.3	86	0	1
JULES	47	4376	74	91	0	1
TX90D9277	10	4319	73.7	91	0	1
TX91V5739	15	4305	73.9	91	0	0
TX89A7141	17	4303	75.5	91	0	3
TX90V7911	14	4251	75.6	86	0	0
CO880054	18	4193	73.9	91	0	2
TX89A7137	11	4182	74.4	91	0	5
NE88584	30	4158	76.5	107	1	1
TX91V4931	12	4141	79.2	86	0	1
OK88767-24	7	4135	76.9	81	0	1
OK88767-15	6	4111	76.8	86	0	0
OK88767-02	5	4076	77	86	0	0
Scout66	2	3966	77.5	112	3	2
N87V106	29	3891	76.6	91	0	0
TX90V8410	13	3856	74.3	91	0	1
CO840186	49	3285	75.6	86	0	8
Kharkof	1	2903	76	127	2	2

MEAN 4584
LSD(.05) 676
C.V. 9.1

NORTH PLATTE
NEBRASKA
THREE REPLICATIONS

C.I. OR SEL. NO.	: ENTRY: NO.	: YIELD : KG/HA	: VOLUME : WEIGHT : KG/HL	: PLANT HEIGHT CM
KS92P0425-155	27	4640	74.6	81
TX88A6533	9	4465	77.1	77
XH1455	34	4382	77.5	95
TX90V8410	13	4351	75.6	84
KS92P059E	24	4313	72.2	85
KS89H48-1	28	4302	76.5	95
XH1529	37	4268	76.8	85
T4731	42	4223	70.4	89
XH1485	35	4185	76.4	93
T64	44	4161	76.6	88
XH1520	36	4109	76.4	94
XH1610	38	4107	75.9	91
KS92P0363-134	26	4044	74.3	89
NE90574	33	4035	74.2	95
T13	41	4008	74.9	90
WI89-055	40	3999	78	84
KS92P0263-137	25	3945	76.6	89
TX89A7141	17	3941	73.8	85
KS831374-142	22	3894	76	83
C0880240	21	3862	75.7	93
TX89A7137	11	3815	73.4	88
NE90479	31	3784	77.3	86
NE90524	32	3782	75.6	94
OK88767-24	7	3753	76.8	84
C0880054	18	3730	74	89
TX88A6480	8	3726	74.3	80
TX90D9277	10	3714	74.8	88
TX91V4931	12	3708	80	85
TAM-107	3	3699	75.1	86
TH905	45	3688	73.7	90
W87-017-44	39	3683	76.5	89
OK88767-15	6	3667	77.7	79
OK88767-11	4	3602	77	79
NE88584	30	3562	75.3	104
C0880169	19	3486	76.1	97
T70	43	3472	76.5	81
N87V106	29	3387	75.9	89
C0880210	20	3246	76.8	85
TX91V3308	16	3161	74.4	83
TX90V7911	14	3132	76.5	77
OK88767-02	5	3060	77.4	83
Scout66	2	3020	75.7	103
KS84063-9-7	23	2804	75.3	85
TX91V5739	15	2755	74	80
Kharkof	1	2636	.	109

MEAN	3762
LSD(.05)	655
C.V.	10.7

HEMINGFORD

NEBRASKA

THREE REPLICATIONS

C.I. OR SEL. NO.	: ENTRY: NO.	: YIELD KG/HA	: VOLUME WEIGHT KG/HL	: PLANT HEIGHT CM
XH1520	36	5481	79.5	85
XH1529	37	5138	80.5	80
TX90D9277	10	5102	76.8	88
T70	43	5080	80.6	82
CO880210	20	5006	81.4	84
NE90524	32	4985	78.8	91
CO880169	19	4950	79.7	89
KS92P059E	24	4945	77.8	82
CO880240	21	4889	80	88
T4731	42	4889	74.4	84
XH1485	35	4885	79.6	87
KS92P0363-134	26	4880	75.5	84
TX89A7137	11	4858	77.1	83
NE90574	33	4855	77.4	88
XH1610	38	4831	78.7	84
TX89A7141	17	4806	78.9	80
KS92P0425-155	27	4797	78.2	72
T13	41	4793	79.1	82
XH1455	34	4770	80.5	82
KS92P0263-137	25	4759	80.1	75
NE88584	30	4687	79.2	97
TX90V8410	13	4849	79.3	81
KS89H48-1	28	4524	77.5	89
TAM-107	3	4508	77.9	84
CO880054	18	4497	78.8	84
TX88A6533	9	4495	79.7	73
T64	44	4479	79.7	80
NE90479	31	4427	80.1	91
OK88767-11	4	4403	79.2	78
Scout66	2	4322	80.4	104
TH905	45	4275	77.4	94
TX90V7811	14	4250	80	81
OK88767-24	7	4100	78.4	76
KS831374-142	22	4080	77.3	76
WI89-055	40	3936	79.3	76
TX88A6480	8	3820	77.4	78
N87V106	29	3811	78.4	84
KS84083-9-7	23	3762	77.8	85
OK88767-02	5	3735	79.5	79
OK88767-15	6	3726	79.1	73
TX91V4931	12	3717	77.4	81
TX91V3308	16	3717	75.7	80
TX91V5739	15	3712	78.7	77
W87-017-44	39	3441	78.7	83
Kharkof	1	3176	78.7	118

MEAN	4465
LSD(.05)	641
C.V.	8.8

BROOKINGS

S. DAKOTA

THREE REPLICATIONS

C.I. OR SEL. NO.	: : NO.	: YIELD : KG/HA	: VOLUME : WEIGHT : KG/HL	: PLANT : HEIGHT : CM	: DAYS TO : HEADING : FROM 1/1:	: LEAF RUST : RESPONSE : 0-9
KS92P0363-134	26	3498	71.3	68	163	3
T4731	42	3233	66.7	71	163	7
NE90574	33	3172	71.3	78	163	4
TX90D9277	10	3033	69.7	71	162	5
KS92P059E	24	2859	67.5	67	162	3
KS92P0263-137	25	2833	71	66	163	3
TX91V3308	16	2806	67.9	64	160	8
N87V106	29	2803	70.4	67	162	6
KS92P0425-155	27	2728	65.8	70	165	4
NE88584	30	2709	73.8	81	161	5
CO880240	21	2706	70.6	72	165	4
XH1529	37	2697	73.7	65	160	4
WI89-055	40	2652	72.8	61	161	5
XH1455	34	2641	71.5	74	163	4
XH1520	36	2538	73.1	77	159	4
XH1610	38	2476	70.2	67	162	5
TH905	45	2465	72.4	70	160	8
XH1485	35	2432	72.6	72	160	5
W87-017-44	39	2417	72.2	68	159	7
NE90479	31	2380	74.6	75	158	5
OK88767-15	6	2272	71.1	62	163	5
KS84063-9-7	23	2248	68.4	68	161	4
OK88767-11	4	2206	68.8	61	159	5
TX90V7911	14	2180	69.3	67	163	3
CO880169	19	2137	68.6	70	162	6
T64	44	2075	69.3	72	161	8
KS89H48-1	28	2051	73.8	73	159	6
KS831374-142	22	1979	71.5	64	161	6
OK88767-24	7	1954	67.1	63	162	5
Scout66	2	1953	72.4	89	161	7
NE90524	32	1945	66.7	78	164	5
TX91V4931	12	1924	73.8	67	163	3
OK88767-02	5	1880	73.3	63	164	5
T13	41	1786	68	66	159	7
TX89A7137	11	1758	66	63	161	5
TX89A7141	17	1683	65.7	62	161	7
TX90V8410	13	1612	66.2	63	164	3
CO880054	18	1562	64.4	64	164	6
CO880210	20	1512	67	65	164	4
T70	43	1430	66	64	162	6
Kharkof	1	1416	68.8	99	169	5
TAM-107	3	1296	67.5	62	159	8
TX88A6533	9	1244	65.8	62	164	3
TX88A6480	8	1214	63.7	63	162	5
TX91V5739	15	1172	65.7	65	160	6

MEAN	2213
LSD(.05)	710
C.V.	19.7

PIERRE

S. DAKOTA

THREE REPLICATIONS

C.I. OR SEL. NO.	: : NO.	: YIELD : KG/HA	: VOLUME : KG/HL	: PLANT : HEIGHT : CM	: DAYS TO : HEADING : FROM 1/1:	: LODGING : 0-9
OK88767-11	4	7644	82.8	87	151	4
KS92P0263-137	25	7215	74.2	86	154	4
T70	43	7003	75.3	93	152	3
OK88767-24	7	6993	76.6	87	152	5
XH1455	34	6979	74.9	93	152	6
TX88A6533	9	6966	76.2	83	151	5
OK88767-15	6	6726	82.8	82	152	3
KS831374-142	22	6668	77.1	87	152	5
XH1485	35	6634	75.1	92	152	6
OK88767-02	5	6627	81.7	91	151	3
XH1529	37	6625	79.7	89	152	4
CO880210	20	6497	78	88	151	6
KS92P0425-155	27	6464	71.5	78	155	4
KS92P059E	24	6423	70	88	152	3
XH1520	36	6418	75.5	94	150	5
TX91V3308	16	6411	74	91	154	4
T13	41	6384	74.2	88	150	6
TX89A7137	11	6210	73.3	84	151	6
TAM-107	3	6147	78.9	92	153	4
WI89-055	40	6056	76.8	89	150	4
NE90479	31	6012	78.2	96	152	4
TX91V4931	12	5984	79.3	84	151	6
TX89A7141	17	5973	74.4	84	151	6
XH1610	38	5954	78.2	94	152	4
T4731	42	5950	76	87	151	4
TX90D9277	10	5916	73.1	91	152	6
TX90V7911	14	5819	73.5	88	152	5
NE90574	33	5813	71.1	96	153	4
N87V106	29	5765	73.1	91	153	4
NE90524	32	5748	75.5	105	154	6
TX91V5739	15	5737	75.5	94	153	5
KS89H48-1	28	5734	78.4	90	151	6
TX88A6480	8	5662	71.9	81	151	5
CO880169	19	5662	72.8	97	153	5
TX90V8410	13	5603	69.7	87	150	5
T64	44	5525	75.7	88	151	4
TH905	45	5437	72.6	90	152	5
CO880054	18	5289	71.7	93	151	4
CO880240	21	5272	71.7	91	157	6
KS92P0363-134	26	5067	71.1	85	154	3
KS84063-9-7	23	4850	76	93	151	4
NE88584	30	3989	73.5	94	152	7
W87-017-44	39	3979	75.5	90	154	5
Scout66	2	3699	78.2	93	152	8
Kharkof	1	2676	73.5	92	161	7

MEAN 5916
LSD(.05) 878
C.V. 9.1

WINNER

S. DAKOTA

THREE REPLICATIONS

C.I. OR SEL. NO.	: ENTRY: NO.	: YIELD KG/HA	: VOLUME WEIGHT KG/HL	: PLANT HEIGHT CM
XH1520	36	4993	71.5	84
TX88A6480	8	4617	73.8	76
KS92P0425-155	27	4610	73.7	79
XH1529	37	4571	74.6	87
OK88767-02	5	4559	75.5	85
XH1610	38	4481	70	81
NE90524	32	4459	72	94
TX89A7137	11	4456	75.7	84
N87V106	29	4426	72.6	90
XH1485	35	4414	72.6	84
CO880169	19	4355	70	81
T4731	42	4347	72.8	77
NE88584	30	4340	72.8	78
T64	44	4321	77.5	76
XH1455	34	4253	72	87
KS92P0363-134	26	4201	73.3	74
TX91V3308	16	4184	73.3	82
KS89H48-1	28	4184	71.1	80
TX90D9277	10	4146	73.1	71
OK88767-11	4	4080	77.5	86
TX89A7141	17	4072	72.8	77
KS92P0263-137	25	4008	75.3	76
TX88A6533	9	3992	72.8	77
TX91V4931	12	3976	72	84
TAM-107	3	3969	70.6	84
W87-017-44	39	3921	72.6	82
KS84063-9-7	23	3917	74.8	77
NE90574	33	3914	74.9	91
TX90V7911	14	3910	69.8	87
TH905	45	3908	79.1	85
CO880054	18	3898	72.4	82
OK88767-24	7	3881	74.8	74
OK88767-15	6	3873	73.3	75
T70	43	3871	71.5	84
CO880240	21	3854	75.7	83
KS831374-142	22	3835	76	78
WI89-055	40	3829	77.3	80
T13	41	3809	72	82
Scout66	2	3785	73.5	104
TX90V8410	13	3692	75.3	87
TX91V5739	15	3643	73.7	79
Kharkof	1	3624	71.3	105
NE90479	31	3592	73.7	87
CO880210	20	3585	70.7	78
KS92P059E	24	3573	71.3	86

MEAN	4087
LSD(.05)	N.S.
C.V.	14.8

COLUMBIA, MISSOURI; THREE REPLICATIONS

C.I. OR SEL. NO.	: ENTRY: NO.	: YIELD KG/HA	: VOLUME KG/HL	: PLANT HEIGHT CM	: DAYS TO HEADING FROM 1/1:	: LODGING 0-9	: WINTER SURVIVAL %	: MILDEW %	: BYD VIRUS %	: SEPTORIA TRITICI %
T4731	42	3747	68.3	97	137	1	98	2	3	57
TAM-107	3	3669	70.7	95	134	1.3	99	0	4	63
KS92P0425-155	27	3327	69.4	88	138	2	98	3	2	37
KS92P0363-134	26	3126	70.2	95	137	0.7	98	11	4	43
N87V106	29	3063	70.5	101	135	1.7	98	7	4	48
KARL	46	2808	73.1	92	135	1	99	2	9	37
KARL92	49	2794	71.7	91	134	1.3	98	1	7	42
CARDINAL	47	2791	69.4	102	138	0.3	98	4	2	40
TX89A7137	11	2758	69.1	97	135	1	98	1	7	61
XH1455	34	2752	73	99	136	1.7	98	3	5	47
NE90574	33	2740	70	103	140	1.7	98	1	4	38
TX91V3308	16	2731	67.4	90	136	1.3	97	0	9	48
NE90524	32	2713	74.6	112	137	1	99	13	2	42
KS92P0263-137	25	2706	71	97	138	1	97	7	3	38
TX89A7141	17	2677	70.4	92	135	1.3	95	1	9	73
TX90D9277	10	2662	71.3	99	137	0.3	97	0	6	43
XH1529	37	2647	72	96	134	1	98	5	4	45
T13	41	2636	69.6	102	137	1.7	97	1	4	53
WI89-055	40	2623	72	90	136	0.3	97	3	4	63
NE88584	30	2621	74.3	115	138	1.7	98	5	5	42
OK88767-11	4	2618	69.9	92	134	0.7	98	1	4	72
OK88767-15	6	2614	71.5	86	136	0.3	97	0	4	53
TH905	45	2592	69	103	135	1	99	3	34	52
OK88767-24	7	2591	70	94	135	0.7	98	0	3	77
TX90V7911	14	2551	69.8	97	137	1	98	5	6	52
OK88767-02	5	2548	73.4	93	135	0	95	0	5	62
KS831374-142	22	2543	72.3	88	134	1	97	3	9	42
T70	43	2522	70.9	91	136	0.3	98	0	3	48
KS92P059E	24	2476	66	95	137	1	98	6	4	43
NE90479	31	2464	71.7	103	137	0.3	98	6	7	37
CO880240	21	2447	69.4	102	143	1	97	3	3	40
CO880210	20	2435	69.8	95	136	2	96	0	3	57
CO880054	18	2343	67.4	95	137	1.3	96	0	14	50
KS89H48-1	28	2327	72.6	102	137	1.7	98	5	3	45
TX88A6533	9	2260	71	87	137	0.3	98	1	5	64
XH1520	36	2257	73.2	99	135	1	98	4	9	58
T64	44	2235	71.2	102	136	1.3	98	3	5	55
XH1610	38	2206	70.3	105	136	1	95	0	12	70
W87-017-44	39	2199	69.6	93	137	0.3	96	4	16	72
XH1485	35	2185	71.4	103	136	3	98	9	3	48
KS84063-9-7	23	2168	70.1	99	136	0.3	99	10	12	43
CO880169	19	2117	69.4	97	138	0.7	95	13	8	62
Scout66	2	2105	74.1	119	139	3.7	98	5	11	35
TX91V4931	12	2045	74.2	94	135	0.3	97	0	4	52
TX91V5739	15	2039	66.5	97	134	1.3	97	1	14	50
2180	48	2028	67.8	80	133	0	97	32	8	70
TX90V8410	13	2005	69.9	97	137	1.3	93	5	4	42
TX88A6480	8	1989	65.7	90	136	2	98	12	32	75
Kharkof	1	1298	71.3	117	148	4.3	98	12	9	45
MEAN		2526								
LSD(.05)		525								
C.V.		12.8								

CRAWFORDSVILLE

IOWA

ONE REPLICATION

C.I. OR SEL. NO.	: ENTRY: NO.	: YIELD KG/HA	: VOLUME WEIGHT KG/HL	: PLANT HEIGHT CM	: WINTER SURVIVAL %
XH1529	37	3907	62.8	88	95
XH1520	36	3874	65.5	92	100
XH1485	35	3860	63.3	92	100
KS831374-142	22	3813	68.2	82	100
T4731	42	3551	61.4	86	95
KS89H48-1	28	3537	66.2	96	100
XH1455	34	3524	66.6	94	100
OK88767-11	4	3457	61.5	84	100
NE90574	33	3356	62.2	98	100
TX89A7141	17	3289	62.8	84	100
KS92P0425-155	27	3275	58.4	82	100
OK88767-15	6	3107	63.1	74	95
OK88767-24	7	3107	63.2	80	100
TH905	45	3046	63.3	92	100
TX88A6533	9	3040	60.9	78	100
KS84063-9-7	23	2993	60.9	90	90
NE88584	30	2986	61.9	106	100
T13	41	2986	58.6	90	100
TX89A7137	11	2972	61	86	100
TX91V5739	15	2932	61.9	76	90
C0880169	19	2925	60.4	88	100
C0880240	21	2865	60.9	102	100
TX88A6480	8	2838	57.1	78	95
KS92P059E	24	2825	58.6	90	95
XH1610	38	2791	59	88	100
KS92P0363-134	26	2757	59.5	92	100
TAM-107	3	2737	59.1	86	95
TX90V8410	13	2710	61	86	90
TX90D9277	10	2697	58.2	86	85
NE90524	32	2683	53.1	108	95
T70	43	2596	55.3	82	90
Scout66	2	2576	59.5	102	100
T64	44	2569	56.9	90	95
TX91V3308	16	2562	57.5	86	85
NE90479	31	2562	63.1	102	100
KS92P0263-137	25	2515	58.4	88	100
WI89-055	40	2482	60	78	95
N87V106	29	2441	53.5	100	90
C0880210	20	2374	57.5	86	100
TX91V4931	12	2354	.	85	80
W87-017-44	39	2320	58.1	88	95
C0880054	18	2313	54.4	92	100
TX90V7911	14	2192	.	87	95
Kharkof	1	1749	.	114	100
OK88767-02	5	599	.	80	100

MEAN
LSD(.05)
C.V.

2859

ABERDEEN

IDAHO

TWO REPLICATIONS

C.I. OR SEL. NO.	: ENTRY: NO.	: YIELD KG/HA	: VOLUME KG/HL	: PLANT HEIGHT CM	: DAYS TO HEADING FROM 1/1:	: LODGING 0-9	: STAND %	: STRAW STRENGTH 0-5
TX91V3308	16	11211	80.1	117	163	7	96	3
TX89A7137	11	11069	79.2	112	160	6.5	97	4
C0880169	19	10841	80.4	117	162	7	97	3.5
C0880054	18	10804	79.2	110	163	7.5	97	3
T70	43	10568	82	112	160	5.5	88	2.5
OK88767-11	4	10491	80.6	110	158	2.5	98	3
KS92P0263-137	25	10447	79.5	112	161	3	97	3
WI89-055	40	10437	82.6	109	158	3.5	94	3
KS92P059E	24	10246	77.7	114	161	5	98	3.5
TAM-107	3	10084	80.6	117	157	6	98	4
OK88767-24	7	10027	80.4	114	159	2	96	2.5
T13	41	9993	80.4	112	158	5	97	3
KS831374-142	22	9966	79.7	107	157	3.5	96	2.5
C0880210	20	9845	80.4	107	162	7.5	95	4
W87-017-44	39	9724	81.4	110	158	2.5	97	3
OK88767-15	6	9711	80.1	103	161	1.5	97	2
TX89A7141	17	9671	79.5	108	158	7	98	3.5
TX88A6533	9	9570	78.3	103	160	7.5	95	4
XH1520	36	9556	80.4	116	158	7.5	99	3.5
MERIDIAN	46	9381	79.5	117	166	3	94	3
XH1610	38	9072	79.2	117	162	6.5	97	4
N87V106	29	8874	78.9	107	158	7.5	97	3
XH1485	35	8864	80.6	114	160	7.5	98	3.5
OK88767-02	5	8776	79.9	102	159	2	97	3
NE88584	30	8662	80.1	127	159	7.5	91	4
T64	44	8611	78.4	112	157	7.5	90	4
KS92P0363-134	26	8527	78	107	162	8	98	4
KS84063-9-7	23	8376	80.2	116	160	4.5	97	3
TX90V7911	14	8369	79.5	109	162	7.5	97	4
C0880240	21	8336	79.2	112	163	8	82	3.5
XH1455	34	8278	80.4	118	162	8	96	4
TX90D9277	10	8178	78.6	117	162	5.5	80	3.5
TX91V5739	15	8104	78	107	158	6.5	98	4
KS89H48-1	28	7922	79.3	112	158	8	95	4.5
XH1529	37	7919	79.7	108	158	8	97	4
TX88A6480	8	7838	78.4	99	160	7.5	97	4
T4731	42	7828	74.9	102	160	8.3	97	5
NE90524	32	7761	79.7	126	162	8	94	4
TX91V4931	12	7646	82.8	110	158	7	96	3.5
NE90574	33	7347	77.5	117	162	8	92	3
KS92P0425-155	27	7068	77.9	93	163	8	98	3.5
TX90V8410	13	6944	79.9	104	159	8	97	4
NE90479	31	6335	80.1	105	160	8.3	95	5
Scout66	2	5636	78.4	121	158	8.8	97	4.5
Kharkof	1	5057	78.8	121	166	9	97	4

MEAN 8888
LSD(.05) 1955
C.V. 10.9

Table 2. Summary of mean yields (kg/ha) for 45 wheats grown in the 1993 Southern Regional Performance Nursery at locations with state means and ranks.

VARIETY OR PEDIGREE	: : C.I. OR : SEL. NO.	: : ENTRY: : NO.	: : PROSPER : TEXAS	: : CHILLI- : COTHE : TEXAS	: : BUSHLAND : (IRR.) : TEXAS	: : TEXAS : STATE MEAN
Quantum Hybrid Wheat	XH1529	37	5100 1	5671 1	8393 1	6388 1
Quantum Hybrid Wheat	XH1520	36	4535 14	5035 10	7835 7	5801 3
W2440/W9488A//2163	K892P0263-137	25	4829 3	5163 8	6772 26	5588 11
W8447D/W2436//W3420	K892P0425-155	27	4817 4	5216 6	8081 3	6038 2
WX11088/2165//W8447	K892P059E	24	4598 12	4927 13	7678 9	5734 7
Quantum Hybrid Wheat	XH1455	34	4672 8	5194 7	7505 12	5790 4
Quantum Hybrid Wheat	XH1485	35	4161 27	4618 28	7855 6	5544 14
TX81V6187/Abilene (Ogallala)	WI89-055	40	4642 11	4811 17	7303 15	5585 12
F29-76/TAM-105//Chisholm	OK88767-11	4	4699 7	4997 11	6389 35	5361 18
TAM-105/10334	TX89A7137	11	4158 28	4640 25	7243 17	5347 19
T14//Brule/TAM-108	T4731	42	4127 31	4636 26	6620 30	5127 30
TAM-105/10334	TX89A7141	17	4255 20	4656 23	7346 14	5419 17
Coker 68-151/TAM-107	T70	43	3791 36	4400 36	7176 21	5122 31
Quantum Hybrid Wheat	XH1810	38	4488 15	4748 19	7660 10	5632 9
TAM-107	TAM-107	3	4131 30	4055 41	6747 27	4978 37
TX71A889/TAM-101	TX88A8533	9	3551 40	3795 44	7960 5	5102 32
WX12907/T-108//W2440	K892P0363-134	26	4651 10	4817 16	6030 41	5166 28
TAM-107/TX3006	C0880210	20	4208 22	4474 33	7357 13	5346 20
TAM-108/Vee's//TX84V2029	TX91V3308	16	4342 18	5671 1	6638 29	5550 13
F29-76/TAM-105//Chisholm	OK88767-24	7	4663 9	4716 22	6434 33	5271 24
Brule seln/4/Bez 1/3/Ctk//Arthur/Ctk78	NE90524	32	4553 13	5122 9	7216 19	5630 10
TX81V6603/TX78A3345-V34	TX90V8410	13	4167 26	4721 21	8323 2	5737 6
Karl sib	K8831374-142	22	4725 6	4826 15	6431 34	5328 21
TAM-107/Hall	C0880169	19	4017 33	4432 34	7241 18	5230 25
TAM-200//TX38949-2/TAM-107	TX91V4931	12	4761 5	4797 18	7810 8	5789 5
Dular/Eagle//2*Cheney/Larned/3/Colt	K889H48-1	28	4071 32	4492 32	7113 22	5225 26
TAM-107/TAM-105	T13	41	3015 44	3818 43	6662 28	4498 44
F29-76/TAM-105//Chisholm	OK88767-15	6	4423 17	4651 24	6068 39	5047 34
Lov 13/2*Ctk78//TAM-105	C0880054	18	3959 34	4582 29	6021 43	4854 41
TAM-200//8x1/Tan 's'	TX90D9277	10	4900 2	4988 12	6026 42	5305 22
TX78V2430-2/TX86V1540	TX90V7911	14	3827 35	5239 5	8009 4	5692 8
Rodeo/Brule seln//Arapahoe	NE90574	33	3764 37	4199 39	6864 24	4942 38
Osage/TAM-105	T64	44	3515 41	4268 38	7294 16	5026 35
Siouxland/TAM-101	TX88A8480	8	4172 23	4430 35	7658 11	5420 16
K883H2510/Brule composite	NE90479	31	3714 38	4548 31	7207 20	5157 29
Complex Pedigree	N87V106	29	4450 16	4723 20	6055 40	5076 33
Colt/TX3006	C0880240	21	3275 43	4185 40	6478 32	4646 42
F29-76/TAM-105//Chisholm	OK88767-02	5	4172 23	4620 27	5833 44	4875 40
W81-133/Thunderbird (Ponderosa)	W87-017-44	39	4158 28	4833 14	6534 31	5175 27
K882W418/Stephens	K884063-9-7	23	4317 19	5436 3	6149 38	5301 23
Centura/Dawn//Colt sib	NE88584	30	3484 42	4356 37	6855 25	4898 39
TX86V1540//Lind/Tan	TX91V5739	15	4243 21	5349 4	7032 23	5541 15
HRW Hybrid	TH905	45	4170 25	4553 30	6344 36	5022 36
Scout 66	Scout66	2	3605 39	3916 42	6185 37	4569 43
Kharkof	Kharkof	1	1955 45	3002 45	4252 45	3070 45
MEAN			4174	4674	6948	5265
LSD(.05)			535	304	667	772
C.V.			7.9	4.0	5.9	6.1

Table 2. Continued.

C.I. OR SEL. NO.	ENTRY: NO.	STILLWATER OKLAHOMA	LAHOMA* OKLAHOMA	GOODWELL OKLAHOMA	OKLAHOMA STATE MEAN	CLOVIS (IRR.) NEW MEXICO	CLOVIS (DRYL.) NEW MEXICO	FARMINGTON NEW MEXICO	NEW MEXICO STATE MEAN
XH1529	37	3653 4	2901 7	6714 3	5184 1	5587 17	937 12	6705 8	4410 11
XH1520	36	3154 17	2246 24	6471 5	4813 10	5646 16	788 16	6351 14	4262 16
KS92P0263-137	25	3924 2	2773 9	6117 12	5021 3	5528 19	1031 8	6155 15	4238 17
KS92P0425-155	27	3985 1	2347 18	5970 19	4977 5	5034 28	1022 9	5386 31	3814 26
KS92P059E	24	3574 7	2581 12	5914 22	4744 13	5178 26	519 35	5801 20	3833 24
XH1455	34	3321 15	2816 8	6360 8	4851 8	6009 11	797 15	5471 29	4092 19
XH1485	35	2855 23	2346 20	6603 4	4729 14	6435 5	707 22	5825 19	4323 13
WI89-055	40	3420 12	2438 16	6456 7	4938 6	5431 23	947 11	7816 5	4731 9
OK88767-11	4	3328 14	3146 2	7033 1	5181 2	5866 13	474 39	5752 21	4031 21
TX89A7137	11	2287 36	2314 21	6050 18	4168 30	6566 3	927 13	8097 3	5197 3
T4731	42	3635 5	2346 19	5869 26	4752 12	4089 42	.	5496 28	4792 7
TX89A7141	17	2468 31	2363 17	5377 39	3922 39	7254 1	1141 5	8060 4	5485 1
T70	43	2699 26	2147 26	5478 37	4089 33	6203 9	1366 2	6631 10	4734 8
XH1610	38	3511 8	2579 13	6467 6	4989 4	4832 30	723 19	5581 26	3712 30
TAM-107	3	2295 34	2055 29	5716 33	4006 37	6372 7	1327 3	8231 2	5310 2
TX88A6533	9	2566 28	1875 35	5871 25	4219 27	6398 6	610 29	8402 1	5137 4
KS92P0363-134	26	3836 3	2917 6	5849 27	4843 9	4790 32	971 10	5630 24	3797 27
CO880210	20	2333 32	1896 34	5881 24	4107 31	6524 4	1098 6	6497 11	4706 10
TX91V3308	16	3463 11	3046 3	5887 23	4675 15	4169 40	595 30	6460 12	3742 28
OK88767-24	7	3081 20	3335 1	6051 17	4566 19	5701 15	496 37	6644 9	4280 14
NE90524	32	2283 37	2069 28	6087 13	4185 29	5406 24	658 25	6021 16	4028 22
TX90V8410	13	2073 40	2024 30	5947 20	4010 36	6241 8	1168 4	7413 6	4941 5
KS831374-142	22	2846 24	2649 10	5719 32	4282 25	4279 38	635 27	5190 33	3368 41
CO880169	19	2227 38	1643 41	5760 29	3994 38	5786 14	708 21	4995 37	3829 25
TX91V4931	12	2304 33	2173 25	6138 11	4221 26	5870 12	1084 7	5703 23	4219 18
KS89H48-1	28	2839 25	2076 27	5754 31	4296 24	5288 25	700 23	5838 18	3942 23
T13	41	1915 42	1553 42	5343 40	3629 41	6710 2	756 17	7047 7	4837 6
OK88767-15	6	3407 13	3038 4	5915 21	4661 18	5549 18	431 43	4629 42	3536 34
CO880054	18	2518 30	1964 33	5684 34	4101 32	6161 10	541 33	6363 13	4355 12
TX90D9277	10	3120 19	2589 11	5565 35	4343 23	4380 37	439 41	5044 36	3288 42
TX90V7911	14	3163 16	1985 32	6180 10	4672 16	4423 35	657 26	5093 35	3391 39
NE90574	33	2593 27	1790 36	5804 28	4199 28	5072 27	714 20	4629 42	3472 37
T64	44	2095 39	1756 38	6077 15	4086 34	5486 21	432 42	4690 41	3536 35
TX88A6480	8	2518 29	1741 39	6813 2	4665 17	5507 20	745 18	5996 17	4083 20
NE90479	31	3024 21	1992 31	6082 14	4553 21	5435 22	626 28	5129 34	3730 29
N87V106	29	2887 22	2538 14	5242 41	4064 35	4802 31	563 32	4983 38	3449 38
CO880240	21	1946 41	1051 43	5195 42	3570 42	4874 29	582 31	5374 32	3610 33
OK88767-02	5	3501 9	3021 5	6240 9	4870 7	4241 39	485 38	4775 40	3167 44
W87-017-44	39	3481 10	2279 23	6074 16	4778 11	4785 33	659 24	5410 30	3618 31
KS84063-9-7	23	3599 6	2443 15	5510 36	4555 20	4093 41	498 36	5520 27	3371 40
NE88584	30	2292 35	1786 37	5029 44	3661 40	3591 44	1506 1	5740 22	3612 32
TX91V5739	15	1558 43	1666 40	5404 38	3481 43	3604 43	.	4934 39	4269 15
TH905	45	3142 18	2292 22	5757 30	4450 22	4389 36	445 40	5618 25	3484 36
Scout66	2	1406 44	935 44	5141 43	3274 44	4739 34	864 14	4250 44	3284 43
Kharkof	1	1203 45	315 45	3147 45	2175 45	2557 45	532 34	3151 45	2080 45
MEAN		2830	2218	5861	4345	5264	765	5878	4017
LSD(.05)		547	286	678	880	1105	578	1458	1099
C.V.		11.9	7.9	7.1	8.7	12.9	46.5	17.7	19.0

* Not included in state or regional means.

Table 2. Continued.

C.I. OR SEL. NO.	ENTRY: NO.	NORTH PLATTE NEBRASKA	HEMING- FORO NEBRASKA	NEBRASKA STATE MEAN	PIERRE S. DAKOTA	WINNER S. DAKOTA	BROOKINGS S. DAKOTA	SOUTH DAKOTA STATE MEAN
XH1529	37	4268 7	5138 2	4703 3	6625 11	4571 4	2697 12	4631 4
XH1520	36	4109 11	5481 1	4795 1	6418 15	4993 1	2538 15	4650 2
K892P0263-137	25	3945 17	4759 20	4352 19	7215 2	4008 22	2833 6	4685 1
K892P0425-155	27	4640 1	4797 17	4719 2	6464 13	4610 3	2728 9	4601 6
K892P059E	24	4313 5	4945 8	4629 4	6423 14	3573 45	2859 5	4285 16
XH1455	34	4382 3	4770 19	4576 5	6979 5	4253 15	2641 14	4624 5
XH1485	35	4185 9	4885 11	4535 7	6634 9	4414 10	2432 18	4493 8
WI89-055	40	3999 16	3936 35	3968 32	6056 20	3829 37	2652 13	4179 19
OK88767-11	4	3602 33	4403 29	4002 29	7644 1	4080 20	2206 23	4643 3
TX89A7137	11	3815 21	4858 13	4337 20	6210 18	4456 8	1758 35	4141 21
T4731	42	4223 8	4889 10	4556 6	5950 25	4347 12	3233 2	4510 7
TX89A7141	17	3941 18	4806 16	4373 18	5973 23	4072 21	1683 36	3909 34
T70	43	3472 36	5080 4	4276 22	7003 3	3871 34	1430 40	4101 22
XH1610	38	4107 12	4831 15	4469 10	5954 24	4481 6	2476 16	4304 13
TAM-107	3	3699 29	4508 24	4103 28	6147 19	3969 25	1296 42	3804 37
TX88A6533	9	4465 2	4495 26	4480 9	6966 6	3992 23	1244 43	4067 23
K892P0363-134	26	4044 13	4880 12	4462 11	5067 40	4201 16	3498 1	4255 18
CO880210	20	3246 38	5006 5	4126 24	6497 12	3585 44	1512 39	3865 35
TX91V3308	16	3161 39	3717 42	3439 41	6411 16	4184 18	2806 7	4467 9
OK88767-24	7	3753 24	4100 33	3926 33	6993 4	3881 32	1954 29	4276 17
NE90524	32	3792 23	4985 6	4384 16	5748 30	4459 7	1945 31	4051 25
TX90V8410	13	4351 4	4649 22	4500 8	5603 35	3692 40	1612 37	3636 40
K8831374-142	22	3894 19	4080 34	3987 30	6668 8	3835 36	1979 28	4161 20
CO880169	19	3486 35	4950 7	4218 23	5662 33	4355 11	2137 25	4052 24
TX91V4931	12	3708 28	3717 41	3712 35	5984 22	3976 24	1924 32	3961 31
K889H48-1	28	4302 6	4524 23	4413 13	5734 32	4184 17	2051 27	3990 28
T13	41	4008 15	4793 18	4400 15	6384 17	3809 38	1786 34	3993 27
OK88767-15	6	3667 32	3726 40	3697 36	6726 7	3873 33	2272 21	4290 15
CO880054	18	3730 25	4497 25	4113 26	5289 38	3898 31	1562 38	3583 41
TX90D9277	10	3714 27	5102 3	4408 14	5916 26	4146 19	3033 4	4365 10
TX90V7911	14	3132 40	4250 32	3691 37	5819 27	3910 29	2180 24	3969 30
NE90574	33	4035 14	4855 14	4445 12	5813 28	3914 28	3172 3	4300 14
T84	44	4161 10	4479 27	4320 21	5525 36	4321 14	2075 26	3973 29
TX88A6480	8	3726 26	3820 36	3773 34	5662 34	4617 2	1214 44	3831 36
NE90479	31	3784 22	4427 28	4106 27	6012 21	3592 43	2380 20	3995 26
N87V106	29	3387 37	3811 37	3599 39	5765 29	4426 9	2803 8	4331 12
CO880240	21	3862 20	4889 9	4376 17	5272 39	3854 35	2706 11	3944 32
OK88767-02	5	3060 41	3735 39	3397 42	6627 10	4559 5	1880 33	4355 11
W87-017-44	39	3683 31	3441 44	3562 40	3979 43	3921 26	2417 19	3439 43
K884063-9-7	23	2804 43	3762 38	3283 43	4850 41	3917 27	2248 22	3672 39
NE88564	30	3562 34	4687 21	4125 25	3989 42	4340 13	2709 10	3680 38
TX91V5739	15	2755 44	3712 43	3234 44	5737 31	3643 41	1172 45	3517 42
TH905	45	3688 30	4275 31	3981 31	5437 37	3908 30	2465 17	3937 33
Scout66	2	3020 42	4322 30	3671 38	3699 44	3785 39	1953 30	3146 44
Kharkof	1	2636 45	3176 45	2906 45	2676 45	3624 42	1416 41	2572 45
MEAN		3762	4465	4114	5916	4087	2213	4072
LSD(.05)		655	641	666	878	N.8.	710	N.8.
C.V.		10.7	8.8	9.7	9.1	14.8	19.7	13.1

Table 2. Continued.

C.I. OR SEL. NO.	ENTRY: NO.	HUTCHINSON KANSAS	HAYS* KANSAS	COLBY* KANSAS	GARDEN CITY KANSAS	KANSAS STATE MEAN	COLUMBIA MISSOURI
XH1529	37	3461 2	5030 1	3065 1	4655 2	4058 1	2647 14
XH1520	36	2572 16	4338 3	2624 5	3854 27	3213 20	2257 33
K892P0263-137	25	3451 3	3717 17	1382 38	4225 14	3838 3	2706 11
K892P0425-155	27	3079 7	3901 11	1768 30	4980 1	4030 2	3327 3
K892P059E	24	2894 9	3674 20	2429 14	4402 8	3648 6	2476 26
XH1455	34	2936 8	4145 5	2822 3	4498 4	3717 5	2752 7
XH1485	35	2291 23	3856 12	2887 2	4377 9	3334 13	2185 37
WI89-055	40	2560 17	3537 26	1473 35	4054 18	3307 14	2623 16
OK88767-11	4	2423 20	4409 2	2167 21	4037 19	3230 17	2618 18
TX89A7137	11	2070 27	3571 24	1816 29	3591 37	2831 37	2758 6
T4731	42	3097 5	2401 39	693 44	3976 21	3537 7	3747 1
TX89A7141	17	1838 36	4073 6	1988 25	3907 23	2872 34	2677 12
T70	43	2053 28	3589 23	2279 17	4482 5	3267 16	2522 25
XH1610	38	2649 13	3020 36	2512 9	4258 12	3454 10	2206 35
TAM-107	3	1450 42	4028 8	2434 13	4256 13	2853 36	3669 2
TX88A6533	9	1605 41	4048 7	2346 15	3373 41	2489 43	2260 32
K892P0363-134	26	3598 1	2887 37	801 43	3891 24	3744 4	3126 4
CO880210	20	1432 43	3488 27	2038 24	4377 10	2905 32	2435 29
TX91V3308	16	2590 15	2091 40	1108 42	3615 35	3102 26	2731 9
OK88767-24	7	1766 38	3712 18	2101 23	3672 32	2719 40	2591 21
NE90524	32	2471 18	2024 43	1542 33	4461 6	3466 8	2713 10
TX90V8410	13	1951 33	3813 14	2254 18	4287 11	3119 25	2005 43
K8831374-142	22	2655 12	3977 9	1681 31	3907 22	3281 15	2543 24
CO880169	19	1957 32	3566 25	2299 16	3885 25	2921 31	2117 39
TX91V4931	12	1987 30	3459 29	2610 6	3770 31	2879 33	2045 41
K889H48-1	28	2274 24	4158 4	2549 8	4428 7	3351 12	2327 31
T13	41	1647 40	3741 16	2179 19	3858 26	2752 39	2636 15
OK88767-15	6	2333 21	3945 10	2696 4	3645 34	2989 28	2614 19
CO880054	18	1761 39	3040 34	1487 34	3821 30	2791 38	2343 30
TX90D9277	10	2775 11	3109 33	1941 27	3660 33	3217 18	2662 13
TX90V7911	14	2291 22	3450 30	1830 28	4130 15	3211 21	2551 22
NE90574	33	2023 29	3199 32	1604 32	3847 28	2935 30	2740 8
T64	44	1838 35	3598 22	2499 10	4590 3	3214 19	2235 34
TX88A6480	8	1331 44	3658 21	2608 7	3460 40	2396 44	1989 44
NE90479	31	2811 10	3811 15	2495 11	4105 16	3458 9	2464 27
N87V106	29	3097 6	1892 45	1264 39	3610 36	3353 11	3063 5
CO880240	21	2250 25	3468 28	2156 22	4019 20	3134 24	2447 28
OK88767-02	5	2649 13	3818 13	2479 12	3508 39	3079 27	2548 23
W87-017-44	39	1969 31	2589 38	341 45	3341 42	2655 41	2199 36
K884063-9-7	23	3145 4	2062 41	1197 41	3274 43	3210 22	2168 38
NE88584	30	2214 26	2040 42	1415 37	3523 38	2868 35	2621 17
TX91V5739	15	1922 34	3701 19	2174 20	3086 44	2504 42	2039 42
TH905	45	2447 19	3360 31	1434 36	3833 29	3140 23	2592 20
Scout66	2	1796 37	3031 35	1948 26	4090 17	2943 29	2105 40
Kharkof	1	376 45	1986 44	1204 40	2836 45	1606 45	1298 45
MEAN		2306	3422	1969	3943	3125	2519
L8D(.05)		513	485	346	546	911	528
C.V.		13.7	8.7	10.8	8.5	10.4	12.9

* Not included in state or regional means.

Table 2. Concluded.

C.I. OR SEL. NO.	ENTRY: NO.	FORT COLLINS COLORADO	AKRON COLORADO	JULESBURG COLORADO	BURLINGTON COLORADO	COLORADO STATE MEAN	ABERDEEN IDAHO	REGIONAL AVERAGE
XH1520	37	6411 9	5224 1	4411 4	5574 2	5405 2	7919 34	5065 1
XH1520	36	7012 2	4841 3	4620 2	5765 1	5560 1	9556 19	4944 2
K892P0263-137	25	6559 7	4499 16	4297 6	5009 9	5091 5	10447 7	4927 3
K892P0425-155	27	5882 31	4431 21	4019 17	5568 3	4975 8	7068 40	4815 4
K892P059E	24	6367 11	4387 22	4632 1	5044 6	5108 4	10246 9	4798 5
XH1455	34	6728 6	4261 32	4054 14	4608 24	4913 9	8278 30	4785 6
XH1485	35	6797 4	4441 19	4531 3	5025 8	5198 3	8864 22	4768 7
WI89-055	40	6541 8	4142 34	3485 32	4965 11	4783 18	10437 8	4767 8
OK88767-11	4	5716 38	4352 25	4335 5	5039 7	4861 11	10491 6	4737 9
TX88A7137	11	6126 19	4492 17	3542 28	4182 36	4585 28	11069 2	4709 10
T4731	42	4961 44	4533 14	3374 36	4452 30	4330 41	7828 36	4654 11
TX89A7141	17	6044 24	4816 4	3362 37	4303 33	4631 27	9671 17	4650 12
T70	43	5613 39	4767 7	3532 30	5201 4	4779 19	10568 5	4635 13
XH1610	38	5875 33	4184 33	4093 13	5058 5	4803 15	9072 20	4631 14
TAM-107	3	5972 28	4386 23	3636 26	4670 19	4666 22	10084 10	4601 15
TX88A6533	9	5912 30	4280 30	4119 12	4617 22	4732 20	9570 18	4574 16
K892P0363-134	26	6250 16	4027 40	3440 33	4891 14	4652 25	8527 26	4572 17
C0880210	20	6296 12	4779 6	4021 16	4555 28	4913 10	9845 14	4569 18
TX91V3308	16	6140 18	4298 28	3098 41	4684 16	4555 34	11211 1	4565 19
OK88767-24	7	5862 34	4449 18	3824 20	4135 39	4567 31	10027 11	4514 20
NE90524	32	6385 10	4275 31	3540 29	4607 25	4702 21	7761 37	4499 21
TX90V8410	13	6780 5	4339 26	4247 7	3856 44	4806 14	6944 41	4494 22
K8831374-142	22	6267 14	4764 8	4033 15	4939 13	5001 7	9966 13	4485 23
C0880169	19	6119 20	4812 5	3766 22	4599 26	4824 13	10841 3	4469 24
TX91V4931	12	7373 1	4437 20	4122 11	4141 38	5018 6	7646 38	4443 25
K889H48-1	28	5876 32	4520 15	3815 21	4972 10	4796 17	7922 33	4430 26
T13	41	5246 42	4691 9	3701 24	4582 27	4555 35	9993 12	4400 27
OK88767-15	6	6008 26	3984 41	4219 8	4111 40	4580 29	9711 16	4379 28
C0880054	18	6279 13	4555 13	3262 38	4193 35	4572 30	10804 4	4372 29
TX90D9277	10	5917 29	3897 44	3936 18	4319 31	4517 36	8178 31	4368 30
TX90V7911	14	5989 27	4101 38	3394 34	4251 34	4434 38	8369 28	4331 31
NE90574	33	6104 21	4286 29	4200 10	4612 23	4800 16	7347 39	4314 32
T64	44	5512 40	4556 12	3832 19	4646 20	4637 26	8611 25	4297 33
TX88A6480	8	6035 25	4583 11	3526 31	4466 29	4652 24	7838 35	4291 34
NE90479	31	5123 43	4112 36	4217 9	4817 15	4567 32	6335 42	4283 35
N87V106	29	6099 23	3936 42	3163 40	3891 43	4272 43	8874 21	4268 36
C0880240	21	5758 37	4932 2	3740 23	4942 12	4843 12	8336 29	4234 37
OK88767-02	5	5794 35	4113 35	3680 25	4076 41	4416 39	8776 23	4232 38
W87-017-44	39	6206 17	4107 37	3050 42	4682 17	4511 37	9724 15	4222 39
K884063-9-7	23	6260 15	4307 27	3375 35	4678 18	4655 23	8376 27	4204 40
NE88584	30	6998 3	4359 24	2095 44	4158 37	4403 40	8662 24	4132 41
TX91V5739	15	5264 41	4035 39	3562 27	4305 32	4291 42	8104 32	4073 42
TH905	45	5777 36	4600 10	3242 39	4627 21	4562 33	.	4065 43
Scout66	2	6100 22	3918 43	2914 43	3966 42	4225 44	5636 43	3686 44
Kharkof	1	4834 45	3321 45	1765 45	2903 45	3206 45	5057 44	2653 45
MEAN		6070	4381	3707	4593	4688	8877	4443
L8D(.05)		1197	622	516	686	554	1916	350
C.V.		12.1	8.7	8.6	9.2	10.5	10.7	11.8

Table 3. Summary of mean yields (kg/ha) and ranks of 45 wheats grown in the 1993 Southern Regional Performance Nursery at 16 locations from which a CV of 15 or less and a significant F test for entries were obtained.

C.I. OR SEL. NO.	ENTRY: NO.	PROSPER TEXAS	CHILLI- COTHE TEXAS	BUSHLAND (IRR.) TEXAS	CLOVIS (IRR.) NEW MEXICO	STILLWATER OKLAHOMA	GOODWELL OKLAHOMA	COLUMBIA MISSOURI	PIERRE S. DAKOTA
XH1529	37	5100 1	5671 1	8393 1	5587 17	3653 4	6714 3	2647 14	6625 11
K892P0425-155	27	4817 4	5216 6	8081 3	5034 28	3985 1	5970 19	3327 3	6464 13
XH1520	36	4535 14	5035 10	7835 7	5646 16	3154 17	6471 5	2257 33	6418 15
XH1455	34	4672 8	5194 7	7505 12	6009 11	3321 15	6380 8	2752 7	6979 5
K892P0263-137	25	4829 3	5163 8	6772 26	5528 19	3924 2	6117 12	2706 11	7215 2
XH1485	35	4161 27	4618 28	7855 6	6435 5	2855 23	6603 4	2185 37	6634 9
K892P059E	24	4598 12	4927 13	7678 9	5178 26	3574 7	5914 22	2476 26	6423 14
OK88767-11	4	4699 7	4997 11	6369 35	5866 13	3328 14	7033 1	2618 18	7644 1
XH1610	38	4488 15	4748 19	7660 10	4832 30	3511 8	6467 6	2206 35	5954 24
WI89-055	40	4642 11	4811 17	7303 15	5431 23	3420 12	6456 7	2623 16	6056 20
NE90524	32	4553 13	5122 9	7216 19	5406 24	2283 37	6087 13	2713 10	5748 30
TX90V8410	13	4167 26	4721 21	8323 2	6241 8	2073 40	5947 20	2005 43	5603 35
T70	43	3791 36	4400 36	7176 21	6203 9	2699 26	5478 37	2522 25	7003 3
C0880210	20	4208 22	4474 33	7357 13	6524 4	2333 32	5881 24	2435 29	6497 12
K892P0363-134	26	4651 10	4817 16	6030 41	4790 32	3836 3	5849 27	3126 4	5067 40
TX89A7141	17	4255 20	4656 23	7346 14	7254 1	2468 31	5377 39	2677 12	5973 23
TX91V4931	12	4761 5	4797 18	7810 8	5870 12	2304 33	6138 11	2045 41	5984 22
TX89A7137	11	4158 28	4640 25	7243 17	6566 3	2287 36	6050 18	2758 6	6210 18
K8831374-142	22	4725 6	4826 15	6431 34	4279 38	2846 24	5719 32	2543 24	6668 8
K889H48-1	28	4071 32	4492 32	7113 22	5288 25	2839 25	5754 31	2327 31	5734 32
TX88A6533	9	3551 40	3795 44	7960 5	6398 6	2566 28	5871 25	2260 32	6966 6
T4731	42	4127 31	4636 26	6620 30	4089 42	3635 5	5869 26	3747 1	5950 25
NE90479	31	3714 38	4548 31	7207 20	5435 22	3024 21	6082 14	2464 27	6012 21
OK88767-24	7	4663 9	4716 22	6434 33	5701 15	3081 20	6051 17	2591 21	6993 4
TAM-107	3	4131 30	4055 41	6747 27	6372 7	2295 34	5716 33	3669 2	6147 19
OK88767-15	6	4423 17	4651 24	6068 39	5549 18	3407 13	5915 21	2614 19	6726 7
TX90D9277	10	4900 2	4988 12	6026 42	4380 37	3120 19	5565 35	2662 13	5916 26
C0880169	19	4017 33	4432 34	7241 18	5786 14	2227 38	5760 29	2117 39	5662 33
NE90574	33	3764 37	4199 39	6864 24	5072 27	2593 27	5804 28	2740 8	5813 28
TX90V7911	14	3827 35	5239 5	8009 4	4423 35	3163 16	6180 10	2551 22	5819 27
TX91V3308	16	4342 18	5671 1	6638 29	4169 40	3463 11	5887 23	2731 9	6411 16
T64	44	3515 41	4268 38	7294 16	5486 21	2095 39	6077 15	2235 34	5525 36
TX88A6480	8	4172 23	4430 35	7658 11	5507 20	2518 29	6813 2	1989 44	5662 34
T13	41	3015 44	3818 43	6662 28	6710 2	1915 42	5343 40	2636 15	6384 17
TH905	45	4170 25	4553 30	6344 36	4389 36	3142 18	5757 30	2592 20	5437 37
C0880054	18	3959 34	4582 29	6021 43	6161 10	2518 30	5684 34	2343 30	5289 38
OK88767-02	5	4172 23	4620 27	5833 44	4241 39	3501 9	6240 9	2548 23	6627 10
C0880240	21	3275 43	4185 40	6478 32	4874 29	1946 41	5195 42	2447 28	5272 39
N87V106	29	4450 16	4723 20	6055 40	4802 31	2887 22	5242 41	3063 5	5765 29
K884063-9-7	23	4317 19	5436 3	6149 38	4093 41	3599 6	5510 36	2168 38	4850 41
W87-017-44	39	4158 28	4833 14	6534 31	4785 33	3481 10	6074 16	2199 36	3979 43
NE88584	30	3484 42	4356 37	6855 25	3591 44	2292 35	5029 44	2621 17	3989 42
TX91V5739	15	4243 21	5349 4	7032 23	3604 43	1558 43	5404 38	2039 42	5737 31
Scout06	2	3605 39	3916 42	6185 37	4739 34	1406 44	5141 43	2105 40	3699 44
Kharkov	1	1955 45	3002 45	4252 45	2557 45	1203 45	3147 45	1298 45	2676 45
MEAN		4174	4674	6948	5264	2830	5861	2519	5916
LSD(.05)		535	304	667	1105	547	678	528	878
C.V.		7.9	4.0	5.9	12.9	11.9	7.1	12.9	9.1

Table 3. Concluded.

C.I. OR SEL. NO.	: ENTRY: NO.	: NORTH PLATTE NEBRASKA	: HEMING- FORD NEBRASKA	: FORT COLLINS COLORADO	: AKRON COLORADO	: JULESBURG COLORADO	: BURLINGTON COLORADO	: HUTCHINSON KANSAS	: GARDEN CITY KANSAS	: REGIONAL AVERAGE
XH1529	37	4268 7	5138 2	6411 9	5224 1	4411 4	5574 2	3461 2	4655 2	5221 1
K892P0425-155	27	4640 1	4797 17	5882 31	4431 21	4019 17	5568 3	3079 7	4980 1	5018 2
XH1520	36	4109 11	5481 1	7012 2	4841 3	4620 2	5765 1	2572 16	3854 27	4975 3
XH1455	34	4382 3	4770 19	6728 6	4261 32	4054 14	4608 24	2936 8	4498 4	4941 4
K892P0263-137	25	3945 17	4759 20	6559 7	4499 16	4297 6	5009 9	3451 3	4225 14	4937 5
XH1485	35	4185 9	4885 11	6797 4	4441 19	4531 3	5025 8	2291 23	4377 9	4867 6
K892P059E	24	4313 5	4945 8	6367 11	4387 22	4632 1	5044 6	2894 9	4402 8	4860 7
OK88767-11	4	3602 33	4403 29	5716 38	4352 25	4335 5	5039 7	2423 20	4037 19	4780 8
XH1610	38	4107 12	4831 15	5875 33	4184 33	4093 13	5058 5	2849 13	4258 12	4683 9
WI89-055	40	3999 16	3936 35	6541 8	4142 34	3485 32	4965 11	2560 17	4054 18	4651 10
NE90524	32	3782 23	4985 6	6385 10	4275 31	3540 29	4607 25	2471 18	4461 6	4602 11
TX90V8410	13	4351 4	4649 22	6780 5	4339 26	4247 7	3856 44	1951 33	4287 11	4596 12
T70	43	3472 36	5080 4	5613 39	4767 7	3532 30	5201 4	2053 28	4482 5	4592 13
C0880210	20	3246 38	5006 5	6296 12	4779 6	4021 16	4555 28	1432 43	4377 10	4589 14
K892P0363-134	26	4044 13	4880 12	6250 16	4027 40	3440 33	4891 14	3598 1	3891 24	4574 15
TX89A7141	17	3941 18	4806 16	6044 24	4816 4	3362 37	4303 33	1838 36	3907 23	4564 16
TX91V4931	12	3708 28	3717 41	7373 1	4437 20	4122 11	4141 38	1987 30	3770 31	4580 17
TX89A7137	11	3815 21	4858 13	6126 19	4492 17	3542 28	4182 36	2070 27	3591 37	4537 18
K8831374-142	22	3894 19	4080 34	6267 14	4764 8	4033 15	4939 13	2655 12	3907 22	4536 19
K889H48-1	28	4302 6	4524 23	5876 32	4520 15	3815 21	4972 10	2274 24	4428 7	4520 20
TX88A6533	9	4465 2	4495 26	5912 30	4280 30	4119 12	4617 22	1605 41	3373 41	4515 21
T4731	42	4223 8	4889 10	4961 44	4533 14	3374 36	4452 30	3097 5	3976 21	4511 22
NE90479	31	3784 22	4427 28	5123 43	4112 36	4217 9	4817 15	2811 10	4105 16	4493 23
OK88767-24	7	3753 24	4100 33	5862 34	4449 18	3824 20	4135 39	1766 38	3672 32	4487 24
TAM-107	3	3699 29	4508 24	5972 28	4386 23	3636 26	4670 19	1450 42	4256 13	4482 25
OK88767-15	6	3667 32	3726 40	6008 26	3984 41	4219 8	4111 40	2333 21	3645 34	4440 26
TX90D9277	10	3714 27	5102 3	5917 29	3897 44	3936 18	4319 31	2775 11	3660 33	4430 27
C0880169	19	3486 35	4950 7	6119 20	4812 5	3766 22	4599 26	1957 32	3885 25	4426 28
NE90574	33	4035 14	4855 14	6104 21	4286 29	4200 10	4612 23	2023 29	3847 28	4426 29
TX90V7911	14	3132 40	4250 32	5989 27	4101 38	3394 34	4251 34	2291 22	4130 15	4422 30
TX91V3308	16	3161 39	3717 42	6140 18	4298 28	3098 41	4684 16	2590 15	3615 35	4413 31
T64	44	4161 10	4479 27	5512 40	4558 12	3832 19	4646 20	1838 35	4590 3	4382 32
TX88A6480	8	3726 26	3820 36	6035 25	4583 11	3526 31	4466 29	1331 44	3460 40	4356 33
T13	41	4008 15	4793 18	5246 42	4691 9	3701 24	4582 27	1647 40	3858 26	4313 34
TH905	45	3688 30	4275 31	5777 36	4600 10	3242 39	4627 21	2447 19	3833 29	4305 35
C0880054	18	3730 25	4497 25	6279 13	4555 13	3262 38	4193 35	1761 39	3821 30	4291 36
OK88767-02	5	3060 41	3735 39	5794 35	4113 35	3680 25	4076 41	2649 13	3508 39	4275 37
C0880240	21	3862 20	4889 9	5758 37	4932 2	3740 23	4942 12	2250 25	4019 20	4254 38
N87V106	29	3387 37	3811 37	6099 23	3936 42	3163 40	3891 43	3097 6	3610 36	4249 39
K884063-9-7	23	2804 43	3762 38	6260 15	4307 27	3375 35	4678 18	3145 4	3274 43	4233 40
W87-017-44	39	3683 31	3441 44	6206 17	4107 37	3050 42	4682 17	1969 31	3341 42	4158 41
NE88584	30	3562 34	4687 21	6998 3	4359 24	2095 44	4158 37	2214 26	3523 38	3988 42
TX91V5739	15	2755 44	3712 43	5264 41	4035 39	3562 27	4305 32	1922 34	3086 44	3975 43
Scout66	2	3020 42	4322 30	6100 22	3918 43	2914 43	3966 42	1796 37	4090 17	3808 44
Kharkov	1	2636 45	3176 45	4834 45	3321 45	1765 45	2903 45	376 45	2836 45	2621 45
MEAN		3762	4465	6070	4381	3707	4593	2306	3943	4463
L8D(.05)		655	641	1197	622	516	686	513	546	346
C.V.		10.7	8.8	12.1	8.7	8.6	9.2	13.7	8.5	9.6

Table 4. Summary of mean yields (kg/ha) and ranks of 45 wheats grown in the Southern Regional Performance Nursery for 5 intra-regional production zones (after Peterson, 1992).

C.I. OR SEL. NO.	: ENTRY: : NO. :	SOUTH- CENTRAL PLAINS	: NORTH- CENTRAL PLAINS	: NORTHERN HIGH PLAINS	: INTER- MOUNTAIN WEST	: SOUTHERN HIGH PLAINS	: REGIONAL AVERAGE
Number of Trials	6	3	4	4	3	21	
XH1529	37	5499 1	4631 4	4869 1	6543 18	3726 10	5065 1
XH1520	36	4934 5	4650 2	4834 2	7100 5	3429 23	4944 2
KS92P0263-137	25	5043 3	4685 1	4438 6	6980 8	3595 13	4927 3
KS92P0425-155	27	5191 2	4601 6	4665 3	5783 38	3679 12	4815 4
KS92P059E	24	4931 6	4285 16	4594 4	6840 12	3366 25	4798 5
XH1455	34	5001 4	4624 5	4326 13	6312 24	3768 9	4785 8
XH1485	35	4730 13	4493 8	4546 5	6593 16	3840 7	4768 7
WI89-055	40	4865 8	4179 19	4148 22	7183 3	3477 18	4767 8
OK88767-11	4	4811 9	4643 3	4332 12	6590 17	3459 22	4737 9
TX89A7137	11	4408 29	4141 21	4008 32	7537 1	3695 11	4709 10
T4731	42	4664 15	4510 7	4146 23	5793 37	4033 2	4654 11
TX89A7141	17	4323 31	3909 34	4106 24	7145 4	4101 1	4650 12
T70	43	4266 34	4101 22	4243 17	6973 9	4017 3	4635 13
XH1610	38	4920 7	4304 13	4361 11	6340 22	3271 28	4631 14
TAM-107	3	4066 40	3804 37	4097 27	7199 2	3985 5	4601 15
TX88A6533	9	4225 36	4067 23	4371 9	7095 6	3460 20	4574 16
KS92P0363-134	26	4797 10	4255 18	4101 26	6322 23	3217 31	4572 17
CO880210	20	4281 32	3865 35	4150 21	6911 10	4000 4	4569 18
TX91V3308	16	4765 12	4467 9	3810 37	6882 11	2793 42	4565 19
OK88767-24	7	4452 26	4276 17	4040 30	6658 15	3290 27	4514 20
NE90524	32	4622 17	4051 25	4051 29	6288 25	3508 15	4499 21
TX90V8410	13	4530 21	3636 40	4198 19	6447 20	3899 6	4494 22
KS831374-142	22	4534 20	4161 20	4408 7	6376 21	2940 37	4485 23
CO880169	19	4272 33	4052 24	4166 20	6726 14	3459 21	4469 24
TX91V4931	12	4633 16	3961 31	4102 25	6110 27	3575 14	4443 25
KS89H48-1	28	4424 27	3990 28	4402 8	6040 30	3472 19	4430 26
T13	41	3733 43	3993 27	4245 16	6770 13	3775 8	4400 27
OK88767-15	6	4466 25	4290 15	3995 33	6018 31	3208 33	4379 28
CO880054	18	4087 39	3583 41	3935 35	6986 7	3508 16	4372 29
TX90D9277	10	4562 19	4365 10	3967 34	6060 29	2826 41	4368 30
TX90V7911	14	4785 11	3969 30	3719 40	5925 34	3070 35	4331 31
NE90574	33	4208 37	4300 14	4283 15	5734 40	3211 32	4314 32
T64	44	4181 38	3973 29	4299 14	5823 36	3503 17	4297 33
TX88A6480	8	4487 24	3831 36	4075 28	5922 35	3238 29	4291 34
NE90479	31	4564 18	3995 26	4232 18	5254 42	3389 24	4283 35
N87V106	29	4409 28	4331 12	3594 42	5942 33	2992 36	4268 36
CO880240	21	3888 42	3944 32	4369 10	6089 28	3159 34	4234 37
OK88767-02	5	4502 23	4355 11	3732 39	5770 39	2744 43	4232 38
W87-017-44	39	4508 22	3439 43	3881 36	6195 26	2929 38	4222 39
KS84063-9-7	23	4693 14	3672 39	3791 38	5979 32	2622 44	4204 40
NE88584	30	4038 41	3680 38	3544 43	6522 19	2873 40	4132 41
TX91V5739	15	4251 35	3517 42	3664 41	5503 41	3345 26	4073 42
TH905	45	4402 30	3937 33	4039 31	5223 43	2889 39	4065 43
Scout66	2	3675 44	3146 44	3454 44	5077 44	3231 30	3686 44
Kharkof	1	2322 45	2572 45	2656 45	4055 45	1975 45	2653 45
MEAN		4466	4072	4111	6302	3368	4443
LSD(.05)		517	N.S.	472	1063	926	350
C.V.		7.6	13.1	9.3	13.8	14.5	11.8

Table 5. Summary of mean yields (kg/ha) and ranks for 10 wheats grown in the Southern Regional Performance Nursery at 21 sites in 1992 and 1993 with state means and ranks.

VARIETY OR PEDIGREE	: C.I. OR SEL. NO.	: ENTRY: NO.	: HUTCHINSON KANSAS	: HAYS* KANSAS	: COLBY* KANSAS	: GARDEN CITY KANSAS	: KANSAS STATE MEAN
TAM-107	TAM-107	3	1131 9	3764 4	2236 2	3271 2	2201 6
TX71A889/TAM-101	TX88A6533	9	1476 5	3868 2	1924 5	2784 8	2130 7
TAM-107/TAM-105	T13	41	1219 8	3818 3	2302 1	3016 5	2117 9
Siouxland/TAM-101	TX88A6480	8	1340 7	3599 5	1991 4	2905 7	2122 8
Dular/Eagle//2*Cheney/Larned/3/Colt	KS89H48-1	28	2237 3	4046 1	2214 3	3448 1	2843 2
Karl sib	KS831374-142	22	2840 2	3534 6	1681 7	3216 3	3028 1
Complex Pedigree	N87V106	29	2954 1	3043 8	1398 10	2656 9	2805 3
Centura/Dawn//Colt sib	NE88584	30	2170 4	2784 9	1574 9	2984 6	2577 4
Scout 66	Scout66	2	1461 6	3166 7	1826 6	3115 4	2288 5
Kharkof	Kharkof	1	592 10	2294 10	1594 8	2084 10	1338 10
	MEAN		1742	3392	1874	2948	2345
	LSD(.05)		686	N.S.	N.S.	591	N.S.
	C.V.		15.0	6.2	12.1	10.0	11.9

* Not included in state or regional means.

Table 5. Continued.

C.I. OR SEL. NO.	: ENTRY: NO.	: NORTH PLATTE NEBRASKA	: HEMING- FORD NEBRASKA	: NEBRASKA STATE MEAN	: FORT COLLINS COLORADO	: AKRON* COLORADO	: JULESBURG COLORADO	: BURLINGTON COLORADO	: COLORADO STATE MEAN
TAM-107	3	4114 6	3900 3	4007 2	8707 2	3437 2	2893 4	3505 2	5035 1
TX88A6533	9	4527 2	3741 5	4134 1	8479 3	3261 4	3229 1	3245 4	4984 2
T13	41	3871 7	4081 2	3976 4	8255 4	3817 1	2987 3	3684 1	4975 3
TX88A6480	8	4130 5	3275 9	3702 8	9230 1	3380 3	2809 6	2875 8	4971 4
KS89H48-1	28	4476 4	3399 6	3937 6	7810 5	3162 6	2999 2	3446 3	4752 5
KS831374-142	22	4480 3	3223 10	3851 7	7415 7	3186 5	2877 5	3084 6	4459 6
N87V106	29	4635 1	3340 8	3987 3	7281 8	2567 9	2333 8	2605 9	4073 8
NE88584	30	3766 8	4180 1	3973 5	7630 6	2708 8	2188 9	3236 5	4351 7
Scout66	2	3134 9	3817 4	3475 9	6535 9	2715 7	2568 7	2972 7	4025 9
Kharkof	1	2638 10	3368 7	3003 10	5103 10	2489 10	1975 10	1961 10	3013 10
	MEAN	3977	3632	3805	7645	3072	2686	3061	4464
	LSD(.05)	N.S.	N.S.	N.S.	N.S.	N.S.	N.S.	N.S.	N.S.
	C.V.	11.6	9.7	10.8	15.5	10.8	12.2	7.8	16.2

* Not included in state or regional means.

Table 5. Continued.

C.I. OR SEL. NO.	: ENTRY: NO.	: PROSPER TEXAS	: CHILLI- COTHE TEXAS	: BUSHLAND (IRR.) TEXAS	: TEXAS STATE MEAN	: CLOVIS (IRR.) NEW MEXICO	: CLOVIS (DRYL.) NEW MEXICO	: FARMINGTON NEW MEXICO	: NEW MEXICO STATE MEAN
TAM-107	3	3742 3	3711 7	6003 7	4486 5	6802 2	3006 2	6218 2	5342 2
TX88A6533	9	3264 7	3192 9	6733 1	4396 7	7326 1	2315 6	6420 1	5353 1
T13	41	2884 9	3228 8	5832 8	3981 9	6601 3	2669 4	6196 3	5156 3
TX88A6480	8	3951 2	3987 5	6570 3	4836 3	5077 6	2679 3	4793 5	4183 4
KS89H48-1	28	3655 4	4491 2	6669 2	4938 2	5774 4	2221 7	4553 7	4182 5
KS831374-142	22	4431 1	4431 3	6222 4	5028 1	4427 7	1676 9	4280 8	3461 9
N87V106	29	3440 5	4607 1	6021 5	4689 4	5447 5	1859 8	4143 9	3816 8
NE88584	30	3277 6	4000 4	6019 6	4432 6	3675 10	2323 5	5991 4	3996 6
Scout66	2	3059 8	3714 6	5226 9	4000 8	4235 8	3016 1	4735 6	3995 7
Kharkof	1	1651 10	2297 10	3680 10	2542 10	3984 9	1620 10	3380 10	2995 10
MEAN		3335	3766	5897	4333	5335	2338	5071	4248
LSD(.05)		801	715	1215	653	1922	N.S.	N.S.	N.S.
C.V.		18.1	6.9	7.5	10.6	17.9	22.3	14.9	17.7

Table 5. Concluded.

C.I. OR SEL. NO.	: ENTRY: NO.	: STILLWATER OKLAHOMA	: LAHOMA* OKLAHOMA	: GOODWELL OKLAHOMA	: OKLAHOMA STATE MEAN	: COLUMBIA MISSOURI	: ABERDEEN IDAHO	: REGIONAL AVERAGE
TAM-107	3	1743 7	1970 6	5811 5	3777 6	3595 1	9711 1	4580 1
TX88A6533	9	2078 6	2219 3	6424 2	4251 4	3185 5	9134 3	4562 2
T13	41	1524 8	1955 7	5714 6	3619 8	3206 4	9553 2	4383 3
TX88A6480	8	2192 5	2098 5	6842 1	4517 1	2704 8	8882 4	4367 5
KS89H48-1	28	2529 3	2776 2	6319 3	4424 2	3291 3	6930 8	4367 4
KS831374-142	22	2549 1	2838 1	6251 4	4400 3	3115 6	7381 7	4229 6
N87V106	29	2547 2	2143 4	5556 7	4052 5	3396 2	7667 5	4146 7
NE88584	30	2269 4	1650 8	5094 8	3681 7	3092 7	7520 6	4083 8
Scout66	2	1508 9	951 9	5085 9	3296 9	2629 9	5627 9	3673 9
Kharkof	1	1118 10	727 10	3291 10	2204 10	2026 10	5109 10	2699 10
MEAN		2006	1933	5639	3822	3024	7839	4114
LSD(.05)		663	1044	754	1201	N.S.	N.S.	373
C.V.		11.3	17.2	8.6	9.9	10.5	17.9	14.7

* Not included in state or regional means.

Table 6. Mean yield, regression coefficient, correlation coefficient, and coefficient of determination from linear regression analysis of variety mean yield on nursery mean yield for the 45 entries in the 1993 Southern Regional Performance Nursery grown at 21 locations.

C.I. OR SEL. NO.	: ENTRY: NO.	: 21 SITE REGIONAL AVERAGE KG/HA	: REGRESSION COEFFICIENT (b)	: CORRELATION COEFFICIENT (r)	: COEFFICIENT OF DETERMINATION (r ²)
XH1529	37	5065	0.95	0.96	0.93
XH1520	36	4944	1.10	0.99	0.98
KS92P0263-137	25	4927	1.04	0.97	0.95
KS92P0425-155	27	4815	0.79	0.93	0.87
KS92P059E	24	4798	1.08	0.98	0.96
XH1455	34	4785	0.96	0.98	0.96
XH1485	35	4768	1.08	0.98	0.97
WI89-055	40	4767	1.14	0.97	0.95
OK88767-11	4	4737	1.14	0.97	0.93
TX89A7137	11	4709	1.25	0.97	0.94
T4731	42	4654	0.68	0.94	0.89
TX89A7141	17	4650	1.15	0.95	0.91
T70	43	4635	1.16	0.97	0.94
XH1610	38	4631	1.00	0.98	0.97
TAM-107	3	4601	1.14	0.94	0.89
TX88A6533	9	4574	1.24	0.96	0.91
KS92P0363-134	26	4572	0.78	0.95	0.91
C0880210	20	4569	1.18	0.98	0.96
TX91V3308	16	4565	1.13	0.95	0.90
OK88767-24	7	4514	1.13	0.98	0.96
NE90524	32	4499	0.86	0.98	0.96
TX90V8410	13	4494	1.01	0.92	0.84
KS831374-142	22	4485	1.04	0.97	0.94
C0880169	19	4469	1.17	0.98	0.95
TX91V4931	12	4443	1.02	0.98	0.91
KS89H48-1	28	4430	0.94	0.99	0.97
T13	41	4400	1.14	0.95	0.91
OK88767-15	6	4379	1.01	0.96	0.92
C0880054	18	4372	1.17	0.97	0.94
TX90D9277	10	4368	0.84	0.96	0.93
TX90V7911	14	4331	0.99	0.97	0.94
NE90574	33	4314	0.84	0.96	0.92
T64	44	4297	1.01	0.97	0.94
TX88A6480	8	4291	1.07	0.97	0.93
NE90479	31	4283	0.79	0.94	0.88
N87V106	29	4268	0.88	0.96	0.93
C0880240	21	4234	0.91	0.97	0.94
OK88767-02	5	4232	0.94	0.96	0.91
W87-017-44	39	4222	1.01	0.95	0.91
KS84063-9-7	23	4204	0.89	0.95	0.90
NE88584	30	4132	0.90	0.92	0.84
TX91V5739	15	4073	1.03	0.95	0.91
TH905	45	4065	0.90	0.98	0.97
Scout66	2	3686	0.73	0.90	0.81
Kharkof	1	2653	0.61	0.88	0.77

Table 7. Mean yield, regression coefficient, correlation coefficient, and coefficient of determination from linear regression analysis of variety mean yield on nursery mean yield for the 10 entries in the 1992 and 1993 Southern Regional Performance Nursery grown at 16 locations.

C.I. OR SEL. NO.	: ENTRY: NO.	: 16 SITE REGIONAL AVERAGE KG/HA	: REGRESSION COEFFICIENT (b)	: CORRELATION COEFFICIENT (r)	: COEFFICIENT OF DETERMINATION (r ²)
TAM-107	3	4580	1.24	0.97	0.94
TX88A6533	9	4562	1.27	0.97	0.95
T13	41	4383	1.22	0.97	0.94
TX88A6480	8	4367	1.22	0.96	0.92
KS89H48-1	28	4367	0.96	0.96	0.93
KS831374-142	22	4229	0.90	0.91	0.83
N87V106	29	4146	0.91	0.94	0.89
NE88584	30	4083	0.86	0.93	0.86
Scout66	2	3673	0.72	0.91	0.82
Kharkof	1	2699	0.64	0.90	0.80

Table 8. Summary of agronomic and yield data for 45 wheats grown in the 1993 Southern Regional Performance Nursery.

VARIETY OR PEDIGREE	: : C.I. OR : SEL. NO.	: : ENTRY: : NO. :	: PLANT : HEIGHT : CM :	: DAYS TO : HEADING : FROM 1/1:	: WINTER : SURVIVAL : %	: LODGING : % :	: SEEDLING : STEM RUST: : 0-9	: SEEDLING : LEAF RUST: : 0-9
	Number of Trials		23	19	2	3	1	1
Quantum Hybrid Wheat	XH1529	37	86	134	96	13	5	3
Quantum Hybrid Wheat	XH1520	36	90	135	99	23	.	7
W2440/W9488A//2163	KS92P0263-137	25	87	138	99	19	5	3
W8447D/W2436//W3420	KS92P0425-155	27	80	139	99	31	2	8
WX11088/2165//W8447	KS92P059E	24	86	138	97	20	0	5
Quantum Hybrid Wheat	XH1455	34	91	138	99	31	2	2
Quantum Hybrid Wheat	XH1485	35	91	137	99	26	3	9
TX81V6187/Abilene (Ogallala)	WI89-055	40	81	136	96	8	8	7
F29-76/TAM-105//Chisholm	OK88767-11	4	83	135	99	4	5	0
TAM-105/10334	TX89A7137	11	86	136	99	17	8	8
T14//Brule/TAM-108	T4731	42	87	139	96	24	5	9
TAM-105/10334	TX89A7141	17	84	135	98	19	8	8
Coker 68-151/TAM-107	T70	43	85	138	94	31	7	6
Quantum Hybrid Wheat	XH1610	38	90	138	98	22	2	8
TAM-107	TAM-107	3	86	135	97	23	5	8
TX71A889/TAM-101	TX88A6533	9	81	138	99	19	3	9
WX12907/T-108//W2440	KS92P0363-134	26	87	138	99	8	2	.
TAM-107/TX3006	C0880210	20	86	137	98	29	3	8
TAM-108/Vee's'//TX84V2029	TX91V3308	16	86	138	91	15	0	0
F29-76/TAM-105//Chisholm	OK88767-24	7	83	135	99	3	3	3
Brule seln/4/Bez 1/3/Ctk//Arthur/Ctk78	NE90524	32	98	138	97	22	2	2
TX81V6603/TX78A3345-V34	TX90V8410	13	85	137	92	37	3	1
Karl sib	KS831374-142	22	83	135	99	17	5	3
TAM-107/Hall	C0880169	19	92	138	98	24	9	3
TAM-200//TX38949-2/TAM-107	TX91V4931	12	85	136	89	21	3	1
Dular/Eagle//2*Cheney/Larned/3/Colt	KS89H48-1	28	91	138	99	23	2	4
TAM-107/TAM-105	T13	41	87	138	99	24	7	9
F29-76/TAM-105//Chisholm	OK88767-15	6	79	136	96	0	3	1
Lov 13/2*Ctk78//TAM-105	C0880054	18	86	138	98	18	3	3
TAM-200//Sx1/Tan 's'	TX90D9277	10	88	139	91	19	3	3
TX78V2430-2/TX86V1540	TX90V7911	14	86	138	97	20	5	0
Rodeo/Brule seln//Arapahoe	NE90574	33	95	140	99	31	2	1
Osage/TAM-105	T84	44	88	138	96	18	8	4
Siouxland/TAM-101	TX88A6480	8	83	136	97	30	9	9
KS83H2510/Brule composite	NE90479	31	93	138	99	22	5	5
Complex Pedigree	NE7V106	29	90	136	94	22	0	4
Colt/TX3006	C0880240	21	92	143	99	28	3	6
F29-76/TAM-105//Chisholm	OK88767-02	5	84	136	98	3	3	1
W81-133/Thunderbird (Ponderosa)	W87-017-44	39	86	137	95	3	5	6
KS82W418/Stephens	KS84063-9-7	23	91	138	95	13	7	3
Centura/Dawn//Colt sib	NE88584	30	99	138	99	25	2	5
TX86V1540//Lind/Tan	TX91V5739	15	89	136	93	5	9	2
HRW Hybrid	TH905	45	89	134	99	17	8	8
Scout 66	Scout66	2	104	139	99	68	8	9
Kharkof	Kharkof	1	108	145	99	76	9	9

Table 8. Concluded.

C.I. OR SEL. NO.	: ENTRY: NO. :	:LEAF RUST: SEVERITY : % :	MILDEW % :	: SEPTORIA: : HEAD BL.: 0-9 :	SEPTORIA: 0-9 :	BYD VIRUS 0-9 :	: GREEN :LEAF DUR.: 0-9 :	: VOLUME : WEIGHT : KG/HL :	: YIELD : KG/HA :
	Number of Trials	3	1	2	1	1	2	24	21
XH1529	37	18	5	8	.	1	7	76	5065
XH1520	36	27	4	9	.	0.7	8.5	75.2	4944
KS92P0263-137	25	17	7	3	3	0.7	3.5	74.7	4927
KS92P0425-155	27	27	3	6	.	1	6.5	71.6	4815
KS92P059E	24	16	6	5	5	0.7	4.5	71.7	4798
XH1455	34	20	3	8	.	1.7	7.5	75	4785
XH1485	35	48	9	9	.	1	8.5	74.8	4768
WI89-055	40	11	3	9	.	1.3	8.5	76.1	4767
OK88767-11	4	9	1	8	2	1.7	8	75.9	4737
TX89A7137	11	64	1	9	4	2.3	9	73	4709
T4731	42	58	2	9	.	2	9	70.6	4654
TX89A7141	17	66	1	9	5	1.7	9	73.6	4650
T70	43	49	0	9	.	3	9	73.9	4635
XH1610	38	12	0	9	.	1.7	8.5	73.8	4631
TAM-107	3	79	0	9	2	2	9	73	4601
TX88A6533	9	72	1	9	3	1.7	9	73.9	4574
KS92P0363-134	26	2	11	4	.	1	4.5	73.2	4572
CO880210	20	49	0	9	4	2.3	9	74	4569
TX91V3308	16	12	0	6	6	1	6	72.6	4565
OK88767-24	7	6	0	8	3	2.3	8	75.1	4514
NE90524	32	16	13	7	.	1	7.5	74.8	4499
TX90V8410	13	28	5	8	7	1	7.5	73.5	4494
KS831374-142	22	58	3	6	3	1	8	75.2	4485
CO880169	19	36	13	9	9	1.7	9	73.6	4469
TX91V4931	12	52	0	9	4	2.7	9	77.3	4443
KS89H48-1	28	43	5	9	.	1	9	75	4430
T13	41	79	1	9	.	2.7	9	73.1	4400
OK88767-15	6	3	0	8	2	2	7	75.9	4379
CO880054	18	36	0	9	7	2.7	9	71.9	4372
TX90D9277	10	1	0	6	2	3	5.5	73.1	4368
TX90V7911	14	11	5	6	2	2.7	5	74.3	4331
NE90574	33	42	1	8	.	0.7	8	72.4	4314
T64	44	49	3	9	.	1.3	9	74.7	4297
TX88A6480	8	74	12	9	2	1.7	9	72.5	4291
NE90479	31	49	6	7	.	0.7	7.5	76.4	4283
N87V106	29	22	7	8	.	1	8.5	74.3	4268
CO880240	21	29	3	9	3	2	9	73.4	4234
OK88767-02	5	3	0	8	2	1.7	8	76.5	4232
W87-017-44	39	4	4	9	.	3	9	74.6	4222
KS84063-9-7	23	2	10	3	8	1.7	2	74.3	4204
NE88584	30	38	5	9	.	1.7	8	75.3	4132
TX91V5739	15	2	1	7	7	2	7	72.6	4073
TH905	45	30	3	8	.	2.7	8	73.3	4065
Scout66	2	58	5	9	2	2	9	74.2	3686
Kharkof	1	66	12	9	3	3.7	9	72.6	2653

Table 9. Seedling reaction of entries of the 1993 Southern Regional Hard Red Winter Wheat Performance Nursery to selected isolates of Puccinia graminis f. sp. tritici. (D. V. McVey, USDA-ARS, Cereal Rust Laboratory, U. of Minnesota, St. Paul, MN 55108.)

No.	Line	Isolates							Sr Gene
		QFBS	QSHS	RKQS	RPQQ	RTQQ	TNMH	TNMK	
1	CI1442	S	S	S	S	S	S	S	None
2	CI13996	S	2	S	;1N	;1N	0;	S	17
3	PI495594	2=	2-	2=	2=	;1	2=	2=	Amigo
4	OK88767-11	2-	2=	2=	0	2=	2=	2=	Amigo
5	OK88767-02	2=	2=	2=	2=	2=	1	2=	Amigo
6	OK88767-15	2=	2=	2=,S	2=	2=	2=	2=,S	seg Amigo
7	OK88767-24	2=	2=	2=	2=	2=	0	2=	Amigo
8	TX88A6480	S	S	S	S	S	S	S	None
9	TX88A65633	0	S	S	0	0	0	0	6,17
10	TX900D9277	2-	2-	2=	2-	2=	2=,S	2=,S	seg24/31
11	TX89A7137	2-	S	23CN	2=	XCN	2=,S	S,2=	+
12	TX91V4931	2=	2=	2=	2=	2=	2=	2=	Amigo
13	TX90V8410	2=	2=	S,2=	S,2=	2=,S	2	2=	Amigo
14	TX90V7911	2=	2-	2=,S	0	0	0	2-,S	17,Amigo
15	TX91V5739	S	S	S	S	S	S	S	None
16	TX91V3308	0	2-	;1-	0	0	0	0	6,17,+
17	TX89A7141	S	S	S	S	S	S	S	None
18	C0880054	0	2=	2=	0	0	0	0;	6,17,31
19	C0880169	S	S	S	S	S	S	S	None
20	C0880210	2=	2=	2=	0	0;	0;	2=	17,Amigo
21	C0880240	0	2-	2	0	;1N	0	0;	6,17,24
22	KS831374-142	2	2-	S	S	S	2=	S	+
23	KS84063-9-7	;1N	XCN	S	21CN	;1N	S	S	10,+
24	KS92P059E	0	S	S	0	S	0	0	6
25	KS92P0263---	2	S	S	S	S	2	2=	9b
26	KS92P0363---	2	S	S	;1	0;	0;	2	9b,17
27	KS92P0425---	0	S	S	0;	S	0	0;	6
28	KS89H48-1	;1-	2-	2	0	0	0	0;	6,17,24
29	N87V106	0;	2	23	0	0;	0	2-	10,17,+
30	NE88584	0;	S	S	0	0	0	0;	6,17
31	NE90479	2-	2-	23	0;	0	0	S	17,+
32	NE90524	2C,0;	2	23	0	0	0	0;,2	17,+,seg6
33	NE90574	0	2-	2	0	0	0	0;	6,17,24
34	XH1455	2-	2=	2=	1	0	0	2=	17,24?
35	XH1485	0;	2-	2=	0	0	0	;1N	6,17,24?
36	XH1520	2=	2	2=,S	2	0;	0	S	+
37	XH1529	2=	2-	2=	0;,2=	2-	0,2=	2=,S	seg17,24?
38	XH161017	2=	2=	2=	0;	2=	;1-	2=	24
39	W87-017-44	S	S	S	0;	0	0;	S	17
40	WI89-055	;1	2=	2=	2=	2-	2=	2=	Amigo
41	T13	2=	2	1	2=	2=	2=	2=,S	Amigo
42	T4731	;1N	S	S	;1-	S	0	0;	6,+
43	T70	2=	2-	2=	2=	0	2=	2=	Amigo
44	T64	2-	0	2-	23	S	S	23	+
45	TH905	1CN	S	S	X	S	21CN	S,;1	+

Table 10. Adult plant reaction of 1993 Southern Regional Winter Wheat Performance Nursery grown at St. Paul, MN to leaf and stem rust. (D. V. McVey, USDA-ARS, Cereal Rust Laboratory, U. of Minnesota, St. Paul, MN 55108.)

Entry No.	Sel. No.	Leaf Rust	Stem Rust
1	Kharkof	30S	80S
2	Scout 66	40S	5R-MR
3	TAM-107	60S	20MR
4	OK88767-11	5MS-S	5R-MR
5	OK88767-02	TMR-MS	TR-MR
6	OK88767-15	5MS-S	TR-MR
7	OK88767-24	5MS-S	10R-MR
8	TX88A6480	40S	80S
9	TX88A65633	30MS-S	60S
10	TX900D9277	20MS-S	60S
11	TX89A7137	20MS-S	10MR-MS
12	TX91V4931	10MS-S	10MR-MS
13	TX90V8410	20MS-S	30S
14	TX90V7911	TMR-MS	60S
15	TX91V5739	40S	80S
16	TX91V3308	TR	TR
17	TX89A7141	40S	20MS
18	C0880054	TR, 50S	TR
19	C0880169	5MR-MS	TR
20	C0880210	40S	5R-MR
21	C0880240	60S	10MR-MS
22	KS831374-142	60S	60S
23	KS84063-9-7	0	TS (node)
24	KS92P059E	0	20MS-S
25	KS92P0263---	10S	60S
26	KS92P0363---	TS	40S
27	KS92P0425---	30S	60S
28	KS89H48-1	60S	40MS-S
29	N87V106	TMS	30MS
30	NE88584	20S	40MS-S
31	NE90479	TMR-MS	30MS-S
32	NE90524	5MS-S	20MR-MS
33	NE90574	5MS	5MS-S
34	XH1455	5MS-S	TR
35	XH1485	5MS-S	TR
36	XH1520	5MS-S	30S
37	XH1529	5MS-S	30MR-MS
38	XH161017	TMR-MS	5MR-MS
39	W87-017-44	TS	20S
40	WI89-055	TR-MR	TR
41	T13	20S	5MR
42	T4731	20MS-S	40S
43	T70	20MS-S	5R-MR
44	T64	30S	5R-MR
45	TH905	TS	30S

Leaf rust read July 6, Stem rust read July 13

Table 11. Hessian fly reaction, Great Plains biotype, for entries in the 1993 Southern Regional Performance Nursery. Data provided by J. H. Hatchett, USDA-ARS, Manhattan, KS.

C.I. OR SEL. NO.	ENTRY: NO.	HESSIAN FLY			NO. OF PLANTS RES. : SUSC.
		REACTION TYPE			
Kharkof	1	S	0	26	
Scout66	2	S	0	22	
TAM-107	3	S	0	22	
OK88767-11	4	S	0	21	
OK88767-02	5	S	0	23	
OK88767-15	6	S	0	20	
OK88767-24	7	H	5	16	
TX88A6480	8	S	0	28	
TX88A6533	9	S	2	16	
TX90D9277	10	S	1	25	
TX89A7137	11	S	0	22	
TX91V4931	12	S	0	21	
TX90V8410	13	S	0	23	
TX90V7911	14	S	0	25	
TX91V5739	15	S	0	24	
TX91V3308	16	S	0	28	
TX89A7141	17	S	0	22	
CO880054	18	S	0	24	
CO880169	19	H	15	10	
CO880210	20	S	0	25	
CO880240	21	S	2	25	
KS831374-142	22	S	0	27	
KS84063-9-7	23	S	0	26	
KS92P059E	24	R	28	0	
KS92P0263-137	25	R	20	3	
KS92P0363-134	26	H	9	10	
KS92P0425-155	27	R	26	0	
KS89H48-1	28	H	8	12	
N87V106	29	S	0	18	
NE88584	30	H	6	19	
NE90479	31	S	3	18	
NE90524	32	H	0	26	
NE90574	33	H	5	16	
XH1455	34	S	0	30	
XH1485	35	S	0	26	
XH1520	36	S	0	24	
XH1529	37	H	22	5	
XH1610	38	S	0	22	
W87-017-44	39	H	6	21	
WI89-055	40	S	0	22	
T13	41	S	0	22	
T4731	42	H	18	6	
T70	43	S	0	26	
T64	44	S	0	25	
TH905	45	S	0	25	

Table 12. Presence of 1RS in wheat genotypes entered in 1993 Southern Regional Performance Nursery.

No.	Entry	Relative OD	Putative wheat-rye translocation
12	TX91V4931	2.03*	1AL/1RS
3	TAM107	1.93*	1AL/1RS
20	C0880210	1.87*	1AL/1RS
7	OK88767-24	1.82*	1BL/1RS
5	OK88767-02	1.80*	1BL/1RS
16	TX91V3308	1.79*	1BL/1RS
43	T70	1.79*	1AL/1RS
4	OK88767-11	1.79*	1BL/1RS
6	OK88767-15	1.77*	1BL/1RS
41	T13	1.68*	1AL/1RS
38	XH1610	1.52*	1AL/1RS (het.) ¹
37	XH1529	1.44*	1AL/1RS (het.)
10	TX90D9277	1.30*	1AL/1RS
40	Ogallala	1.26	1AL/1RS (het.)
18	C0880054	1.26	1BL/1RS (het.)
13	TX90V8410	1.24	1BL/1RS (het.)
34	XH1455	1.14	1BL/1RS (het.)
1	Kharkof	1.12	none
42	T4731	0.99	none
9	TX88A6533	0.92	none
45	TH905	0.89	none
30	NE88584	0.84	none
26	KS92P0363-134	0.83	none
11	TX89A7137	0.81	none
36	XH1520	0.79	none
35	XH1485	0.77	none
39	W87-017-44	0.73	none
27	KS92P0425-155	0.72	none
25	KS92P0263-137	0.71	none
24	KS92P059E	0.70	none
23	KS84063-9-7	0.69	none
8	TX88A6480	0.69	none
29	N87V106	0.68	none
32	NE90524	0.68	none
2	Scout 66	0.67	none
33	NE90574	0.65	none
28	KS89H-48-1	0.64	none
31	NE90479	0.64	none
14	TX90V7911	0.62	none
17	TX89A7141	0.61	none
19	C0880169	0.59	none
15	TX91V5739	0.57	none
22	KS831374-142	0.54	none
21	C0880240	0.53	none
44	T64	0.50	none

*Denotes ELISA responses stastically higher than that of Kharkof, the known non-1RS wheat giving the highest response.

¹(het.) indicates heterogeneous entry.

Table 12 - Methods: Screening of regional nursery samples for the presence of wheat-rye chromosomal translocations. R. A. Graybosch, USDA-ARS, Lincoln, NE.

All entries in the 1993 SRPN, NRPN and WRPN were screened for the presence of wheat-rye chromosomal translocations involving rye chromosome arm 1RS. An initial screen was conducted using an enzyme linked immunosorbent assay (ELISA) with an anti-secalin monoclonal antibody (see Cereal Chemistry 70:458). The antibody detects rye secalins encoded by genes on 1RS; high positive readings in ELISA are indicative of 1RS. ELISA responses are given as log₁₀ transformations of relative OD's. Relative OD's were calculated by comparisons to a TAM-107 (1AL/1RS) control sample. In each nursery, samples with statistically higher responses than the highest known non-translocation entry (Kharkof in the SRPN and NRPN, Larned in the WRPN) were suspected to carry translocations. Entries were further screened using SDS-PAGE and HPLC separations of 70% ethanol soluble grain proteins. The electrophoretic and chromatographic separations served to confirm the ELISA determinations, and allowed designations of translocations as either 1AL/1RS or 1BL/1RS. To the best of our knowledge, no false positives were observed in ELISA. Four heterogeneous lines escaped detection in ELISA, but were found to carry secalins with SDS-PAGE and HPLC. No cytological observations were conducted.

Table 13a. Mean coleoptile length, mean seed weight of the 45 entries in the 1993 SRPN grown at Bushland, TX (irrigated) and at Chillicothe, TX (rainfed), and mean height of the 45 entries over all locations. Coleoptile length and seed weight provided by K. B. Porter.

C.I., P.I. OR SEL. NO.	ENTRY NO.	COLEOPTILE LENGTH				2-SITE MEAN WT 16 SEED PLANTED	LOCATION MEAN PLANT HEIGHT
		CHILLICOTHE, TX	BUSHLAND, TX	2- SITE 1993 MEAN	4-SITE 1992- 1993 MEAN		
		mm	mm	mm	mm	mg	cm
CI13986	2	120	120	120	115	453	104
CI1442	1	111	107	109	110	416	108
NE88584	30	102	108	105	102	462	99
NE90524	32	101	103	102		446	98
T70	43	99	105	102		521	85
TX90D9277	10	93	103	98		428	88
T13	41	86	98	92	89	373	87
PI495594	3	87	94	91	88	467	86
TX91V5739	15	87	90	89		490	89
TX89A7137	11	85	90	88		512	86
XH1610*	38	88	87	88		453	90
KS92P059E	24	85	89	87		528	86
OK88767-02	5	90	83	87		524	84
CO880240	21	84	87	86		457	92
TX91V4931	12	81	89	85		486	85
CO880210	20	86	84	85		404	86
TX89A7141	17	82	86	84		532	84
WI89-055	40	81	86	84		473	81
TH905*	45	86	82	84		527	89
OK88767-15	6	84	80	82		505	79
T64	44	82	81	82		460	88
T4731	42	78	85	82		407	87
TX90V8410	13	80	80	80		522	85
CO880169	19	79	81	80		391	92
KS89H48-1	28	79	80	80	78	465	91
TX88A6533	9	76	82	79	78	474	81
NE90479	31	78	79	79		518	93
KS84063-9-7	23	78	78	78		503	91
KS92P0263-137	25	76	79	78		492	87
KS92P0363-134	26	77	77	77		432	87
N87V106	29	77	77	77	76	462	90
OK88767-11	4	74	78	76		528	83
XH1455*	34	77	75	76		427	91
XH1520*	36	75	76	76		439	90
XH1529*	37	76	75	76		487	86
OK88767-24	7	76	74	75		537	83
CO880054	18	67	80	74		385	86
KS831374-142	22	73	75	74	70	464	83
TX91V3308	16	74	72	73		500	86
KS92P0425-155	27	72	71	72		421	80
W87-017-44	39	70	73	72		473	86
NE90574	33	67	75	71		413	95
XH1485*	35	69	71	70		447	91
TX886480	8	65	70	68	69	514	83
TX90V7911	14	70	61	66		503	86
MEAN		82	84	83	87	469	
LSD (.05)				7	6	80	
C.V.				4	5	9	

* Hybrids were evaluated using F₂ seed.

Table 13b. Correlation of coleoptile length of 1993 entries from 2 seed sources, mean seed weight and mean plant height over locations.

	Coleoptile Length		
	Chillicothe, TX	Bushland, TX	2-Site 1993 Mean
r value coleoptile length and weight of seed planted	0.00	-0.12	-0.11
probability > r	100	0.44	0.47
r value coleoptile length and mean plant height	0.60	0.54	0.58
probability > r	0.001	0.001	0.001

Table 14. Reactions of entries in the 1993 Southern Regional Performance Nursery to Soilborne Mosaic and Barley Yellow Dwarf Viruses. Data provided by A. D. Hewings, USDA-ARS, Urbana, IL.

C.I. OR SEL. NO.	ENTRY: NO.	SOILBORNE MOSAIC		BARLEY YELLOW DWARF	
		0-9 REP1	0-9 REP 2	0-9 REP 1	0-9 REP 2
Kharkof	1	8	8	4	4
Scout66	2	8	8	4	4
TAM-107	3	7	7	4	4
OK88767-11	4	9	8	4	5
OK88767-02	5	1	2	5	4
OK88767-15	6	2	5	5	4
OK88767-24	7	7	8	4	6
TX88A6480	8	6	6	3	5
TX88A6533	9	8	8	3	5
TX90D9277	10	8	8	3	4
TX89A7137	11	8	8	4	5
TX91V4931	12	8	9	3	4
TX90V8410	13	8	9	4	4
TX90V7911	14	8	8	5	6
TX91V5739	15	8	8	3	5
TX91V3308	16	1	1	4	4
TX89A7141	17	6	7	3	4
CO880054	18	5	2	3	4
CO880169	19	7	7	4	4
CO880210	20	6	6	3	5
CO880240	21	6	5	4	2
KS831374-142	22	1	2	4	5
KS84063-9-7	23	2	1	2	2
KS92P059E	24	1	1	4	7
KS92P0263-137	25	3	3	3	4
KS92P0363-134	26	6	4	4	3
KS92P0425-155	27	1	1	5	5
KS89H48-1	28	6	4	3	3
N87V106	29	8	6	6	6
NE88584	30	6	4	3	3
NE90479	31	7	7	4	4
NE90524	32	8	8	4	5
NE90574	33	7	5	4	4
XH1455	34	2	3	3	4
XH1485	35	2	2	4	4
XH1520	36	1	2	3	3
XH1529	37	7	3	3	5
XH1610	38	2	1	4	4
W87-017-44	39	7	7	5	4
WI89-055	40	8	8	4	5
T13	41	7	7	3	5
T4731	42	6	3	3	4
T70	43	7	2	4	5
T64	44	8	2	3	4
TH905	45	1	2	4	4

Table 15. Reaction of entries in the 1993 Southern Regional Performance Nursery to Soilborne Mosaic Virus - Stillwater, OK.

Selection	Visual (0-3)			ELISA		
	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3
1 CI1442	2	3	3	0.909	0.943	0.601
2 CI13996	3	3	3	0.757	0.952	0.778
3 PI495594	2	3	3	0.849	0.927	0.588
4 OK88767-11	3	3	3	0.884	1.133	0.761
5 OK88767-02	0	0	0	0.005	0.168	0.004
6 OK88767-15	0	0	0	0.002	0.017	0.002
7 OK88767-24	2	3	3	0.954	0.712	0.311
8 TX88A6480	3	3	2	0.708	0.888	0.685
9 TX88A6533	2	3	2	0.925	0.727	0.513
10 TX90D9277	3	3	3	0.983	0.809	0.918
11 TX89A7137	1	3	3	0.484	0.917	0.772
12 TX91V4931	2	2	3	0.834	0.730	0.977
13 TX90V8410	2	2	3	0.858	0.955	0.791
14 TX90V7911	2	2	3	0.831	0.878	0.652
15 TX91V5739	3	3	3	0.962	0.691	1.123
16 TX91V3308	1	0	0	0.009	0.005	0.954
17 TX89A7141	1	2	2	0.947	0.895	1.085
18 C0880054	1	2	2	0.012	0.578	0.945
19 C0880169	3	3	3	0.680	0.999	1.106
20 C0880210	3	3	2	1.022	1.009	1.132
21 C0880240	3	3	2	1.322	0.997	1.223
22 KS831374-142	0	1	0	0.004	0.005	0.003
23 KS84063-9-7	1	1	0	0.667	0.002	0.001
24 KS92P059E	0	1	1	0.005	0.004	0.003
25 KS92P0263-137	1	0	0	0.007	0.004	0.020
26 KS92P0363-134	1	1	1	0.873	0.738	1.073
27 KS92P0425-155	0	0	0	0.010	0.035	0.010
28 KS89H48-1	1	1	0	0.255	0.005	0.007
29 N87V106	3	2	2	0.932	0.496	1.142
30 NE88584	2	2	2	0.894	0.587	1.060
31 NE90479	1	2	2	0.009	0.008	0.006
32 NE90524	3	3	3	0.865	0.736	1.054
33 NE90574	3	2	2	0.724	0.920	0.994
34 XH1455	0	0	0	0.005	0.015	0.016
35 XH1485	0	0	0	0.002	0.007	0.008
36 XH1520	0	0	1	0.004	0.017	0.007
37 XH1529	1	0	0	0.817	0.559	0.823
38 XH1610	0	0	1	0.558	0.315	1.119
39 W87-017-44	1	0	1	0.010	0.006	0.013
40 WI89-055	2	2	1	0.825	0.624	1.033
41 T13	2	2	2	0.921	0.736	1.043
42 T4731	0	0	0	0.010	0.002	0.017
43 T70	1	1	0	0.011	0.006	0.012
44 T64	3	2	2	0.915	0.771	0.927
45 TH905	0	0	0	0.002	0.001	0.003

Table 16. Reaction of entries in the 1993 Southern Regional Performance Nursery to Tan Spot - Stillwater, OK.

Rank ^a	Entry No.	Sel. No.	Mean Test 1 ^b	Lesion Lengths (mm) Test 2 ^b	Mean ^c
22	1	Kharkof	2.64	3.53	3.08
48	2	Scout 66	4.13	3.47	3.80
39	3	TAM-107	3.82	3.14	3.48
7	4	OK88767-11	2.61	2.27	2.44
28	5	OK88767-02	3.51	2.80	3.15
30	6	OK88767-15	3.18	3.18	3.18
11	7	OK88767-24	2.84	2.51	2.67
35	8	TX88A6480	2.99	3.59	3.29
21	9	TX88A6533	3.39	2.74	3.06
8	10	TX90D9277	2.17	2.85	2.51
41	11	TX89A7137	3.62	3.34	3.48
15	12	TX91V4931	2.67	3.05	2.86
33	13	TX90V8410	3.10	3.42	3.26
13	14	TX90V7911	3.12	2.50	2.81
36	15	TX91V5739	3.59	3.07	3.30
12	16	TX91V3308	2.69	2.72	2.70
38	17	TX89A7141	3.69	3.18	3.44
25	18	C0880054	3.15	3.06	3.11
29	19	C0880169	3.41	2.94	3.17
31	20	C0880210	3.55	2.88	3.22
23	21	C0880240	3.11	3.06	3.09
1	22	KS831374-142	1.90	1.70	1.80
43	23	KS84063-9-7	4.15	2.94	3.55
3	24	KS92P059E	1.74	2.50	2.12
32	25	KS92P0263-137	3.15	3.31	3.23
19	26	KS92P0363-134	2.67	3.38	3.03
26	27	KS92P0425-155	3.39	2.85	3.12
44	28	KS89H48-1	3.93	3.20	3.56
47	29	N87V106	3.90	3.52	3.71
40	30	NE88584	3.93	3.03	3.48
34	31	NE90479	3.37	3.15	3.26
37	32	NE90524	3.43	3.32	3.37
45	33	NE90574	4.14	3.09	3.62
14	34	XH1455	2.33	3.35	2.84
24	35	XH1485	3.21	2.98	3.10
6	36	XH1520	2.63	2.20	2.41
42	37	XH1529	3.38	3.70	3.54
9	38	XH1610	2.04	3.04	2.54
16	39	W87-017-44	2.85	2.93	2.89
17	40	WI89-055	3.25	2.68	2.96
20	41	T13	3.16	2.97	3.06
10	42	T4731	2.74	2.60	2.67
5	43	T70	2.44	2.37	2.40
46	44	T64	3.99	3.31	3.65
18	45	TH905	2.86	3.16	3.01
2	CHK	Red Chief	1.93	1.91	1.92
4	CHK	Agrotricum	1.97	2.69	2.33
27	CHK	TAM-105	3.54	2.75	3.15
Mean			3.10	2.96	3.03
l.s.d.			0.65	0.80	0.51
C.V.			14.89	19.35	17.16

^aRankings are from the combined analysis of the two tests.

^bMean lesion lengths were computed over four replications.

^cMean lesion length values from the combined analysis.

Table 16 - Methods: Seedling reaction to Tan Spot. C. Kent Evans and Robert M. Hunger, Plant Pathology Department, Oklahoma State University, Stillwater.

The reactions of entries in the 1993 SRPN to tan spot caused by *Pyrenophora tritici-repentis* (PTR) were determined in two tests conducted in the greenhouse. Specific test conditions and procedures were as follows:

Isolates: Three single ascospore isolates of PTR were used to produce inoculum. These isolates were obtained from naturally infested wheat straw collected in 1991 from different wheat producing regions in Oklahoma. Each isolate produced abundant conidia in vitro, and caused the type lesions typically associated with tan spot on susceptible wheats.

Inoculum preparation: Inoculum was prepared by combining equal amounts of conidia from each of the three PTR isolates to a final concentration of 1000 conidia/ml + 1 drop of Tween 20/100 ml. Inoculum was prepared as described previously (Phytopathology 1991. 81:1238). The inoculum that results from this procedure was nearly free of other fungal propagules such as conidiophores and hyphae.

Inoculation of wheat: The nursery was tested twice in the greenhouse. Three genotypes were included as resistant ('Red Chief', 'Agrotricum') and susceptible ('TAM-105') checks. Ten seeds of each entry were planted as a clump in soil contained in wooden flats, which were planted in a randomized complete block design with four replications. When the first leaf was fully expanded, seedlings were inoculated with the conidial suspension using a DeVilbiss sprayer (model #5601D) until incipient runoff. Following inoculation, plants were allowed to dry for one hour and then placed in a mist chamber that provided near 100% relative humidity. After 24 hr in the mist chamber, plants were placed on greenhouse benches.

Determination of response to tan spot: The length of the largest lesion in the middle 50% of the first leaf was determined after eight days using a dial caliper with an accuracy range of ± 0.05 mm. One measurement was made on each of four leaves from each clump of seedlings. Measurements were made from the border of the visible edge of the chlorotic or necrotic lesions longest dimension, which generally was oriented parallel with the leaf axis. Statistical analyses were conducted on the mean of the four measurements made per entry.

1993

Northern Regional Performance Nursery

<u>Entry No.</u>	<u>Variety or Pedigree</u>	<u>Sel. No.</u>	<u>Source</u>
1**	Kharkof	CI1442	Check
2**	Roughrider	CI17439	"
3**	Abilene	PI511307	"
4	Brule/Dawn	SD88201	So. Dakota
5	Lco/Frd//NE69559/Wnk/3/Nell	SD87143	"
6	Bennett/Dawn	SD89204	"
7	NAPB 80300/Centurk 78	SD89102	"
8*	Bennett/Dawn	SD88231	"
9*	Brule/Agate	SD89119	"
10*	Gent/Siouxland	SD89333	"
11	Nsr/3/Mnt/NB68466//SD76705	ND8930	No. Dakota
12	Nsr/4/Ctk//Wnk/Uln/3/SD76694	ND8933	"
13	Seward/SD76705	ND8955	"
14	Bnz//Frd/Lcr/3/Bnz/Mrt-2	ND89142	"
15*	Mvr/KS79397//Nsr/3/Cody	ND8889	"
16*	Rrr*2/1809//NE78414	ND90109	"
17	TX80GH2679/Brule seln.	NE89522	Nebraska
18	Lancota seln/Sxld//TX792729	NE89526	"
19	Brule/3/Parker*4/Agent//Bel. 198/Lancer	NE89657	"
20***	NE68513/NE68457//Ctk/3/Brule (Vista)	NE87615	"
21*	TX79A2729//Caldwell/Brule seln/3/Siouxland	NE90625	"
22*	Severodonskaya/Siouxland	NE88526	"
23***	Arkan/Colt//Chisholm sib (Alliance)	NE88595	"
24*	Centura/Dawn//Colt sib	NE88588	"
25*	Quantum Hybrid Wheat	XNH1643	HybriTech
26*	" "	XNH1648	"
27*	" "	XNH1650	"
28*	" "	XNH1687	"
29*	" "	XNH1712	"
30***	Tomahawk (Bulk Selection)	WI88-083	AgriPro
31	Msc/Ctk A+//Iul	MT8713	Montana
32	Rri/MT6928	MT8719	"
33*	2*MC/NP824/3/LMH66/54117aB-2B-5//MC/6/2*IT/ UT175a-53//Bdls Burt/3/CI13438/4/BH/Rex//R/R /3/UT175a-53/5/CI14106/CIm//MC	IDO426	Idaho
34	Winalta/Bezostaya	W-198	Alberta
35*	Pau 45/Sundance	W-235	"

* New Entry

** New Seed Provided

*** Entered from SRPN

TEST SITE INFORMATION - NRPN

Nebraska stations – See information for SRPN.

South Dakota stations – See information for SRPN.

Casselton, ND – The nursery was planted on 9/24/92 on flax ground and fertilized in the spring for a 60 bu/a yield goal. Snow cover was present during the coldest months, resulting in near 100% survival for almost all entries. June and July were unseasonably cool and extremely wet. Leaf rust, stem rust, and tan spot were prevalent. Approximate date of physiologic maturity ranged from 7/24 to 7/31 in the SRPN.

Carrington, ND – The nursery was abandoned.

Williston, ND – Planted on 9/11/92 into fallow soil. Excellent stand establishment. Soil test results to two ft. depth were 72N:23P:380K with pH of 6.6. Tan spot was the primary leaf disease; some septoria was present. Harvested August 6, 1993.

Waseca, MN – Planted on 9/22/92. Severe disease pressure. Leaf rust was recorded on June 22, which was fairly early, but was rust intense on susceptible lines prior to finish. Leaf disease score reflects a combination of both tan spot and septoria.

Rosemount, MN – Planted on 9/22/92. Severe disease pressure. Scab % was rated from 20 heads gathered per plot of first rep, hand threshed, and kernels separated.

Sheridan, WY – The nursery was seeded on 9/23/92 into a sandy clay soil with pH of 6.9 and O.M. of 1.5%. Soil test indicated 22 ppm PO_4 and 9 ppm NO_3N . The seedbed was dry, but late fall rains provided for good stands. Spring moisture was sufficient, but hail during July reduced yields by 25-30%. The nursery was harvested on August 16, 1993, about a week after it was ripe.

Archer, WY – The nursery was seeded on 9/16/92 into a sandy clay loam soil with a pH of 6.4 and O.M. of 1.4%. Soil test indicated 24 ppm PO_4 and 29 ppm NO_3N . Fall and spring moisture was above normal while temperatures were cooler than normal, providing for excellent yields. Insects and diseases were not a problem. The nursery was harvested on August 11, 1993, as soon as ripe.

Moccasin, MT – Planted on 9/22/92 on black fallow. Fertilizer was 58 lbs/a 18-46-0 with the seed, and 100 lbs urea preplant. Precipitation from September to August was 20.52 inches, compared with the long term average of 15.5 inches. Growing season precipitation (April to July) was 12.1 inches. Harvested on 9/3/93.

Sidney, MT – Planted on 9/14/92 into good soil moisture. There was little precipitation until June 1, then high levels of precipitation for the rest of the summer. Septoria and tan spot were observed in the nursery. No leaf rust or stem rust were observed. Harvested on 9/9/93.

Bozeman, MT -- Winter was fairly mild with little winter damage. Summer was cool and rainy, resulting in low protein and quality. Harvested at maturity (ave. moisture of 14%) on September 10. Stripe rust was devastating on some lines, so yields and test weights may be as indicative of rust resistance as of normal yield potential in Montana.

Aberdeen, ID -- See information for SRPN.

Lind, WA -- The nursery was abandoned.

Lethbridge, Alberta -- Heavy rains occurred from mid-June onward. There was complete loss of leaves to leaf spot diseases before maturity.

Table 17. Yield and agronomic data for 35 wheats grown in the Northern Regional Performance Nursery in 1993.

NORTH PLATTE

NEBRASKA

THREE REPLICATIONS

C.I. OR SEL. NO.	: ENTRY: NO.	: YIELD KG/HA	: VOLUME WEIGHT KG/HL	: PLANT HEIGHT CM
NE88595	23	4310	77	94
NE90625	21	4241	76.4	92
NE88588	24	3999	79.1	107
NE89522	17	3857	76.8	97
NE89657	19	3852	76.8	92
ND90109	16	3756	77.4	103
SD89119	9	3734	78.6	101
XNH1687	28	3662	77.5	96
ND8889	15	3661	76.6	106
Abilene	3	3621	80	80
SD87143	5	3515	78.3	98
ND8955	13	3490	76.1	97
SD89333	10	3464	77.7	107
WI88-083	30	3455	76.4	128
SD88201	4	3438	80.4	101
ND8933	12	3389	77.4	112
SD89204	6	3333	75.1	94
ND8930	11	3305	78.7	118
XNH1650	27	3277	76.8	96
NE88526	22	3276	77.3	92
Roughrider	2	3252	78.6	108
NE87615	20	3141	76.2	82
SD88231	8	3112	78.3	100
NE89526	18	3057	77.7	91
XNH1712	29	3052	78.4	86
SD89102	7	3046	79.2	106
ND89142	14	2929	78.7	110
Kharkof	1	2817	78.3	108
MT8719	32	2736	77.1	91
XNH1643	25	2556	76.2	92
XNH1648	26	2299	76.9	97
MT8713	31	2168	78.3	85
W-198	34	2068	78.7	107
W-235	35	1743	77.1	108
ID0426	33	1407	.	79
MEAN		3201		
LSD(.05)		601		
C.V.		11.5		

HEMINGFORD

NEBRASKA

THREE REPLICATIONS

C.I. OR SEL. NO.	: ENTRY: : NO. :	: YIELD : : KG/HA :	: VOLUME : : WEIGHT : : KG/HL :	: PLANT : : HEIGHT : : CM :
XNH1650	27	5468	79.2	99
XNH1687	28	5465	80	97
NE89522	17	5462	78.7	96
XNH1643	25	5060	79.5	98
NE88595	23	4871	78.7	90
NE90625	21	4853	78.6	96
ND8889	15	4585	79.9	106
NE87615	20	4585	77.8	82
SD89333	10	4547	79.3	100
XNH1648	26	4492	80.5	97
SD88231	8	4320	79.9	102
SD87143	5	4316	79.5	100
SD89204	6	4301	78	91
SD89102	7	4296	79.5	109
ND8955	13	4286	76	102
SD88201	4	4275	81.5	99
NE89657	19	4273	77.4	90
XNH1712	29	4231	80.2	91
NE88588	24	4069	80.5	101
W-198	34	4058	80.2	116
WI88-083	30	3946	78	83
ND8933	12	3901	77.8	113
NE89526	18	3895	77.4	89
MT8719	32	3878	79.3	96
ND8930	11	3756	78.3	114
MT8713	31	3741	80.4	86
SD89119	9	3728	81.4	90
ND90109	16	3699	77.7	101
Abilene	3	3669	80.6	76
NE88526	22	3662	77.8	90
ND89142	14	3510	77.7	113
ID0426	33	3385	77.4	88
W-235	35	3345	78.3	112
Roughrider	2	3002	76.8	110
Kharkof	1	2882	78.7	120
MEAN		4166		
LSD(.05)		489		
C.V.		7.2		

CASSELTON
N. DAKOTA
THREE REPLICATIONS

C.I. OR SEL. NO.	: ENTRY: NO.	: YIELD KG/HA	: VOLUME WEIGHT KG/HL	: PLANT HEIGHT CM	: DAYS TO HEADING FROM 1/1:	: WINTER SURVIVAL %	: LODGING 0-9
NE90625	21	5704	75.4	99	163	98	0
XNH1687	28	5602	75.5	100	165	97	4
NE88526	22	5326	77.8	92	163	98	1
NE89657	19	5210	75.9	97	164	97	2
NE89526	18	5187	76.9	92	163	97	1
ND89142	14	5115	79.5	120	170	97	2
NE88588	24	5057	76.3	102	163	98	2
NE87615	20	5031	73.8	89	162	98	3
SD89333	10	5001	76.1	101	160	100	2
SD87143	5	4832	77.8	104	164	98	1
SD89102	7	4678	76.5	111	166	100	5
ND8933	12	4620	75.1	120	170	100	5
SD88201	4	4448	78.5	106	165	100	4
NE89522	17	4386	71.8	98	162	98	4
ND8889	15	4377	72.3	115	167	98	5
ND8955	13	4364	73	111	167	97	4
NE88595	23	4361	74.9	92	162	98	4
ND8930	11	4313	77.9	122	169	100	3
SD89119	9	4307	77.4	104	163	97	5
SD88231	8	4271	76.3	102	160	97	3
ND90109	16	4258	74.6	114	168	98	2
SD89204	6	4047	71.2	97	164	100	2
SEWARD	36	4030	73.3	115	170	100	4
XNH1650	27	3694	70.3	99	166	98	2
Roughrider	2	3653	76.1	116	169	98	5
W-198	34	3181	74.2	115	171	97	5
XNH1643	25	3117	70.1	94	166	98	3
XNH1712	29	3090	69.7	96	163	100	2
Kharkof	1	3036	74.7	128	168	97	8
WI88-083	30	3025	70.7	83	162	93	1
Abilene	3	2974	71.2	82	163	98	1
MT8713	31	2950	70.7	88	165	100	0
XNH1648	26	2783	67.5	98	166	93	3
MT8719	32	2577	67.6	94	168	100	1
W-235	35	2531	69.3	125	171	100	5
IDO426	33	815	60.3	93	171	95	1

MEAN	4054
LSD(.05)	607
C.V.	9.2

WILLISTON
N. DAKOTA
FOUR REPLICATIONS

C.I. OR SEL. NO.	: ENTRY: NO.	: YIELD KG/HA	: VOLUME KG/HL	: PLANT HEIGHT CM	: DAYS TO HEADING FROM 1/1:	: WINTER SURVIVAL %	: LODGING %	: T.SPOT/ SEPTORIA: %
NORSTAR	36	4704	78.8	100	194	100	73	47
XNH1643	25	4649	78.3	84	189	100	11	30
XNH1650	27	4362	80.2	83	188	100	9	80
ND89142	14	4140	80.5	92	191	100	15	71
ND8889	15	4126	78.6	85	191	100	10	60
XNH1687	28	4056	78.2	80	186	100	4	28
ND8933	12	4052	78.4	90	191	100	11	78
XNH1648	26	3990	77.4	87	189	95	20	64
Roughrider	2	3980	79.1	87	190	100	11	65
W-198	34	3952	77.9	90	193	100	78	40
ND8955	13	3873	77.7	77	190	100	6	39
ND8930	11	3852	77.5	96	192	100	16	59
SD89102	7	3845	78	83	190	100	8	18
MT8719	32	3756	77.4	73	191	100	1	55
ND90109	16	3681	77.9	84	189	100	4	43
NE90625	21	3649	77.4	72	186	100	1	43
MT8713	31	3626	77.1	68	188	100	0	13
SD87143	5	3591	78.3	73	186	100	0	78
W-235	35	3568	77	89	192	98	45	50
NE88588	24	3395	78.7	73	184	100	0	85
XNH1712	29	3377	77.1	77	186	94	1	63
SD89333	10	3356	77.8	75	184	94	9	73
Kharkof	1	3319	78.9	95	190	100	79	85
NE89522	17	3298	78	71	185	100	0	73
Abilene	3	3294	77.7	63	186	96	1	50
SD88201	4	3284	77.9	81	190	91	4	30
SD88231	8	3276	77.5	73	184	100	3	29
SD89119	9	3196	77	70	186	90	3	33
NE88595	23	3148	78.8	65	183	100	0	83
NE88657	19	3096	76.8	71	185	100	0	67
SD89204	6	2691	74.3	70	189	75	4	53
NE87615	20	2636	77.5	64	184	100	0	68
NE89526	18	2528	76.2	70	185	100	0	63
NE88526	22	2434	76.1	67	184	100	0	35
IDO426	33	1612	67.7	67	193	51	0	50
WI88-083	30	1324	73.1	63	185	49	0	73
MEAN		3464						
LSD (.05)		429						
C.V.		8.8						

WASECA
MINNESOTA
THREE REPLICATIONS

C.I. OR SEL. NO.	: ENTRY: NO.	: YIELD : KG/HA	: VOLUME : KG/HL	: PLANT : HEIGHT : CM	: DAYS TO : HEADING : FROM 1/1:	: LODGING : 0-9	: LEAF RUST : SEV.:RESP : %	: LEAF : DISEASE : 0-9	:
NE90625	21	1679	64.3	74	168	2	1	7	4.3
NE89526	18	1673	65.5	77	164	2	1	7	3.7
ND8933	12	1643	68.4	83	171	2	2	7	2.3
NE89657	19	1627	65	72	167	2	1	8	3.3
ND89142	14	1582	71.4	86	172	2	1	7	3.3
ND8955	13	1564	68.1	71	170	2	2	7	2.3
NE88588	24	1557	68.8	77	167	2	5	7	5.3
XNH1687	28	1508	66.2	74	166	2	5	8	4.3
XNH1650	27	1471	60.7	74	167	2	10	8	5.3
NE88526	22	1469	66.7	68	167	1.7	1	7	2.7
SD89204	6	1375	57.3	75	165	2	5	7	4
NE88595	23	1255	59	66	164	2	5	7	6
ND90109	16	1227	64.7	84	169	2	1	8	4.7
ND8930	11	1214	70	81	169	2	5	7	4
WI88-083	30	1202	55.9	62	167	1.7	1	3	5.7
ND8889	15	1178	59.6	83	169	2	1	7	4.7
SD88231	8	1175	65.1	80	165	2	5	7	4
SD89102	7	1158	66.7	74	170	2	5	7	4
SD88201	4	1132	67.2	74	169	1.7	20	7	5
NE87615	20	1126	58.1	62	166	1.3	1	7	4
SD89333	10	1114	62.6	75	164	2	5	7	4.7
SD89119	9	1054	63.2	74	166	2	5	7	5.7
NE89522	17	999	56.5	74	166	2	5	7	5.3
Abilene	3	997	58.2	68	164	2.3	70	8	8.7
SD87143	5	809	58.9	72	167	2	5	7	4.3
Roughrider	2	805	65.3	86	170	2.7	60	8	5.7
W-235	35	612	58.6	80	171	2.3	30	8	6
Kharkof	1	601	64.9	95	170	2.7	40	8	6.3
W-198	34	574	61.5	80	171	2	50	8	5.7
XNH1643	25	482	58.5	68	169	2	30	8	6.3
XNH1712	29	447	56.6	65	168	1.3	60	8	6
MT8719	32	427	58.1	68	169	2	80	8	8
MT8713	31	423	59.2	62	169	1.3	70	8	7
XNH1648	26	339	58.1	69	170	2	40	8	7
ID0426	33	296	50.3	66	169	2	60	8	6.7
MEAN		1080							
LSD(.05)		494							
C.V.		28.0							

ROSEMOUNT
MINNESOTA
THREE REPLICATIONS

C.I. OR SEL. NO.	ENTRY: NO.	YIELD KG/HA	VOLUME WEIGHT KG/HL	PLANT HEIGHT CM	DAYS TO HEADING FROM 1/1:	SCAB %
NE88526	22	3456	71.5	87	163	5
XNH1687	28	3348	67.5	93	165	4
ND89142	14	3193	74.9	112	168	1
NE90625	21	3118	67.5	89	165	4
NE89526	18	3107	71.7	88	164	3
NE89657	19	3069	71.1	90	164	3
ND8955	13	3055	68.6	101	165	6
NE87615	20	3000	68	83	163	2
XNH1650	27	2831	64.8	95	165	7
NE89522	17	2768	64.6	95	164	7
XNH1648	26	2734	60	82	166	14
ND90109	16	2675	69.1	106	165	3
NE88588	24	2625	71.5	99	162	2
ND8933	12	2605	71.1	107	169	2
SD89102	7	2470	70.4	96	165	9
SD89119	9	2455	71.5	92	164	0
ND8930	11	2426	73.3	110	168	2
ND8889	15	2420	64.9	102	165	26
NE88595	23	2299	65.7	85	162	8
SD87143	5	2289	66.7	93	165	9
SD89333	10	2161	68.8	97	161	7
SD89204	6	2127	62.6	67	165	15
XNH1643	25	2086	63.9	88	165	5
WI88-083	30	2025	62.7	78	165	9
MT8713	31	1991	66	81	165	5
XNH1712	29	1940	63.1	81	163	6
SD88201	4	1938	70.4	96	166	4
MT8719	32	1872	64.2	89	166	6
SD88231	8	1854	69.5	97	162	6
Roughrider	2	1792	70.6	103	166	12
Abilene	3	1608	60.9	75	164	8
Kharkof	1	1492	66.7	102	165	14
W-198	34	1429	65.1	97	168	7
W-235	35	1306	64	107	167	4
IDO426	33	1026	50.2	79	168	14
MEAN		2360				
LSD(.05)		718				
C.V.		18.6				

SHERIDAN
WYOMING
THREE REPLICATIONS

C.I. OR SEL. NO.	: ENTRY: NO.	: YIELD KG/HA	: PLANT HEIGHT CM	: DAYS TO HEADING FROM 1/1:	: WINTER SURVIVAL %
SD89204	6	2822	80	153	97
IDO428	33	2659	74	159	90
XNH1643	25	2605	76	154	94
XNH1650	27	2571	83	153	96
NE89522	17	2475	79	150	97
SD89333	10	2430	85	149	96
SD89119	9	2387	77	151	95
ND8955	13	2356	83	156	97
XNH1712	29	2327	76	152	95
ND8933	12	2235	101	159	96
XNH1648	26	2235	79	155	93
ND90109	16	2181	86	158	95
SD89102	7	2170	90	156	95
ND8930	11	2125	101	158	95
ND8889	15	2080	90	156	96
NE88526	22	2071	78	151	96
NE88588	24	2051	85	151	96
SD88231	8	2040	81	149	94
W-198	34	2009	96	159	94
W-235	35	1952	89	160	89
SD87143	5	1932	61	153	95
XNH1687	28	1887	82	153	93
NE89526	18	1879	79	151	84
NE87615	20	1690	57	149	94
MT8713	31	1681	64	157	96
NE89657	19	1509	81	152	96
ND89142	14	1455	101	159	97
SD88201	4	1453	80	154	89
NE88595	23	1444	67	150	94
Roughrider	2	1421	89	157	96
MT8719	32	1379	73	158	95
WI88-083	30	1376	62	150	89
Kharkof	1	1300	99	157	97
NE90625	21	1107	76	152	93
Abilene	3	1085	63	152	90
MEAN		1954			
LSD(.05)		649			
C.V.		20.4			

ARCHER
WYOMING
THREE REPLICATIONS

C.I. OR SEL. NO.	: ENTRY: NO.	: YIELD : KG/HA	: PLANT : HEIGHT CM	: DAYS TO : HEADING FROM 1/1:	: WINTER : SURVIVAL %
XNH1650	27	4860	62	164	95
NE88595	23	4840	54	158	96
XNH1643	25	4755	65	164	92
Abilene	3	4472	47	158	95
XNH1648	26	4412	61	164	91
SD87143	5	4284	55	159	94
XNH1687	28	4210	57	162	93
NE90625	21	4078	54	159	93
SD89204	6	4055	54	162	95
XNH1712	29	3979	55	160	88
NE87615	20	3945	48	158	94
NE89657	19	3903	52	159	94
ND8955	13	3833	60	164	97
ND90109	16	3804	57	165	91
SD88201	4	3795	55	162	90
NE89522	17	3699	52	158	91
NE88588	24	3690	54	158	94
SD89333	10	3688	53	158	89
MT8719	32	3634	62	167	92
WI88-083	30	3632	51	157	89
MT8713	31	3531	56	164	92
ND8889	15	3524	64	165	89
SD89119	9	3441	52	161	85
Roughrider	2	3421	69	158	97
NE89526	18	3378	52	159	91
ID0426	33	3360	57	167	87
SD89102	7	3297	61	164	94
SD88231	8	3286	54	156	91
NE88526	22	3264	50	160	92
W-235	35	3156	71	167	87
ND89142	14	2959	64	166	92
ND8930	11	2914	68	167	96
ND8933	12	2887	66	168	90
W-198	34	2885	66	169	86
Kharkof	1	2688	69	164	93
MEAN		3702			
LSD(.05)		854			
C.V.		14.1			

MOCCASIN
MONTANA
THREE REPLICATIONS

C.I. OR SEL. NO.	: ENTRY: : NO. :	YIELD : KG/HA :	VOLUME : WEIGHT : : KG/HL :	PLANT : HEIGHT : : CM :	DAYS TO : : HEADING : : FROM 1/1:
XNH1648	26	5284	75.8	83	163
XNH1643	25	5167	74.9	83	164
XNH1650	27	5026	75.2	77	162
NE90625	21	4817	74.7	80	161
XNH1712	29	4806	75.8	76	159
SD89204	6	4764	73.3	74	160
IDO426	33	4618	74.6	74	168
ND8889	15	4530	75.3	89	166
MT8719	32	4447	74.9	79	166
W-235	35	4427	77	86	167
SD89102	7	4394	77.1	83	165
XNH1687	28	4351	75.8	77	159
Roughrider	2	4243	75.8	87	166
NE88595	23	4226	74	76	156
NE88588	24	4170	73.7	79	161
SD88231	8	4104	75	78	157
MT8713	31	4075	75.1	71	162
ND89142	14	4060	75.9	94	165
ND90109	16	3992	73	78	165
SD88201	4	3970	76.9	82	164
SD87143	5	3945	74.1	74	159
SD89119	9	3939	75.2	81	159
SD89333	10	3829	73.9	80	158
NE87615	20	3788	74.8	66	158
NE89522	17	3775	73.7	73	157
Kharkof	1	3768	73.9	90	166
ND8933	12	3748	74.9	84	166
W-198	34	3677	74	90	170
NE89657	19	3643	72	84	160
ND8955	13	3640	72.8	80	165
ND8930	11	3472	74.3	81	168
WI88-083	30	3383	72.3	70	156
NE88526	22	3333	73.7	75	160
Abilene	3	3255	77.4	66	161
NE89526	18	2531	69.3	91	180
MEAN		4091			
LSD(.05)		898			
C.V.		13.5			

SIDNEY
MONTANA
FOUR REPLICATIONS

C.I. OR SEL. NO.	: ENTRY: NO.	: YIELD KG/HA	: VOLUME WEIGHT KG/HL	: PLANT HEIGHT CM	: DAYS TO HEADING FROM 1/1:	: WINTER SURVIVAL %	: LODGING 0-9	: LODGING: %
XNH1687	28	3088	79.8	88	162	93	0.8	30
XNH1650	27	3046	77.5	89	163	80	1.3	38
ND8889	15	3030	78.3	95	163	95	2	31
ND90109	16	3025	78.6	90	163	100	1.3	30
XNH1643	25	3001	79.4	83	162	88	1	19
MT8719	32	2964	78.1	85	165	94	1.4	38
NE88595	23	2946	80.6	80	158	95	0.5	13
ND8955	13	2912	78.1	92	163	98	2.5	39
MT8713	31	2912	79.8	77	163	98	0	0
W-198	34	2845	77.6	93	168	100	2.8	60
NE87615	20	2843	78.8	72	159	75	0.3	19
XNH1648	26	2840	77.4	86	162	76	0.8	23
SD89204	6	2825	77.6	82	162	76	2.4	48
XNH1712	29	2819	78.3	80	162	82	0.3	9
ND8930	11	2779	77	101	167	99	2.3	24
Abilene	3	2739	81.4	72	159	80	0	0
SD87143	5	2737	80.3	86	159	96	0.5	19
NE89657	19	2710	78.4	85	161	92	1.3	21
SD89102	7	2638	79	93	164	99	2.6	40
W-235	35	2624	76.2	100	166	87	3	75
ND89142	14	2609	78.5	99	165	95	1.8	40
NE90625	21	2598	79.1	84	162	95	0.8	23
NE89522	17	2535	78.8	81	159	84	2	21
Roughrider	2	2512	79.9	95	164	99	2.8	63
SD89333	10	2490	81.1	90	157	96	1.5	48
SD88231	8	2460	79.9	86	158	85	2.1	41
SD89119	9	2448	78.9	84	160	73	2	31
ND8933	12	2391	77.8	97	165	99	2.4	34
SD88201	4	2379	80.6	85	163	91	1.5	40
NE88526	22	2379	79	85	161	95	0.8	38
NE89526	18	2305	78.4	84	160	95	1	16
NE88588	24	2287	80.3	86	160	97	1.8	25
Kharkof	1	2139	79.4	103	164	95	4.1	81
WI88-083	30	1950	77.8	69	159	39	1.5	48
ID0426	33	1422	69.5	76	169	21	0	0
MEAN		2635						
LSD(.05)		782						
C.V.		21.2						

BOZEMAN
MONTANA
THREE REPLICATIONS

C.I. OR SEL. NO.	: ENTRY: NO.	: YIELD KG/HA	: VOLUME KG/HL	: PLANT HEIGHT CM	: DAYS TO HEADING FROM 1/1:	: LODGING 0-9	: STRIPE RUST :SEV.:RESP:	:
IDO426	33	5281	71	107	175	1.2	0	1
SD89204	6	4977	72.5	117	169	4	51	4
SD89333	10	4797	76.5	124	164	3.6	53	5
NE88588	24	3640	67.3	122	167	1.1	62	5
SD88231	8	3582	68.7	123	163	1.9	74	7
ND89142	14	3459	69	131	174	3.3	36	4
NE90625	21	3221	65	112	166	1	72	7
ND90109	16	3020	66.7	128	173	1.4	77	7
ND8889	15	2961	67.6	123	174	5.9	48	5
SD89102	7	2544	70	130	172	3.5	54	5
ND8955	13	2428	62.2	124	172	1.4	78	6
SD87143	5	2365	63.8	120	167	0.5	73	6
ND8933	12	2181	64.5	130	174	2.2	66	6
NE87615	20	2154	65.9	102	164	0.9	79	8
MT8719	32	1930	62.4	116	171	0.8	78	6
Abilene	3	1722	61.7	94	165	1	69	6
Kharkof	1	1708	68.7	129	172	8.2	52	6
SD89119	9	1596	64.8	121	168	2.6	87	9
SD88201	4	1542	61.4	124	171	1.6	80	5
MT8713	31	1475	64.2	102	169	1.2	69	7
XNH1650	27	1462	58.8	114	168	1.6	69	7
Roughrider	2	1412	59.4	124	174	3.6	72	7
W-235	35	1397	62.8	135	175	3.2	69	6
ND8930	11	1349	60.6	133	175	1.7	58	5
NE89526	18	1338	67.5	111	167	1	60	6
WI88-083	30	1327	61.7	102	163	1.6	91	8
W-198	34	1314	60.1	135	175	4	73	6
NE89657	19	975	54.4	115	167	0.9	84	8
NE88595	23	901	61.6	110	163	1	90	8
XNH1687	28	731	53.6	119	167	0.9	85	9
NE88526	22	690	67.7	113	165	1.5	65	6
XNH1648	26	592	54.1	117	170	0.9	81	8
NE89522	17	538	57.9	113	163	1.1	90	9
XNH1712	29	466	53.3	112	165	1.2	89	9
XNH1643	25	170	53.6	110	170	1.5	91	9
MEAN		2036						
LSD(.05)		932						
C.V.		28.0						

ABERDEEN
IDAHO
TWO REPLICATIONS

C.I. OR SEL. NO.	: ENTRY: NO.	: YIELD KG/HA	: VOLUME KG/HL	: PLANT HEIGHT CM	: DAYS TO HEADING FROM 1/1:	: LODGING 0-9	: STRAW STRENGTH: 0-5
XNH1650	27	9990	78	114	162	3.5	3.5
XNH1648	26	9963	80.1	105	163	1.5	3
Abilene	3	9159	81.1	88	159	1	3
SD89204	6	8921	78	88	160	1	3
NE90625	21	8611	78	105	160	3	3
XNH1712	29	8510	79.3	104	158	1	3
NE89526	18	8426	78	107	159	2.5	2.5
SD89333	10	8339	79.3	88	157	1	3
SD89119	9	8231	79.2	88	160	1	3
NE89522	17	8083	75.3	119	158	4	3
XNH1643	25	7922	74.3	109	163	1	2.5
NE88595	23	7865	77.9	95	159	2.5	3
NE87615	20	7818	79.5	89	157	3.5	4
XNH1687	28	7818	78.3	119	161	6.5	3
IDO426	33	7814	78.3	97	164	1	2.5
ND8889	15	7683	77	126	162	5	3
ND8930	11	7660	78.9	127	161	2.5	2.5
MT8719	32	7350	79.5	113	163	2.5	3
ND90109	16	7250	78.4	132	164	3	3
ND8955	13	7219	76.2	121	164	4.5	3
SD89102	7	7152	77.7	88	162	1	3
SD88201	4	7051	79.3	88	160	1	3
WI88-083	30	7011	78	88	157	1	3
NE89657	19	6950	77.1	128	162	6.5	4
NE88526	22	6900	77.4	103	159	2	3
SD87143	5	6755	76.1	88	159	1	3
SD88231	8	6574	77.5	88	160	1	3
NE88588	24	6533	77.9	109	158	1.5	3.5
MT8713	31	6419	81	93	162	1	2
ND89142	14	6063	76.4	135	164	5.5	3
W-198	34	5706	78.4	133	166	7.5	4
ND8933	12	5474	76.1	130	162	5	3.5
Roughrider	2	5276	77.7	135	163	7	4.5
W-235	35	5010	76.2	133	163	6.3	3.5
Kharkof	1	4378	78.4	133	162	9	5
MEAN		7368					
LSD(.05)		1988					
C.V.		13.2					

LETHBRIDGE
ALBERTA
FOUR REPLICATIONS

C.I. OR SEL. NO.	: ENTRY: NO.	: YIELD KG/HA	: PLANT HEIGHT CM	: DAYS TO HEADING FROM 1/1	: DAYS TO RIPENING FROM 1/1	: LODGING 0-9
XNH1643	25	6751	87	162	223	3
XNH1687	28	6697	92	160	223	4
XNH1648	26	6471	87	160	227	2
KESTREL	38	6384	96	164	225	3
XNH1650	27	6331	87	160	222	4
XNH1712	29	6268	83	158	223	3
IDO426	33	6217	76	166	230	1
SD88231	8	6202	91	155	222	4
SD89333	10	6172	87	155	222	4
NE90625	21	6101	85	160	222	2
READYMADE	37	6030	94	163	227	1
SD89119	9	5780	83	157	220	2
NE89522	17	5745	81	157	221	2
W-235	35	5735	107	164	225	7
ND90109	16	5685	95	163	223	3
SD89204	6	5665	81	159	220	1
NE89657	19	5661	82	159	220	1
NE88595	23	5638	77	155	222	2
ND8889	15	5637	94	162	224	3
ND89142	14	5627	110	163	225	5
SD88201	4	5619	87	161	223	2
MT8719	32	5599	85	163	224	3
NE87615	20	5542	68	156	222	2
ND8955	13	5528	88	162	221	4
SD87143	5	5412	82	159	223	2
NE88588	24	5384	86	157	222	3
Roughrider	2	5314	100	164	225	6
MT8713	31	5275	77	161	223	1
W-198	34	5261	102	166	223	5
ND8933	12	5117	102	165	224	5
NORSTAR	36	5083	114	168	227	5
NE88526	22	5066	81	158	221	2
SD89102	7	5049	93	161	224	4
NE89526	18	5042	80	158	220	2
Abilene	3	5015	67	158	220	1
ND8930	11	4795	103	164	224	2
WI88-083	30	4752	75	157	222	1
Kharkof	1	4503	107	162	221	8
MEAN		5636				
LSD(.05)		720				
C.V.		9.1				

Table 18. Summary of mean yields (kg/ha) of 35 wheats grown in the 1993 Northern Regional Performance Nursery at 16 locations with state means and ranks.

VARIETY OR PEDIGREE	C.I. OR SEL. NO.	ENTRY: NO.	BROOKINGS S. DAKOTA	PIERRE S. DAKOTA	WINNER S. DAKOTA	SOUTH DAKOTA STATE MEAN
Quantum Hybrid Wheat	XNH1687	28	3672 1	5728 5	4896 2	4765 1
Quantum Hybrid Wheat	XNH1650	27	2081 22	5387 10	4470 10	3979 13
TX79A2729//Caldwell/Brule seln/3/Siouxla	NE90625	21	2290 17	5295 11	4468 11	4018 11
Bennett/Dawn	SD89204	6	2238 19	4600 21	4103 14	3647 18
Gent/Siouxland	SD89333	10	1492 27	4744 19	3878 20	3372 21
Centura/Dawn//Colt sib	NE88588	24	3220 2	4744 20	4263 12	4076 8
TX80GH2679/Brule seln.	NE89522	17	2262 18	5751 4	4960 1	4324 5
Arkan/Colt//Chisholm sib	NE88595	23	2847 6	4901 16	4745 5	4165 6
Seward/SD76705	ND8955	13	3203 3	4766 18	4017 15	3995 12
Brule/3/Parker*4/Agent//Bel. 198/Lancer	NE89657	19	2784 9	5939 2	4889 3	4537 2
Mvr/KS79397//Nsr/3/Cody	ND8889	15	2519 14	3636 27	3801 22	3319 22
NE68513/NE68457//Ctk/3/Brule	NE87615	20	2399 15	5072 13	4675 7	4048 10
NAPB 80300/Centurk 78	SD89102	7	1927 23	5568 7	3974 17	3823 16
Brule/Agate	SD89119	9	2911 4	4858 17	4136 13	3968 14
Rrr*2/1809//NE78414	ND90109	16	1775 24	4208 25	3891 19	3291 23
Bennett/Dawn	SD88231	8	2792 8	4948 14	4011 16	3917 15
Quantum Hybrid Wheat	XNH1643	25	1310 29	4531 22	3802 21	3214 25
Lco/Frd//NE69559/Wnk/3/Nell	SD87143	5	2315 16	4939 15	3905 18	3720 17
Lancota seln/Sxld//TX792729	NE89526	18	2835 7	6124 1	4566 9	4508 3
Quantum Hybrid Wheat	XNH1648	26	973 33	4367 23	3789 23	3043 28
Severodonskaya/Siouxland	NE88526	22	2750 11	5655 6	4600 8	4335 4
Abilene	Abilene	3	2128 20	5545 8	4732 6	4135 7
Bnz//Frd/Lcr/3/Bnz/Mrt-2	ND89142	14	2890 5	3268 30	2892 29	3017 29
Quantum Hybrid Wheat	XNH1712	29	1125 32	5402 9	3787 24	3438 19
Brule/Dawn	SD88201	4	2083 21	4237 24	3496 25	3272 24
Nsr/4/Ctk//Wnk/Uln/3/SD76694	ND8933	12	2698 12	3682 26	2815 30	3065 27
Nsr/3/Wnt/NB68466//SD76705	ND8930	11	2630 13	3186 31	2772 31	2863 30
Tomahawk (Bulk Selection)	WI88-083	30	1472 28	5859 3	4836 4	4056 9
Msc/Ctk A+//Iul	MT8713	31	1774 25	5122 12	3280 26	3392 20
Roughrider	Roughrider	2	2772 10	3518 29	2982 28	3091 26
Rri/MT6928	MT8719	32	1689 26	2346 35	2674 32	2236 32
Winalta/Bezostaya	W-198	34	1139 31	3526 28	3080 27	2581 31
Complex Pedigree	ID0426	33	216 35	2712 33	2335 35	1755 35
Pau 45/Sundance	W-235	35	622 34	2347 34	2623 33	1864 34
Kharkof	Kharkof	1	1283 30	2765 32	2618 34	2222 33
MEAN			2146	4551	3850	3516
LSD(.05)			873	828	516	948
C.V.			24.9	11.1	8.2	13.2

Table 18. Continued.

C.I. OR SEL. NO.	: ENTRY: : NO. :	NORTH PLATTE : NEBRASKA :	HEMING- FORD : NEBRASKA :	NEBRASKA STATE MEAN :	SHERIDAN WYOMING :	ARCHER WYOMING :	WYOMING STATE MEAN :
XNH1687	28	3662 8	5465 2	4564 3	1887 22	4210 7	3049 11
XNH1850	27	3277 19	5468 1	4372 5	2571 4	4860 1	3716 1
NE90825	21	4241 2	4853 6	4547 4	1107 34	4078 8	2592 26
SD89204	6	3333 17	4301 13	3817 14	2822 1	4055 9	3439 3
SD89333	10	3464 13	4547 9	4005 9	2430 6	3688 18	3059 10
NE88568	24	3999 3	4069 19	4034 8	2051 17	3690 17	2870 15
NE89522	17	3857 4	5462 3	4659 1	2475 5	3699 16	3087 9
NE88595	23	4310 1	4871 5	4590 2	1444 29	4840 2	3142 6
ND8955	13	3490 12	4286 15	3888 11	2356 8	3833 13	3095 8
NE89657	19	3852 5	4273 17	4063 7	1509 26	3903 12	2706 20
ND8889	15	3661 9	4585 7	4123 6	2080 15	3524 22	2802 17
NE87615	20	3141 22	4585 7	3863 12	1680 24	3945 11	2818 16
SD89102	7	3046 26	4296 14	3671 20	2170 13	3297 27	2734 19
SD89119	9	3734 7	3728 27	3731 16	2387 7	3441 23	2914 14
ND90109	16	3756 6	3699 28	3728 17	2181 12	3804 14	2993 13
SD88231	8	3112 23	4320 11	3716 18	2040 18	3286 28	2663 22
XNH1643	25	2556 30	5060 4	3808 15	2605 3	4755 3	3680 2
SD87143	5	3515 11	4316 12	3916 10	1932 21	4284 6	3108 7
NE89526	18	3057 24	3895 23	3476 25	1879 23	3378 25	2628 23
XNH1648	26	2299 31	4492 10	3396 27	2235 10	4412 5	3323 4
NE88526	22	3276 20	3662 30	3469 26	2071 16	3264 29	2668 21
Abilene	3	3621 10	3669 29	3645 21	1085 35	4472 4	2779 18
ND89142	14	2929 27	3510 31	3220 29	1455 27	2959 31	2207 34
XNH1712	29	3052 25	4231 18	3642 23	2327 9	3979 10	3153 5
SD88201	4	3438 15	4275 16	3857 13	1453 28	3795 15	2624 24
ND8933	12	3389 16	3901 22	3645 21	2235 10	2887 33	2561 27
ND8930	11	3305 18	3756 25	3531 24	2125 14	2914 32	2520 29
WI88-083	30	3455 14	3946 21	3700 19	1376 32	3632 20	2504 31
MT8713	31	2168 32	3741 26	2954 32	1681 25	3531 21	2606 25
Roughrider	2	3252 21	3002 34	3127 30	1421 30	3421 24	2421 33
MT8719	32	2736 29	3878 24	3307 28	1379 31	3634 19	2506 30
W-198	34	2068 33	4058 20	3063 31	2009 19	2885 34	2447 32
IDO426	33	1407 35	3385 32	2396 35	2659 2	3360 26	3009 12
W-235	35	1743 34	3345 33	2544 34	1952 20	3156 30	2554 28
Kharkof	1	2817 28	2882 35	2850 33	1300 33	2688 35	1994 35
MEAN		3201	4166	3683	1954	3702	2628
LSD(.05)		601	489	1038	649	854	N.S.
C.V.		11.5	7.2	9.1	20.4	14.1	16.5

Table 18. Continued.

C.I. OR SEL. NO.	: ENTRY: NO.	: WASECA MINNESOTA	: ROSEMOUNT MINNESOTA	: MINNESOTA STATE MEAN	: WILLISTON N. DAKOTA	: CASSELTON N. DAKOTA	: NORTH DAKOTA STATE MEAN
XNH1687	28	1508 8	3348 2	2428 2	4056 5	5602 2	4829 1
XNH1650	27	1471 9	2831 9	2151 8	4362 2	3694 23	4028 13
NE90625	21	1679 1	3118 4	2398 3	3649 15	5704 1	4677 2
SD89204	6	1375 11	2127 22	1751 19	2691 30	4047 22	3369 27
SD89333	10	1114 21	2161 21	1637 20	3356 21	5001 9	4178 9
NE88588	24	1557 7	2625 13	2091 10	3395 19	5057 7	4226 7
NE89522	17	999 23	2768 10	1883 13	3298 23	4386 14	3842 19
NE88595	23	1255 12	2299 19	1777 17	3148 28	4361 17	3754 23
ND8955	13	1564 6	3055 7	2309 7	3873 10	4364 16	4119 11
NE89657	19	1627 4	3069 6	2348 6	3096 29	5210 4	4153 10
ND8889	15	1178 16	2420 18	1799 16	4126 4	4377 15	4251 6
NE87615	20	1126 20	3000 8	2063 11	2636 31	5031 8	3833 20
SD89102	7	1158 18	2470 15	1814 15	3845 12	4678 11	4261 5
SD89119	9	1054 22	2455 16	1755 18	3196 27	4307 19	3751 24
ND90109	16	1227 13	2675 12	1951 12	3681 14	4258 21	3969 14
SD88231	8	1175 17	1854 29	1514 25	3276 26	4271 20	3773 22
XNH1643	25	482 30	2086 23	1284 28	4649 1	3117 26	3883 15
SD87143	5	809 25	2289 20	1549 22	3591 17	4832 10	4212 8
NE89526	18	1673 2	3107 5	2390 4	2528 32	5187 5	3858 18
XNH1648	26	339 34	2734 11	1537 23	3990 7	2783 32	3386 26
NE88526	22	1469 10	3456 1	2462 1	2434 33	5326 3	3880 16
Abilene	3	997 24	1608 31	1302 26	3294 24	2974 30	3134 32
ND89142	14	1582 5	3193 3	2387 5	4140 3	5115 6	4628 3
XNH1712	29	447 31	1940 26	1193 30	3377 20	3090 27	3233 29
SD88201	4	1132 19	1938 27	1535 24	3284 25	4448 13	3868 17
ND8933	12	1643 3	2605 14	2124 9	4052 6	4620 12	4336 4
ND8930	11	1214 14	2426 17	1820 14	3852 11	4313 18	4083 12
WI88-083	30	1202 15	2025 24	1613 21	1324 35	3025 29	2175 34
MT8713	31	423 33	1991 25	1207 29	3626 16	2950 31	3288 28
Roughrider	2	805 26	1792 30	1299 27	3980 8	3653 24	3816 21
MT8719	32	427 32	1872 28	1149 31	3756 13	2577 33	3167 31
W-198	34	574 29	1429 33	1002 33	3952 9	3181 25	3567 25
IDO426	33	296 35	1026 35	661 35	1612 34	815 35	1213 35
W-235	35	612 27	1306 34	959 34	3568 18	2531 34	3050 33
Kharkof	1	601 28	1492 32	1046 32	3319 22	3036 28	3178 30
MEAN		1080	2360	1720	3429	4055	3742
LSD(.05)		494	718	610	430	606	N.S.
C.V.		28.0	18.6	21.9	9.0	9.1	9.0

Table 18. Concluded.

C.I. OR SEL. NO.	ENTRY: NO.	SIDNEY MONTANA	MOCCASIN MONTANA	BOZEMAN MONTANA	MONTANA STATE MEAN	ABERDEEN IDAHO	LETHBRIDGE ALBERTA	REGIONAL AVERAGE
XNH1687	28	3088 1	4351 12	731 30	2723 21	7818 13	6897 2	4170 1
XNH1650	27	3046 2	5026 3	1462 21	3178 11	9990 1	6331 4	4145 2
NE90625	21	2598 22	4817 4	3221 7	3545 4	8611 5	6101 9	4114 3
SD89204	6	2825 13	4764 6	4977 2	4188 1	8921 4	5665 14	3928 4
SD89333	10	2490 25	3829 23	4797 3	3705 3	8339 8	6172 8	3844 5
NE88588	24	2297 32	4170 15	3640 4	3369 8	6533 28	5384 24	3793 6
NE89522	17	2535 23	3775 25	538 33	2283 32	8083 10	5745 11	3787 8
NE88595	23	2946 7	4228 14	901 29	2691 24	7865 12	5638 16	3787 7
ND8955	13	2912 8	3840 30	2428 11	2993 14	7219 20	5528 22	3783 9
NE89657	19	2710 18	3643 29	975 28	2443 31	6950 24	5661 15	3755 10
ND8889	15	3030 3	4530 8	2961 9	3507 5	7683 16	5637 17	3734 11
NE87615	20	2843 11	3788 24	2154 14	2929 15	7818 13	5542 21	3715 12
SD89102	7	2638 19	4394 11	2544 10	3192 10	7152 21	5049 30	3638 13
SD89119	9	2448 27	3939 22	1596 18	2661 25	8231 9	5780 10	3636 14
ND90109	16	3025 4	3992 19	3020 8	3346 9	7250 19	5685 13	3633 15
SD88231	8	2460 26	4104 16	3582 5	3382 6	6574 27	6202 7	3625 16
XNH1643	25	3001 5	5167 2	170 35	2779 19	7922 11	6751 1	3623 17
SD87143	5	2737 17	3945 21	2365 12	3016 13	6755 26	5412 23	3621 18
NE89526	18	2305 31	2531 35	1338 25	2058 35	8426 7	5042 31	3617 19
XNH1648	26	2840 12	5284 1	592 32	2905 16	9963 2	6471 3	3598 20
NE88526	22	2379 29	3333 33	690 31	2134 34	6900 25	5066 29	3521 21
Abilene	3	2739 16	3255 34	1722 16	2572 28	9159 3	5015 32	3501 22
ND89142	14	2609 21	4060 18	3459 6	3376 7	6063 30	5627 18	3484 23
XNH1712	29	2819 14	4806 5	466 34	2697 23	8510 6	6268 5	3477 24
SD88201	4	2379 29	3970 20	1542 19	2630 26	7051 22	5619 19	3384 25
ND8933	12	2391 28	3748 27	2181 13	2773 20	5474 32	5117 28	3340 26
ND8930	11	2779 15	3472 31	1349 24	2534 30	7680 17	4795 33	3284 27
WI88-083	30	1950 34	3383 32	1327 26	2220 33	7011 23	4752 34	3161 28
MT8713	31	2912 8	4075 17	1475 20	2821 17	6419 29	5275 26	3153 29
Roughrider	2	2512 24	4243 13	1412 22	2723 22	5276 33	5314 25	3085 30
MT8719	32	2964 6	4447 9	1930 15	3114 12	7350 18	5599 20	3079 31
W-198	34	2845 10	3677 28	1314 27	2612 27	5706 31	5261 27	2919 32
IDO426	33	1422 35	4618 7	5281 1	3774 2	7814 15	6217 6	2823 33
W-235	35	2624 20	4427 10	1397 23	2816 18	5010 34	5735 12	2687 34
Kharkof	1	2139 33	3768 26	1708 17	2538 29	4378 35	4503 35	2581 35
MEAN		2635	4091	2036	2921	7368	5619	3515
LSD (.05)		782	898	932	N.S.	1988	705	488
C.V.		21.2	13.5	28.0	19.4	13.2	8.9	13.7

Table 19. Summary of mean yields (kg/ha) and ranks of 35 wheats grown in the 1993 Northern Regional Performance Nursery at 10 locations from which a CV of 15 or less and a significant F test for entries were obtained.

C.I. OR SEL. NO.	: ENTRY: : NO. :	: NORTH PLATTE : NEBRASKA :	: HEMING- FORD : NEBRASKA :	: ARCHER : WYOMING :	: PIERRE : S. DAKOTA :	: WINNER : S. DAKOTA :	:
XNH1650	27	3277 19	5468 1	4880 1	5387 10	4470 10	
XNH1687	28	3662 8	5465 2	4210 7	5728 5	4896 2	
NE90625	21	4241 2	4853 6	4078 8	5295 11	4468 11	
NE89522	17	3857 4	5462 3	3699 16	5751 4	4960 1	
NE88595	23	4310 1	4871 5	4840 2	4901 16	4745 5	
XNH1643	25	2556 30	5060 4	4755 3	4531 22	3802 21	
XNH1648	26	2299 31	4492 10	4412 5	4367 23	3789 23	
NE89657	19	3852 5	4273 17	3903 12	5939 2	4889 3	
SD89333	10	3464 13	4547 9	3688 18	4744 19	3878 20	
XNH1712	29	3052 25	4231 18	3979 10	5402 9	3787 24	
SD89204	6	3333 17	4301 13	4055 9	4600 21	4103 14	
NE87615	20	3141 22	4585 7	3945 11	5072 13	4675 7	
Abilene	3	3621 10	3669 29	4472 4	5545 8	4732 6	
ND8889	15	3661 9	4585 7	3524 22	3636 27	3801 22	
SD87143	5	3515 11	4316 12	4284 6	4939 15	3905 18	
SD89119	9	3734 7	3728 27	3441 23	4858 17	4136 13	
SD89102	7	3046 26	4296 14	3297 27	5568 7	3974 17	
NE88588	24	3999 3	4069 19	3690 17	4744 20	4263 12	
ND8955	13	3490 12	4286 15	3833 13	4766 18	4017 15	
NE89526	18	3057 24	3895 23	3378 25	6124 1	4566 9	
ND90109	16	3756 6	3699 28	3804 14	4208 25	3891 19	
SD88231	8	3112 23	4320 11	3286 28	4948 14	4011 16	
SD88201	4	3438 15	4275 18	3795 15	4237 24	3496 25	
NE88526	22	3276 20	3662 30	3264 29	5655 6	4600 8	
WI88-083	30	3455 14	3946 21	3632 20	5859 3	4836 4	
ND89142	14	2929 27	3510 31	2959 31	3268 30	2892 29	
MT8713	31	2168 32	3741 26	3531 21	5122 12	3280 26	
ND8930	11	3305 18	3756 25	2914 32	3186 31	2772 31	
ND8933	12	3389 16	3901 22	2887 33	3682 26	2815 30	
MT8719	32	2736 29	3878 24	3634 19	2346 35	2674 32	
Roughrider	2	3252 21	3002 34	3421 24	3518 29	2982 28	
W-198	34	2068 33	4058 20	2885 34	3526 28	3080 27	
W-235	35	1743 34	3345 33	3156 30	2347 34	2623 33	
IDO426	33	1407 35	3385 32	3360 26	2712 33	2335 35	
Kharkof	1	2817 28	2882 35	2688 35	2765 32	2618 34	
MEAN		3201	4166	3702	4551	3850	
LSD (.05)		601	489	854	828	516	
C.V.		11.5	7.2	14.1	11.1	8.2	

Table 19. Concluded.

C.I. OR SEL. NO.	ENTRY: NO.	MOCCASIN MONTANA	WILLISTON N. DAKOTA	CASSELTON N. DAKOTA	ABERDEEN IDAHO	LETHBRIDGE ALBERTA	REGIONAL AVERAGE
XNH1650	27	5026 3	4362 2	3694 23	9990 1	6331 4	5286 1
XNH1687	28	4351 12	4056 5	5602 2	7818 13	6697 2	5249 2
NE90625	21	4817 4	3649 15	5704 1	8611 5	6101 9	5182 3
NE89522	17	3775 25	3298 23	4386 14	8083 10	5745 11	4902 4
NE88595	23	4226 14	3148 28	4361 17	7865 12	5638 16	4890 5
XNH1643	25	5167 2	4649 1	3117 26	7922 11	6751 1	4831 6
XNH1648	26	5284 1	3990 7	2783 32	9963 2	6471 3	4785 7
NE89657	19	3643 29	3096 29	5210 4	6950 24	5661 15	4741 8
SD89333	10	3829 23	3356 21	5001 9	8339 8	6172 8	4702 9
XNH1712	29	4806 5	3377 20	3090 27	8510 6	6268 5	4650 10
SD89204	6	4764 6	2691 30	4047 22	8921 4	5665 14	4648 11
NE87615	20	3788 24	2636 31	5031 8	7818 13	5542 21	4623 12
Abilene	3	3255 34	3294 24	2974 30	9159 3	5015 32	4574 13
ND8889	15	4530 8	4126 4	4377 15	7683 16	5637 17	4556 14
SD87143	5	3945 21	3591 17	4832 10	6755 26	5412 23	4550 15
SD89119	9	3939 22	3198 27	4307 19	8231 9	5780 10	4535 16
SD89102	7	4394 11	3845 12	4678 11	7152 21	5049 30	4530 18
NE88588	24	4170 15	3395 19	5057 7	6533 28	5384 24	4530 17
ND8955	13	3640 30	3873 10	4364 16	7219 20	5528 22	4502 19
NE89526	18	2531 35	2528 32	5187 5	8426 7	5042 31	4473 20
ND90109	16	3992 19	3681 14	4258 21	7250 19	5685 13	4422 21
SD88231	8	4104 16	3276 26	4271 20	6574 27	6202 7	4410 22
SD88201	4	3970 20	3284 25	4448 13	7051 22	5619 19	4361 23
NE88526	22	3333 33	2434 33	5326 3	6900 25	5066 29	4352 24
WI88-083	30	3383 32	1324 35	3025 29	7011 23	4752 34	4122 25
ND89142	14	4060 18	4140 3	5115 6	6063 30	5627 18	4056 26
MT8713	31	4075 17	3626 16	2950 31	6419 29	5275 26	4019 27
ND8930	11	3472 31	3852 11	4313 18	7660 17	4795 33	4003 28
ND8933	12	3748 27	4052 6	4620 12	5474 32	5117 28	3969 29
MT6719	32	4447 9	3756 13	2577 33	7350 18	5599 20	3900 30
Roughrider	2	4243 13	3980 8	3653 24	5276 33	5314 25	3864 31
W-198	34	3677 28	3952 9	3181 25	5706 31	5261 27	3739 32
W-235	35	4427 10	3568 18	2531 34	5010 34	5735 12	3449 33
IDO426	33	4618 7	1612 34	815 35	7814 15	6217 6	3428 34
Kharkof	1	3768 26	3319 22	3036 28	4378 35	4503 35	3278 35
MEAN		4091	3429	4055	7368	5619	4403
LSD (.05)		898	430	606	1988	705	608
C.V.		13.5	9.0	9.1	13.2	8.9	10.8

Table 20. Summary of mean yields (kg/ha) and ranks of 35 wheats grown in the Northern Regional Performance Nursery for 5 intra-regional production zones (after Peterson, 1992).

C.I. OR SEL. NO.	ENTRY: NO.	NORTH- CENTRAL PLAINS	NORTHERN HIGH PLAINS	NORTHERN PLAINS	NORTH- WEST PLAINS	NORTH- WEST	REGIONAL AVERAGE
Number of Trials	5	4	1	3	3	16	
XNH1687	28	3417 1	4845 6	5802 2	4291 1	3926 15	4170 1
XNH1650	27	2826 12	5722 1	3694 23	4265 2	4273 9	4145 2
NE90625	21	3159 3	4662 10	5704 1	3847 11	4713 4	4114 3
SD89204	6	2635 16	5025 4	4047 22	3372 26	5135 2	3928 4
SD89333	10	2422 24	4751 9	5001 9	3530 19	4932 3	3844 5
NE88588	24	3133 4	4086 24	5057 7	3478 23	4398 6	3793 6
NE89522	17	2969 9	4930 5	4386 14	3861 8	3353 29	3787 8
NE88595	23	3091 6	4755 8	4361 17	3665 14	3588 26	3787 7
ND8955	13	3066 7	4424 15	4364 16	3850 10	3665 17	3783 9
NE89657	19	3244 2	4159 21	5210 4	3915 5	3426 27	3755 10
ND8889	15	2716 13	4468 13	4377 15	3597 17	4376 8	3734 11
NE87615	20	2868 10	4510 12	5031 8	3517 20	3828 20	3715 12
SD89102	7	2515 22	4229 20	4678 11	4017 4	3996 13	3638 13
SD89119	9	2858 11	4447 14	4307 19	3501 21	3772 21	3638 14
ND90109	16	2665 15	4234 19	4258 21	3638 16	4232 10	3633 15
SD88231	8	2589 20	4055 26	4271 20	3561 18	4630 5	3625 16
XNH1643	25	2047 28	5085 3	3117 26	4061 3	4029 12	3623 17
SD87143	5	2567 21	4322 17	4832 10	3756 12	3907 16	3621 18
NE89526	18	3048 8	4395 16	5187 5	3652 15	2970 35	3617 19
XNH1648	26	2027 29	5275 2	2783 32	3732 13	4115 11	3598 20
NE88526	22	3110 5	3974 28	5326 3	3489 22	3030 34	3521 21
Abilene	3	2617 18	4596 11	2974 30	3859 9	3331 30	3501 22
ND89142	14	2697 14	3497 32	5115 6	3339 27	4362 7	3484 23
XNH1712	29	2070 27	4762 7	3090 27	3866 7	3847 19	3477 24
SD88201	4	2417 25	4144 22	4448 13	3300 29	3710 22	3384 25
ND8933	12	2630 17	3624 31	4620 12	3375 25	3682 23	3340 26
ND8930	11	2469 23	4114 23	4313 18	3272 30	3206 32	3284 27
WI88-083	30	2598 19	3991 27	3025 29	3044 31	3154 33	3161 28
MT8713	31	1927 30	3843 29	2950 31	3887 6	3609 25	3153 29
Roughrider	2	2321 26	3280 34	3653 24	3336 28	3657 24	3085 30
MT8719	32	1880 31	4060 25	2577 33	3022 32	3992 14	3079 31
W-198	34	1658 33	3664 30	3181 25	3441 24	3417 28	2919 32
ID0426	33	1056 35	4305 18	815 35	1915 35	5372 1	2823 33
W-235	35	1381 34	3366 33	2531 34	2846 33	3853 18	2687 34
Kharkof	1	1762 32	2812 35	3036 28	2741 34	3326 31	2581 35
MEAN		2527	4297	4055	3538	3915	3515
LSD(.05)		534	834	607	N.S.	N.S.	488
C.V.		15.9	13.2	9.2	13.5	13.2	13.7

Table 21. Summary of mean yields (kg/ha) and ranks for 15 wheats grown in the Northern Regional Performance Nursery at 14 sites in 1992 and 1993 with state means and ranks.

C.I. OR SEL. NO.	ENTRY: NO.	NORTH PLATTE NEBRASKA	HEMING- FORD NEBRASKA	NEBRASKA STATE MEAN	ARCHER WYOMING	SHERIDAN WYOMING	WYOMING STATE MEAN	ABERDEEN IDAHO
NE89522	17	3273 8	4839 1	4056 1	2449 2	2137 2	2293 1	7685 2
ND8955	13	3805 1	4132 4	3968 2	2339 5	2198 1	2269 2	5977 9
SD89102	7	3684 3	4145 3	3915 3	2121 9	1870 4	1995 7	6580 4
SD89204	6	3516 6	4226 2	3871 4	2350 4	2069 3	2210 3	8038 1
NE89657	19	3742 2	3959 7	3850 5	2285 6	1827 7	2056 5	6355 5
SD87143	5	2870 12	4112 5	3491 8	2501 1	1691 10	2096 4	5372 13
ND89142	14	3012 11	3630 11	3321 12	1901 13	1444 14	1672 15	5504 12
NE89526	18	3119 9	3555 13	3337 11	2049 11	1729 9	1889 9	6749 3
ND8933	12	3315 7	3812 9	3564 7	1798 14	1843 5	1820 11	4795 15
SD88201	4	3589 4	4008 6	3798 6	2433 3	1559 11	1996 6	5807 11
ND8930	11	2806 13	3454 14	3130 13	1764 15	1742 8	1753 14	6269 6
MT8713	31	2546 14	3616 12	3081 14	2098 10	1523 12	1811 12	6163 8
Roughrider	2	3560 5	3384 15	3472 9	2165 8	1477 13	1821 10	5013 14
MT8719	32	3032 10	3676 10	3354 10	2199 7	1367 15	1783 13	6202 7
W-198	34	2268 15	3864 8	3066 15	2016 12	1835 6	1926 8	5879 10
MEAN		3209	3894	3552	2165	1748	1956	6159
LSD(.05)		N.S.	674	N.S.	N.S.	N.S.	N.S.	1297
C.V.		19.9	8.8	14.4	18.2	22.9	20.3	15.1

Table 21. Continued.

C.I. OR SEL. NO.	: ENTRY: : NO. :	SIDNEY : MONTANA :	MOCCASIN : MONTANA :	BOZEMAN : MONTANA :	MONTANA : STATE MEAN :	WILLISTON : N. DAKOTA :	CASSELTON : N. DAKOTA :	NORTH DAKOTA : STATE MEAN :
NE89522	17	4124 13	2916 2	3702 10	3581 8	2962 12	3932 9	3447 8
ND8955	13	4909 1	2094 14	4321 4	3775 4	3593 5	4113 5	3853 2
SD89102	7	4548 2	2764 3	4220 6	3844 2	3396 9	4027 7	3711 6
SD89204	6	4485 3	3087 1	5802 1	4458 1	2517 14	3191 11	2854 14
NE89657	19	4162 12	2172 12	3836 8	3390 11	2677 13	4740 1	3709 7
SD87143	5	3979 14	2726 4	4361 3	3689 6	3230 10	4402 2	3816 4
ND89142	14	4262 8	2572 7	4523 2	3786 3	3583 6	4002 8	3792 5
NE89526	18	3524 15	1781 15	3615 11	2973 15	2242 15	4143 4	3192 11
ND8933	12	4216 10	2390 11	3514 13	3373 12	3709 1	4333 3	4021 1
SD88201	4	4253 9	2456 10	3776 9	3495 10	3164 11	3633 10	3398 10
ND8930	11	4312 6	2107 13	3139 15	3186 14	3617 4	4036 6	3827 3
MT8713	31	4461 4	2525 9	4048 7	3678 7	3419 8	2302 14	2860 13
Roughrider	2	4200 11	2526 8	3303 14	3343 13	3665 2	3174 12	3420 9
MT8719	32	4273 7	2615 6	4241 5	3709 5	3495 7	2121 15	2808 15
W-198	34	4340 5	2639 5	3526 12	3501 9	3627 3	2359 13	2993 12
MEAN		4270	2489	3895	3585	3260	3634	3447
LSD(.05)		N.S.	N.S.	N.S.	N.S.	388	744	N.S.
C.V.		14.4	17.3	12.5	14.5	10.0	10.4	10.1

Table 21. Concluded.

C.I. OR SEL. NO.	ENTRY: NO.	ROSEMOUNT WINNESOTA	WASECA MINNESOTA	MINNESOTA STATE MEAN	PIERRE S. DAKOTA	WINNER S. DAKOTA	SOUTH DAKOTA STATE MEAN	REGIONAL AVERAGE
NE89522	17	3587 5	2663 6	3125 6	4038 1	4421 1	4230 1	3766 1
ND8955	13	4097 1	2796 5	3447 2	3081 8	3942 4	3512 6	3671 2
SD89102	7	3268 8	2574 7	2921 7	3933 3	4194 2	4063 2	3666 3
SD89204	6	3095 10	1931 15	2513 14	3242 7	3533 9	3387 7	3649 4
NE89657	19	3747 3	3188 1	3467 1	3971 2	4021 3	3996 3	3620 5
SD87143	5	3582 6	2273 10	2917 8	3365 5	3938 5	3652 5	3456 6
ND89142	14	3665 4	2840 4	3253 4	2753 12	3260 13	3007 13	3354 7
NE89526	18	3813 2	2967 2	3390 3	3777 4	3766 6	3771 4	3345 8
ND8933	12	3437 7	2917 3	3177 5	2747 13	3513 10	3130 12	3310 9
SD88201	4	3142 9	1945 13	2544 12	2885 10	3610 7	3247 10	3304 10
ND8930	11	2817 13	2543 8	2680 9	3076 9	3457 11	3267 8	3224 11
MT8713	31	2957 11	2132 11	2544 11	3287 6	3246 14	3267 9	3166 12
Roughrider	2	2656 14	2529 9	2592 10	2806 11	3558 8	3182 11	3144 13
MT6719	32	2945 12	2090 12	2517 13	2463 14	3083 15	2773 15	3129 14
W-198	34	2533 15	1931 14	2232 15	2318 15	3269 12	2794 14	3029 15
MEAN		3288	2488	2888	3183	3654	3418	3388
LSD(.05)		759	N.S.	N.S.	N.S.	N.S.	N.S.	400
C.V.		8.5	33.7	21.6	16.3	13.8	15.9	15.6

Table 22. Mean yield, regression coefficient, correlation coefficient, and coefficient of determination from linear regression analysis of variety mean yield on nursery mean yield for the 35 entries in the 1993 Northern Regional Performance Nursery grown at 16 locations.

C.I. OR SEL. NO.	: ENTRY: NO.	: 16 SITE REGIONAL AVERAGE KG/HA	: REGRESSION COEFFICIENT (b)	: CORRELATION COEFFICIENT (r)	: COEFFICIENT OF DETERMINATION (r ²)
XNH1687	28	4170	1.13	0.93	0.87
XNH1650	27	4145	1.33	0.97	0.94
NE90625	21	4114	1.15	0.96	0.92
SD89204	6	3928	1.01	0.88	0.78
SD89333	10	3844	1.05	0.90	0.82
NE88588	24	3793	0.77	0.92	0.86
NE89522	17	3787	1.18	0.95	0.89
NE88595	23	3787	1.11	0.95	0.90
ND8955	13	3783	0.85	0.98	0.96
NE89657	19	3755	0.99	0.92	0.84
ND8889	15	3734	0.95	0.96	0.93
NE87615	20	3715	1.06	0.97	0.93
SD89102	7	3638	0.96	0.97	0.93
SD89119	9	3638	1.07	0.97	0.95
ND90109	16	3633	0.90	0.97	0.95
SD88231	8	3625	0.89	0.94	0.88
XNH1643	25	3623	1.27	0.93	0.86
SD87143	5	3621	0.95	0.98	0.95
NE89526	18	3617	1.07	0.89	0.79
XNH1648	26	3598	1.46	0.95	0.90
NE88526	22	3521	0.93	0.88	0.77
Abilene	3	3501	1.23	0.94	0.88
ND89142	14	3484	0.69	0.84	0.70
XNH1712	29	3477	1.32	0.97	0.93
SD88201	4	3384	1.02	0.99	0.97
ND8933	12	3340	0.65	0.91	0.83
ND8930	11	3284	0.90	0.93	0.86
WI88-083	30	3161	1.03	0.89	0.80
MT8713	31	3153	0.97	0.96	0.91
Roughrider	2	3085	0.76	0.90	0.82
MT8719	32	3079	1.00	0.91	0.83
W-198	34	2919	0.87	0.93	0.87
IDO426	33	2823	1.01	0.72	0.51
W-235	35	2687	0.81	0.85	0.72
Kharkof	1	2581	0.66	0.91	0.83

Table 23. Mean yield, regression coefficient, correlation coefficient, and coefficient of determination from linear regression analysis of variety mean yield on nursery mean yield for the 15 entries in the 1992 and 1993 Northern Regional Performance Nursery grown at 14 locations.

C.I. OR SEL. NO.	: ENTRY: NO.	: 14 SITE REGIONAL AVERAGE KG/HA	: REGRESSION COEFFICIENT (b)	: CORRELATION COEFFICIENT (r)	: COEFFICIENT OF DETERMINATION (r ²)
NE89522	17	3766	1.16	0.94	0.88
ND8955	13	3671	1.03	0.97	0.94
SD89102	7	3666	1.05	0.98	0.96
SD89204	6	3649	1.12	0.89	0.79
NE89657	19	3620	1.08	0.94	0.88
SD87143	5	3456	0.96	0.95	0.89
ND89142	14	3354	0.85	0.93	0.87
NE89526	18	3345	1.07	0.91	0.83
ND8933	12	3310	0.80	0.92	0.85
SD88201	4	3304	1.02	0.97	0.95
ND8930	11	3224	0.94	0.93	0.86
MT8713	31	3166	1.09	0.96	0.92
Roughrider	2	3144	0.86	0.93	0.87
MT8719	32	3129	1.02	0.92	0.85
W-198	34	3029	0.93	0.93	0.86

Table 24. Summary of agronomic and yield data for 35 wheats grown in the 1993 Northern Regional Performance Nursery.

C.I. OR SEL. NO.	: : NO. :	PLANT HEIGHT CM :	DAYS TO HEADING FROM 1/1 :	WINTER SURVIVAL % :	LODGING 0-9 :	STRIPE RUST SEV. % :	LEAF RUST SEVERITY % :	SCAB % :	T. SPOT/ SEPTORIA % :	VOLUME WEIGHT KG/HL :	YIELD KG/HA :
Number of Trials		16	13	5	7	1	1	1	1	13	16
XNH1687	28	91	163	95	3.2	85	5	4	28	73.2	4170
XNH1650	27	90	165	94	2.4	69	10	7	80	71.4	4145
NE90825	21	86	163	96	1.7	72	1	4	43	73	4114
SD89204	6	84	164	89	2.9	51	5	15	53	70.7	3928
SD89333	10	91	160	95	2.7	53	5	7	73	74.4	3844
NE88588	24	92	162	97	2.4	62	5	2	85	75.1	3793
NE89522	17	87	161	94	3	90	5	7	73	70.8	3787
NE88595	23	82	160	97	2.5	90	5	8	83	72.5	3787
ND8955	13	93	166	98	3.1	78	2	6	39	72.3	3783
NE89657	19	88	163	96	2.7	84	1	3	67	72.4	3755
ND8889	15	98	167	96	4.3	48	1	26	60	72.3	3734
NE87615	20	75	161	92	2.4	79	1	2	68	72.6	3715
SD89102	7	93	165	97	3.3	54	5	9	18	75.3	3638
SD89119	9	87	162	88	3.1	87	5	0	33	74.5	3638
ND90109	16	96	167	97	2.5	77	1	3	43	73.1	3633
SD88231	8	90	160	93	2.9	74	5	6	29	74.5	3625
XNH1643	25	87	166	95	2.1	91	30	5	30	70.1	3623
SD87143	5	88	163	97	1.7	73	5	9	78	73.1	3621
NE89526	18	86	162	93	1.6	60	1	3	63	73.7	3617
XNH1648	26	88	165	90	1.9	81	40	14	64	69.9	3598
NE88526	22	84	162	96	1.7	65	1	5	35	74.3	3521
Abilene	3	73	162	92	1.8	69	70	8	50	72.7	3501
ND89142	14	104	168	96	3.5	36	1	1	71	75.7	3484
XNH1712	29	83	163	92	1.6	89	60	6	63	70.7	3477
SD88201	4	90	165	92	2.4	80	20	4	30	74.8	3384
ND8933	12	102	168	97	3.4	66	2	2	78	73.5	3340
ND8930	11	104	168	98	2.5	58	5	2	59	74.4	3284
WI88-083	30	78	161	72	1.8	91	1	9	73	70.7	3161
MT8713	31	79	165	97	1	69	70	5	13	72.6	3153
Roughrider	2	100	167	98	4.4	72	60	12	65	73.7	3085
MT8719	32	88	167	96	2.2	78	80	6	55	71.4	3079
W-198	34	101	170	95	4.1	73	50	7	40	71.5	2919
IDO426	33	79	169	69	1.5	0	60	14	50	65.6	2823
W-235	35	102	169	92	4.7	69	30	4	50	70.6	2687
Kharkof	1	105	167	96	6.6	52	40	14	85	73.3	2581

Table 25. Adult plant reaction of the 1993 Northern Regional Winter Wheat Performance Nursery grown at St. Paul, MN to leaf and stem rust. (D. V. McVey, Cereal Rust Laboratory, ARS-USDA, St. Paul, MN 55108.)

Entry No.	Sel. No.	Leaf Rust	Stem Rust
1	Kharkof	30S	60S
2	Roughrider	30S	TR
3	Abilene	60S	5R
4	SD88201	TMS-S	TR
5	SD87143	TMS-S	5R-MR
6	SD89204	TMR-MS	20MS-S
7	SD89102	40S	10MS-S
8	SD88231	20S	20MR-MS
9	SD89119	30MS-S	60S
10	SD89333	10MS-S	5R-MR
11	ND8930	30MS-S	80S
12	ND8933	5MS-S	80S
13	ND8955	20MS-S	80S
14	ND89142	5MS-S	TR
15	ND8889	10MS-S	80S
16	ND90109	TR	TS node
17	NE89522	5MS-MS	40MS-S
18	NE89526	TMR-MS	TR
19	NE89657	TR-MR	TR-MR
20	NE87615	TMR-MS	T-5MR-MS
21	NE90625	TR-MR	TR-MR
22	NE88526	10MS-S	TR-MR
23	NE89595	30S	5MR
24	NE88588	10MS-S	20MR-MS
25	XNH1643	30S	30MS-S
26	XNH1648	20S	40S
27	XNH1650	10MS-S	60S
28	XNH1687	TR	5MR
29	XNH1712	5MS-S	30MS-S
30	WI88-083	10MR-MS	30MR-MS
31	MT8713	80S	TR
32	MT8719	80S	TR
33	ID0426	80S	10MS
34	W-198	40S	60S
35	W-235	20S	80S

Leaf rust read July 6; Stem rust read July 13.

Table 26. Hessian fly reaction, Great Plains biotype, for entries in the 1993 Northern Regional Performance Nursery. Data provided by J. H. Hatchett, USDA-ARS, Manhattan, KS.

C.I. OR SEL. NO.	ENTRY: NO.	HESSIAN FLY		
		REACTION TYPE	NO. OF PLANTS RES. : SUSC.	
Kharkof	1	S	0	25
Roughrider	2	H	5	16
Abilene	3	S	0	21
SD88201	4	H	21	1
SD87143	5	S	0	21
SD89204	6	S	0	18
SD89102	7	S	0	22
SD88231	8	H	4	18
SD89119	9	H	15	6
SD89333	10	S	0	29
ND8930	11	S	0	23
ND8933	12	S	0	26
ND8955	13	S	3	15
ND89142	14	S	0	29
ND8889	15	S	0	28
ND90109	16	H	16	2
NE89522	17	S	0	19
NE89526	18	R	20	3
NE89657	19	H	20	4
NE87615	20	R	21	0
NE90625	21	S	0	22
NE88526	22	H	16	10
NE88595	23	H	17	7
NE88588	24	S	0	22
XNH1643	25	S	0	24
XNH1648	26	S	0	25
XNH1650	27	S	0	21
XNH1687	28	H	4	18
XNH1712	29	S	0	23
WI88-083	30	S	0	26
MT8713	31	H	4	20
MT8719	32	H	4	17
ID0426	33	S	0	22
W-198	34	S	0	26
W-235	35	S	0	23

Table 27. Presence of 1RS in wheat genotypes entered in the 1993 Northern Regional Performance Nursery. Data provided by R. A. Graybosch, USDA-ARS, Lincoln, NE.

Entry No.	Sel. No.	Relative OD	Putative wheat-rye translocation
10	SD8933	1.65*	1BL/1RS
17	NE89522	1.51*	1AL/1RS (het.) ¹
1	Kharkof	1.20	none
18	NE89526	1.08	none
8	SD88231	1.02	none
20	Vista	1.02	none
2	RoughRider	1.00	none
22	NE88526	0.99	none
31	MT8713	0.98	none
13	ND8955	0.97	none
14	ND89142	0.98	none
16	ND90109	0.91	none
6	SD89204	0.90	none
32	MT8719	0.89	none
3	Abilene	0.88	none
21	NE90625	0.87	none
15	ND8889	0.87	none
25	XNH1643	0.84	none
5	SD87143	0.84	none
12	ND8933	0.84	none
11	ND8930	0.82	none
6	SD89204	0.80	none
9	SD89119	0.78	none
29	XNH1712	0.68	none
34	W-198	0.59	none
19	NE89657	0.57	none
23	NE88595	0.54	none
30	WI88-083	0.44	none
24	NE88588	0.41	none
35	W-235	0.41	none
33	ID0426	0.40	none

* Denotes ELISA responses statically higher than that of Kharkof, the known non-1RS wheat giving the highest response.

¹ (het.) indicates heterogeneous entry.

Table 28. Reaction of entries in the 1993 Northern Regional Performance Nursery to Tan Spot - Stillwater, OK.

Rank ^x	Entry No.	Sel. No.	Mean Lesion Lengths (mm)		
			Test 1 ^y	Test 2 ^y	Mean ^z
19	1	Kharkof	2.74	2.73	2.74
7	2	Roughrider	2.65	2.13	2.39
9	3	Abilene	2.96	2.20	2.58
20	4	SD88201	2.94	2.63	2.78
29	5	SD87143	3.25	3.06	3.15
38	6	SD89204	4.38	3.03	3.71
14	7	SD89102	2.62	2.67	2.64
31	8	SD88231	3.42	2.96	3.19
35	9	SD89119	4.11	2.64	3.37
17	10	SD89333	2.81	2.60	2.70
27	11	ND8930	3.06	3.10	3.08
24	12	ND8933	3.39	2.58	2.98
37	13	ND8955	4.13	2.85	3.49
6	14	ND89142	2.70	2.02	2.36
18	15	ND8889	2.78	2.65	2.71
34	16	ND90109	3.47	3.22	3.35
32	17	NE89522	3.43	3.00	3.21
10	18	NE89526	3.26	1.90	2.58
25	19	NE89657	3.30	2.77	3.03
33	20	NE87615	3.60	2.90	3.25
26	21	NE90625	3.52	2.60	3.06
30	22	NE88526	3.73	2.62	3.17
28	23	NE88595	3.53	2.76	3.14
36	24	NE88588	3.39	3.37	3.38
13	25	XNH1643	2.96	2.30	2.63
21	26	XNH1648	3.44	2.43	2.94
22	27	XNH1650	3.39	2.55	2.97
15	28	XNH1687	2.84	2.50	2.67
12	29	XNH1712	2.87	2.35	2.61
4	30	WI88-083	2.33	1.99	2.16
3	31	MT8713	2.33	1.71	2.02
2	32	MT8719	1.20	1.35	1.27
11	33	ID0426	2.70	2.50	2.60
16	34	W-198	2.79	2.55	2.67
8	35	W-235	2.79	2.36	2.57
1	Chk	Red Chief	0.08	1.71	1.26
5	Chk	Agrotricum	2.58	2.08	2.33
23	Chk	TAM-105	3.07	2.88	2.97
Mean			3.03	2.53	2.78
l.s.d			0.62	0.38	0.36
C.V.			14.69	10.69	13.25

^xRankings are from the combined analysis of the two tests.

^yMean lesion lengths were computed over four replications.

^zMean lesion length values from the combined analysis.

NOTE: See SRPN section, page 63, for description of methods.

Table 29. Reactions of entries in the 1993 Northern Regional Performance Nursery to Soilborne Mosaic and Barley Yellow Dwarf Viruses. Data provided by A. D. Hewings, USDA-ARS, Urbana, IL.

C.I. OR SEL. NO.	ENTRY: NO.	SOILBORNE MOSAIC		BARLEY YELLOW DWARF	
		0-9 REP1	0-9 REP 2	0-9 REP 1	0-9 REP 2
Kharkof	1	7	7	5	4
Roughrider	2	8	6	6	5
Abilene	3	1	3	9	4
SD88201	4	9	9	5	4
SD87143	5	8	7	6	4
SD89204	6	9	7	7	5
SD89102	7	8	8	8	4
SD88231	8	7	8	3	4
SD89119	9	8	9	5	5
SD89333	10	5	5	5	5
ND8930	11	7	7	4	4
ND8933	12	5	6	5	4
ND8955	13	7	7	6	4
ND89142	14	7	7	4	3
ND8889	15	6	2	5	5
ND90109	16	9	9	5	4
NE89522	17	8	7	5	3
NE89526	18	6	8	7	4
NE89657	19	7	7	4	5
NE87615	20	8	7	5	4
NE90625	21	8	8	6	5
NE88526	22	7	7	3	6
NE88595	23	6	7	3	3
NE88588	24	7	6	4	5
XNH1643	25	8	7	5	4
XNH1648	26	7	6	4	4
XNH1650	27	8	7	3	4
XNH1687	28	8	8	3	4
XNH1712	29	6	6	4	4
WI88-083	30	6	7	5	3
MT8713	31	8	8	6	3
MT8719	32	8	8	5	4
ID0426	33	8	8	3	5
W-198	34	7	6	4	5
W-235	35	7	7	3	4

1993

Western Plains Regional Performance Nursery

<u>Entry No.</u>	<u>Variety or Pedigree</u>	<u>Sel. No.</u>	<u>Source</u>
1**	Larned	CI17650	Check
2**	Siouxland	PI483469	"
3**	Lamar	PI559719	"
4**	Arapahoe	PI518591	"
5	Carson/Sandy	CO870258	Colorado
6	Lov13/2* Ctk 78//TAM-105	CO880054	"
7*	TAM-200/TAM-107	CO890323	"
8*	CO830120/Siouxland	CO890427	"
9***	Centura/Dawn//Colt sib	NE88584	Nebraska
10*	KS83H2510 (H11)/Brule 83 composite	NE90479	"
11	PI V/3/NapHal/Lancer/2/TX1682/NE70654	N88L267	NE, USDA
12*	NE82438/NE7060	N91L018	"
13*	NE80413/2/Lindon/NE7060	N91L182	"
14	Siouxland/TAM-101	TX90A9507	Texas
15	TAM-105*4/Amigo*5//Largo	TX88A6840	"
16*	TX71A889/TAM-101	TX90A9524	"
17*	TAM-105/BAU39	TX90V7119	"
18*	TAM-200//TX38949-2/TAM-107	TX90V8734	"
19*	TAM-105/10334	TX89A7315	"
20*	" "	TX89A7318	"
21*	Siouxland/TX80GH2679	TX91V5524	"
22*	TX86V1540/TX78V2430-4	TX90V6132	"
23*	TAM-107/TX73V862	TX91V3736	"
24**	Quantum Hybrid Wheat	QT542	Hybritech
25*	" " "	XH1437	"
26*	" " "	XH1438	"
27*	" " "	XH1541	"
28*	" " "	XHN1564	"
29*	Siouxland/NK812	T76	Trio
30	TK/Burt/5/SM6/4/2*IT/UT175A-53// BDLS Burt/3/CI13438/6/TK/Burt/Bez1	IDO352	Idaho

- * New entries
 ** New seed provided
 *** Entered from SRPN

TEST SITE INFORMATION - WPRPN

The Western Plains Regional Performance Nursery was planted at six locations. Test site information for Bushland, TX; Goodwell, OK; Colby, KS; and Akron, CO can be found in the SRPN section. Information for Archer, WY can be found with the NRPN information. The Nebraska WPRPN site at Morrill was abandoned due to hail damage.

Table 30. Yield and agronomic data for 35 wheats grown in the 1993 Western Plains Regional Performance Nursery.

COLBY

KANSAS

THREE REPLICATIONS

C.I. OR SEL. NO.	: ENTRY: NO.	: YIELD : KG/HA	: VOLUME : WEIGHT : KG/HL	: PLANT : HEIGHT : CM	: DAYS TO : HEADING : FROM 1/1:
TX89A7318	20	2472	72.5	86	142
XHN1564	28	2445	72.9	91	146
XH1438	26	2354	73.7	105	146
TX90A9507	14	2342	70.1	87	147
XH1437	25	2291	73.7	104	145
Larned	1	2285	72.9	105	143
XH1541	27	2273	72.9	96	146
T76	29	2169	69.9	90	148
QT542	24	2136	73.9	105	147
TX89A7315	19	2117	71.8	88	142
TX88A6840	15	2110	69	95	142
TX90V7119	17	2099	73.1	105	145
Arapahoe	4	2094	70.2	95	147
C0890427	8	2054	70.3	89	145
TX90A9524	16	2044	71.7	91	142
N91L018	12	2017	70.3	86	149
TX91V5524	21	2002	71.4	104	142
NE90479	10	1972	73.8	92	145
Lamar	3	1969	74.9	100	147
N91L182	13	1920	68.3	97	149
TX90V8734	18	1903	76.2	93	148
C0890323	7	1852	74.6	93	144
TX91V3736	23	1844	73.8	88	139
C0870258	5	1809	73.1	103	147
Siouxland	2	1795	70	106	146
TX90V6132	22	1789	68.9	111	148
C0880054	6	1569	66.8	90	146
NE88584	9	1379	72.4	107	146
N88L267	11	1313	72.7	97	149
ID0352	30	1251	72.1	103	154
MEAN		1989			
LSD(.05)		330			
C.V.		10.2			

GOODWELL
OKLAHOMA
THREE REPLICATIONS

C.I. OR SEL. NO.	: ENTRY: : NO. :	: YIELD : : KG/HA :	: PLANT : : HEIGHT : : CM :	: DAYS TO : : HEADING : : FROM 1/1:
NE88584	9	1431	67	136
XH1438	26	1304	62	149
C0890323	7	1291	63	141
TX88A6840	15	1284	58	141
TX91V3736	23	1252	53	145
TX89A7318	20	1240	55	136
C0880054	6	1192	53	143
TX89A7315	19	1182	57	141
Larned	1	1143	65	144
Arapahoe	4	1056	57	144
Lamar	3	1043	62	145
TX90A9524	16	1030	60	141
C0890427	8	1007	55	144
XH1437	25	952	67	149
NE90479	10	885	58	138
XHN1564	28	870	60	149
TX91V5524	21	841	65	146
TX90V8734	18	791	58	147
C0870258	5	776	52	144
Siouxland	2	771	67	138
TX90V6132	22	755	60	133
TX90V7119	17	747	63	141
T76	29	711	52	149
TX90A9507	14	709	55	147
XH1541	27	618	53	149
N91L018	12	499	52	151
N91L182	13	430	48	151
QT542	24	399	63	150
N88L267	11	253	48	151
ID0352	30	135	55	151
MEAN		887		
LSD(.05)		280		
C.V.		19.3		

AKRON
COLORADO
FOUR REPLICATIONS

C.I. OR SEL. NO.	: ENTRY: NO.	: YIELD : KG/HA	: VOLUME : WEIGHT : KG/HL	: PLANT : HEIGHT : CM	: DAYS TO : HEADING : FROM 1/1:	: LODGING : 0-9
TX89A7315	19	4766	74.7	81	150	0
C0890323	7	4568	77.7	86	151	0
NE90479	10	4355	77.7	91	151	0
Larned	1	4332	76.6	102	152	0
TX91V3736	23	4320	75.9	81	147	0
XH1438	26	4232	75.9	102	151	0
C0880054	6	4213	73.9	81	152	0
XHN1564	28	4138	72	91	153	0
C0870258	5	4080	74.9	102	152	0
XH1541	27	4061	74	97	152	0
NE88584	9	4039	74.3	97	152	0
TX89A7318	20	4036	75.5	81	150	0
TX88A6840	15	3995	72.8	91	151	0
TX91V5524	21	3994	77.3	91	150	0
C0890427	8	3984	74.3	86	152	0
Arapahoe	4	3936	73.5	97	153	0
TX90A9524	16	3901	75.5	81	150	0
QT542	24	3889	75.2	102	153	0
XH1437	25	3834	75.2	97	152	0
TX90V8734	18	3781	78.3	91	153	0
TX90V7119	17	3750	75.5	102	152	0
Lamar	3	3723	76.1	102	152	2
TX90A9507	14	3722	72.8	81	152	0
Siouxland	2	3675	76	102	151	0
T76	29	3632	71.5	91	153	0
N88L267	11	3459	75.1	91	152	1
N91L182	13	3426	67.3	91	153	0
TX90V6132	22	3396	72.8	102	152	0
ID0352	30	3387	72.8	97	153	0
N91L018	12	3372	72.2	81	153	0
MEAN		3933				
LSD(.05)		463				
C.V.		8.4				

ARCHER
WYOMING
THREE REPLICATIONS

C.I. OR SEL. NO.	: : ENTRY: : NO. :	: YIELD : : KG/HA :	: PLANT : : HEIGHT : : CM :	: DAYS TO : : HEADING : : FROM 1/1:	: WINTER : : SURVIVAL : : % :
TX90A9524	16	3773	48	155	95
N88L267	11	3493	52	161	95
TX90A9507	14	3445	47	158	97
Siouxland	2	3432	53	159	95
XH1437	25	3396	53	159	95
CO880054	6	3331	45	159	89
CO870258	5	3322	48	159	97
NE88584	9	3306	55	158	96
TX91V5524	21	3271	55	156	97
Lamar	3	3262	56	159	97
N91L018	12	3239	54	164	93
XH1438	26	3232	52	157	94
Arapahoe	4	3210	51	159	95
TX91V3736	23	3194	50	155	97
QT542	24	3190	51	159	91
TX90V7119	17	3156	55	158	89
TX89A7315	19	3109	47	157	93
TX89A7318	20	3100	45	156	91
CO890427	8	3089	51	159	93
XH1541	27	3024	48	159	94
CO890323	7	2955	52	157	96
TX88A6840	15	2943	47	156	93
XHN1564	28	2910	48	158	95
N91L182	13	2907	56	164	97
Larned	1	2876	52	156	93
NE90479	10	2863	50	157	97
T76	29	2858	52	162	94
TX90V8734	18	2661	48	160	93
TX90V6132	22	2580	52	162	90
ID0352	30	2405	59	167	95
MEAN		3118			
LSD(.05)		N.S.			
C.V.		13.2			

Table 31. Summary of mean yields (kg/ha) and ranks for 30 wheats grown in the 1993 Western Plains Regional Performance Nursery at 4 locations.

C.I. OR SEL. NO.	ENTRY: NO.	GOODWELL OKLAHOMA	COLBY* KANSAS	AKRON COLORADO	ARCHER WYOMING	REGIONAL AVERAGE
TX89A7315	19	1182 8	2117 10	4766 1	3109 17	3019 1
CO890323	7	1291 3	1852 22	4568 2	2955 21	2938 2
NE88584	9	1431 1	1379 28	4039 11	3306 8	2925 3
XH1438	26	1304 2	2354 3	4232 6	3232 12	2923 4
TX91V3736	23	1252 5	1844 23	4320 5	3194 14	2922 5
CO880054	6	1192 7	1569 27	4213 7	3331 6	2912 6
TX90A9524	16	1030 12	2044 15	3901 17	3773 1	2901 7
TX89A7318	20	1240 6	2472 1	4036 12	3100 18	2792 8
Larned	1	1143 9	2285 6	4332 4	2876 25	2783 9
TX88A6840	15	1284 4	2110 11	3995 13	2943 22	2741 10
Arapahoe	4	1056 10	2094 13	3936 16	3210 13	2734 11
XH1437	25	952 14	2291 5	3834 19	3396 5	2727 12
CO870258	5	776 19	1809 24	4080 9	3322 7	2726 13
TX91V5524	21	841 17	2002 17	3994 14	3271 9	2702 14
NE90479	10	885 15	1972 18	4355 3	2863 26	2701 15
CO890427	8	1007 13	2054 14	3984 15	3089 19	2693 16
Lamar	3	1043 11	1969 19	3723 22	3262 10	2676 17
XHN1564	28	870 16	2445 2	4138 8	2910 23	2640 18
Siouxland	2	771 20	1795 25	3675 24	3432 4	2626 19
TX90A9507	14	709 24	2342 4	3722 23	3445 3	2625 20
XH1541	27	618 25	2273 7	4061 10	3024 20	2567 21
TX90V7119	17	747 22	2099 12	3750 21	3156 16	2551 22
QT542	24	399 28	2136 9	3889 18	3190 15	2493 23
TX90V8734	18	791 18	1903 21	3781 20	2661 28	2411 24
N88L267	11	253 29	1313 29	3459 26	3493 2	2401 25
T76	29	711 23	2169 8	3632 25	2858 27	2400 26
N91L018	12	499 26	2017 16	3372 30	3239 11	2370 27
N91L182	13	430 27	1920 20	3426 27	2907 24	2254 28
TX90V6132	22	755 21	1789 26	3396 28	2580 29	2244 29
ID0352	30	135 30	1251 30	3387 29	2405 30	1976 30
MEAN		887	1989	3933	3118	2646
LSD(.05)		280	330	463	N.S.	422
C.V.		19.3	10.2	8.4	13.2	11.6

* Not used in regional means.

Table 32. Summary of agronomic and yield data for 30 wheats grown in the 1993 Western Plains Regional Performance Nursery.

VARIETY OR PEDIGREE	: C.I. OR SEL. NO.	: ENTRY: NO.	: PLANT HEIGHT CM	: DAYS TO HEADING FROM 1/1:	: LODGING 0-9	: WINTER SURVIVAL %	: VOLUME WEIGHT KG/HL	: YIELD KG/HA
	Number of Trials		4	4	1	1	2	3
TAM-105/10334	TX89A7315	19	88	148	0	93	73.2	3019
TAM-200/TAM-107	C0890323	7	74	148	0	96	76.2	2938
Centura/Dawn//Colt sib	NE88584	9	81	148	0	96	73.4	2925
Quantum Hybrid Wheat	XH1438	26	80	151	0	94	74.8	2923
TAM-107/TX73V862	TX91V3736	23	68	147	0	97	74.8	2922
Lov13/2* Ctk 78//TAM-105	C0880054	6	67	150	0	89	70.4	2912
TX71A889/TAM-101	TX90A9524	16	70	147	0	95	73.6	2901
TAM-105/10334	TX89A7318	20	67	146	0	91	74	2782
Larned	Larned	1	81	149	0	93	74.8	2783
TAM-105*4/Amigo*5//Largo	TX88A6840	15	73	148	0	93	70.9	2741
Arapahoe	Arapahoe	4	75	151	0	95	71.9	2734
Quantum Hybrid Wheat	XH1437	25	80	151	0	95	74.4	2727
Carson/Sandy	C0870258	5	76	151	0	97	74	2726
Siouxland/TX80GH2679	TX91V5524	21	79	149	0	97	74.3	2702
KS83H2510 (H11)/Brule 83 composite	NE90479	10	73	148	0	97	75.7	2701
C0830120/Siouxland	C0890427	8	70	150	0	93	72.3	2693
Lamar	Lamar	3	80	151	2	97	75.5	2676
Quantum Hybrid Wheat	XHN1564	28	73	151	0	95	72.5	2640
Siouxland	Siouxland	2	82	148	0	95	73	2626
Siouxland/TAM-101	TX90A9507	14	68	151	0	97	71.4	2625
Quantum Hybrid Wheat	XH1541	27	73	152	0	94	73.5	2567
TAM-105/BAU39	TX90V7119	17	81	149	0	89	74.3	2551
Quantum Hybrid Wheat	QT542	24	80	152	0	91	74.5	2493
TAM-200//TX38949-2/TAM-107	TX90V8734	18	73	152	0	93	77.2	2411
P1 V/3/Naphal/Lancer/2/TX1682/NE70654	N88L267	11	72	153	1	95	73.9	2401
Siouxland/NK812	T76	29	71	153	0	94	70.7	2400
NE82438/NE7060	N91L018	12	68	154	0	93	71.3	2370
NE80413/2/Lindon/NE7060	N91L182	13	73	154	0	97	67.8	2254
TX86V1540/TX78V2430-4	TX90V6132	22	81	149	0	90	70.8	2244
Complex Pedigree	ID0352	30	79	156	0	95	72.4	1976

Table 33. Seedling reaction of entries of the 1993 Western Plains Regional Hard Red Winter Wheat Performance Nursery to selected isolates of *Puccinia graminis* f. sp. *tritici*. (D. V. McVey, USDA-ARS, Cereal Rust Laboratory, U. of Minnesota, St. Paul, MN 55108.)

No.	Line	Isolates							Sr Gene
		QFBS	QSHS	RKQS	RPQQ	RTQQ	TNMH	TNMK	
1	Larned	2	2	2	;1-N	0	;1-N	S	17,+
2	Siouxland	2=	2=	2=	2=	2=	2=	2=	24/31
3	Lamar	2=	2	2-	0	0	0;	2-	17,24
4	Arapahoe	0;	2-C	2=	0	0	0	0;	6,17,24
5	C0870258	;1-N	23	S	;1-N	S	0;	0;	6,+
6	C0880054	0;	2=	2=	0	0	0	0;	6,17,24
7	C0890323	2=	2=	2=	1-	2=	2=	2=	Amigo
8	C0890427	2=	2=	2=	2=	2=	2=	2	24/31
9	NE88584	0;	23	S	0;	0	0	;1N	6,17,+
10	NE90479	;2-	2	2	0	0	;1-N	;S	17,+ seg8
11	N88L267	2=	2-C	2=	0	0	0	2=	17,+
12	N91L018	2=,S	2-,S	1,S	0	0	2=	2-,,	+
13	N91L182	;1N	S	S	0;	S	0;	0	6
14	TX90A9507	2=	2=	2=	1	0	1	0	6,17,24
15	TX88A6840	2=	2=	2=	2=	2=	2=,S	2=,S	24
16	TX90A9524	2=	2	2	2	S	S	S	+
17	TX90V7119	0;	2-	2=	0	0	0	0	6,17,+
18	TX90V8734	0;	2-	;1	0	0	1	2-,S	17,+
19	TX89A7315	2+3	S	S	2CN	S	S	S	+
20	TX89A7318	23C	S	S	S	2C	23	S	+
21	TX91V5524	2-	2	23	23C	2-	S	S	+
22	TX90V6132	2-	2-	2-	2-	2-	;1	2-	24/31
23	TX91V3736	2-	2	2-	0	0	;1	S	17,Tmp
24	QT542	S	S	S	S	S	S	S	None
25	XH1437	2=	2=	2=	0	1	0	0	+
26	XH1438	2=	2=	2=	2=	;1-	;1	2=	+
27	XH1541	23CN	23CN	S	0	S	XC	S	+
28	XHN1564	2=	2-	2=	0	2=	0;	2=	+
29	T76	0;	2=	2=	2=	1	0;	0;	+
30	ID0352	S	S	S	S	S	S	S	None

Table 34. Adult plant reaction of 1993 Western Plains Regional Winter Wheat Performance Nursery grown at St. Paul, MN to leaf and stem rust. (D. V. McVey, USDA-ARS, Cereal Rust Laboratory, U. of Minnesota, St. Paul, MN 55108.)

Entry No.	Sel. No.	Leaf Rust	Stem Rust
1	Larned	60S	20MR-MS
2	Siouxland	60S	20MR-MS
3	Lamar	30MS-S	5R-MR
4	Arapahoe	TR-MR	5R-MR
5	C0870258	60S	60S
6	C0880054	TR,40	10MR
7	C0890323	60MS-S	20MR-MS
8	C0890427	40S	20MR-MS
9	NE88584	20S	30S
10	NE90479	10MS-S	40S
11	N88L267	TR-MR	TR-MR
12	N91L018	TMS-S	5MR
13	N91L182	5R-MR	10MS-S
14	TX90A9507	TMR-MS	5R-MR
15	TX88A6840	20MS-S	10MS-S
16	TX90A9524	Dead	40MS-S
17	TX90V7119	40S	TR
18	TX90V8734	40S	5MS
19	TX89A7315	60S	20MS
20	TX89A7318	60S	20MR-MS
21	TX91V5524	60S	60S
22	TX90V6132	5MS-S	TR-MR (AWNLESS)
23	TX91V3736	60S	TR-MR
24	QT542	10MS-S	40S
25	XH1437	40S	TR
26	XH1438	40S	TR
27	XH1541	TR	TR
28	XHN1564	10S	TMR
29	T76	T,S-S	TR
30	ID0352	10S	40MS-S

Leaf rust read July 6, Stem rust read July 13

Table 35. Presence of 1RS in wheat genotypes entered in the 1993 Western Plains Regional Performance Nursery.
Data provided by R. A. Graybosch, USDA-ARS, Lincoln, NE.

Entry No.	Sel. No.	Relative OD	Putative wheat-rye translocation
15	TX88A6840	1.93*	1AL/1RS
18	TX90V8734	1.80*	1AL/1RS
29	T76	1.77*	1AL/1RS
28	XNH1564	1.76*	1AL/1RS
2	Siouxland	1.72*	1BL/1RS
14	TX89A9507	1.69*	1BL/1RS
11	N88L267	1.50*	1BL/1RS
6	C0880054	1.24*	1BL/1RS
8	C0890427	1.21*	1BL/1RS
26	XH1438	1.17*	1BL/1RS (het.)
7	C0890323	1.16*	1AL/1RS
25	XH1437	1.11*	1BL/1RS (het.)
21	TX91V5524	1.10*	1AL/1RS
22	TX90V6132	0.93	none
30	ID0352	0.92	none
24	QT542	0.84	none
14	TX90A9524	0.81	none
27	XH1541	0.80	none
1	Larned	0.76	none
23	TX91V3736	0.75	none
13	N91L182	0.75	none
17	TX90V7119	0.74	none
5	C0870258	0.72	none
10	NE90479	0.71	none
3	Lamar	0.68	none
12	N91L018	0.66	none
20	TX89A7318	0.59	none
19	TX89A7315	0.58	none
4	Arapahoe	0.54	none
9	NE88584	0.38	none

* Denotes ELISA responses statically higher than that of Larned, the known non-1RS wheat giving the highest response.

¹ (het.) indicates heterogeneous entry.

QUALITY DATA

Composites of 1-lb samples of each SRPN, NRPN, and WPRPN entry from harvested nursery sites are evaluated at the Hard Red Winter Wheat Quality Laboratory at Manhattan, Kansas. Results are reported to cooperators by the laboratory and are not included in this report.

UNIFORM WINTERHARDINESS NURSERIES

The nurseries are comprised of Southern and Northern Materials Sections. In 1993, the Southern Materials Section contained 177 entries and Northern Section 54 entries. There was little differential winter survival at the test sites. Nursery lists and survival data which was obtained appear in the tabulations that follow.

SOIL-BORNE MOSAIC NURSERY

In 1993 there were 112 entries in the soil-borne mosaic virus evaluations. Field screening results listed in the first table are those reported from Urbana, IL and Stillwater, OK.

Combined ELISA and field screening was conducted by R. M. Hunger and J. L. Sherwood, Plant Pathology Department, Oklahoma State University. The 1993 soilborne mosaic virus (SBMV) nursery (112 entries) was planted in a field with a history of severe SBMV that was fallow during 1991-92. Three reps (rows) of each entry were planted on 25 Sep 92 at a rate of 3 g seed per 1.5 m of row. The plot was irrigated on 28 Sep 92 (1.9 cm) and 29 Sep 92 (0.9 cm) to facilitate infection by *Polymyxa graminis*. Each rep (row) was evaluated for SBMV symptoms on 08 Apr 93 using a scale of 0=no stunting or mosaic, 1=slight stunting and/or slight mosaic, 2=moderate stunting and/or moderate mosaic, 3=severe stunting and/or severe mosaic, and S=segregating. Foliar samples were collected immediately following visual assessment of symptoms for analysis by the enzyme-linked immunosorbant assay (ELISA), which was conducted as previously reported [Crop Sci. 1991. 31(4):900-904]. Values from ELISA <0.100 were considered negative and values ≥ 0.100 were considered positive.

In 1993, wheat spindle streak mosaic virus (WSSMV) was detected sporadically in wheat grown in this area of the field. The occurrence of WSSMV in this field may explain the occurrence of a '2' or '3' rating in combination with a negative value from ELISA. For example PI477286 (Mustang), which is resistant to SBMV but susceptible to WSSMV, has some reps that were rated visually as a '2' or '3' but the corresponding value from ELISA is negative. The '2' or '3' rating probably indicates susceptibility to WSSMV rather than a reaction to SBMV. Thus, it is important to consider the value from ELISA in conjunction with the visual assessment in determining reaction to SBMV. Further information regarding the use of symptomatology and ELISA to determine reaction to SBMV is available in Crop Sci. 1991. 31(4):900-904.

1993
Uniform Winterhardiness Nursery
Southern Section

Entry No.	Variety or Pedigree	Sel. No.	Source	: Casselton : : No. Dakota : : Rep 1 : % Survival
1	Warrior	CI13190	Check	100
2	Centura//Sage/Arthur	NE87522	Nebraska	90
3	Newton/Wrr*5//Agent/3/NE69441	NE87612	"	100
4	Ram/Brule 83 composite	NE90411	"	100
5	Bennett/Brule 83 composite	NE90476	"	95
6	Brule seln. #5//Siouxland/Ram	NE90509	"	95
7	Arapahoe/Colt 83 composite	NE90616	"	95
8	Sxld/Arkan/5/Bez1/Ctk78//Arthur/Sxld/3/ C0725082*2/Rrr/4/Dawn	NE89671	"	95
9	TX79A2729//Caldwell/Brule seln/3/Sxld	NE90626	"	90
10	Scout 66	CI13996	Check	90
11	TAM-108/Arapahoe	NE91515	Nebraska	95
12	Aiv/Nbr/Bolal//HiPlains/3/Lov 6/4/Redland	NE91525	"	90
13	NE82533/Siouxland	NE91527	"	100
14	NE82533/Arapahoe	NE91542	"	95
15	NE83688/Redland	NE91555	"	95
16	Brule 84-11/Bighorn	NE91562	"	95
17	"	NE91564	"	95
18	"	NE91569	"	90
19	"	NE91571	"	100
20	Vona	CI17441	Check	95
21	Arapahoe/TAM-107	NE91608	Nebraska	95
22	NE82761/Brule 84	NE91629	"	100
23	"	NE91631	"	90
24	NE82761/Stephens	NE91633	"	95
25	NE82761/NE82599	NE91635	"	95
26	NE82671/NE80413	NE91647	"	95
27	"	NE91648	"	95
28	"	NE91651	"	95
29	Bulk selection (N90L158)	NE91691	"	100
30	Warrior	CI13190	Check	100
31	Nebr. dwarf/Brule seln. #1//Cody	NE91467	Nebraska	100
32	Arapahoe/NE82761	NE91509	"	95
33	NE82702 purple/TAM-108	NE91518	"	100
34	Unknown	VBFO168	"	95
35	Unknown	HBC208	"	95
36	Unknown	HBFO263	"	100
37	Unknown	HBFO337	"	95
38	Unknown	VBFO589	"	95
39	W9471A*W9523A/W3415	HBFO290-144	Manhattan, KS	95
40	Scout 66	CI13996	Check	100
41	W9488A*2163/2180	HBFO337-112	Manhattan, KS	95
42	WX11731*2163/W9523A	HBFO435-130	"	95
43	W9488A*2163/2180	HBFO337-113	"	95
44	2172*2163/W9419B	HBFO276-147	"	95
45	KS82W418/Stephens	K84W063-9-3-2	"	95

1993 UWHN, Southern Materials Section

Entry No.	Variety or Pedigree	Sel. No.	Source	Casselton : No. Dakota : Rep 1 : % Survival
46	KS82W418/Stephens	K84W063-9-12-2	"	100
47	"	K84W063-9-18-1	"	95
48	"	K84W063-9-34-1	"	80
49	"	K84W063-9-39-1	"	95
50	Vona	CI17441	Check	90
51	KS82W418/Stephens	K84W063-9-39-3	Manhattan, KS	100
52	KS82W422/SWM754308//KS831182/KS82W422	K85W663-6-1-2	"	70
53	KS831033/Colt//Vic/Glen	KS87057F-1-1	"	90
54	KS82W422/SWM754308//KS831182/KS82W422	K85W663-7-4-1	"	90
55	"	K85W663-7-4-2	"	85
56	"	K85W663-7-7-3	"	80
57	KS831374-1548/OR8300764	K87822-2-1	"	95
58	KS82W422/SWM754308//KS831182/KS82W422	K85W663-11-6-1	"	95
59	Bulk Selection	KS369-7-17	"	.
60	Warrior	CI13190	Check	100
61	HRE-LT-11(OR)/Homestead//W8447	KS91H213	Manhattan, KS	95
62	WX12907*TAM-108/W2440	HBE0363-135	"	95
63	WX11088*2165/W8447	HBC059E-117	"	95
64	2172*2163/W9419B	HBFO276-141	"	100
65	2163/W9523A//W3445	HBFO441-132	"	95
66	TBA	KS87807-19-2	"	95
67	W8447D/Sxld//W3419	HBFO429-157	"	95
68	2163*W9523A/W3445	HBFO441-163	"	95
69	W8447D*W2436/W3420	HBFO425-156	"	95
70	Scout 66	CI13996	Check	100
71	2172/2163	HBE0773-126	Manhattan, KS	95
72	TAM-200/Karl//Karl	KS86035*-H-21	"	95
73	P2157/79-9176-SW/Karl	KS86323A-5	"	95
74	Len(ms)/3*KS82167//KS831013/3/Akn	KS86186B-7	"	95
75	NE82438/NE7060	N91L019	NE, USDA	95
76	NapHal/At66//Lovrin12/3/TX78V3630	N91L168	"	95
77	TX78V3630/4/Mir.J.50/3/F26-70//NapHal/CI13449	N91L175	"	95
78	NE80413/2/Lindon/NE7060	N91L182	"	100
79	Redland/NE7060	N91L014	"	100
80	Vona	CI17441	Check	95
81	Akn/5/Woldova/2/NB68248/NB69655/3/NS974/4/ CI13449/Ctk	N91L035	NE, USDA	85
82	CO820026/3/Rannaya12/Bez4/2/Lancota/F9-67	N91L039	"	90
83	Rannaya/NE701136//CI13449/Ctk/3/NE7060	N91L094	"	90
84	Rannaya/NE701136//CI13449/Ctk/3/TAM-105	N91L121	"	90
85	TAM-105/7/New 66.5.1/5/Nrn16/CI12500//Bsn/3/ At66/Cnn//Wrr/4/Krasn 39/6/NE78892	N91L125	"	95
86	Rannaya/NE701136//CI13449/Ctk/3/TX80A5904	N91L134	"	95
87	Rannaya NE701136//CI13449/Ctk/3/NE80413	N91L146	"	90
88	At66/NapHal//NE701152/Aurora/3/F26-70	N91L251	"	90
89	TAM-105/7/New 66.5.1/5/Nrn16/CI12500//Bsn/3/ At66/Cnn//Wrr/4/Krasn 39/6/NE78892	N90V006	"	85

1993 UWHN, Southern Materials Section

Entry No.	Variety or Pedigree	Sel. No.	Source	: Casselton : : No. Dakota : : Rep 1 : % Survival
90	Warrior	CI13190	Check	100
91	Rannaya/NE701136//CI13449/Ctk/3/TX80A5904	N90V035	NE, USDA	95
92	"	N90V048	"	90
93	"	N90V050	"	95
94	T.D.amph/SD69103//Karlik1/NE701134/3/NapHal/ Jang Kwang//Odessa4/4/Newton	N90V121	"	85
95	F29-76/TAM-105//Chisholm	OK88767-11	Oklahoma	80
96	"	OK88767-02	"	85
97	"	OK88767-15	"	95
98	"	OK88767-24	"	90
99	Siouxland/TAM-101	TX88A6480	Texas	95
100	Scout 66	CI13996	Check	100
101	TX71A889/TAM-101	TX88A6533	Texas	100
102	TAM-200//Sx1/Tan 's'	TX90D9277	"	100
103	TAM-105/10334	TX89A7137	"	95
104	TAM-200//TX38949-2/TAM-107	TX91V4931	"	95
105	TX81V6603/TX78A3345-V34	TX90V8410	"	100
106	TX78V2430-2/TX86V1540	TX90V7911	"	90
107	TX86V1540//Lind/Tan	TX91V5739	"	95
108	TAM-108/Vee's'//TX84V2029	TX91V3308	"	95
109	TAM-105/10334	TX89A7141	"	100
110	Vona	CI17441	Check	100
111	Lov 13/2*Ctk78//TAM-105	CO880054	Colorado	100
112	TAM-107/Hail	CO880169	"	100
113	TAM-107/TX3006	CO880210	"	95
114	Colt/TX3006	CO880240	"	100
115	Karl sib	KS831374-142	Kansas	100
116	KS82W418/Stephens	KS84063-9-7	"	100
117	WX11088/2165//W8447	KS92P059E	"	100
118	W2440/W9488A//2163	KS92P0263-137	"	100
119	WX12907/T-108//W2440	KS92P0363-134	"	100
120	Warrior	CI13190	Check	100
121	W8447D/W2436//W3420	KS92P0425-155	Kansas	100
122	Dular/Eagle//2*Cheney/Larned/3/Colt	KS89H48-1	"	100
123	NE69565//NE65671/NE69655/3/Homestead/4/ Ctk/3/At68/Cmn//TX2807-6	N87V106	NE, USDA	100
124	Centura/Dawn//Colt sib	NE88584	Nebraska	100
125	KS83H2510/Brule composite	NE90479	"	95
126	Brule seln/4/Bez 1/3/Ctk//Arthur/Ctk78	NE90524	"	100
127	Rodeo/Brule seln//Arapahoe	NE90574	"	100
128	Quantum Hybrid Wheat	XH1455	HybriTech	100
129	"	XH1485	"	100
130	Scout 66	CI13996	Check	100
131	Quantum Hybrid Wheat	XH1520	HybriTech	100
132	"	XH1529	"	100
133	"	XH1610	"	100
134	W81-133/Thunderbird	W87-017-44	AgriPro	95
135	TX81V6187/Abilene	WI89-055	"	95

1993 UWHN, Southern Materials Section

Entry No.	Variety or Pedigree	Sel. No.	Source	: Casselton : : No. Dakota : : Rep 1 : % Survival
136	TAM-107/TAM-105	T13	Trio	100
137	T14//Brule/TAM-108	T4731	"	100
138	Coker 68-151/TAM-107	T70	"	95
139	Osage/TAM-105	T64	"	100
140	Vona	CI17441	Check	100
141	HRW Hybrid	TH905	Trio	100
142	Carson/Sandy	CO870258	Colorado	100
143	Lov13/2* Ctk 78//TAM-105	CO880054	"	100
144	TAM-200/TAM-107	CO890323	"	95
145	CO830120/Siouxland	CO890427	"	95
146	Centura/Dawn//Colt sib	NE88584	Nebraska	100
147	KS83H2510 (H11)/Brule 83 composite	NE90479	"	100
148	Pl V/3/NapHal/Lancer/2/TX1682/NE70654	N88L267	NE, USDA	95
149	NE82438/NE7060	N91L018	"	95
150	Warrior	CI13190	Check	100
151	NE80413/2/Lindon/NE7060	N91L182	NE, USDA	100
152	Siouxland/TAM-101	TX90A9507	Texas	100
153	TAM-105*4/Amigo*5//Largo	TX88A6840	"	100
154	TX71A889/TAM-101	TX90A9524	"	95
155	TAM-105/BAU39	TX90V7119	"	95
156	TAM-200//TX38949-2/TAM-107	TX90V8734	"	100
157	TAM-105/10334	TX89A7315	"	95
158	"	TX89A7318	"	100
159	Siouxland/TX80GH2679	TX91V5524	"	95
160	Scout 66	CI13996	Check	95
161	TX86V1540/TX78V2430-4	TX90V6132	"	95
162	TAM-107/TX73V862	TX91V3736	"	100
163	Quantum Hybrid Wheat	QT542	HybriTech	100
164	"	XH1437	"	100
165	"	XH1438	"	100
166	"	XH1541	"	100
167	"	XHN1564	"	100
168	Siouxland/NK812	T76	Trio	100
169	TK/Burt/5/SM6/4/2*IT/UT175A-53//BDLS Burt/3/ CI13438/6/TK/Burt/Bez1	ID0352	Idaho	100
170	Vona	CI17441	Check	100
171	B203//HF5761/TAM-105	KS91H134	Hays, KS	100
172	"	KS91H138	"	100
173	"	KS91H153	"	100
174	HRE-LT-11/Homestead//W8447	KS91H213	"	100
175	W2415/W3415//W3417/Eagle	KS91H385	"	95
176	W2441/W3415//4423	KS91H405	"	100
177	Warrior	CI13190	Check	95

1993
Uniform Winterhardness Nursery
Northern Section

Entry No.	Variety or Pedigree	Sel. No.	Source	: Williston : Casselton : : No. Dakota : No. Dakota : : Rep 1 : Rep 2 : Rep 1 :		
				: Rep 1 : Rep 2 : Rep 1 : : % Survival : % Survival : % Survival :		
1	Norstar	CI17735	Check	98	98	100
2	Lew/Tbr//Rdw	MTSF1142	Montana	80	05	95
3	"	MTSF2238	"	90	25	95
4	MT8001/MT7673	MT8909	"	95	55	95
5	MT7673/MT7115	MT8918	"	95	90	95
6	Rdw/Frd//Rri	MT8949	"	95	80	85
7	"	MT8957	"	98	80	95
8	HP340/Nrs//MT7216(185)/Rri	MT88030	"	50	15	90
9	PMN5/MT77003//HP344/Frd	MT88046	"	75	15	90
10	Warrior	CI13190	Check	98	90	95
11	ORS-W 30-166/Wrg//ID103/MT7811	MT90003	Montana	85	50	95
12	ID103/WRG//MT7840/MT8001	MT90026	"	80	15	90
13	"	MT90027	"	50	10	95
14	ND8095/Agassiz	ND8987	No. Dakota	98	98	100
15	Seward/Archer	ND8974	"	98	95	95
16	Rrr//Frd/SD6689/3/Frd/NB68466	ND9064	"	95	95	100
17	Sdn*2/Bon//Frd/NB68466	ND9043	"	95	98	95
18	Brule/Dawn	SD88201	So. Dakota	85	80	95
19	Lco/Frd//NE69559/Wnk/3/Nell	SD87143	"	90	90	100
20	Centurk 78	CI17724	Check	75	80	85
21	Bennett/Dawn	SD89204	So. Dakota	80	70	95
22	NAPB 80300/Centurk 78	SD89102	"	95	90	95
23	Bennett/Dawn	SD88231	"	75	85	90
24	Brule/Agate	SD89119	"	65	80	100
25	Gent/Siouxland	SD89333	"	70	80	90
26	Nar/3/Wnt/NB68466//SD76705	ND8930	No. Dakota	90	85	100
27	Nar/4/Ctk//Wnk/Uln/3/SD76694	ND8933	"	95	80	95
28	Seward/SD76705	ND8955	"	90	75	95
29	Bnz//Frd/Lcr/3/Bnz/Wrt-2	ND89142	"	90	98	100
30	Norstar	CI17735	Check	90	85	95
31	Mvr/KS79397//Nsr/3/Cody	ND8889	No. Dakota	70	90	95
32	Rrr*2/1809//NE78414	ND90109	"	85	80	80
33	TX80GH2679/Brule seln.	NE89522	Nebraska	65	60	70
34	Lancota seln/Sxld//TX792729	NE89526	"	70	50	90
35	Brule/3/Parker*4/Agent//Bel. 198/Lancer	NE89657	"	70	90	75
36	NE68513/NE68457//Ctk/3/Brule	NE87615	"	90	70	85
37	TX79A2729//Caldwell/Brule seln/3/Siouxland	NE90625	"	80	70	95
38	Severodonskaya/Siouxland	NE88526	"	70	80	95
39	Arkan/Colt//Chisholm sib	NE88595	"	60	90	100

1993 UWHN, Northern Section

Entry No.	Variety or Pedigree	Sel. No.	Source	: Williston : Casselton : : No. Dakota : No. Dakota : : Rep 1 : Rep 2 : Rep 1 :		
				: Rep 1 : Rep 2 : Rep 1 : : % Survival :		
40	Warrior	CI13190	Check	70	85	100
41	Centura/Dawn//Colt sib	NE88588	"	70	85	95
42	Quantum Hybrid Wheat	XNH1643	HybriTech	70	60	90
43	"	XNH1648	"	20	15	85
44	"	XNH1650	"	50	65	85
45	"	XNH1687	"	60	70	90
46	Norstar	CI17735	Check	70	80	.
47	Tomahawk (Bulk Selection)	WI88-083	AgriPro	60	75	90
48	Msc/Ctk A+//Iul	MT8713	Montana	70	80	90
49	Rri/MT6928	MT8719	"	60	70	90
50	Centurk 78	CI17724	Check	70	60	85
51	2*MC/NP824/3/LMH66/54117aB-2B-5//MC/6/2*IT/ UT175a-53//Bdls Burt/3/CI13438/4/BH/Rex//R/R /3/UT175a-53/5/CI14106/CI//MC	ID0426	Idaho	70	40	85
52	Winalta/Bezostaya	W-198	Alberta	95	90	90
53	Pau 45/Sundance	W-235	"	75	80	85
54	Norstar	CI17735	Check	90	95	100

1993
Soilborne Mosaic Nursery

Entry No.	Variety or Pedigree	Sel. No.	Source	: Urbana, IL		: Manhattan, KS	
				: Rep 1	: Rep 2	: Rep 1	: Rep 2
				----- 0-9 -----			
1	Larned	CI17650	Check	7	8	4	3
2	Centura//Sage/Arthur	NE87522	Nebraska	8	8	3	3
3	Newton/Wrr*5//Agent/3/NE89441	NE87612	"	7	8	3	seg
4	Ram/Brule 83 composite	NE90411	"	3	5	1	3
5	Bennett/Brule 83 composite	NE90476	"	7	8	4	3
6	Brule seln. #5//Siouxland/Ram	NE90509	"	6	8	1	1
7	Arapahoe/Colt 83 composite	NE90616	"	6	7	3	4
8	Sxld/Arkan/5/Bez1/Ctk78//Arthur/Sxld/3/ CO725082*2/Rrr/4/Dawn	NE89671	"	7	7	3seg	4
9	TX79A2729//Caldwell/Brule seln/3/Sxld	NE90626	"	7	8	4	4
10	Mustang	PI477286	Check	8	9	4	3
11	TAM-108/Arapahoe	NE91515	Nebraska	7	7	4	4
12	Aiv/Nbr/Bolal//HiPlains/3/Lov 6/4/Redland	NE91525	"	7	7	4	2
13	NE82533/Siouxland	NE91527	"	4	6	3	2
14	NE82533/Arapahoe	NE91542	"	6	6	2	2
15	NE83688/Redland	NE91555	"	7	7	4	4
16	Brule 84-11/Bighorn	NE91562	"	8	7	4	4
17	"	NE91564	"	7	8	4	4
18	"	NE91569	"	8	9	4	4
19	"	NE91571	"	7	8	3	4
20	Karl	PI527480	Check	2	6	2	1
21	Arapahoe/TAM-107	NE91608	Nebraska	3	5	3	3
22	NE82761/Brule 84	NE91629	"	6	7	2	4
23	"	NE91631	"	7	7	2	4
24	NE82761/Stephens	NE91633	"	7	8	3	4
25	NE82761/NE82599	NE91635	"	7	7	4	4
26	NE82671/NE80413	NE91647	"	7	7	4	4
27	"	NE91648	"	7	8	4	4
28	"	NE91651	"	8	8	4	4
29	Bulk selection (N90L158)	NE91691	"	3	6	3seg	2
30	Larned	CI17650	Check	7	7	4	4
31	Nebr. dwarf/Brule seln. #1//Cody	NE91467	Nebraska	7	8	4	3
32	Arapahoe/NE82761	NE91509	"	7	7	4	3
33	NE82702 purple/TAM-108	NE91518	"	3	6	4	3
34	Unknown	VBF0168	"	7	8	2	1
35	Unknown	HBC208	"	5	6	3	1
36	Unknown	HBFO263	"	6	6	1	1
37	Unknown	HBFO337	"	4	7	2	1
38	Unknown	VBF0589	"	6	7	1	1
39	F29-76/TAM-105//Csm	OK88767-2	Oklahoma	3	6	1	2
40	Mustang	PI477286	Check	8	9	4	4
41	F29-76/TAM-105//Csm	OK88767-3	Oklahoma	2	5	1	2
42	"	OK88767-4	"	4	5	2	2
43	"	OK88767-5	"	6	6	3	4
44	"	OK88767-6	"	7	8	3	4
45	"	OK88767-8	"	7	7	4	3

1993 SBMV Nursery

Entry				: Urbana, IL	: Manhattan, KS		
No.	Variety or Pedigree	Sel. No.	Source	: Rep 1	: Rep 2	: Rep 1	: Rep 2
				 0-9			
46	"	OK88767-9	"	7	7	4	4
47	"	OK88767-10	"	7	7	4	3
48	"	OK88767-11	"	7	7	3	3
49	"	OK88767-12	"	8	8	4	4
50	Karl	PI527480	Check	1	1	2	1
51	"	OK88767-14	Oklahoma	8	2	3	1
52	"	OK88767-15	"	3	5	3	1
53	"	OK88767-16	"	7	7	4	2
54	"	OK88767-17	"	7	8	4	3
55	"	OK88767-20	"	2	5	4	3
56	"	OK88767-21	"	8	9	4	2
57	"	OK88767-22	"	7	7	4	3
58	"	OK88767-24	"	7	8	4	4
59	"	OK88767-29	"	3	4	2	2
60	Larned	CI17650	Check	7	7	4	4
61	"	OK88767-30	Oklahoma	4	6	3	2
62	F29-76/TAM-105//Csm	OK88767	"	6	7	4	4
63	OK82374/OK82407 (88HCY1)	OK91788	"	4	8	1	2
64	Auburn/2157//2165	OK91P633	"	3	7	3	4
65	IL71-5662/PL145//2165	HBZ374C	"	2	6	1	3
66	W9414/Caldwell//W6430/2157	HBB364B	"	2	7	2	3
67	Ogosta/Csm//TAM-107	OK90604	"	5	7	2	4
68	Csm/OK79256	OK90649	"	3	7	3	3
69	2163/W9523A	HBE0780B	"	2	6	3	4
70	Mustang	PI477286	Check	7	8	4	4
71	Yantar/TAM-101//Mustang	OK91783	Oklahoma	7	7	2	3
72	W1404/TX79A2729	OK91P609	"	4	6	2	2
73	2555 Sib/Vona//2180	OK91P648	"	7	7	1	2
74	Yantar/2*Csm	OK91724	"	7	7	4	4
75	2163/PL145//2163 sib	OK91P603	"	7	6	3	3
76	2163/W9523A	OK91P605	"	7	6	3	4
77	W9488A/2163	OK91P608	"	2	6	2	seq
78	TAM-200//Sx1/Tan 's'	TX90D9277	Texas	7	8	4	4
79	TAM-105/10334	TX89A7137	"	7	7	3	4
80	Karl	PI527480	Check	3	1	1	1
81	TAM-200//TX38949-2/TAM-107	TX91V4931	Texas	7	7	4	3
82	TX81V6603/TX78A3345-V34	TX90V8410	"	9	7	4	4
83	TX78V2430-2/TX86V1540	TX90V7911	"	8	8	3	3
84	TX86V1540//Lind/Tan	TX91V5739	"	9	7	3	4
85	TAM-108/Vee's'//TX84V2029	TX91V3308	"	2	1	1	1
86	TAM-105/10334	TX89A7141	"	8	8	4	4
87	Lov 13/2*Ctk78//TAM-105	C0880054	Colorado	6	6	2	2
88	TAM-107/Hall	C0880169	"	8	8	4	4
89	TAM-107/TX3006	C0880210	"	7	7	2	4
90	Larned	CI17650	Check	7	8	4	4

1993 SBMV Nursery

Entry No.	Variety or Pedigree	Sel. No.	Source	: Urbana, IL		: Manhattan, KS	
				: Rep 1	: Rep 2	: Rep 1	: Rep 2
				 0-9			
91	Colt/TX3006	CO880240	Colorado	7	7	3	4
92	KS82W418/Stephens	KS84063-9-7	Kansas	6	5	2	1
93	WX11088/2165//W8447	KS92P059E	"	0	4	3	2
94	W2440/W9488A//2163	KS92P0263-137	"	1	7	3	1
95	WX12907/T-108//W2440	KS92P0363-134	"	4	7	1	1
96	W8447D/W2436//W3420	KS92P0425-155	"	1	2	1	1
97	KS83H2510/Brule composite	NE90479	Nebraska	5	7	4	4
98	Brule seln/4/Bez 1/3/Ctk//Arthur/Ctk78	NE90524	"	8	8	4	4
99	Rodeo/Brule seln//Arapahoe	NE90574	"	7	7	4	3
100	Mustang	PI477286	Check	9	8	4	4
101	Quantum Hybrid Wheat	XH1455	HybriTech	4	6	2	1
102	"	XH1485	"	6	6	1	1
103	"	XH1520	"	6	2	1	1
104	"	XH1529	"	6	5	1	1
105	"	XH1610	"	5	4	1	2
106	W81-133/Thunderbird	W87-017-44	Agripro	5	7	1	2
107	TX81V6187/Abilene	WI89-055	"	7	8	3seg	4
108	T14//Brule/TAM-108	T4731	Trio	5	7	1	2
109	Coker 68-151/TAM-107	T70	"	6	6	1	1
110	Osage/TAM-105	T64	"	7	7	4	4
111	HRW Hybrid	TH905	"	5	6	1	1
112	Karl	PI527480	Check	4	6	2	1

1993 Soilborne Mosaic Virus Nursery
Data provided by R. M. Hunger and J. L. Sherwood
Oklahoma State University

Entry No.	Sel. No.	Visual (0-3)			ELISA		
		Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3
1	CI17650	3	3	3	1.035	1.358	1.007
2	NE87522	3	3	3	1.075	1.385	0.932
3	NE87612	3	2	3	1.071	1.251	1.292
4	NE90411	0	0	0	0.061	0.013	0.058
5	NE90476	2	2	3	1.108	1.282	1.110
6	NE90509	2	3	3	1.237	1.265	0.911
7	NE90616	2	3	3	1.078	1.310	1.057
8	NE89671	2	2	3	0.977	0.859	1.323
9	NE90626	2	3	3	0.968	1.265	0.983
10	PI477286	1	3	3	0.001	0.005	0.044
11	NE91515	2	3	3	0.925	1.109	1.105
12	NE91525	3	3	3	0.988	1.069	1.081
13	NE91527	0	1	2	0.014	1.109	0.033
14	NE91542	1	2	2	1.048	0.005	0.015
15	NE91555	3	3	3	1.002	1.275	0.775
16	NE91562	3	3	3	1.012	1.130	1.051
17	NE91564	3	3	3	0.992	1.253	1.260
18	NE91569	3	3	3	1.016	1.413	1.029
19	NE91571	3	3	3	1.027	1.403	1.123
20	PI527480	0	0	0	0.013	0.054	0.011
21	NE91608	1	0	1	0.005	0.003	0.014
22	NE91629	2	2	2	1.093	1.313	0.419
23	NE91631	3	3	3	1.099	1.247	0.995
24	NE91633	3	3	2	0.982	1.440	0.799
25	NE91635	3	3	2	1.051	1.270	1.137
26	NE91647	3	2	2	1.065	1.094	0.509
27	NE91648	2	2	2	1.047	1.381	0.869
28	NE91651	3	3	2	0.995	1.326	0.659
29	NE91691	1	1	2	0.175	0.025	0.419
30	CI17650	3	3	3	0.946	1.368	1.188
31	NE91467	2	2	2	0.941	1.074	0.424
32	NE91509	2	2	3	0.944	1.177	0.815
33	NE91518	0	1	2	0.014	0.818	0.514
34	VBF0168	0	0	1	0.011	0.008	0.280
35	HBC208	1	1	2	0.914	0.008	0.006
36	HBFO263	1	1	1	0.015	0.011	0.005
37	HBFO377	0	0	0	0.003	0.052	0.019
38	VBF0589	0	0	0	0.755	0.009	0.012
39	OK88767-2	0	0	0	0.004	0.004	0.006
40	PI477286	2	1	3	0.007	0.009	0.041
41	OK88767-3	1	1	1	0.005	0.012	0.006
42	OK88767-4	0	0	1	0.009	0.005	0.335
43	OK88767-5	1	0	1	0.011	0.007	0.002
44	OK88767-6	2	1	3	1.143	1.303	0.525
45	OK88767-8	2	1	3	1.074	1.278	0.735
46	OK88767-9	2	2	3	1.056	0.374	0.535
47	OK88767-10	2	2	3	0.904	1.774	1.257
48	OK88767-11	2	2	2	0.723	1.380	0.934
49	OK88767-12	3	2	3	0.877	1.323	0.740
50	PI527480	1	0	0	0.008	0.039	0.015
51	OK88767-14	0	0	0	1.043	0.013	0.004
52	OK88767-15	0	0	0	0.001	0.016	0.013
53	OK88767-16	2	3	3	0.965	1.419	0.713
54	OK88767-17	3	3	3	1.004	1.141	0.462
55	OK88767-20	0	0	0	0.023	0.072	0.011

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Entry No.	Sel. No.	Visual (0-3)			ELISA		
		Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3
56	OK88767-21	3	3	2	1.088	1.083	0.706
57	OK88767-22	1	1	0	1.045	1.025	0.902
58	OK88767-24	3	2	3	1.034	1.318	1.024
59	OK88767-29	0	1	1	0.099	0.024	0.018
60	CI17650	3	3	3	1.129	1.222	1.409
61	OK88767-30	0	0	0	0.019	0.022	0.028
62	OK88767	1	0	0	1.105	0.014	0.253
63	OK91788	1	1	0	0.014	0.014	0.022
64	OK91P633	S	1	0	1.075	0.363	0.002
65	HBZ374C	0	0	1	0.004	0.229	0.008
66	HBB364B	0	1	1	0.005	0.015	0.015
67	OK90604	1	2	1	1.088	0.964	0.851
68	OK90649	2	2	2	1.163	0.828	0.939
69	HBE0780B	0	0	0	0.491	0.017	0.528
70	PI477286	1	1	2	0.001	0.011	0.224
71	OK91783	1	1	1	0.935	0.014	0.990
72	OK91P609	0	1	2	0.005	0.494	0.581
73	OK91P648	0	0	S	0.516	0.022	0.014
74	OK91724	3	2	3	0.904	1.252	0.716
75	OK91P603	2	2	0	0.012	0.764	0.775
76	OK91P605	1	2	0	0.001	0.010	0.002
77	OK91P608	0	0	0	0.005	0.010	0.006
78	TX90D9277	3	3	3	0.975	1.241	0.672
79	TX89A7137	2	3	3	1.115	1.393	0.790
80	PI527480	0	0	0	0.007	0.017	0.011
81	TX91V4931	3	3	2	1.061	0.884	0.683
82	TX90V8410	3	3	3	0.987	1.331	1.484
83	TX90V7911	2	3	3	1.134	0.855	0.943
84	TX91V5739	3	3	3	1.092	1.157	0.788
85	TX91V3308	0	0	0	1.045	0.027	0.019
86	TX89A7141	3	3	1	1.118	1.126	1.457
87	CO880054	1	1	0	0.712	0.002	0.009
88	CO880169	3	3	3	1.020	1.276	0.881
89	CO880210	3	2	1	1.196	1.653	0.391
90	CI17650	3	3	3	1.210	1.406	1.353
91	CO880240	2	2	2	1.194	1.387	1.046
92	KS84063-9-7	1	1	1	1.206	0.921	0.040
93	KS92P059E	1	1	1	0.009	0.008	0.004
94	KS92P0263-137	1	2	2	0.010	0.006	0.008
95	KS92P0363-134	2	1	2	1.450	0.821	0.492
96	KS92P0425-155	1	0	0	0.026	0.015	0.009
97	NE90479	2	S	2	0.009	0.008	0.011
98	NE90524	3	2	3	1.047	1.019	1.269
99	NE90574	2	0	2	1.264	0.818	1.289
100	PI477286	1	2	2	1.111	0.010	0.027
101	XH1455	0	0	0	0.004	0.010	0.435
102	XH1485	0	0	0	0.011	0.004	0.003
103	XH1520	0	0	0	0.336	0.010	0.115
104	XH1529	1	S	0	0.899	0.960	1.157
105	XH1610	1	S	0	0.880	1.127	0.027
106	W87-017-44	1	0	0	1.073	0.005	0.003
107	WI89-055	2	3	2	1.165	1.198	0.977
108	T4731	1	0	0	0.393	0.005	0.706
109	T70	1	1	1	0.013	0.007	0.019
110	T64	3	3	3	1.140	1.182	1.053
111	TH905	1	0	0	0.015	0.010	0.021
112	PI527480	0	0	0	0.012	0.006	0.012

