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 1991

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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
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NORTHERN PLAINS AREA

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By

C. J. Peterson

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The writer expresses appreciation to Joyce Kovar for assistance in preparing this report.

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REGIONAL NOTES

The 1991 Hard Red Winter Wheat Breeders Field Day was held June 27 at Ft. Collins, CO, hosted by Colorado State University in cooperation with Agripro Bioscience, and Cargill Hybrid Wheat. The 1992 Breeders Field Day will be held on May 27 at Bushland, TX and hosted by Texas A&M wheat researchers.

The 19th Hard Red Winter Wheat Workers Conference was held at Lincoln, Nebraska on January 21-23, 1992. Approximately 120 researchers attended the 2 1/2 day conference. Rob Bruns was elected Chair of the Hard Red Winter Wheat Workers Committee. Stan Cox and Dave Worrall were elected as HRWWIC representatives to the National Wheat Improvement Committee, serving a three year term on the NWIC along with Rob Bruns and Jim Peterson. An invitation from Oklahoma State University researchers was accepted to hold the 20th Hard Red Winter Wheat Workers Conference in January or February, 1995 in Stillwater, OK.

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:

Response scale		Reaction type
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 Colorado Agricultural Experiment Station announced the release of 'Yuma' hard red winter wheat. Yuma has the pedigree 'NS14/NS25//2*Vona' and was tested in the SRPN as CO850061. Yuma is similar to Vona in height, maturity, and coleoptile length. It is similar to TAM-107 in grain yield, test weight, and heat tolerance, superior in leaf rust resistance, and inferior in resistance to the wheat curl mite.

The Texas Agricultural Experiment Station announced the release of 'TAM-202' and 'TAM-109' hard red winter wheats. TAM-202 is an awned semidwarf primarily adapted to the Rolling Plains and irrigated production areas of the High Plains of Texas. It was tested in the SRPN as TX86V1405. The pedigree of TAM-202 is not known, derived from a greenhouse outcross of Siouxland. TAM-202 is heterogeneous for the 1A/1R translocation, moderately susceptible to current races of leaf rust, and carries Sr5 and Sr31 genes for stem rust resistance. TAM-109 is an awnless semidwarf selected from the cross TAM W-101*5/CI9321. It was evaluated under the designation TX87A6821. Agronomic characteristics, performance, and disease reactions are similar to those for TAM W-101. It is an awnless variety intended to facilitate use as either forage or grain crop.

Agripro Biosciences has indicated the intent to release two varieties in 1992. 'Laredo' is derived from the cross 'Colt/Victory' and has been entered in the 1992 SRPN under its experimental designation W87-018. 'Falcon' is derived from the cross 'WI81-133/Arkan' and has been entered in the 1992 SRPN under its experimental designation W88-181.

GERMPLASM

The USDA-ARS, Kansas Agricultural Experiment Station, and the Wheat Genetics Resources Center at KSU announced the release of KS91WGRC11 and KS91WGRC12 leaf rust resistant hard red winter wheat germplasms. KS91WGRC11 is a BC_2F_2-derived line with Century as the recurrent parent. Its leaf rust resistance is governed by a single, partially dominant gene from R. Tauschii accession TA2450 and exhibits low seedling and adult plant infection types. KS91WGRC12 is a composite of eight BC_2F_3-derived lines, descended from two BC_2F_2 plants with Century as the recurrent parent. The leaf rust resistance, derived from T. Tauschii accession TA2541, appears to be conditioned by a single recessive gene which confers adult plant resistance. Seedlings of KS91WGRC12 have a high infection type reaction. Both germplasms are similar to Century in general phenotype, whereas KS91WGRC12 is slightly taller, and both possess the Lr24 gene.

The USDA-ARS and Oklahoma Agricultural Experiment Station announced the release of hard red winter wheat germplasm GRS1201. GRS1201 is resistant to biotypes B, C, E, G, and I of the greenbug, *Schizaphis Graminum* (Rondani). GRS1201 is a 1AL/1RS translocation line developed by irradiation of mature pollen of an alien substitution wheat x rye hybrid with pedigree 'Short wheat sel n./Scout (TX69A345-2)//Insave F.A.'. GRS1201 is a composite of 40 homozygous resistant X_5 lines. Greenbug resistance is conditioned by a single dominant gene located, presumably, on the 1RS chromosome derived from Insave F.A. rye. GRS1201 also carries stem rust resistance genes Sr5, Sr7b, and Sr17. It is susceptible to the wheat curl mite and powdery mildew.

The Oklahoma Agricultural Experiment Station announced the release of 27 pairs of 1RS/1BL vs 1B near-isolines from two hard red winter wheat populations. Members of each pair are genetically similar except for presence or absence of 1RS/1BL translocation. The two crosses were 'OK82298/Chisholm' and

'OK83398/Arkan'. OK83398 is homozygous for 1RS/1BL derived from the cross TAM W-101*2/Aurora. In the F_5, one plant with a pair of normal 1B chromosomes and one plant with a pair of 1RS/1BL chromosomes were selected in each family derived from a heterozygous F_4 plant. Each F_5 family traced to a different F_2 population. Nineteen pairs of near-isolines from OK83398/Chisholm and eight pairs from OK83398/Arkan were developed.

The Colorado Agricultural Experiment Station announced the release of CORWA1 hard red winter wheat. CORWA1 is resistant to the biotype of the Russian Wheat Aphid currently present in Colorado. Derived from the cross 'Sumner/CO820026,F_1//PI372129,F_1/3/TAM-107', resistance is conditioned by a single dominant gene from PI372129 (T-57). CORWA1 is an F_3-derived F_4 line similar to TAM-107 in maturity, plant height, winter survival, leaf and stem rust reactions, test weight and grain yield.

The Nebraska Agricultural Experiment Station and USDA-ARS announced the release of three hard red winter wheat germplasm lines: NE82438 (PI537261); NE82533 (PI537262); and NE84557 (PI537263). They were released as F_3-derived F_4 lines having useful combinations of traits for breeding purposes. They were tested in either the Northern or Southern Regional Performance Nurseries. The pedigrees are: NE82438, 'HiPlains/Wings/3/Parker*4/Agent//Bel. 198/Lancer'; NE82533, 'Newton sib/Agate//Sage sib'; NE84557, 'Warrior/Scout//MoW6811 /3/Agate sib/4/NE68457/Ctk'.

The USDA-ARS and Nebraska Agricultural Experiment Station announced the release of N86L177 (PI559717) hard red winter wheat germplasm. It is an F_4-derived line from the cross 'Nap Hal/Lancer//Karlik 1/3/NS 622/4/Ctk/ GK-Tiszataj/2/Plainsman V'. N86L177 was released based on its superior grain protein concentrations and bread-making qualities. It is a short, lodging resistant, early maturing line with lower yield potential than current Nebraska varieties.

1991

Southern Regional Performance Nursery

Entry No.	Variety or Pedigree	Sel. No.	Source
1**	Kharkof	CI1442	Check
2**	Scout 66	CI13996	"
3**	TAM-107	PI495594	"
4	Csm*3/3/Ntn/Largo//Csm	OK87W663	Oklahoma
5	Century sib/Csm	OK87542	"
6	TAM-101/OK79286//Csm	OK87630	"
7*	F29-76/T105//Csm	OK88767	"
8*	Csm*3/3/Newton/Largo//2*Csm	OK88W833	"
9*	TX78V2154/Siouxland	TX88V4636	Texas
10*	Vona/TX71D4889-V3	TX84V1418HF	"
11*	Karl Resel.	TX88V5440	"
12*	TX78V2154/Siouxland	TX88V4635	"
13*	TAM-105/3/NE70654/BBY/Bow's'	TX87V1613	"
14*	NE78696/Payne	TX88V4524	"
15*	TAM-200//TX38949-2/TAM-107	TX89V4138	"
16*	Karl Resel.	TX88V5433	"
17	Thunderbird//Payne/Collin	TX86D1310	"
18	TAM-106/Collin	TX86D1332	"
19*	TX82D4651//Amigo/TX71A106-5	TX88D3424	"
20	NS14/NS603//Newton/3/PB835	CO850034	Colorado
21	NS14/NS25//2*Vona	CO850061	"
22*	TX73165/Sandy	CO860086	"
23*	NE76667/Hawk	CO860094	"
24*	Bulk Selection	KSSB-369-7	Kansas
25*	Bulk Selection	KSSB-192-3	"
26*	2162 sib/W6430C//W9519A	HBC197F	"
27	H15A13333/3/5*Led/Egl//Sage/4/TAM-105	KS87H6	"
28*	Norkan/TAM-108	KS88H12-1	"
29*	Norkan/TAM-108	KS88H12-2	"
30	NE68513/NE684457//Ctk/3/Brule	NE87615	Nebraska
31*	Nwt/2/Wrr*5/Agent/4/TAM-105/3/Larned //Eagle/Sage	NE87409	"
32*	NE68513/NE68457//Ctk78/3/Brule	NE87451	"
33*	Arkan/Colt//Chisholm sib	NE88595	"
34*	Bennett/TAM-107	NE88427	"
35*	Quantum Hybrid Wheat	XH900	HybriTech
36*	" "	XH1231	"
37*	" "	XH1322	"
38*	" "	XH1514	"
39*	Bulk Selection	WI88-083	Agripro
40*	NS2630/Thunderbird	WI88-024	"
41*	TAM-108/TX78V2154	T19-3	Trio
42*	2165/Vona	T67	"
43*	TAM-108/Lancota	T21-3	"
44*	HRW Hybrid	TH901	"
45*	HRW Hybrid	TH902	"

* New entry in 1991
** New seed provided

TEST SITE INFORMATION - SRPN

Clovis, NM — The irrigated nursery was planted on 9/19/90 in fallow land that was in sorghum during 1989. Plots were irrigated on 9/14/90, 11/26/90, 2/5/91, 3/20/91 4/10/91, and 5/15/91. Fertilizer rates were 120 lbs/a N and 52 lbs/a P2O5. Seeding rate was 90 lbs/a. There was no incidence of disease and no insect control measures were necessary. Harvested on 6/24/91. The dryland nursery was planted on 9/19/90 also in fallow land that was in sorghum during 1989. The previous summer fallow period had below normal rainfall so that moisture conditions in the soil profile were not at a level for maximum production. A very dry spring resulted in very low yields. There was no incidence of diseases and no insect control measures were necessary. Fertilizer rates were 11 lbs/a N and 52 lbs/a P2O5. Seeding rate was 40 lbs/a and the nursery was harvested on 6/14/91.

Farmington, NM — No additional information provided.

Bushland, TX — No additional information provided.

Chillicothe, TX — No additional information provided.

Dallas, TX — The nursery was planted during the 3rd week of October and received 100 lbs/a N. The growing season was somewhat average except for several zero-degree days during the 3rd and 4th weeks of December. Leaf rust and powdery mildew notes were taken at approximately mid-to-late milk stage. The Dallas trials suffered early and late season bird damage.

Prosper, TX — Same conditions as reported for Dallas.

Stillwater, OK — No additional information provided.

Lahoma, OK — No additional information provided.

Altus, OK — The nursery was abandoned.

Goodwell, OK — No additional information provided.

Hutchinson, KS — Stand establishment was excellent and no winter damage was observed. Spring regrowth was slowed by unusually dry weather during double ridge formation. Rapid growth occurred during late April when cooler weather and rains dominated for 2-3 weeks. The wet, damp weather helped establish epidemics of powdery mildew, leaf rust, and septoria nodorum. Each contributed to yield loss in susceptible genotypes. High temperature stress occurred during the last 5-10 days of grain fill and reduced yields significantly in all genotypes. Lines with good disease resistance and early maturity were favored. The high temperature stress caused straw breakage and lodging in many genotypes which further reduced yields.

Manhattan, KS — Stand establishment was very good and winter damage minimal. Spring regrowth occurred normally and the nursery was not under moisture stress at any time during the growing period. Diseases developed late, but reduced yields considerably. Leaf rust was the primary disease that developed along with septoria nodorum. High temperature stress during grain fill reduced yields, especially in the later genotypes.

Hays, KS — No additional information provided.

Garden City, KS — No additional information provided.

Colby, KS — Planted on 9/25/90 on fallow land that had wheat as the previous crop in 1988. Moisture was good at planting and stands excellent. Precipitation was below normal through the entire winter and spring seasons, but above normal in May and June. The winter was mild except for a period in late December when temperatures of -20 to -24 degrees were recorded for a few nights. No severe winter damage was observed and no insect problems encountered. Foliar diseases were obvious in late spring with leaf rust the most severe. Stem rust was noted late in the season.

Ft. Collins, CO — The nursery was fertilized for a yield goal of 100 bu/a and is naturally sub-irrigated. Growing conditions were excellent with much greater leaf rust infection than normal. No other significant diseases. Harvested 7/25/91.

Julesburg, CO — The nursery was fertilized for a yield goal of 60 bu/a. Normal growing conditions occurred in fall and early spring and higher than normal temperatures in May-June. Stem rust and leaf rust infections were higher than normal. Harvested 7/16/91.

Akron, CO — No additional information provided.

Walsh, CO — No additional information provided.

Burlington, CO — The nursery was lost to hail.

Lincoln, NE — A cool spring and excessive rains caused severe lodging, high levels of powdery mildew and septoria, significant scab and leaf rust infections.

Clay Center, NE — Disease levels were high with powdery mildew, septoria, tan spot, and leaf rust present. Stands were somewhat thin, due in part to some winterkilling.

North Platte, NE — Severe infection of cephalosporium stripe lowered yield levels of all entries and resulted in very low test weights and poor grain quality.

Sidney, NE — Stands were somewhat thin due to dry conditions. Leaf rust was severe late in the season. The nursery was affected by heat stress late in the grain fill period.

Alliance, NE — The nursery was lost to winterkill and severe cheat grass infestation.

Brookings, SD — Planted in fallow on 9/15/90. Moisture conditions were good. The winter was extremely mild and somewhat dry, followed by cool and wet spring. Leaf rust was present and stem rust was found late in June. Very little tanspot or septoria. Harvested on 7/17/91.

Columbia, MO — Heavy precipitation during the first week of October delayed planting until 10/18/90. Crusting after planting resulted in reduced emergence in some entries and is reflected, along with winterkill, in spring stand percentages. Above average rainfall throughout May coupled with cool to normal temperatures resulted in significant disease levels, including fusarium species (scab), *xanthomonas campestris* pv translucens (bacterial stripe, black chaff), and septoria species. Scab was very severe, reducing yields, test weights and grain quality. Disease pressures resulted in an early harvest on 6/15/91, about 2 weeks ahead of normal.

Crawfordsville, IA — The nursery was planted on 9/26/90 in dry soil soon after soybeans were harvested. Harsh winter conditions resulted in poor winter survival. Dry conditions during May and June lowered yields. Diseases, including powdery mildew, leaf rust, and septoria, were significant.

Lind, WA — The nursery was lost to winterkill.

Aberdeen, ID — Planted on 10/1/90 with 200 lbs/a N fertilizer and harvested on 8/16/91. Irrigation applied on the SRPN totaled 16 inches. Seeding rate was 75 lbs/a.

Preston, ID — Planted on 9/24/90 with a seeding rate of 60 lbs/a and fertilizer application of 40 lbs/a. Harvested on 7/30/91.

Table 1. Yield and agronomic data for 45 wheats in the Southern Regional Performance Nursery in 1991.

CLOVIS (IRR.)

NEW MEXICO

THREE REPLICATIONS

C.I. OR SEL. NO.	ENTRY NO.	YIELD KG/HA	VOLUME WEIGHT KG/HL	PLANT HEIGHT CM
T21-3	43	6128	74.7	80
XH900	35	5851	76.3	82
PI495594	3	5782	77.1	64
KSSB-369-7	24	5611	81.9	74
XH1514	38	5487	78.7	72
XH1231	36	5377	77.2	74
TX88V5440	11	5353	76.2	74
CO850061	21	5336	75.5	69
T19-3	41	5319	79.6	73
KSSB-192-3	25	5262	79	69
NE87409	31	5244	77.5	69
OK88W833	8	5198	80	74
TX88V4635	12	4927	76.2	67
NE87615	30	4816	75.1	59
TX87V1613	13	4767	79.6	69
WI88-024	40	4757	79.6	76
OK87W663	4	4755	80.2	69
CO850034	20	4736	79.4	65
TX89V4138	15	4696	79.9	70
TX86D1310	17	4646	74.6	68
WI88-083	39	4615	77.1	67
TX88V4524	14	4577	79.9	65
TH901	44	4568	77.4	69
HBC197F	26	4560	73.7	62
KS88H12-2	29	4423	76.9	67
NE88595	33	4378	74.3	64
XH1322	37	4371	76	69
OK88767	7	4359	77.4	67
CO860086	22	4315	77.6	54
KS87H6	27	4305	77.6	65
CO860094	23	4287	75.9	59
TX88V4636	9	4246	76.9	64
NE87451	32	4206	70.8	60
TX84V1418HF	10	4185	76.7	73
TX88V5433	16	4134	78.7	65
T67	42	4099	77.9	70
NE88427	34	3974	77.1	59
TX86D1332	18	3830	78.3	58
OK87630	6	3803	73.2	69
CI1442	1	3754	75	77
CI13996	2	3593	79.4	75
KS88H12-1	28	3483	77.7	59
TX88D3424	19	3347	71.9	62
OK87542	5	3306	76.9	75
TH902	45	3091	72.8	69
MEAN		4575		
LSD(.05)		1573		
C.V.		21.2		

CLOVIS (DRYL.)

NEW MEXICO

THREE REPLICATIONS

C.I. OR SEL. NO.	ENTRY NO.	YIELD KG/HA	PLANT HEIGHT CM	DAYS TO HEADING FROM 1/1
KSSB-369-7	24	213	30	112
TX87V1613	13	190	38	112
TX89V4138	15	185	30	115
NE88427	34	181	30	120
TX88V4636	9	172	30	115
TX88V4635	12	172	34	114
NE87451	32	163	30	116
KSSB-192-3	25	158	34	113
NE88595	33	154	28	117
XH900	35	154	31	115
TX88V4524	14	140	27	114
CO860094	23	140	34	124
T21-3	43	140	31	118
CI13996	2	136	34	117
NE87615	30	131	28	117
XH1231	36	131	30	120
T19-3	41	131	32	116
TX86D1332	18	122	30	115
HBC197F	26	118	29	118
PI495594	3	113	27	114
XH1514	38	113	30	124
CO850061	21	109	25	119
NE87409	31	104	29	123
OK88W833	8	99	31	117
WI88-024	40	99	30	117
XH1322	37	95	35	115
KS87H6	27	90	26	120
KS88H12-2	29	90	28	122
T67	42	90	30	122
TH901	44	90	30	115
TX86D1310	17	86	30	117
CI1442	1	81	34	127
TX88V5440	11	81	29	116
CO860086	22	77	29	123
WI88-083	39	77	25	116
TH902	45	77	29	115
OK87W663	4	72	30	116
TX88D3424	19	72	26	115
KS88H12-1	28	63	30	125
OK87630	6	54	26	119
TX88V5433	16	54	25	118
TX84V1418HF	10	50	34	121
OK87542	5	45	25	120
OK88767	7	45	29	118
CO850034	20	45	26	122
MEAN		111		
LSD(.05)		70		
C.V.		38.6		

FARMINGTON

NEW MEXICO

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 %
PI495594	3	6627	76.4	78	141	15
KSSB-192-3	25	6305	73.9	89	143	72
CO850061	21	6085	72.9	88	142	61
NE87615	30	6085	74.8	77	141	59
CO860086	22	6012	71.3	81	148	65
OK87W663	4	5894	72.9	91	142	79
NE88427	34	5821	73.2	93	142	79
NE88595	33	5762	74.8	86	141	96
OK88W833	8	5733	74.8	85	142	92
KSSB-369-7	24	5689	76.1	81	143	24
OK88767	7	5674	75.1	92	143	54
TX88V5440	11	5660	73.5	81	143	36
KS87H6	27	5645	73.9	85	143	99
TX89V4138	15	5630	75.1	81	141	78
TX87V1613	13	5586	75.8	84	141	24
XH1322	37	5528	71.9	99	143	61
TX88V5433	16	5484	74.5	86	142	38
WI88-083	39	5454	75.1	83	141	41
WI88-024	40	5440	75.5	91	143	25
TH902	45	5337	74.2	87	141	25
XH1231	36	5279	71.3	95	147	88
OK87630	6	5220	74.8	100	142	15
TX86D1332	18	5205	77.1	88	141	68
T19-3	41	5205	75.8	93	141	74
KS88H12-2	29	5161	71.9	85	147	100
XH900	35	5161	70.3	94	142	89
NE87451	32	5103	75.8	69	141	23
T21-3	43	5059	73.5	86	141	60
TH901	44	5029	71.3	90	143	46
NE87409	31	4912	74.8	93	143	70
KS88H12-1	28	4868	70.6	87	148	100
TX86D1310	17	4736	76.4	87	142	74
TX84V1418HF	10	4575	71	95	148	94
TX88V4524	14	4560	76.8	74	141	0
T67	42	4516	72.2	93	146	68
HBC197F	26	4487	71.6	87	143	82
XH1514	38	4487	72.9	91	146	78
CI13996	2	4428	75.1	95	142	93
OK87542	5	4384	71.6	97	142	96
TX88V4635	12	4369	71.3	91	145	99
TX88V4636	9	4267	71	81	144	80
CO850034	20	4252	72.2	91	147	91
CO860094	23	4252	69	88	149	74
CI1442	1	4164	70.6	99	152	90
TX88D3424	19	4135	73.2	67	141	8
MEAN		5184				
LSD(.05)		1153				
C.V.		15.9				

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 %
TX89V4138	15	7664	80.8	84	118	13
TX88V4635	12	7577	76.9	86	122	13
CO860094	23	7552	79.7	87	128	10
XH1514	38	7427	78.8	92	123	10
TX88V4636	9	7402	76.8	87	123	15
CO860086	22	7391	78.7	84	126	10
KS88H12-1	28	7368	79.6	86	127	15
KS88H12-2	29	7146	79.2	87	126	10
KSSB-192-3	25	7034	78.8	85	120	10
CO850061	21	7030	78.6	86	121	10
CO850034	20	7016	79.9	87	122	8
XH900	35	6998	76.6	90	121	20
NE87451	32	6978	76.9	81	123	20
NE87409	31	6976	79.3	90	125	15
NE88595	33	6933	77.7	86	123	13
NE88427	34	6828	78.7	86	125	15
KSSB-369-7	24	6806	79.9	83	117	8
T19-3	41	6797	78	89	121	22
WI88-083	39	6698	78.2	86	120	10
XH1231	36	6691	77.3	89	123	18
PI495594	3	6682	77.8	83	117	5
TX87V1613	13	6588	78.7	86	118	8
T21-3	43	6577	76	87	122	18
HBC197F	26	6422	77.7	80	123	0
NE87615	30	6402	76.4	87	123	20
OK87W663	4	6382	79.6	82	119	0
TX84V1418HF	10	6344	78.8	90	122	10
WI88-024	40	6328	78.7	90	123	0
TX88V4524	14	6270	78.3	82	117	0
OK87542	5	6205	77.3	86	121	8
OK87630	6	6191	76.8	86	118	0
TX88V5433	16	6183	76.5	84	121	10
XH1322	37	6174	77.5	93	121	10
TH902	45	6165	75.7	89	118	17
OK88767	7	6059	79.2	86	121	10
KS87H6	27	6059	78.8	86	123	8
OK88W833	8	5990	78.8	85	118	8
TX88V5440	11	5667	75.9	82	117	10
TH901	44	5501	75.7	86	119	18
TX88D3424	19	5398	72.6	71	117	0
CI13996	2	5311	78	97	123	33
T67	42	5136	79.3	87	122	10
TX86D1332	18	4947	80	86	119	5
TX86D1310	17	4914	79.9	85	121	17
CI1442	1	4286	75.9	110	132	57
MEAN		6455				
LSD(.05)		701				
C.V.		6.7				

BUSHLAND (DRYL.)

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	WINTER SURVIVAL %
T19-3	41	3096	72.2	58	113	87
TX89V4138	15	3015	77.3	52	110	83
PI495594	3	2981	74.3	56	111	88
CO860086	22	2923	78	48	121	88
NE88427	34	2898	74.9	48	118	83
WI88-083	39	2818	73.5	51	114	87
KSSB-369-7	24	2795	76.1	49	111	77
TX88V4524	14	2780	76.4	51	111	88
CO850061	21	2780	71.2	50	117	80
T21-3	43	2759	69.9	55	116	85
NE87409	31	2742	75.6	48	120	88
XH900	35	2694	74	58	117	80
NE87615	30	2688	73.1	47	117	90
XH1514	38	2670	75.9	55	119	85
CO860094	23	2641	73.3	49	123	85
CI13996	2	2636	78	60	117	90
TX86D1310	17	2634	76.6	54	115	73
NE88595	33	2625	72.5	50	118	87
TX88V4635	12	2623	73.5	47	116	82
NE87451	32	2558	72.5	46	117	88
KS88H12-2	29	2551	73.1	51	121	87
WI88-024	40	2549	77.4	52	117	83
KSSB-192-3	25	2506	74.6	53	114	77
XH1322	37	2506	75.6	58	114	83
OK87630	6	2477	74.9	54	114	82
OK88W833	8	2470	76.2	50	114	85
HBC197F	26	2466	74.4	48	116	83
TX88V5440	11	2464	72.5	52	113	88
KS87H6	27	2437	75.2	53	116	87
XH1231	36	2423	74.4	52	118	85
TX86D1332	18	2414	76.1	53	116	75
OK87W663	4	2399	75.7	53	113	80
TH901	44	2399	73.4	52	113	87
TX88V4636	9	2331	74	47	116	77
TX88V5433	16	2318	72.9	49	115	85
CO850034	20	2284	77.1	50	117	87
T67	42	2170	74.9	48	120	87
TX84V1418HF	10	2163	76.6	52	118	85
TX88D3424	19	2121	70.7	46	110	82
OK88767	7	2112	77	51	115	85
KS88H12-1	28	2047	73.8	47	121	87
TH902	45	1921	73.9	52	114	90
OK87542	5	1912	74.6	47	115	87
TX87V1613	13	1834	76.1	53	115	42
CI1442	1	1383	76.6	58	130	87
MEAN		2489				
LSD(.05)		620				
C.V.		15.3				

CHILLICOTHE

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
KSSB-369-7	24	3705	77.8	68	95
TH902	45	3640	76.7	74	98
CO850034	20	3625	78.6	62	99
CO850061	21	3524	75.8	57	97
XH1231	36	3524	77.6	65	100
CO860086	22	3445	78.5	55	106
TX89V4138	15	3434	79.6	64	97
T19-3	41	3401	77.4	67	102
NE88595	33	3369	76.5	58	104
CO860094	23	3336	78.9	60	109
XH1514	38	3311	78.8	64	105
XH900	35	3295	76.8	66	100
KS88H12-2	29	3277	76.6	58	105
NE87615	30	3273	76.7	56	105
KS88H12-1	28	3219	77.1	63	105
XH1322	37	3201	77	67	98
TX88V4635	12	3199	75.7	60	98
TX88V4636	9	3188	75.9	62	98
OK87630	6	3170	77.7	63	97
T21-3	43	3167	77.4	69	102
TH901	44	3167	76.5	69	97
TX87V1613	13	3161	77.7	70	96
CI13996	2	3132	78.6	76	102
WI88-024	40	3123	78.2	67	101
T67	42	3085	78.9	63	100
NE87451	32	3046	77	55	104
KSSB-192-3	25	3044	76.8	66	95
WI88-083	39	3022	77.8	61	103
PI495594	3	3013	75.6	62	97
NE87409	31	2988	77	64	106
TX88V4524	14	2968	77.1	58	100
OK87542	5	2901	77.7	59	97
TX88V5433	16	2856	76.7	63	98
HBC197F	26	2842	75.9	60	100
NE88427	34	2840	78	57	106
TX86D1310	17	2820	78.1	70	100
TX84V1418HF	10	2795	77.1	61	99
KS87H6	27	2768	76.8	60	103
TX88D3424	19	2751	72.8	54	95
OK88767	7	2744	78.4	60	98
OK88W833	8	2739	77.8	60	98
OK87W663	4	2712	78.8	63	97
TX88V5440	11	2683	76.4	61	97
TX86D1332	18	2638	78.6	69	99
CI1442	1	2329	78.8	77	114
MEAN		3099			
LSD(.05)		413			
C.V.		8.2			

DALLAS

TEXAS

THREE REPLICATIONS

C.I. OR SEL. NO.	ENTRY NO.	YIELD KG/HA	DAYS TO HEADING FROM 1/1	LEAF RUST SEV. %	RUST RESP 0-9	FREEZE DAMAGE 0-5
TX86D1310	17	3453	97	0	2	2
TX86D1332	18	3392	97	0	2	2
OK88767	7	3257	95	40	7	3
KSSB-369-7	24	3082	119	70	8	1.3
OK87630	6	2881	95	80	8	2.3
TX88V5433	16	2870	93	40	8	1.5
TX87V1613	13	2854	94	1	3	2.5
OK88W833	8	2853	94	100	8	2.5
TX89V4138	15	2843	95	100	8	2.5
HBC197F	26	2838	96	0	2	2.3
TX88V4524	14	2794	97	1	7	2
TX84V1418HF	10	2753	95	60	8	2
XH1322	37	2751	93	50	8	1.5
TH901	44	2740	94	100	8	1.5
TH902	45	2607	95	100	8	2
TX88V5440	11	2584	91	75	8	1.7
OK87W663	4	2505	95	100	8	2.3
CO850034	20	2495	93	100	8	1.7
T67	42	2430	95	50	8	2.5
OK87542	5	2423	97	60	7	2.3
XH900	35	2420	95	75	8	1.5
T19-3	41	2248	100	100	8	1.5
TX88V4635	12	2167	98	80	8	3
PI495594	3	2158	94	100	8	1.7
CO850061	21	2138	95	100	8	2
KS87H6	27	2119	97	80	8	3
WI88-083	39	2072	102	1	3	2.5
WI88-024	40	2033	102	30	8	2.3
XH1231	36	2014	97	40	8	2.5
TX88D3424	19	2009	94	0	2	4.5
NE87451	32	1915	102	1	7	1.5
T21-3	43	1789	101	60	7	1.5
NE87615	30	1487	115	1	7	1.3
KS88H12-1	28	1481	102	70	8	2
KS88H12-2	29	1456	103	70	8	2
TX88V4636	9	1349	95	80	8	3.3
KSSB-192-3	25	1315	93	75	8	4.5
XH1514	38	1240	101	90	8	1.5
CI13996	2	1206	116	100	8	1.3
NE87409	31	986	103	70	8	1.5
NE88595	33	947	103	90	8	1.3
NE88427	34	531	119	70	8	1.3
CO860094	23	375	117	40	8	1.3
CO860086	22	309	118	50	8	1.5
CI1442	1	238	120	100	8	1.5
MEAN		2097				
LSD(.05)		552				
C.V.		16.5				

PROSPER

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	LEAF RUST: SEV. %	RESP 0-9	FREEZE DAMAGE 0-5	MILDEW 0-9
TX88V4524	14	3988	77.8	74	100	30	7	1.7	4
TX88V5433	16	3762	77.5	76	96	90	8	1.3	0
TX86D1310	17	3573	78.7	81	101	1	2	1.7	0
HBC197F	26	3572	75.6	64	98	10	3	1.7	0
XH1322	37	3525	76.6	76	96	50	8	1.5	0
TX88V5440	11	3503	78	74	94	100	8	1.5	0
OK87630	6	3419	78	69	96	100	8	1.7	5
TX86D1332	18	3396	79.3	81	100	1	2	1.7	0
WI88-083	39	3323	74.7	79	105	20	3	2	0
OK88W833	8	3232	78.9	71	96	100	8	2.3	0
KSSB-369-7	24	3214	78.4	71	96	70	7	3.5	6
XH1231	36	3132	75.3	76	98	50	8	2	2
TH901	44	3124	75.6	71	96	100	8	1.3	0
OK88767	7	3122	79.5	74	97	40	7	2.7	0
TX87V1613	13	3102	77.9	76	94	5	3	2	5
T21-3	43	3049	75.3	81	102	60	7	1.3	5
XH900	35	3042	74.7	84	99	90	8	1.5	0
T19-3	41	3002	74.3	86	102	100	8	1.5	0
TX84V1418HF	10	2997	77.8	74	97	100	8	1.7	4
TX89V4138	15	2978	72.8	69	96	100	8	2.3	0
TH902	45	2948	73.1	84	97	100	8	1.7	0
XH1514	38	2941	74.9	86	103	40	8	1.3	5
TX88V4635	12	2915	75.9	74	96	100	8	2.7	0
OK87542	5	2911	74.9	61	100	80	7	1.7	0
CO850034	20	2895	76	74	96	100	8	1.5	4
OK87W663	4	2856	76.8	69	97	100	8	2	0
T67	42	2782	79.3	71	100	90	8	2.3	2
KS88H12-1	28	2685	68.4	76	104	90	8	1.7	5
KS87H6	27	2681	71.5	71	99	100	8	2.7	0
PI495594	3	2657	71.9	76	96	100	8	1.5	0
TX88V4636	9	2617	73.7	79	97	100	8	3	0
WI88-024	40	2524	68.6	81	103	70	8	2	1
KS88H12-2	29	2506	71	79	102	70	8	1.7	0
NE87451	32	2436	70.8	79	106	30	7	1.3	0
NE88595	33	2280	69.8	86	108	100	8	1	0
NE87615	30	2225	67.7	76	105	50	7	1.3	0
KSSB-192-3	25	2187	74	71	96	100	8	4.3	0
CI13996	2	2093	74.6	102	106	100	8	1.3	5
CO850061	21	2074	71.5	66	98	100	8	1.7	5
NE87409	31	2043	71.7	86	104	100	8	1	5
NE88427	34	1826	68.5	86	107	100	8	1	4
CO860094	23	1192	66	84	111	80	8	1	6
TX88D3424	19	1183	67.5	56	98	0	2	4.7	0
CO860086	22	1174	66.3	76	110	80	8	1.3	4
CI1442	1	1047	67.6	97	118	100	8	1.5	5

MEAN	2750
LSD(.05)	501
C.V.	11.2

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
HBC197F	26	3768	72.5	77	105
T21-3	43	3635	68.5	87	108
TH901	44	3466	70.3	87	104
WI88-083	39	3396	69.7	82	106
TX86D1332	18	3247	72.8	82	106
TH902	45	3207	70.7	82	105
KSSB-369-7	24	3179	68.6	77	101
KSSB-192-3	25	3178	66.6	80	102
KS87H6	27	3172	72	70	109
XH1514	38	3151	67.7	88	109
OK88767	7	3121	74.2	69	104
XH1322	37	3113	72.1	89	103
KS88H12-2	29	3090	65.5	84	112
T19-3	41	3081	71.1	84	108
XH1231	36	3056	68.8	79	106
T67	42	3045	71	86	105
TX88V4524	14	2955	73	74	106
NE87451	32	2878	68.1	73	110
XH900	35	2859	67.1	84	105
TX89V4138	15	2848	74.6	79	103
OK87630	6	2795	73.9	74	104
TX86D1310	17	2745	72	77	106
TX88V5433	16	2739	69.8	75	105
NE87615	30	2707	68.6	71	113
TX88V5440	11	2686	69.7	77	102
KS88H12-1	28	2666	68.1	80	112
OK87542	5	2575	71.9	72	106
TX87V1613	13	2564	72.5	81	103
TX88D3424	19	2547	64.9	61	104
WI88-024	40	2534	68	82	108
TX88V4636	9	2498	65.7	73	106
TX84V1418HF	10	2477	70.2	80	106
OK88W833	8	2447	72.2	75	105
NE87409	31	2398	70.2	79	113
TX88V4635	12	2353	68.4	75	106
CO850034	20	2341	71	78	106
OK87W663	4	2332	71.7	66	105
CI13996	2	2307	69.1	93	109
PI495594	3	2273	65.4	75	103
NE88595	33	2150	65.7	73	110
CO860094	23	2133	65.7	73	118
CO850061	21	2060	65.1	67	106
CO860086	22	1910	63.5	69	115
NE88427	34	1890	69.4	72	114
CI1442	1	1523	71.5	97	122
MEAN		2735			
LSD(.05)		599			
C.V.		13.5			

LAHOMA

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
KSSB-369-7	24	3434	71.2	68	105
TX89V4138	15	3397	72	80	107
PI495594	3	2957	67.9	75	106
TX88V4636	9	2798	63.5	65	108
TH902	45	2797	66.7	83	108
XH1322	37	2789	67.9	78	108
TX88V4635	12	2749	63.9	78	109
XH900	35	2737	65.4	75	108
TX87V1613	13	2734	68.8	73	108
TH901	44	2610	64.6	78	107
HBC197F	26	2600	62.2	68	112
TX88V5440	11	2597	66.8	68	106
XH1231	36	2574	63.2	70	113
T67	42	2566	68.8	70	111
KSSB-192-3	25	2564	64.4	70	106
WI88-083	39	2514	65.3	78	114
KS87H6	27	2502	64.1	70	116
OK87630	6	2500	67.3	70	107
OK88W833	8	2477	68	70	107
CO850034	20	2473	67.6	70	108
T21-3	43	2465	61.7	80	113
NE87615	30	2463	64.5	68	116
OK88767	7	2424	68.9	75	108
TX88V4524	14	2412	67.5	68	110
OK87W663	4	2375	68.5	68	107
OK87542	5	2349	65.5	58	108
TX88V5433	16	2312	67.5	73	108
T19-3	41	2288	63.7	73	112
KS88H12-1	28	2252	59.3	73	117
XH1514	38	2251	60.6	73	117
WI88-024	40	2248	66.2	80	115
CO850061	21	2208	66.2	70	108
CI13996	2	2188	69	88	112
NE88595	33	2187	65.1	75	116
TX86D1310	17	2113	67.7	78	113
NE87451	32	2099	61.8	63	115
KS88H12-2	29	2070	60.2	70	117
TX86D1332	18	1974	67	70	112
TX84V1418HF	10	1948	65.9	73	108
NE88427	34	1908	65	70	117
TX88D3424	19	1851	63.6	60	107
NE87409	31	1819	62.7	78	117
CO860086	22	1705	61.7	75	117
CO860094	23	1557	59.2	73	123
CI1442	1	1221	61.4	88	126
MEAN		2379			
LSD(.05)		312			
C.V.		8.1			

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
KS88H12-1	28	6472	78.8	105	131
XH1231	36	6396	77.8	108	129
KSSB-369-7	24	6365	79.5	98	121
KS88H12-2	29	6327	79.2	102	131
HBC197F	26	6317	77	97	129
T21-3	43	6215	77.7	103	129
TX88V4636	9	6187	75.9	102	130
KSSB-192-3	25	6179	76.8	98	125
CO860086	22	6148	75.1	95	132
XH900	35	6090	77.7	106	128
NE88595	33	6064	77.3	105	130
TX88V4635	12	6054	75.3	103	129
CO860094	23	6047	76.4	102	133
NE87615	30	6038	77	95	130
NE88427	34	5988	78.9	106	130
CO850061	21	5905	76.8	102	127
WI88-083	39	5905	78.2	105	129
KS87H6	27	5811	78.8	101	129
PI495594	3	5787	77.5	101	125
TX88V5440	11	5749	77.3	89	124
XH1514	38	5748	77.3	110	129
TX88V5433	16	5678	77.1	95	128
T19-3	41	5673	77.4	112	128
TX88V4524	14	5669	78.3	97	122
OK88W833	8	5667	78.7	99	126
OK88767	7	5630	78.8	99	126
TX89V4138	15	5518	80.1	99	124
XH1322	37	5440	77.5	112	127
OK87542	5	5437	78.2	102	128
OK87W663	4	5434	79.2	95	126
NE87409	31	5358	78.3	113	130
NE87451	32	5343	78	97	129
TX88D3424	19	5340	74.6	86	121
WI88-024	40	5336	78	106	129
TX87V1613	13	5310	77.7	106	123
CO850034	20	5161	79.2	100	129
TH902	45	5161	75.7	106	128
OK87630	6	5013	77.8	99	126
TX84V1418HF	10	4973	78.7	107	128
TH901	44	4886	76.6	107	127
CI13996	2	4255	78.7	116	128
TX86D1332	18	3866	78.6	97	128
TX86D1310	17	3792	79.2	98	128
T67	42	3254	80.1	108	129
CI1442	1	2822	75.1	118	136
MEAN		5507			
LSD(.05)		650			
C.V.		7.3			

HUTCHINSON

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 %	LEAF RUST SEV. %	LEAF RUST RESP. 0-9	SEPTORIA NODORUM 0-9
KSSB-369-7	24	3945	79.5	84	117	3	5	7	5
T67	42	3726	79.3	102	126	0	60	8	6
TX88V5440	11	3569	77.5	85	120	37	10	8	2
TX88V5433	16	3557	78.8	89	123	7	5	8	3
OK87630	6	3547	77.6	99	122	0	20	8	5
XH1322	37	3473	77.4	97	124	0	30	8	7
TX86D1332	18	3451	80	94	125	7	5	3	3
WI88-083	39	3433	76.8	91	128	3	20	3	3
TX86D1310	17	3344	78.6	95	127	10	5	3	2
TX84V1418HF	10	3339	76.5	98	125	13	10	8	5
HBC197F	26	3214	71.8	88	128	50	0	2	3
KS87H6	27	3102	76.8	96	128	27	5	8	4
XH900	35	2980	73.8	98	125	7	20	7	7
TX88V4524	14	2969	77.3	91	124	7	5	8	4
TH901	44	2965	76.2	99	122	3	40	8	6
TX87V1613	13	2931	76.8	98	123	0	10	7	5
OK88767	7	2890	76.7	95	124	0	40	8	4
XH1231	36	2886	73.3	101	126	3	20	3	5
TX89V4138	15	2871	78.7	94	124	83	10	8	7
KSSB-192-3	25	2824	74.4	88	121	0	30	8	6
WI88-024	40	2702	77.3	100	128	0	20	8	5
OK87542	5	2698	77.6	96	122	40	20	8	8
NE87451	32	2683	74.2	87	133	33	10	7	3
TH902	45	2632	74.4	97	123	0	100	8	9
T19-3	41	2566	75.8	102	127	43	60	8	9
OK87W663	4	2525	74.6	94	121	0	50	8	8
OK88W833	8	2471	76	95	122	20	40	8	5
TX88V4635	12	2351	70.5	96	126	67	20	8	8
CO850061	21	2115	73.6	94	122	67	60	8	6
CI13996	2	1978	76.3	109	131	80	40	8	8
PI495594	3	1978	74	96	120	0	100	8	9
KS88H12-1	28	1963	74	94	131	90	20	8	7
KS88H12-2	29	1938	72.6	92	131	73	10	8	7
XH1514	38	1883	73.1	96	128	7	20	8	6
NE87615	30	1730	72.5	89	132	73	10	3	4
NE88427	34	1719	74.4	96	131	7	80	8	7
TX88V4636	9	1709	70.6	94	126	57	30	8	8
T21-3	43	1570	71.3	98	129	93	40	7	8
NE87409	31	1520	75.4	100	132	70	60	8	9
TX88D3424	19	1519	72	73	124	73	20	3	7
CO850034	20	1388	75.1	95	125	87	60	8	6
NE88595	33	1265	71.8	94	132	7	80	8	8
CO860094	23	868	69.1	92	136	23	5	8	6
CO860086	22	406	67.2	89	132	70	20	8	7
CI1442	1	372	.	121	136	90	80	8	8
MEAN		2479							
LSD(.05)		578							
C.V.		14.4							

MANHATTAN

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 %	LEAF SEV. %	RUST: RESP: 0-9	SBM VIRUS 0-9
WI88-083	39	4196	71.5	95	132	0	40	2	2
KSSB-192-3	25	3979	70.7	90	125	0	40	8	2
XH1231	36	3805	69	101	128	0	1	7	2
XH1322	37	3717	71.9	102	127	0	80	8	2
KSSB-369-7	24	3702	74.6	86	121	0	10	7	2
OK88767	7	3694	72.1	95	127	3	20	8	8
XH900	35	3573	69	100	127	0	40	8	2
OK88W833	8	3521	74	93	126	0	80	8	5
TH901	44	3517	69.3	100	128	7	100	8	2
T67	42	3482	72.1	104	129	27	100	8	2
HBC197F	26	3397	63.6	90	129	33	1	3	2
CO850061	21	3382	67.7	93	127	7	80	8	8
TH902	45	3351	67.9	102	128	3	100	8	3
TX89V4138	15	3326	72.1	92	126	20	50	8	5
TX88V5440	11	3296	72.2	89	125	10	30	8	2
TX86D1332	18	3289	72.2	96	129	77	10	3	2
CO850034	20	3216	71.3	95	128	47	80	8	2
XH1514	38	3154	69.7	101	132	13	60	8	2
OK87630	6	3146	70.6	90	125	17	80	8	8
KS87H6	27	3097	69.7	96	130	0	1	3	8
WI88-024	40	3075	69.5	101	132	3	90	8	8
TX84V1418HF	10	3063	66.7	96	128	7	20	8	8
TX86D1310	17	3003	73.7	97	129	67	20	3	2
OK87542	5	2998	71.2	101	126	13	80	8	8
KS88H12-1	28	2997	68.6	95	133	7	50	8	2
T21-3	43	2997	64	102	131	87	60	8	2
OK87W663	4	2978	72.9	91	123	0	100	8	5
TX87V1613	13	2968	67.1	96	126	3	10	8	8
T19-3	41	2925	68	104	129	60	100	8	8
PI495594	3	2919	65.9	94	123	0	100	8	8
NE87615	30	2900	66.4	92	134	23	5	3	8
TX88V4524	14	2888	71	86	127	0	10	8	8
TX88V5433	16	2874	71.7	92	128	30	60	8	2
NE87451	32	2754	67.2	89	133	50	20	3	5
KS88H12-2	29	2642	68.1	93	133	13	60	8	2
NE88427	34	2454	70	93	133	7	90	8	7
TX88V4636	9	2381	68.1	96	128	33	60	8	8
NE88595	33	2375	64.9	94	132	13	80	8	7
NE87409	31	2362	68.9	103	132	27	80	8	2
TX88V4635	12	2058	59.9	96	130	37	50	8	8
TX88D3424	19	2043	64.2	74	126	100	10	8	8
CI13996	2	1466	67	122	132	100	100	8	8
CO860086	22	1458	61.3	87	134	0	90	8	8
CO860094	23	1232	59.9	93	136	43	20	8	8
CI1442	1	693	.	117	138	100	100	8	8
MEAN		2941							
LSD(.05)		483							
C.V.		10.1							

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
PI495594	3	3098	79.2	53	124
XH1231	36	3044	74.1	55	130
T19-3	41	3020	77.1	56	128
XH1514	38	3008	74.4	54	131
NE88595	33	3002	75.9	51	131
CO850061	21	2984	75.2	52	128
XH900	35	2981	74.4	56	128
NE87615	30	2930	73.1	51	131
KS87H325-2	50	2878	79	58	124
NE88427	34	2847	76.2	52	132
TH902	45	2842	76.6	54	125
NE87409	31	2809	75.4	50	132
TX89V4138	15	2791	80.5	57	126
OK88W833	8	2768	77.2	53	124
OK87W663	4	2670	76.7	52	124
TX88V4636	9	2659	73.5	54	129
CO860094	23	2645	71	48	135
T67	42	2636	76.7	55	130
KSSB-192-3	25	2632	75.5	55	125
CO860086	22	2629	73.4	49	133
KSSB-369-7	24	2605	78.8	53	122
NE87451	32	2587	73.7	49	130
OK88767	7	2582	76.1	52	128
T21-3	43	2582	73	58	130
CI13996	2	2564	78.5	57	131
KS88H12-1	28	2562	73.3	54	133
KS87H6	27	2547	75.4	50	131
WI88-083	39	2542	76.3	53	129
KS88H12-2	29	2529	74.2	53	133
TH901	44	2511	74.6	55	125
XH1322	37	2473	75.2	57	128
CO850034	20	2448	76.6	54	129
KS831374-74	48	2439	76.1	53	126
OK87630	6	2432	75.6	53	125
OK87542	5	2410	74	54	126
HBC197F	26	2390	71.1	50	130
KS8010-72-4	46	2387	72.8	54	129
TX88V5433	16	2381	73.8	51	128
WI88-024	40	2360	76.2	56	131
TX88V4635	12	2336	73.9	52	129
TX84V1418HF	10	2316	74	55	130
KS831374-142	49	2311	75	52	125
TX88V5440	11	2304	74	52	123
TX86D1310	17	2239	78.7	57	129
TX88V4524	14	2206	76	52	127
TX86D1332	18	2206	78.2	56	129
KS8010-72-8	47	2174	72.5	54	128
TX88D3424	19	1988	72.1	46	124
CI1442	1	1894	72.5	60	137
TX87V1613	13	1858	77.7	55	129
MEAN		2561			
LSD(.05)		315			
C.V.		7.6			

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
XH1231	36	4882	79.1	80	133
NE88595	33	4741	79.2	76	133
XH900	35	4651	79.2	82	132
CO860094	23	4580	76.8	75	138
WI88-083	39	4553	80.2	75	133
CO850061	21	4551	80.5	76	132
TX88V4635	12	4546	79.5	79	133
NE87615	30	4533	78.9	72	135
NE87451	32	4528	80.1	70	134
NE87409	31	4492	81.3	81	134
T21-3	43	4463	80.5	84	133
HBC197F	26	4432	80.8	75	134
TX88V4636	9	4403	79.5	74	133
KS88H12-1	28	4403	80.6	78	134
NE88427	34	4360	79.9	75	134
KS88H12-2	29	4344	80.1	75	134
XH1514	38	4326	77.1	86	134
CO860086	22	4304	78.2	73	135
T19-3	41	4235	81.6	79	132
TX89V4138	15	4102	81.7	77	131
KS87H6	27	4098	81.2	77	133
WI88-024	40	4064	80.7	81	133
TH901	44	4035	80.2	79	132
KS8010-72-4	46	4035	80.5	79	132
CO850034	20	4013	79.5	78	133
CI13996	2	3990	81.2	89	133
XH1322	37	3954	79.2	80	132
TH902	45	3927	79.6	83	132
OK87542	5	3916	80.6	75	131
TX87V1613	13	3909	82.1	80	132
KSSB-192-3	25	3842	80.8	75	131
T67	42	3835	80.6	79	133
KSSB-369-7	24	3791	82	69	129
KS8010-72-8	47	3782	80.1	77	132
TX88V4524	14	3750	82.3	69	130
KS831374-142	49	3735	81.1	76	130
TX86D1332	18	3643	82	82	132
TX88V5433	16	3632	80.9	71	131
PI495594	3	3625	79.6	71	131
OK88W833	8	3616	81.1	75	130
OK88767	7	3584	80.7	75	131
TX84V1418HF	10	3495	80.5	75	132
TX88D3424	19	3445	78.3	67	130
TX86D1310	17	3407	81.9	78	132
KS831374-74	48	3407	80.9	75	130
TX88V5440	11	3378	79.9	71	129
CI1442	1	3293	77.1	100	139
OK87W663	4	3266	80.8	71	130
OK87630	6	3239	79.6	75	130
MEAN		4023			
LSD(.05)		488			
C.V.		7.5			

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	LODGING %
KS831374-142	49	5147	75	72	134	6
KS831374-74	48	4817	75.9	73	135	7
TX88V4636	9	4618	72.8	79	139	13
TX88V4635	12	4604	71.4	85	139	13
KSSB-369-7	24	4598	76.5	72	134	10
KS8010-72-8	47	4577	71.5	80	137	3
TX88V5433	16	4569	75.3	73	137	6
TX89V4138	15	4562	76.2	77	135	20
NE87615	30	4546	72.9	78	140	7
TX88V5440	11	4504	73.7	68	135	8
T21-3	43	4483	71.5	83	136	12
T19-3	41	4479	73.5	86	136	15
XH900	35	4468	72.2	82	137	6
NE88595	33	4461	72.7	81	138	7
KS8010-72-4	46	4407	72	80	138	4
KS87H6	27	4338	74.4	78	137	4
CI13996	2	4329	76.7	95	138	63
KS88H12-1	28	4329	72.6	81	140	6
KS88H12-2	29	4326	71.9	82	140	5
CO860094	23	4317	73.2	84	143	13
NE87409	31	4302	74.5	82	140	13
CO850061	21	4275	71.5	77	138	8
NE87451	32	4270	72.6	72	137	5
TH901	44	4270	72.5	82	136	4
WI88-083	39	4268	73.7	77	136	3
HBC197F	26	4118	69.2	75	138	4
XH1231	36	4093	72.1	81	139	3
NE88427	34	4089	74.5	80	139	3
TH902	45	4082	73	83	136	4
OK88767	7	4057	74.3	77	136	5
PI495594	3	4037	74.2	78	135	8
TX88V4524	14	4019	74	74	134	2
KSSB-192-3	25	4017	74.3	75	135	4
T67	42	3983	74.6	86	139	5
OK87542	5	3954	72.5	80	137	7
XH1514	38	3932	71.9	88	141	7
TX87V1613	13	3791	75.2	77	137	6
TX88D3424	19	3788	69.8	64	134	12
OK87630	6	3723	72.9	79	135	5
CO860086	22	3692	68.8	77	141	6
TX86D1310	17	3634	76.4	75	137	17
XH1322	37	3629	71.8	86	137	3
WI88-024	40	3625	74.2	86	140	4
OK88W833	8	3614	71.9	76	136	3
TX84V1418HF	10	3497	71.3	83	138	4
TX86D1332	18	3410	76.4	79	138	12
OK87W663	4	3232	72.2	75	135	3
CO850034	20	3062	68.4	79	139	4
CI1442	1	2484	73.1	107	145	53
MEAN		4055				
LSD(.05)		292				
C.V.		4.4				

FORT COLLINS

COLORADO

THREE REPLICATIONS

C.I. OR SEL. NO.	ENTRY NO.	YIELD KG/HA	VOLUME WEIGHT KG/HL	DAYS TO HEADING FROM 1/1	LEAF RUST SEV. %	LEAF RUST RESP. 0-9
CO860094	23	8187	74.9	155	5	
KSSB-192-3	25	8012	75.2	148	10	
T21-3	43	7765	72.4	149	5	
CO850061	21	7642	74	151	40	
TAM-200	46	7407	77.7	149	10	
TX88V4636	9	7276	74	151	20	
HBC197F	26	7269	73.7	152	0	
TX88V4635	12	7258	74.6	151	10	
NE87615	30	7228	75.2	149	5	
XH1514	38	7164	75.8	152	0	
CO860086	22	6996	73.3	156	30	
TX89V4138	15	6873	77.7	149	10	
KSSB-369-7	24	6709	75.8	147	0	
KS88H12-2	29	6694	75.5	151	10	
SANDY	47	6694	76.8	153	20	
LAMAR	48	6533	76.1	152	5	
XH900	35	6507	76.1	150	5	
PI495594	3	6358	74	147	70	
WI88-083	39	6354	75.5	149	0	
NE88595	33	6339	74.9	150	40	
T19-3	41	6317	74.3	146	10	
NE87409	31	6309	75.2	149	20	
XH1231	36	6272	75.8	153	0	
NE87451	32	6231	73	149	10	
NE88427	34	6223	75.8	149	30	
KS88H12-1	28	6156	76.8	152	20	
XH1322	37	6130	74.3	150	10	
TH901	44	6126	72.4	148	10	
OK87542	5	6100	73.7	149	20	
MV16-85	50	5985	72.7	152	0	
TX87V1613	13	5981	75.5	150	10	
CO840186	49	5835	77.4	154	50	
CI13996	2	5831	75.5	148	50	
OK88767	7	5813	76.1	149	10	
TX86D1332	18	5772	75.8	149	0	
TX84V1418HF	10	5753	73.3	150	5	
TH902	45	5660	73.7	148	40	
WI88-024	40	5649	75.8	151	0	
T67	42	5481	77.4	151	10	
TX88V4524	14	5302	75.5	146	10	
TX88D3424	19	5223	69.6	146	0	
KS87H6	27	5111	75.5	150	10	
CO850034	20	4914	71.8	152	80	
OK88W833	8	4812	75.5	147	30	
OK87W663	4	4753	74.6	147	30	
TX86D1310	17	4484	75.8	148	0	
OK87630	6	4368	75.2	146	10	
TX88V5433	16	4334	72.4	149	5	
TX88V5440	11	4327	72.4	146	10	
CI1442	1	4316	70.6	158	40	
MEAN		6137				
LSD(.05)		1456				
C.V.		14.6				

JULESBURG

COLORADO

THREE REPLICATIONS

C.I. OR SEL. NO.	ENTRY NO.	YIELD KG/HA	VOLUME WEIGHT KG/HL	PLANT HEIGHT CM	LODGING 0-9	STEM RUST: SEV. %	STEM RUST: RESP. 0-9	ROOT ROT %
KS87H6	27	4051	75.6	86	0	0		0
TH901	44	3900	72.5	91	1	0		10
T21-3	43	3871	72.5	86	3	10		20
XH1322	37	3851	72.7	86	0	0		10
XH1514	38	3840	71.4	91	0	0		15
HBC197F	26	3771	69.7	86	0	0		0
XH1231	36	3612	68.9	86	0	30		10
WI88-083	39	3606	74	81	0	0		5
CO860094	23	3553	71.4	91	2	0		0
KSSB-369-7	24	3534	74.5	79	0	0		0
NE88427	34	3495	75	89	0	0		5
WI88-024	40	3460	76	89	0	0		0
LAMAR	48	3457	76.2	97	2	0		0
TX88V5440	11	3450	72.2	81	4	10		10
T67	42	3389	74.5	97	0	0		10
NE87615	30	3380	70.9	86	5	0		0
TX88V5433	16	3352	73.7	86	1	10		10
TX88V4635	12	3348	70.5	91	4	0		0
TX86D1332	18	3329	75.6	86	3	0		10
TX84V1418HF	10	3319	73.7	91	0	0		20
KS88H12-1	28	3318	73.1	89	1	0		10
XH900	35	3317	69.1	86	0	5		10
NE87409	31	3261	75.4	91	1	0		0
KS88H12-2	29	3238	73.2	86	2	0		0
NE87451	32	3220	73	76	6	0		0
TX88V4524	14	3215	75.3	76	0	0		5
OK87542	5	3155	71.5	91	0	30		5
NE88595	33	3129	71.3	91	8	0		0
TH902	45	3084	69.3	91	2	0		10
T19-3	41	3053	74	91	0	0		5
TX87V1613	13	2993	74.4	86	0	0		10
TX86D1310	17	2981	74.8	86	3	0		15
CI13996	2	2978	75.7	107	4	0		0
CO860086	22	2849	64.8	91	2	0		10
SANDY	47	2844	73.9	107	6	0		0
TX88V4636	9	2836	71.3	86	0	0		20
OK87630	6	2744	64.9	84	0	50		10
PI495594	3	2731	69.5	81	0	0		5
TAM-200	46	2707	74.7	81	4	0		0
OK88767	7	2678	68.2	84	0	80		30
TX89V4138	15	2675	72.4	86	4	0		20
CO850061	21	2566	66.1	91	0	0		20
KSSB-192-3	25	2547	68.9	81	0	0		10
TX88D3424	19	2383	63.8	69	0	0		0
MV16-85	50	2156	66.6	76	0	0		0
OK88W833	8	1980	62.8	86	0	90		40
OK87W663	4	1940	60.2	81	0	90		20
CI1442	1	1493	67.3	122	5	80		0
CO850034	20	1256	52.2	86	3	90		90
CO840186	49	1142	67.4	81	0	0		5
MEAN		3041						
LSD(.05)		547						
C.V.		11.1						

AKRON

COLORADO

THREE REPLICATIONS

C.I. OR SEL. NO.	ENTRY NO.	YIELD KG/HA	VOLUME WEIGHT KG/HL
KS88H12-2	29	5389	73.3
NE87615	30	5351	73.3
T21-3	43	5330	71.8
TX88V4636	9	5272	69.9
WI88-083	39	5219	72.7
NE87451	32	5195	70.9
T19-3	41	5131	72.4
TX88V4635	12	5083	72.4
KSSB-369-7	24	5065	74.3
KS88H12-1	28	5030	72.1
NE87409	31	4976	74
TAM-200	46	4959	75.8
PI495594	3	4941	72.4
KSSB-192-3	25	4940	74
CO850061	21	4898	73.3
OK88767	7	4888	73
HBC197F	26	4871	69.9
TX89V4138	15	4836	76.4
CO860094	23	4829	69.9
NE88595	33	4787	71.8
XH1231	36	4786	71.2
XH1514	38	4779	72.7
NE88427	34	4744	72.7
XH900	35	4744	73.3
TX88V4524	14	4736	73
TX88V5440	11	4707	72.1
OK87542	5	4704	72.7
CO860086	22	4692	70.6
CI13996	2	4681	74.6
WI88-024	40	4658	74.9
KS87H6	27	4647	72.7
TX88V5433	16	4610	73.7
TH902	45	4606	70.9
TH901	44	4509	71.5
T67	42	4484	75.2
OK87W663	4	4480	74.3
LAMAR	48	4384	75.8
XH1322	37	4375	72.7
TX84V1418HF	10	4372	74.6
TX86D1332	18	4368	75.2
TX87V1613	13	4367	74.6
OK87630	6	4351	73
SANDY	47	4178	74
MV16-85	50	4061	68.1
OK88W833	8	4048	72.7
TX86D1310	17	4038	74.6
TX88D3424	19	4001	68.4
CO850034	20	3522	69
CI1442	1	2569	72.1
CO840186	49	2161	72.4
MEAN		4607	
LSD(.05)		564	
C.V.		7.5	

WALSH

COLORADO

THREE REPLICATIONS

C.I. OR SEL. NO.	ENTRY NO.	YIELD KG/HA	VOLUME WEIGHT KG/HL	PLANT HEIGHT CM	STEM RUST SEV. %	RUST RESP. 0-9
NE87409	31	4217	74.9	66	0	
TX89V4138	15	4174	78.9	61	0	
TX88V4635	12	4160	74.3	61	0	
KS88H12-2	29	4075	74.3	69	0	
KSSB-192-3	25	4011	75.8	64	0	
XH900	35	3958	75.5	66	0	
XH1514	38	3900	75.5	64	0	
PI495594	3	3898	76.1	64	0	
HBC197F	26	3895	73.3	61	0	
TAM-200	46	3893	77.7	61	0	
KS88H12-1	28	3877	75.5	69	0	
T19-3	41	3851	75.2	64	0	
NE88595	33	3848	74.6	66	0	
CO860086	22	3824	75.8	61	0	
NE87451	32	3811	74	61	0	
NE87615	30	3807	74	66	0	
WI88-083	39	3783	75.2	66	0	
SANDY	47	3733	75.8	66	0	
XH1322	37	3709	74.6	69	0	
CO860094	23	3691	75.2	61	0	
KSSB-369-7	24	3691	76.4	66	0	
TX87V1613	13	3680	77.1	69	0	
LAMAR	48	3662	78	71	0	
CO850034	20	3621	76.4	61	20	
CO850061	21	3572	74.9	61	10	
WI88-024	40	3572	75.8	69	0	
TX88V4636	9	3539	74.6	61	0	
CI13996	2	3533	76.8	79	0	
TX88V4524	14	3527	77.1	56	0	
KS87H6	27	3466	75.8	66	0	
XH1231	36	3452	73	61	0	
OK87W663	4	3438	77.7	66	50	
NE88427	34	3425	75.2	66	0	
OK87630	6	3423	76.1	61	40	
T21-3	43	3283	74.3	66	20	
TX88V5433	16	3251	74	61	0	
TH901	44	3209	74.6	66	0	
OK87542	5	3150	76.1	61	10	
TX88V5440	11	3108	73.3	56	0	
TX86D1332	18	3046	78.3	61	0	
TH902	45	3037	74.9	64	0	
OK88W833	8	3028	76.4	61	40	
TX86D1310	17	3003	78	61	0	
CO840186	49	2962	74.3	69	0	
T67	42	2953	77.1	61	0	
TX84V1418HF	10	2951	76.1	61	0	
OK88767	7	2930	76.4	61	40	
MV16-85	50	2921	69.3	61	0	
CI1442	1	2660	74.6	89	80	
TX88D3424	19	2641	70.6	51	0	
MEAN		3517				
LSD(.05)		577				
C.V.		10.1				

LINCOLN

NEBRASKA

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
KSSB-192-3	25	3549	69.7	90	138
PI495594	3	2999	68.4	93	137
TX88V4524	14	2981	73.5	91	138
OK87630	6	2744	71.2	99	138
OK88767	7	2742	72.9	97	137
KSSB-369-7	24	2726	71.7	89	138
TX88V5433	16	2542	71.5	89	139
OK88W833	8	2517	69.7	90	138
NE87451	32	2396	69.3	86	142
XH1322	37	2387	71.5	100	138
WI88-083	39	2374	68.6	98	143
T19-3	41	2363	69.5	102	141
TH901	44	2345	70.2	99	140
OK87W663	4	2262	71.6	90	138
TX87V1613	13	2262	71	102	137
T67	42	2174	74.8	102	139
XH900	35	2125	69.7	98	140
TX88V5440	11	2123	69.4	89	138
TX84V1418HF	10	2112	72.2	98	140
CO850061	21	2107	68.5	98	139
KS88H12-2	29	2089	69.9	103	144
OK87542	5	2053	71.6	94	138
HBC197F	26	2053	65.8	90	141
NE88427	34	2029	70.7	97	142
XH1514	38	2020	68.4	95	142
TH902	45	2009	68.4	99	139
TX86D1310	17	1997	70.7	90	139
NE87615	30	1993	65.8	90	143
TX86D1332	18	1979	70.8	90	139
NE88595	33	1970	66.8	95	143
XH1231	36	1946	71	95	140
KS88H12-1	28	1926	68.8	94	142
KS87H6	27	1867	69.9	93	143
NE87409	31	1858	71	100	143
TX89V4138	15	1818	72.6	95	138
WI88-024	40	1663	73.5	93	139
TX88D3424	19	1614	65	81	137
CO850034	20	1587	68.6	91	139
CO860094	23	1551	68.4	90	145
TX88V4636	9	1394	64.5	88	141
TX88V4635	12	1293	63.2	90	140
CO860086	22	1163	63.7	89	145
T21-3	43	1145	66	98	141
CI1442	1	910	72.2	95	147
CI13996	2	650	67.1	108	140
MEAN		2054			
LSD(.05)		685			
C.V.		20.5			

CLAY CENTER

NEBRASKA

THREE REPLICATIONS

C.I. OR SEL. NO.	ENTRY NO.	YIELD KG/HA	VOLUME WEIGHT KG/HL	PLANT HEIGHT CM
T21-3	43	3078	70.6	102
WI88-083	39	3076	72.5	89
TX88V5433	16	2960	75.5	93
T67	42	2917	74.4	100
T19-3	41	2896	73.7	103
TX84V1418HF	10	2778	74.6	97
NE88427	34	2642	74.7	94
TH902	45	2617	70	95
XH1322	37	2587	72.4	95
KSSB-369-7	24	2562	75.3	83
TX88V5440	11	2451	73.4	89
TH901	44	2450	71.2	98
XH1514	38	2327	72.8	97
TX88V4524	14	2290	73.8	88
XH900	35	2276	72.2	94
TX86D1310	17	2263	76	94
HBC197F	26	2256	71.3	85
XH1231	36	2234	72.1	91
CO850061	21	2134	70.6	88
OK87542	5	2125	73.1	97
KSSB-192-3	25	2115	73.1	80
TX89V4138	15	2057	74.2	91
NE88595	33	2049	71.2	97
TX86D1332	18	2042	76.6	94
OK88767	7	1970	72.6	91
NE87615	30	1950	71.2	91
CI13996	2	1927	74.9	116
OK88W833	8	1840	72.1	93
TX88V4635	12	1825	69.1	89
KS87H6	27	1798	73	93
PI495594	3	1781	68.9	88
NE87451	32	1776	71.3	88
KS88H12-2	29	1775	70.8	91
WI88-024	40	1768	73.5	91
KS88H12-1	28	1750	71.7	95
OK87630	6	1610	68.2	85
TX87V1613	13	1573	73.7	84
NE87409	31	1544	72.1	98
CO850034	20	1160	69.1	90
OK87W663	4	1148	71.9	89
CO860086	22	1063	68.4	85
TX88V4636	9	993	69	90
TX88D3424	19	972	64.5	75
CO860094	23	955	70.7	91
CI1442	1	824	71.6	117
MEAN		2026		
LSD(.05)		614		
C.V.		18.7		

NORTH PLATTE

NEBRASKA

THREE REPLICATIONS

C.I. OR SEL. NO.	ENTRY NO.	YIELD KG/HA
TX88V5433	16	1643
NE87409	31	1634
NE88595	33	1323
CI13996	2	1293
NE87615	30	1255
KS88H12-2	29	1175
TH902	45	1154
T19-3	41	1153
PI495594	3	1112
T21-3	43	1100
KS88H12-1	28	995
NE88427	34	982
TH901	44	974
TX88V5440	11	959
KSSB-369-7	24	924
WI88-083	39	857
TX86D1310	17	824
NE87451	32	808
HBC197F	26	800
KS87H6	27	792
TX89V4138	15	777
T67	42	753
TX86D1332	18	660
WI88-024	40	633
XH1231	36	596
TX88V4636	9	545
XH1322	37	531
CO860086	22	529
TX88V4524	14	527
OK88767	7	502
XH1514	38	486
XH900	35	466
TX84V1418HF	10	436
OK87542	5	374
CO850034	20	342
CI1442	1	334
OK88W833	8	333
TX88V4635	12	327
OK87W663	4	325
KSSB-192-3	25	312
CO850061	21	305
TX88D3424	19	239
TX87V1613	13	188
OK87630	6	149
CO860094	23	87
MEAN		723
LSD(.05)		480
C.V.		40.9

SIDNEY

NEBRASKA

THREE REPLICATIONS

C.I. OR SEL. NO.	ENTRY NO.	YIELD KG/HA	VOLUME WEIGHT KG/HL
WI88-083	39	3815	80
KS88H12-1	28	3679	80.1
T19-3	41	3572	81.8
T67	42	3524	81
KS87H6	27	3441	80
XH1514	38	3407	78.8
NE88427	34	3405	79.3
CO860094	23	3286	77.4
TH901	44	3273	78.7
NE87615	30	3269	78.7
T21-3	43	3259	81.3
NE88595	33	3249	78.4
HBC197F	26	3231	78
KS88H12-2	29	3211	80
XH1231	36	3206	78.7
TH902	45	3073	78
WI88-024	40	2995	81.3
NE87409	31	2969	81.3
TX88V5433	16	2939	80.2
CI13996	2	2845	80.6
TX88V4636	9	2813	80.2
CO860086	22	2783	77.4
TX84V1418HF	10	2763	78.7
TX88V4635	12	2751	79.2
KSSB-192-3	25	2719	79.9
XH900	35	2714	77
XH1322	37	2712	78.6
TX88V5440	11	2577	79.1
PI495594	3	2512	76.8
TX86D1310	17	2492	82
NE87451	32	2424	80
CO850061	21	2404	77.4
KSSB-369-7	24	2337	82.6
TX86D1332	18	2326	81.3
OK87542	5	2264	80
OK88767	7	2197	78.8
CI1442	1	2193	77.7
TX89V4138	15	2190	81
TX88V4524	14	2181	81.3
TX87V1613	13	1997	80.5
OK87630	6	1889	78
TX88D3424	19	1614	73.9
OK88W833	8	1581	78.9
CO850034	20	1499	71.2
OK87W663	4	1348	78.7
MEAN		2732	
LSD(.05)		724	
C.V.		16.3	

BROOKINGS

SOUTH 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
OK87542	5	4213	74.8	76	149
T21-3	43	4175	72.2	76	150
NE87615	30	4119	74.2	69	151
KS87H6	27	4091	74.6	74	150
WI88-083	39	4065	73.5	72	150
NE87451	32	3977	74.2	66	150
NE87409	31	3879	74.4	77	149
NE88427	34	3871	75.7	77	150
T19-3	41	3861	74.8	77	148
T67	42	3768	75.3	77	150
XH1231	36	3702	73.7	72	150
OK87630	6	3672	72.8	68	149
HBC197F	26	3657	71.5	62	150
NE88595	33	3642	71.7	76	150
TX84V1418HF	10	3615	76	73	150
OK88767	7	3611	74.8	70	150
TX88V5440	11	3596	74.4	71	148
KS88H12-1	28	3520	71.8	72	151
WI88-024	40	3520	76.8	76	151
TX88V5433	16	3514	75.5	67	149
TX86D1310	17	3513	76.4	75	150
XH900	35	3460	71.7	73	150
KS88H12-2	29	3420	70.8	71	151
TX86D1332	18	3419	77.3	71	150
XH1514	38	3413	72	73	151
TX88V4636	9	3361	70.4	69	150
TX88V4635	12	3360	68.4	70	150
OK88W833	8	3341	74.8	69	148
TH902	45	3341	70.9	73	149
TH901	44	3306	72.8	74	149
TX87V1613	13	3298	76.8	75	151
CI13996	2	3284	77.1	87	150
XH1322	37	3263	73.3	75	150
CO860094	23	3216	71.3	79	152
KSSB-369-7	24	3173	77.3	65	148
CO860086	22	3003	67.3	61	151
TX88V4524	14	2921	76.2	64	148
OK87W663	4	2782	73.3	69	148
TX89V4138	15	2726	74.6	68	150
PI495594	3	2573	69.3	67	148
CO850061	21	2230	70	65	150
CO850034	20	2192	69.1	71	150
CI1442	1	2044	75.3	106	153
KSSB-192-3	25	1727	70.2	59	150
TX88D3424	19	1323	64.9	54	150
MEAN		3328			
LSD(.05)		598			
C.V.		11.1			

COLUMBIA

MISSOURI

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 0-9	WINTER SURVIVAL %	BACTERIAL STRIPE 0-9	SCAB 0-9
KARL	48	3227	71.6	98	123	0.3	97	2.3	3
OK87630	6	3099	64.6	97	120	0	95	6.7	3
SIOUXLAND	46	3090	66.4	116	126	3.7	93	2	2.7
PI495594	3	3002	65.3	91	120	0	92	4.3	4.3
TX88V5433	16	2953	68.3	98	125	2	98	2	3.7
OK87542	5	2930	68.2	104	124	3.3	97	4.3	3
TH902	45	2915	64.3	108	123	2	93	3.3	3
TX88V5440	11	2850	65.5	95	122	1.3	93	3.3	4
KSSB-369-7	24	2775	66.3	91	119	0.3	100	6	6.3
TH901	44	2715	63.9	103	123	2.7	95	3.3	2.3
T19-3	41	2699	65.7	107	125	3.3	95	3.3	3.3
KS88H12-1	28	2695	65.9	100	130	1	97	1.7	2
T67	42	2676	68.8	110	126	1.7	95	4.3	3
OK87W663	4	2661	68.1	102	124	0.3	93	5.7	3.3
KS88H12-2	29	2581	66.7	100	127	0.7	92	3.3	2.3
OK88W833	8	2540	66.3	99	121	0.3	93	5.3	2.7
TX87V1613	13	2528	65.6	107	122	0.3	90	4	5
CENTURY	49	2528	64.5	102	127	3.7	78	2.3	2
OK88767	7	2501	64.2	99	123	0.7	95	6.3	5
CO850034	20	2500	63.6	103	125	3	93	5	5
TX89V4138	15	2359	67.2	102	122	0.7	97	3.7	4
TX88V4635	12	2280	59.1	103	125	3.7	95	4.7	4.3
TX84V1418HF	10	2276	66.2	106	126	3.3	97	4.3	3
XH1322	37	2274	62	106	124	1.3	93	4.3	3
CO850061	21	2272	59.6	100	124	1.7	93	7.3	5.3
TX88V4636	9	2247	55.7	102	125	3	92	3.3	4.3
KS87H6	27	2164	65.2	102	129	2.7	98	3	3
KSSB-192-3	25	2153	58.5	95	119	0.7	98	6.3	8
NE87409	31	2152	67.9	107	130	3.7	85	2.3	3.3
TAM-200	47	2080	63.5	92	125	2	93	2.7	4
CI13996	2	2016	68.4	114	129	5	97	3	3
TX86D1310	17	1844	62.6	97	127	1.7	90	5.7	4
NE88595	33	1841	60.5	101	130	3.7	92	2	3.3
HBC197F	26	1717	60.1	95	125	2	93	3.7	6
T21-3	43	1674	56.4	103	128	6	98	2.7	4
TX86D1332	18	1539	59.5	98	126	3	97	7.3	4.7
NE88427	34	1535	62	104	131	3.7	90	2.7	3.3
TX88V4524	14	1499	59.1	92	124	0	92	7.3	7
TX88D3424	19	1486	55.3	81	120	0.3	92	7	7
NE87615	30	1449	59.5	97	131	5.7	93	3	4.3
XH1231	36	1449	57.3	102	127	3.3	98	5.7	3
CO860086	22	1412	62.6	97	129	3.7	97	2	4.3
WI88-083	39	1378	56.5	100	129	1	90	3.7	5.7
XH1514	38	1375	58.1	107	129	4.3	95	3.3	3.3
XH900	35	1299	58.4	101	125	1.7	92	6.3	4.7
NE87451	32	1256	58	93	130	5.3	92	3.3	3.3
WI88-024	40	1248	60.5	107	128	2	95	5	4.3
CI1442	1	864	67.4	119	135	5.7	98	3	1.7
CO860094	23	638	54.9	102	133	6	90	2.7	3
MEAN		2148							
LSD(.05)		684							
C.V.		19.5							

CRAWFORDSVILLE

IOWA

TWO REPLICATIONS

C.I. OR SEL. NO.	ENTRY NO.	YIELD KG/HA	VOLUME WEIGHT KG/HL	WINTER SURVIVAL %
OK87630	6	4304	71.5	23
TH901	44	3917	68.5	70
T19-3	41	3578	70.9	100
T21-3	43	3558	66	55
NE87451	32	3363	69	90
KS88H12-1	28	3245	64.6	75
TX88V5433	16	3178	70.6	100
TX88V5440	11	3161	68.8	100
XH1231	36	3080	65	75
XH900	35	2952	62.7	40
TH902	45	2875	65.7	75
NE88595	33	2818	63.9	100
WI88-024	40	2811	70.6	8
KS87H6	27	2707	63.4	35
NE87409	31	2656	66.4	45
XH1322	37	2646	64.9	40
XH1514	38	2508	63.5	90
PI495594	3	2455	65.1	35
NE87615	30	2421	61.6	65
NE88427	34	2357	65	100
TX84V1418HF	10	2354	61.3	15
WI88-083	39	2219	55.5	35
CI13996	2	2118	65.5	50
CO860086	22	2085	53.1	55
CO860094	23	1765	55.7	70
CI1442	1	1580	65.9	85
OK87W663	4	.	.	20
OK87542	5	.	.	13
OK88767	7	.	.	8
OK88W833	8	.	.	5
TX88V4636	9	.	.	8
TX88V4635	12	.	.	3
TX87V1613	13	.	.	0
TX88V4524	14	.	.	3
TX89V4138	15	.	.	0
TX86D1310	17	.	.	3
TX86D1332	18	.	.	3
TX88D3424	19	.	.	0
CO850034	20	.	.	0
CO850061	21	.	.	0
KSSB-369-7	24	.	.	0
KSSB-192-3	25	.	.	0
HBC197F	26	.	.	0
KS88H12-2	29	.	.	20
T67	42	.	.	18

ABERDEEN

IDAHO

TWO 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	STRIPE RUST SEV.	STRIPE RUST RESP	COMMON BUNT %
OK88W833	8	12593	81.9	102	161	1.5	70	8	25
XH1231	36	12519	80.6	103	164	1	40	5	10
KS88H12-2	29	11819	81.7	97	164	1	60	6	20
CO860086	22	11816	79.7	93	167	1	60	5	5
TX89V4138	15	11557	82.3	97	162	2.5	10	4	5
TX88V4635	12	10931	78.8	104	165	3	10	5	20
CO860094	23	10793	78.7	99	167	1	90	9	5
XH1514	38	10585	80.2	100	163	1	80	7	5
NE88595	33	10514	80.4	100	161	1.5	90	9	15
TX88V4636	9	10474	78.6	100	165	1	50	5	25
TX84V1418HF	10	10423	81.7	100	164	1.5	60	6	15
TX87V1613	13	10275	80.4	104	163	4	1	1	10
CO850034	20	10228	81.4	103	165	1	90	9	15
T21-3	43	10138	81.1	102	162	1	80	8	10
PI495594	3	9963	80.1	94	162	1.5	90	9	0
KSSB-369-7	24	9922	82.3	89	159	1	80	8	10
KSSB-192-3	25	9805	82	93	161	1	1	1	25
WI88-083	39	9660	81.1	88	161	1	80	8	0
TX88V4524	14	9633	81	89	161	1	20	4	25
OK87W663	4	9603	80.5	97	161	1	70	6	25
TX88D3424	19	9556	79.3	74	160	1	1	1	25
CO850061	21	9499	81.9	97	163	1	70	7	15
TX88V5440	11	9435	80.4	89	161	1	10	4	15
OK87630	6	9307	82	99	160	1.5	70	7	25
KS88H12-1	28	9270	80.6	91	164	1	50	5	15
XH900	35	9206	78.9	98	163	1	40	5	15
OK88767	7	9031	80.4	98	163	1	50	5	25
OK87542	5	9014	80.4	102	161	1.5	70	8	25
TH902	45	8994	79.2	100	162	1	80	8	0
T19-3	41	8833	80.5	102	160	1	90	8	20
TX86D1310	17	8762	82	98	162	1.5	80	9	20
NE87451	32	8705	81.3	85	161	1	90	9	15
TX88V5433	16	8658	81.1	94	164	1	10	4	25
NE87409	31	8560	81	107	162	1	90	9	25
NE87615	30	8553	79.7	93	164	1	90	9	15
TH901	44	8550	79.9	100	161	1	60	7	10
WI88-024	40	8503	81	105	162	1	15	4	25
T67	42	8493	81.7	104	163	1	60	5	25
HBC197F	26	8190	79.1	91	164	1	70	7	20
TX86D1332	18	7958	82	95	163	1.5	60	8	20
KS87H6	27	7871	80.1	97	161	1	90	9	5
XH1322	37	7571	79.7	95	163	1	50	8	15
CI13996	2	7477	81.5	121	160	2.5	60	7	20
NE88427	34	7225	80	93	160	1	90	9	5
CI1442	1	6539	79.3	124	167	5	15	5	20
MEAN		9489							
LSD(.05)		2588							
C.V.		13.5							

PRESTON

IDAHO

TWO REPLICATIONS

C.I. OR SEL. NO.	ENTRY NO.	YIELD KG/HA	VOLUME WEIGHT KG/HL	PLANT HEIGHT CM
OK88W833	8	2805	78.4	71
TX84V1418HF	10	2681	76.9	77
CO850061	21	2650	78	72
TX88V5440	11	2502	76.9	67
OK87630	6	2479	77.4	76
CO860086	22	2459	77.7	64
WI88-083	39	2459	76.5	71
CO850034	20	2455	74.2	67
TX88V4524	14	2452	79.7	69
TX86D1310	17	2395	77.3	74
XH1514	38	2368	74.7	75
TX89V4138	15	2338	75.5	74
TX88V5433	16	2328	77.4	71
KS88H12-1	28	2324	77.5	65
TH902	45	2280	77.5	80
OK88767	7	2277	76.8	71
KSSB-369-7	24	2267	80.6	65
XH1231	36	2264	74.7	74
XH900	35	2230	74.7	75
WI88-024	40	2206	77.3	83
TH901	44	2156	77.8	71
NE87451	32	2153	74.9	69
KS87H6	27	2149	78.2	70
TX86D1332	18	2146	77	72
KSSB-192-3	25	2112	75.9	69
OK87W663	4	2092	76.9	74
NE88595	33	2085	76.5	66
OK87542	5	2052	76.5	72
NE87409	31	1995	77.1	74
T67	42	1971	75.2	70
HBC197F	26	1968	72.6	62
PI495594	3	1964	74.8	71
T21-3	43	1964	78	70
CI13996	2	1934	76.2	79
KS88H12-2	29	1931	71.5	65
TX88V4636	9	1924	72.1	62
XH1322	37	1904	77	75
NE88427	34	1880	77.8	64
TX88V4635	12	1860	73.9	64
TX87V1613	13	1799	77.3	66
CO860094	23	1762	74.6	64
NE87615	30	1759	74.6	62
T19-3	41	1749	75.9	72
TX88D3424	19	1736	67.5	58
CI1442	1	1413	76.1	85
MEAN		2148		
LSD(.05)		549		
C.V.		12.6		

Table 2. Summary of mean yields (kg/ha) of 45 wheats grown in the 1991 Southern Regional Performance Nursery at 29 locations with state means and ranks.

VARIETY OR PEDIGREE	C.I. OR SEL. NO.	ENTRY NO.	LINCOLN NEBRASKA		CLAY CENTER NEBRASKA		NORTH PLATTE NEBRASKA		SIDNEY NEBRASKA		NEBRASKA STATE MEAN	
Bulk Selection	KSSB-369-7	24	2726	6	2562	10	924	15	2337	33	2137	11
Bulk Selection	WI88-083	39	2374	11	3076	2	857	16	3815	1	2531	1
Quantum Hybrid Wheat	XH1231	36	1946	31	2234	18	596	25	3206	15	1995	22
TAM-200//TX38949-2/TAM-107	TX89V4138	15	1818	35	2057	22	777	21	2190	38	1710	32
TAM-108/Lancota	T21-3	43	1145	43	3078	1	1100	10	3259	11	2146	10
TAM-108/TX78V2154	T19-3	41	2363	12	2896	5	1153	8	3572	3	2496	3.
Quantum Hybrid Wheat	XH900	35	2125	17	2276	15	466	32	2714	26	1895	25
Norkan/TAM-108	KS88H12-2	29	2089	21	1775	33	1175	6	3211	14	2062	16
2162 sib/W6430C//W9519A	HBC197F	26	2053	22	2256	17	800	19	3231	13	2085	15
Bulk Selection	KSSB-192-3	25	3549	1	2115	21	312	40	2719	25	2174	8
Quantum Hybrid Wheat	XH1514	38	2020	25	2327	13	486	31	3407	6	2060	17
TAM-107	PI495594	3	2999	2	1781	31	1112	9	2512	29	2101	13
TX78V2154/Siouxland	TX88V4635	12	1293	41	1825	29	327	38	2751	24	1549	37
NE68513/NE684457//Ctk/3/Brule	NE87615	30	1993	28	1950	26	1255	5	3269	10	2117	12
NS14/NS25//2*Vona	CO850061	21	2107	20	2134	19	305	41	2404	32	1738	31
Karl Resel.	TX88V5433	16	2542	7	2960	3	1643	1	2939	19	2521	2
HRW Hybrid	TH901	44	2345	13	2450	12	974	13	3273	9	2260	6
Karl Resel.	TX88V5440	11	2123	18	2451	11	959	14	2577	28	2028	19
Quantum Hybrid Wheat	XH1322	37	2387	10	2587	9	531	27	2712	27	2055	18
Arkan/Colt//Chisholm sib	NE88595	33	1970	30	2049	23	1323	3	3249	12	2148	9
Norkan/TAM-108	KS88H12-1	28	1926	32	1750	35	995	11	3679	2	2087	14
HRW Hybrid	TH902	45	2009	26	2617	8	1154	7	3073	16	2213	7
F29-76/T105//Csm	OK88767	7	2742	5	1970	25	502	30	2197	36	1853	27
Csm*3/3/Newton/Largo//2*Csm	OK88W833	8	2517	8	1840	28	333	37	1581	43	1568	36
NE78696/Payne	TX88V4524	14	2981	3	2290	14	527	29	2181	39	1995	23
H15A13333/3/5*Led/Egl//Sage/4/TAM-105	KS87H6	27	1867	33	1798	30	792	20	3441	5	1975	24
TX78V2154/Siouxland	TX88V4636	9	1394	40	993	42	545	26	2813	21	1436	40
NE68513/NE68457//Ctk78/3/Brule	NE87451	32	2396	9	1776	32	808	18	2424	31	1851	28
TAM-105/3/NE70654/BBY/Bow's'	TX87V1613	13	2262	14	1573	37	188	43	1997	40	1505	38
Vona/TX71D4889-V3	TX84V1418HF	10	2112	19	2778	6	436	33	2763	23	2022	20
Nwt/2/Wrr*5/Agent/4/T-105/3/Led//Egl/Sag	NE87409	31	1858	34	1544	38	1634	2	2969	18	2001	21
TAM-101/OK79286//Csm	OK87630	6	2744	4	1610	36	149	44	1889	41	1598	35
2165/Vona	T67	42	2174	16	2917	4	753	22	3524	4	2342	4
NS2630/Thunderbird	WI88-024	40	1663	36	1768	34	633	24	2995	17	1765	29
Century sib/Csm	OK87542	5	2053	22	2125	20	374	34	2264	35	1704	33
Bennett/TAM-107	NE88427	34	2029	24	2642	7	982	12	3405	7	2264	5
TX73165/Sandy	CO860086	22	1163	42	1063	41	529	28	2783	22	1385	41
Thunderbird//Payne/Collin	TX86D1310	17	1997	27	2263	16	824	17	2492	30	1894	26
NE76667/Hawk	CO860094	23	1551	39	955	44	87	45	3286	8	1470	39
TAM-106/Collin	TX86D1332	18	1979	29	2042	24	660	23	2326	34	1752	30
Csm*3/3/Ntn/Largo//Csm	OK87W663	4	2262	14	1148	40	325	39	1348	45	1271	42
NS14/NS603//Newton/3/PB835	CO850034	20	1587	38	1160	39	342	35	1499	44	1147	43
Scout 66	CI13996	2	650	45	1927	27	1293	4	2845	20	1679	34
TX82D4651//Amigo/TX71A106-5	TX88D3424	19	1614	37	972	43	239	42	1614	42	1110	44
Kharkof	CI1442	1	910	44	824	45	334	36	2193	37	1065	45
	MEAN		2054		2026		723		2732		1884	
	LSD(.05)		685		614		480		724		655	
	C.V.		20.5		18.7		40.9		16.3		20.7	

Table 2. Continued.

C.I. OR SEL. NO.	ENTRY NO.	HUTCHINSON KANSAS		HAYS KANSAS		MANHATTAN KANSAS		COLBY KANSAS		GARDEN CITY KANSAS		KANSAS STATE MEAN		BROOKINGS S. DAKOTA		CRAWFORDSVILLE * IOWA	
KSSB-369-7	24	3945	1	2605	20	3702	5	4598	3	3791	32	3728	4	3173	35	.	.
WI88-083	39	3433	8	2542	27	4196	1	4268	21	4553	5	3798	1	4065	5	2219	22
XH1231	36	2886	18	3044	2	3805	3	4093	23	4882	1	3742	2	3702	11	3080	9
TX89V4138	15	2871	19	2791	12	3326	14	4562	5	4102	20	3530	6	2726	39	.	.
T21-3	43	1570	38	2582	22	2997	25	4483	8	4463	11	3219	22	4175	2	3558	4
T19-3	41	2566	25	3020	3	2925	29	4479	9	4235	19	3445	12	3861	9	3578	3
XH900	35	2980	13	2981	7	3573	7	4468	10	4651	3	3731	3	3460	22	2952	10
KS88H12-2	29	1938	33	2529	28	2642	35	4326	15	4344	16	3156	31	3420	23	.	.
HBC197F	26	3214	11	2390	34	3397	11	4118	22	4432	12	3510	7	3657	13	.	.
KSSB-192-3	25	2824	20	2632	18	3979	2	4017	29	3842	30	3459	10	1727	44	.	.
XH1514	38	1883	34	3008	4	3154	18	3932	32	4326	17	3261	20	3413	25	2508	17
PI495594	3	1978	31	3098	1	2919	30	4037	27	3625	36	3131	34	2573	40	2455	18
TX88V4635	12	2351	28	2336	37	2058	40	4604	2	4546	7	3179	27	3360	27	.	.
NE87615	30	1730	35	2930	8	2900	31	4546	6	4533	8	3328	19	4119	3	2421	19
CO850061	21	2115	29	2984	6	3382	12	4275	18	4551	6	3461	8	2230	41	.	.
TX88V5433	16	3557	4	2381	35	2874	33	4569	4	3632	35	3402	15	3514	20	3178	7
TH901	44	2965	15	2511	29	3517	9	4270	19	4035	23	3460	9	3306	30	3917	2
TX88V5440	11	3569	3	2304	39	3296	15	4504	7	3378	42	3410	14	3596	17	3161	8
XH1322	37	3473	6	2473	30	3717	4	3629	38	3954	26	3449	11	3263	33	2646	16
NE88595	33	1265	42	3002	5	2375	38	4461	11	4741	2	3169	28	3642	14	2818	12
KS88H12-1	28	1963	32	2562	25	2997	26	4329	13	4403	13	3251	21	3520	19	3245	6
TH902	45	2632	24	2842	10	3351	13	4082	25	3927	27	3367	16	3341	28	2875	11
OK88767	7	2890	17	2582	23	3694	6	4057	26	3584	38	3362	18	3611	16	.	.
OK88W833	8	2471	27	2768	13	3521	8	3614	40	3616	37	3198	25	3341	29	.	.
TX88V4524	14	2969	14	2206	41	2888	32	4019	28	3750	33	3166	29	2921	37	.	.
KS87H6	27	3102	12	2547	26	3097	20	4338	12	4098	21	3436	13	4091	4	2707	14
TX88V4636	9	1709	37	2659	15	2381	37	4618	1	4403	13	3154	32	3361	26	.	.
NE87451	32	2683	23	2587	21	2754	34	4270	19	4528	9	3365	17	3977	6	3363	5
TX87V1613	13	2931	16	1858	45	2968	28	3791	33	3909	29	3092	38	3298	31	.	.
TX84V1418HF	10	3339	10	2316	38	3063	22	3497	41	3495	39	3142	33	3615	15	2354	21
NE87409	31	1520	39	2809	11	2362	39	4302	17	4492	10	3097	36	3879	7	2656	15
OK87630	6	3547	5	2432	32	3146	19	3723	35	3239	45	3217	23	3672	12	4304	1
T67	42	3726	2	2636	17	3482	10	3983	30	3835	31	3533	5	3768	10	.	.
WI88-024	40	2702	21	2360	36	3075	21	3625	39	4064	22	3165	30	3520	18	2811	13
OK87542	5	2698	22	2410	33	2998	24	3954	31	3916	28	3195	26	4213	1	.	.
NE88427	34	1719	36	2847	9	2454	36	4089	24	4360	15	3094	37	3871	8	2357	20
CO860086	22	406	44	2629	19	1458	43	3692	36	4304	18	2498	44	3003	36	2085	24
TX86D1310	17	3344	9	2239	40	3003	23	3634	37	3407	41	3125	35	3513	21	.	.
CO860094	23	868	43	2645	16	1232	44	4317	16	4580	4	2728	42	3216	34	1765	25
TX86D1332	18	3451	7	2206	41	3289	16	3410	42	3643	34	3200	24	3419	24	.	.
OK87W663	4	2525	26	2670	14	2978	27	3232	43	3266	44	2934	39	2782	38	.	.
CO850034	20	1388	41	2448	31	3216	17	3062	44	4013	24	2825	41	2192	42	.	.
CI13996	2	1978	30	2564	24	1466	42	4329	13	3990	25	2866	40	3284	32	2118	23
TX88D3424	19	1519	40	1988	43	2043	41	3788	34	3445	40	2557	43	1323	45	.	.
CI1442	1	372	45	1894	44	693	45	2484	45	3293	43	1747	45	2044	43	1580	26
MEAN		2479		2574		2941		4055		4048		3320		3328		2797	
LSD(.05)		578		276		483		292		492		671		598		.	
C.V.		14.4		6.6		10.1		4.4		7.5		8.4		11.1		.	

* Not included in regional averages.

Table 2. Continued.

C.I. OR SEL. NO.	ENTRY NO.	CLOVIS (IRR.) NEW MEXICO		CLOVIS (DRYL.) NEW MEXICO		FARMINGTON NEW MEXICO		NEW MEXICO STATE MEAN		STILLWATER OKLAHOMA		LAHOMA OKLAHOMA		GOODWELL OKLAHOMA		OKLAHOMA STATE MEAN	
KSSB-369-7	24	5611	4	213	1	5689	10	3838	4	3179	7	3434	1	6365	3	4326	1
WI88-083	39	4615	21	77	34	5454	18	3382	19	3396	4	2514	16	5905	16	3938	6
XH1231	36	5377	6	131	16	5279	21	3596	10	3056	15	2574	13	6396	2	4009	4
TX89V4138	15	4696	19	185	3	5630	14	3504	14	2848	20	3397	2	5518	27	3921	7
T21-3	43	6128	1	140	12	5059	28	3776	5	3635	2	2465	21	6215	6	4105	3
T19-3	41	5319	9	131	17	5205	23	3552	12	3081	14	2288	28	5673	23	3681	19
XH900	35	5851	2	154	9	5161	25	3722	6	2859	19	2737	8	6090	10	3895	8
KS88H12-2	29	4423	25	90	29	5161	25	3225	26	3090	13	2070	37	6327	4	3829	9
HBC197F	26	4560	24	118	19	4487	36	3055	32	3768	1	2600	11	6317	5	4228	2
KSSB-192-3	25	5262	10	158	8	6305	2	3908	2	3178	8	2564	15	6179	8	3974	5
XH1514	38	5487	5	113	20	4487	36	3362	20	3151	10	2251	30	5748	21	3716	18
PI495594	3	5782	3	113	21	6627	1	4174	1	2273	39	2957	3	5787	19	3672	22
TX88V4635	12	4927	13	172	6	4369	40	3156	29	2353	35	2749	7	6054	12	3719	17
NE87615	30	4816	14	131	15	6085	3	3677	8	2707	24	2463	22	6038	14	3736	14
CO850061	21	5336	8	109	22	6085	3	3843	3	2060	42	2208	32	5905	16	3391	31
TX88V5433	16	4134	35	54	40	5484	17	3224	27	2739	23	2312	27	5678	22	3576	24
TH901	44	4568	23	90	27	5029	29	3229	25	3466	3	2610	10	4886	40	3654	23
TX88V5440	11	5353	7	81	32	5660	12	3698	7	2686	25	2597	12	5749	20	3677	21
XH1322	37	4371	27	95	26	5528	16	3331	23	3113	12	2789	6	5440	28	3781	13
NE88595	33	4378	26	154	10	5762	8	3431	17	2150	40	2187	34	6064	11	3467	27
KS88H12-1	28	3483	42	63	39	4868	31	2805	41	2666	26	2252	29	6472	1	3797	12
TH902	45	3091	45	77	34	5337	20	2835	40	3207	6	2797	5	5161	36	3722	16
OK88767	7	4359	28	45	43	5674	11	3360	21	3121	11	2424	23	5630	26	3725	15
OK88W833	8	5198	12	99	24	5733	9	3677	9	2447	33	2477	19	5667	25	3530	26
TX88V4524	14	4577	22	140	13	4560	34	3092	31	2955	17	2412	24	5669	24	3678	20
KS87H6	27	4305	30	90	29	5645	13	3347	22	3172	9	2502	17	5811	18	3828	10
TX88V4636	9	4246	32	172	5	4267	41	2895	38	2498	31	2798	4	6187	7	3828	11
NE87451	32	4206	33	163	7	5103	27	3157	28	2878	18	2099	36	5343	32	3440	29
TX87V1613	13	4767	15	190	2	5586	15	3515	13	2564	28	2734	9	5310	35	3536	25
TX84V1418HF	10	4185	34	50	42	4575	33	2937	36	2477	32	1948	39	4973	39	3133	40
NE87409	31	5244	11	104	23	4912	30	3420	18	2398	34	1819	42	5358	31	3192	39
OK87630	6	3803	39	54	40	5220	22	3026	34	2795	21	2500	18	5013	38	3436	30
T67	42	4099	36	90	27	4516	35	2902	37	3045	16	2566	14	3254	44	2955	42
WI88-024	40	4757	16	99	24	5440	19	3432	16	2534	30	2248	31	5336	34	3373	33
OK87542	5	3306	44	45	43	4384	39	2579	44	2575	27	2349	26	5437	29	3454	28
NE88427	34	3974	37	181	4	5821	7	3325	24	1890	44	1908	40	5988	15	3262	35
CO860086	22	4315	29	77	36	6012	5	3468	15	1910	43	1705	43	6148	9	3254	36
TX86D1310	17	4646	20	86	31	4736	32	3156	30	2745	22	2113	35	3792	43	2883	44
CO860094	23	4287	31	140	11	4252	42	2893	39	2133	41	1557	44	6047	13	3245	38
TX86D1332	18	3830	38	122	18	5205	23	3052	33	3247	5	1974	38	3866	42	3029	41
OK87W663	4	4755	17	72	37	5894	6	3574	11	2332	37	2375	25	5434	30	3381	32
CO850034	20	4736	18	45	45	4252	42	3011	35	2341	36	2473	20	5161	36	3325	34
CI13996	2	3593	41	136	14	4428	38	2719	42	2307	38	2188	33	4255	41	2916	43
TX88D3424	19	3347	43	72	37	4135	45	2518	45	2547	29	1851	41	5340	33	3246	37
CI1442	1	3754	40	81	32	4164	44	2667	43	1523	45	1221	45	2822	45	1856	45
MEAN		4575		111		5184		3290		2735		2379		5507		3540	
LSD(.05)		1573		70		1153		795		599		312		650		842	
C.V.		21.2		38.6		15.9		21.5		13.5		8.1		7.3		9.4	

Table 2. Continued.

C.I. OR SEL. NO.	ENTRY NO.	FORT COLLINS COLORADO		AKRON COLORADO		JULESBURG COLORADO		WALSH COLORADO		COLORADO STATE MEAN		ABERDEEN IDAHO		PRESTON IDAHO		IDAHO STATE MEAN	
KSSB-369-7	24	6709	12	5065	9	3534	10	3691	18	4750	9	9922	16	2267	17	6095	13
WI88-083	39	6354	16	5219	5	3606	8	3783	16	4741	10	9660	18	2459	6	6059	15
XH1231	36	6272	20	4786	20	3612	7	3452	28	4530	20	12519	2	2264	18	7391	2
TX89V4138	15	6873	11	4836	17	2675	38	4174	2	4639	14	11557	5	2338	12	6947	4
T21-3	43	7765	3	5330	3	3871	3	3283	32	5062	2	10138	14	1964	32	6051	16
T19-3	41	6317	18	5131	7	3053	29	3851	11	4588	19	8833	30	1749	43	5291	35
XH900	35	6507	14	4744	22	3317	21	3958	6	4632	15	9206	26	2230	19	5718	25
KS88H12-2	29	6694	13	5389	1	3238	23	4075	4	4849	8	11819	3	1931	35	6875	5
HBC197F	28	7269	6	4871	16	3771	6	3895	9	4951	4	8190	39	1968	31	5079	39
KSSB-192-3	25	8012	2	4940	13	2547	40	4011	5	4877	7	9805	17	2112	25	5958	21
XH1514	38	7164	9	4779	21	3840	5	3900	7	4921	6	10585	8	2368	11	6476	7
PI495594	3	6358	15	4941	12	2731	36	3898	8	4482	23	9963	15	1964	32	5963	20
TX88V4635	12	7258	7	5083	8	3348	17	4160	3	4962	3	10931	6	1860	39	6396	8
NE87615	30	7228	8	5351	2	3380	15	3807	15	4941	5	8553	35	1759	42	5156	38
C0850061	21	7642	4	4898	14	2566	39	3572	22	4670	13	9499	22	2650	3	6074	14
TX88V5433	16	4334	43	4610	31	3352	16	3251	33	3887	38	8658	33	2328	13	5493	31
TH901	44	6126	25	4509	33	3900	2	3209	34	4436	25	8550	36	2156	21	5353	34
TX88V5440	11	4327	44	4707	25	3450	13	3108	36	3898	37	9435	23	2502	4	5969	19
XH1322	37	6130	24	4375	36	3851	4	3709	17	4516	22	7571	42	1904	37	4737	42
NE88595	33	6339	17	4787	19	3129	27	3848	12	4526	21	10514	9	2085	27	6300	10
KS88H12-1	28	6156	23	5030	10	3318	20	3877	10	4595	17	9270	25	2324	14	5797	24
TH902	45	5660	32	4606	32	3084	28	3037	38	4097	34	8994	29	2280	15	5637	28
OK88767	7	5813	29	4888	15	2678	37	2930	43	4077	35	9031	27	2277	16	5654	26
OK88W833	8	4812	39	4048	41	1980	42	3028	39	3467	43	12593	1	2805	1	7699	1
TX88V4524	14	5302	35	4736	24	3215	25	3527	26	4195	31	9633	19	2452	9	6043	17
KS87H6	27	5111	37	4647	30	4051	1	3466	27	4319	27	7871	41	2149	23	5010	41
TX88V4636	9	7276	5	5272	4	2836	34	3539	24	4731	11	10474	10	1924	36	6199	12
NE87451	32	6231	21	5195	6	3220	24	3811	14	4614	16	8705	32	2153	22	5429	32
TX87V1613	13	5981	27	4367	39	2993	30	3680	20	4255	30	10275	12	1799	40	6037	18
TX84V1418HF	10	5753	31	4372	37	3319	19	2951	42	4099	33	10423	11	2681	2	6552	6
NE87409	31	6309	19	4976	11	3261	22	4217	1	4691	12	8560	34	1995	29	5277	36
OK87630	6	4368	42	4351	40	2744	35	3423	31	3722	39	9307	24	2479	5	5893	22
T67	42	5481	34	4484	34	3389	14	2953	41	4077	36	8493	38	1971	30	5232	37
WI88-024	40	5649	33	4658	29	3460	12	3572	22	4335	26	8503	37	2206	20	5355	33
OK87542	5	6100	26	4704	26	3155	26	3150	35	4277	28	9014	28	2052	28	5533	30
NE88427	34	6223	22	4744	22	3495	11	3425	30	4472	24	7225	44	1880	38	4552	44
C0860086	22	6996	10	4692	27	2849	33	3824	13	4591	18	11816	4	2459	6	7137	3
TX86D1310	17	4484	41	4038	42	2981	31	3003	40	3626	41	8762	31	2395	10	5578	29
C0860094	23	8187	1	4829	18	3553	9	3691	18	5065	1	10793	7	1762	41	6278	11
TX86D1332	18	5772	30	4368	38	3329	18	3046	37	4129	32	7958	40	2146	24	5052	40
OK87W663	4	4753	40	4480	35	1940	43	3438	29	3653	40	9603	20	2092	26	5847	23
C0850034	20	4914	38	3522	44	1256	45	3621	21	3328	44	10228	13	2455	8	6342	9
CI13996	2	5831	28	4681	28	2978	32	3533	25	4256	29	7477	43	1934	34	4706	43
TX88D3424	19	5223	36	4001	43	2383	41	2641	45	3562	42	9556	21	1736	44	5646	27
CI1442	1	4316	45	2569	45	1493	44	2660	44	2759	45	6539	45	1413	45	3976	45
MEAN		6097		4680		3105		3526		4352		9489		2148		5819	
LSD(.05)		1481		581		558		551		719		2588		549		N.S.	
C.V.		15.0		7.6		11.1		9.6		12.5		13.5		12.6		15.9	

Table 2. Concluded.

C.I. OR SEL. NO.	ENTRY NO.	DALLAS TEXAS		PROSPER TEXAS		CHILLI-COTHE TEXAS		BUSHLAND (IRR.) TEXAS		BUSHLAND (DRYL.) TEXAS		TEXAS STATE MEAN		COLUMBIA MISSOURI		REGIONAL AVERAGE	
KSSB-369-7	24	3082	4	3214	11	3705	1	6806	17	2795	7	3920	2	2775	7	3872	1
WI88-083	39	2072	27	3323	9	3022	28	6698	19	2818	6	3586	12	1378	39	3769	2
XH1231	36	2014	29	3132	12	3524	5	6691	20	2423	30	3557	13	1449	36	3762	3
TX89V4138	15	2843	9	2978	20	3434	7	7664	1	3015	2	3987	1	2359	18	3723	4
T21-3	43	1789	32	3049	16	3167	20	6577	23	2759	10	3468	19	1674	31	3709	5
T19-3	41	2248	22	3002	18	3401	8	6797	18	3096	1	3709	4	2699	9	3676	6
XH900	35	2420	21	3042	17	3295	12	6998	12	2694	12	3690	6	1299	41	3652	7
KS88H12-2	29	1456	35	2506	33	3277	13	7146	8	2551	21	3387	24	2581	13	3617	8
HBC197F	26	2838	10	3572	4	2842	34	6422	24	2466	27	3628	9	1717	30	3615	9
KSSB-192-3	25	1315	37	2187	37	3044	27	7034	9	2506	23	3217	35	2153	25	3608	10
XH1514	38	1240	38	2941	22	3311	11	7427	4	2670	14	3518	14	1375	40	3600	11
PI495594	3	2158	24	2657	30	3013	29	6682	21	2981	3	3498	17	3002	2	3590	12
TX88V4635	12	2167	23	2915	23	3199	17	7577	2	2623	19	3696	5	2280	19	3553	13
NE87615	30	1487	33	2225	36	3273	14	6402	25	2688	13	3215	36	1449	37	3538	14
CO850061	21	2138	25	2074	39	3524	4	7030	10	2780	8	3509	15	2272	22	3530	15
TX88V5433	16	2870	6	3762	2	2856	33	6183	32	2318	35	3598	11	2953	3	3517	16
TH901	44	2740	14	3124	13	3167	21	5501	39	2399	32	3386	26	2715	8	3514	17
TX88V5440	11	2584	16	3503	6	2683	43	5667	38	2464	28	3380	27	2850	6	3506	18
XH1322	37	2751	13	3525	5	3201	16	6174	38	2506	23	3632	8	2274	21	3501	19
NE88595	33	947	41	2280	35	3369	9	6933	15	2625	18	3231	34	1841	29	3481	20
KS88H12-1	28	1481	34	2685	28	3219	15	7368	7	2047	41	3360	30	2695	10	3478	21
TH902	45	2607	15	2948	21	3640	2	6165	34	1921	42	3456	22	2915	5	3448	22
OK88767	7	3257	3	3122	14	2744	40	6059	35	2112	40	3459	20	2501	16	3446	23
OK88W833	8	2853	8	3232	10	2739	41	5990	37	2470	26	3457	21	2540	14	3440	24
TX88V4524	14	2794	11	3988	1	2968	31	6270	29	2780	8	3760	3	1499	34	3436	26
KS87H6	27	2119	26	2681	29	2768	38	6059	35	2437	29	3213	37	2164	24	3436	25
TX88V4636	9	1349	36	2617	31	3188	18	7402	5	2331	34	3377	28	2247	23	3411	28
NE87451	32	1915	31	2436	34	3046	26	6978	13	2558	20	3387	25	1256	42	3411	27
TX87V1613	13	2854	7	3102	15	3161	22	6588	22	1834	44	3508	16	2528	15	3396	29
TX84V1418HF	10	2753	12	2997	19	2795	37	6344	27	2163	38	3410	23	2276	20	3373	30
NE87409	31	986	40	2043	40	2988	30	6976	14	2742	11	3147	38	2152	26	3372	31
OK87630	6	2881	5	3419	7	3170	19	6191	31	2477	25	3628	10	3099	1	3337	32
T67	42	2430	19	2782	27	3085	25	5136	42	2170	37	3120	39	2676	11	3336	33
WI88-024	40	2033	28	2524	32	3123	24	6328	28	2549	22	3311	32	1248	43	3310	34
OK87542	5	2423	20	2911	24	2901	32	6205	30	1912	43	3270	33	2930	4	3306	35
NE88427	34	531	42	1826	41	2840	35	6828	16	2898	5	2985	42	1535	33	3272	36
CO860086	22	309	44	1174	44	3445	6	7391	6	2923	4	3048	40	1412	38	3232	37
TX86D1310	17	3453	1	3573	3	2820	36	4914	44	2634	17	3479	18	1844	28	3205	38
CO860094	23	375	43	1192	42	3336	10	7552	3	2641	15	3019	41	638	45	3204	39
TX86D1332	18	3392	2	3396	8	2638	44	4947	43	2414	31	3357	31	1539	32	3200	40
OK87W663	4	2505	17	2856	26	2712	42	6382	26	2399	32	3371	29	2661	12	3186	41
CO850034	20	2495	18	2895	25	3625	3	7016	11	2284	36	3663	7	2500	17	3097	42
CI13996	2	1206	39	2093	38	3132	23	5311	41	2636	16	2875	43	2016	27	3002	43
TX88D3424	19	2009	30	1183	43	2751	39	5398	40	2121	39	2692	44	1486	35	2726	44
CI1442	1	238	45	1047	45	2329	45	4286	45	1383	45	1857	45	864	44	2062	45
MEAN		2097		2750		3099		6455		2489		3378		2096		3410	
LSD(.05)		552		501		413		701		620		727		702		299	
C.V.		16.5		11.2		8.2		6.7		15.3		10.3		20.6		14.1	

Table 3. Summary of mean yields (kg/ha) and ranks of 45 wheats grown in the 1991 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		HUTCHINSON KANSAS		HAYS KANSAS		MANHATTAN KANSAS		COLBY KANSAS		GARDEN CITY KANSAS	
KSSB-369-7	24	3214	11	3705	1	6806	17	3945	1	2605	20	3702	5	4598	3	3791	32
WI88-083	39	3323	9	3022	28	6698	19	3433	8	2542	27	4196	1	4268	21	4553	5
HBC197F	26	3572	4	2842	34	6422	24	3214	11	2390	34	3397	11	4118	22	4432	12
XH1231	36	3132	12	3524	5	6691	20	2886	18	3044	2	3805	3	4093	23	4882	1
XH900	35	3042	17	3295	12	6998	12	2980	13	2981	7	3573	7	4468	10	4651	3
T21-3	43	3049	16	3167	20	6577	23	1570	38	2582	22	2997	25	4483	8	4463	11
TX89V4138	15	2978	20	3434	7	7664	1	2871	19	2791	12	3326	14	4562	5	4102	20
XH1514	38	2941	22	3311	11	7427	4	1883	34	3008	4	3154	18	3932	32	4326	17
TX88V4635	12	2915	23	3199	17	7577	2	2351	28	2336	37	2058	40	4604	2	4546	7
T19-3	41	3002	18	3401	8	6797	18	2566	25	3020	3	2925	29	4479	9	4235	19
NE87615	30	2225	36	3273	14	6402	25	1730	35	2930	8	2900	31	4546	6	4533	8
KS88H12-2	29	2506	33	3277	13	7146	8	1938	33	2529	28	2642	35	4326	15	4344	16
KS88H12-1	28	2685	28	3219	15	7368	7	1963	32	2562	25	2997	26	4329	13	4403	13
XH1322	37	3525	5	3201	16	6174	33	3473	6	2473	30	3717	4	3629	38	3954	26
TX88V4636	9	2617	31	3188	18	7402	5	1709	37	2659	15	2381	37	4618	1	4403	13
KSSB-192-3	25	2187	37	3044	27	7034	9	2824	20	2632	18	3979	2	4017	29	3842	30
NE87451	32	2436	34	3046	26	6978	13	2683	23	2587	21	2754	34	4270	19	4528	9
KS87H6	27	2681	29	2768	38	6059	35	3102	12	2547	26	3097	20	4338	12	4098	21
TH901	44	3124	13	3167	21	5501	39	2965	15	2511	29	3517	9	4270	19	4035	23
CO850061	21	2074	39	3524	4	7030	10	2115	29	2984	6	3382	12	4275	18	4551	6
NE88595	33	2280	35	3369	9	6933	15	1265	42	3002	5	2375	38	4461	11	4741	2
TH902	45	2948	21	3640	2	6165	34	2632	24	2842	10	3351	13	4082	25	3927	27
OK88767	7	3122	14	2744	40	6059	35	2890	17	2582	23	3694	6	4057	26	3584	38
TX88V4524	14	3988	1	2968	31	6270	29	2969	14	2206	41	2888	32	4019	28	3750	33
NE87409	31	2043	40	2988	30	6976	14	1520	39	2809	11	2362	39	4302	17	4492	10
OK87542	5	2911	24	2901	32	6205	30	2698	22	2410	33	2998	24	3954	31	3916	28
TX88V5433	16	3762	2	2856	33	6183	32	3557	4	2381	35	2874	33	4569	4	3632	35
PI495594	3	2657	30	3013	29	6682	21	1978	31	3098	1	2919	30	4037	27	3625	36
TX87V1613	13	3102	15	3161	22	6588	22	2931	16	1858	45	2968	28	3791	33	3909	29
TX88V5440	11	3503	6	2683	43	5667	38	3569	3	2304	39	3296	15	4504	7	3378	42
CO860094	23	1192	42	3336	10	7552	3	868	43	2645	16	1232	44	4317	16	4580	4
WI88-024	40	2524	32	3123	24	6328	28	2702	21	2360	36	3075	21	3625	39	4064	22
NE88427	34	1826	41	2840	35	6828	16	1719	36	2847	9	2454	36	4089	24	4360	15
OK87630	6	3419	7	3170	19	6191	31	3547	5	2432	32	3146	19	3723	35	3239	45
T67	42	2782	27	3085	25	5136	42	3726	2	2636	17	3482	10	3983	30	3835	31
TX84V1418HF	10	2997	19	2795	37	6344	27	3339	10	2316	38	3063	22	3497	41	3495	39
TX86D1332	18	3396	8	2638	44	4947	43	3451	7	2206	41	3289	16	3410	42	3643	34
OK88W833	8	3232	10	2739	41	5990	37	2471	27	2768	13	3521	8	3614	40	3616	37
CO860086	22	1174	44	3445	6	7391	6	406	44	2629	19	1458	43	3692	36	4304	18
OK87W663	4	2856	26	2712	42	6382	26	2525	26	2670	14	2978	27	3232	43	3266	44
CI13996	2	2093	38	3132	23	5311	41	1978	30	2564	24	1466	42	4329	13	3990	25
TX86D1310	17	3573	3	2820	36	4914	44	3344	9	2239	40	3003	23	3634	37	3407	41
CO850034	20	2895	25	3625	3	7016	11	1388	41	2448	31	3216	17	3062	44	4013	24
TX88D3424	19	1183	43	2751	39	5398	40	1519	40	1988	43	2043	41	3788	34	3445	40
CI1442	1	1047	45	2329	45	4286	45	372	45	1894	44	693	45	2484	45	3293	43
MEAN		2750		3099		6455		2479		2574		2941		4055		4048	
LSD(.05)		501		413		701		578		276		483		292		492	
C.V.		11.2		8.2		6.7		14.4		6.6		10.1		4.4		7.5	

Table 3. Concluded.

C.I. OR SEL. NO.	ENTRY NO.	BROOKINGS S. DAKOTA		STILLWATER OKLAHOMA		LAHOMA OKLAHOMA		GOODWELL OKLAHOMA		FORT COLLINS COLORADO		AKRON COLORADO		JULESBURG COLORADO		WALSH COLORADO		REGIONAL AVERAGE	
KSSB-369-7	24	3173	35	3179	7	3434	1	6365	3	6709	12	5065	9	3534	10	3691	18	4220	1
WI88-083	39	4065	5	3396	4	2514	16	5905	16	6354	16	5219	5	3606	8	3783	16	4180	2
HBC197F	26	3657	13	3768	1	2600	11	6317	5	7269	6	4871	16	3771	6	3895	9	4158	3
XH1231	36	3702	11	3056	15	2574	13	6396	2	6272	20	4786	20	3612	7	3452	28	4119	4
XH900	35	3460	22	2859	19	2737	8	6090	10	6507	14	4744	22	3317	21	3958	6	4104	5
T21-3	43	4175	2	3635	2	2465	21	6215	6	7765	3	5330	3	3871	3	3283	32	4102	6
TX89V4138	15	2726	39	2848	20	3397	2	5518	27	6873	11	4836	17	2675	38	4174	2	4048	7
XH1514	38	3413	25	3151	10	2251	30	5748	21	7164	9	4779	21	3840	5	3900	7	4014	8
TX88V4635	12	3360	27	2353	35	2749	7	6054	12	7258	7	5083	8	3348	17	4160	3	3997	9
T19-3	41	3861	9	3081	14	2288	28	5673	23	6317	18	5131	7	3053	29	3851	11	3980	10
NE87615	30	4119	3	2707	24	2463	22	6038	14	7228	8	5351	2	3380	15	3807	15	3977	11
KS88H12-2	29	3420	23	3090	13	2070	37	6327	4	6694	13	5389	1	3238	23	4075	4	3938	12
KS88H12-1	28	3520	19	2666	26	2252	29	6472	1	6156	23	5030	10	3318	20	3877	10	3926	13
XH1322	37	3263	33	3113	12	2789	6	5440	28	6130	24	4375	36	3851	4	3709	17	3926	14
TX88V4636	9	3361	26	2498	31	2798	4	6187	7	7276	5	5272	4	2836	34	3539	24	3921	15
KSSB-192-3	25	1727	44	3178	8	2564	15	6179	8	8012	2	4940	13	2547	40	4011	5	3920	16
NE87451	32	3977	6	2878	18	2099	36	5343	32	6231	21	5195	6	3220	24	3811	14	3877	17
KS87H6	27	4091	4	3172	9	2502	17	5811	18	5111	37	4647	30	4051	1	3466	27	3846	18
TH901	44	3306	30	3466	3	2610	10	4886	40	6126	25	4509	33	3900	2	3209	34	3819	19
CO850061	21	2230	41	2060	42	2208	32	5905	16	7642	4	4898	14	2566	39	3572	22	3814	20
NE88595	33	3642	14	2150	40	2187	34	6064	11	6339	17	4787	19	3129	27	3848	12	3786	21
TH902	45	3341	28	3207	6	2797	5	5161	36	5660	32	4606	32	3084	28	3037	38	3780	22
OK88767	7	3611	16	3121	11	2424	23	5630	26	5813	29	4888	15	2678	37	2930	43	3739	23
TX88V4524	14	2921	37	2955	17	2412	24	5669	24	5302	35	4736	24	3215	25	3527	26	3737	24
NE87409	31	3879	7	2398	34	1819	42	5358	31	6309	19	4976	11	3261	22	4217	1	3732	25
OK87542	5	4213	1	2575	27	2349	26	5437	29	6100	26	4704	26	3155	26	3150	35	3730	26
TX88V5433	16	3514	20	2739	23	2312	27	5678	22	4334	43	4610	31	3352	16	3251	33	3725	27
PI495594	3	2573	40	2273	39	2957	3	5787	19	6358	15	4941	12	2731	36	3898	8	3720	28
TX87V1613	13	3298	31	2564	28	2734	9	5310	35	5981	27	4367	39	2993	30	3680	20	3702	29
TX88V5440	11	3596	17	2686	25	2597	12	5749	20	4327	44	4707	25	3450	13	3108	36	3695	30
CO860094	23	3216	34	2133	41	1557	44	6047	13	8187	1	4829	18	3553	9	3691	18	3683	31
WI88-024	40	3520	18	2534	30	2248	31	5336	34	5649	33	4658	29	3460	12	3572	22	3674	32
NE88427	34	3871	8	1890	44	1908	40	5988	15	6223	22	4744	22	3495	11	3425	30	3657	33
OK87630	6	3672	12	2795	21	2500	18	5013	38	4368	42	4351	40	2744	35	3423	31	3608	34
T67	42	3768	10	3045	16	2566	14	3254	44	5481	34	4484	34	3389	14	2953	41	3600	35
TX84V1418HF	10	3615	15	2477	32	1948	39	4973	39	5753	31	4372	37	3319	19	2951	42	3578	36
TX86D1332	18	3419	24	3247	5	1974	38	3866	42	5772	30	4368	38	3329	18	3046	37	3500	37
OK88W833	8	3341	29	2447	33	2477	19	5667	25	4812	39	4048	41	1980	42	3028	39	3484	38
CO860086	22	3003	36	1910	43	1705	43	6148	9	6996	10	4692	27	2849	33	3824	13	3477	39
OK87W663	4	2782	38	2332	37	2375	25	5434	30	4753	40	4480	35	1940	43	3438	29	3385	40
CI13996	2	3284	32	2307	38	2188	33	4255	41	5831	28	4681	28	2978	32	3533	25	3370	41
TX86D1310	17	3513	21	2745	22	2113	35	3792	43	4484	41	4038	42	2981	31	3003	40	3350	42
CO850034	20	2192	42	2341	36	2473	20	5161	36	4914	38	3522	44	1256	45	3621	21	3321	43
TX88D3424	19	1323	45	2547	29	1851	41	5340	33	5223	36	4001	43	2383	41	2641	45	2964	44
CI1442	1	2044	43	1523	45	1221	45	2822	45	4316	45	2569	45	1493	44	2660	44	2190	45
MEAN		3328		2735		2379		5507		6097		4680		3105		3526		3735	
LSD(.05)		598		599		312		650		1481		581		558		551		375	
C.V.		11.1		13.5		8.1		7.3		15.0		7.6		11.1		9.6		10.3	

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	
NO. OF LOCATIONS		9		4		5		4		5		28	
KSSB-369-7	24	4037	1	3041	3	3291	14	6147	13	3220	11	3872	1
WI88-083	39	3656	7	3428	1	3553	3	5982	16	3169	13	3769	2
XH1231	36	3702	5	2922	8	3259	16	6583	3	3253	9	3762	3
TX89V4138	15	3816	2	2482	33	3008	29	6600	2	3235	10	3723	4
T21-3	43	3450	17	2849	13	3609	1	6231	9	3355	3	3709	5
T19-3	41	3584	10	3011	4	3478	4	5526	26	3326	4	3676	6
XH900	35	3711	4	2859	12	3142	25	5776	20	3462	1	3652	7
KS88H12-2	29	3371	26	2482	34	3468	6	6401	7	3097	16	3617	8
HBC197F	26	3774	3	2841	16	3358	12	5478	29	3094	17	3615	9
KSSB-192-3	25	3440	20	2842	15	2907	32	6558	4	3156	14	3608	10
XH1514	38	3440	19	2728	23	3289	15	6151	12	3299	5	3600	11
PI495594	3	3400	24	2568	28	3066	27	6228	10	3280	7	3590	12
TX88V4635	12	3522	14	2134	38	3223	20	6105	14	3286	6	3553	13
NE87615	30	3250	33	2741	22	3560	2	5906	18	3195	12	3538	14
CO850061	21	3338	27	2463	35	2890	34	6469	6	3269	8	3530	15
TX88V5433	16	3593	8	2973	7	3422	9	5201	39	2678	36	3517	16
TH901	44	3441	18	2904	9	3385	11	5465	30	2860	31	3514	17
TX88V5440	11	3482	15	2866	11	3239	17	5481	28	2877	29	3506	18
XH1322	37	3660	6	2989	6	3020	28	5283	37	2927	26	3501	19
NE88595	33	3133	38	2509	31	3390	10	6175	11	3149	15	3481	20
KS88H12-1	28	3408	22	2548	29	3470	5	5655	22	2774	34	3478	21
TH902	45	3556	11	2829	17	3200	23	5568	24	2411	43	3448	22
OK88767	7	3537	13	3004	5	2864	36	5699	21	2606	39	3446	23
OK88W833	8	3405	23	2805	18	2311	42	6486	5	2882	27	3440	24
TX88V4524	14	3581	9	2770	20	2936	30	5487	27	2955	23	3436	26
KS87H6	27	3418	21	2713	25	3454	7	5194	40	2879	28	3436	25
TX88V4636	9	3378	25	2032	40	3217	21	5985	15	2938	25	3411	28
NE87451	32	3330	28	2726	24	3184	24	5548	25	3053	20	3411	27
TX87V1613	13	3456	16	2525	30	2667	39	5911	17	2876	30	3396	29
TX84V1418HF	10	3327	29	2892	10	2877	35	5858	19	2569	41	3373	30
NE87409	31	2989	39	2411	36	3428	8	5444	33	3360	2	3372	31
OK87630	6	3550	12	2793	19	2571	40	5343	35	2599	40	3337	32
T67	42	3184	37	3085	2	3227	18	5115	42	2630	37	3336	33
WI88-024	40	3243	34	2506	32	3074	26	5449	32	3008	21	3310	34
OK87542	5	3323	30	2848	14	2890	33	5388	34	2466	42	3306	35
NE88427	34	2931	40	2749	21	3343	13	5287	36	2968	22	3272	36
CO860086	22	2791	42	1672	43	2909	31	6821	1	3089	18	3232	37
TX86D1310	17	3221	36	2694	26	2794	38	5094	43	2755	35	3205	38
CO860094	23	2856	41	1738	42	3215	22	6249	8	3068	19	3204	39
TX86D1332	18	3235	35	2683	27	2818	37	5270	38	2611	38	3200	40
OK87W663	4	3310	32	2293	37	2265	43	5585	23	2786	32	3186	41
CO850034	20	3316	31	2039	39	1936	44	5462	31	2940	24	3097	42
CI13996	2	2782	43	1832	41	3225	19	4918	44	2778	33	3002	43
TX88D3424	19	2732	44	1488	44	2405	41	5162	41	2325	44	2726	44
CI1442	1	1748	45	1118	45	1815	45	4108	45	2234	45	2062	45
MEAN		3341		2587		3059		5730		2950		3410	
LSD(.05)		526		695		439		1153		460		299	
C.V.		9.7		14.3		11.0		15.5		17.2		14.1	

Table 5. Summary of mean yields (kg/ha) and ranks for 12 wheats grown in the Southern Regional Performance Nursery at 26 sites in 1990 and 1991 with state means and ranks.

VARIETY OR PEDIGREE	C.I. OR SEL. NO.	ENTRY NO.	LINCOLN NEBRASKA		CLAY CENTER NEBRASKA		NORTH PLATTE NEBRASKA		SIDNEY NEBRASKA		NEBRASKA STATE MEAN	
NE68513/NE684457//Ctk/3/Brule	NE87615	30	3462	5	2818	3	2499	1	2771	2	2888	1
NS14/NS25//2*Vona	CO850061	21	3447	6	2555	7	2060	6	2465	4	2632	3
TAM-107	PI495594	3	3649	2	2136	8	2366	2	2319	5	2618	5
H15A13333/3/5*Led/Egl//Sage/4/TAM-105	KS87H6	27	3464	4	2936	1	2294	3	2808	1	2875	2
TAM-101/OK79286//Csm	OK87630	6	3670	1	2695	6	2119	5	2025	10	2627	4
Csm*3/3/Ntn/Largo//Csm	OK87W663	4	3555	3	2042	10	1813	10	1716	12	2281	9
Century sib/Csm	OK87542	5	3367	7	2774	5	1938	9	2172	8	2563	6
NS14/NS603//Newton/3/PB835	CO850034	20	3170	8	1852	11	1713	11	1858	11	2148	11
TAM-106/Collin	TX86D1332	18	3000	10	2834	2	1987	8	2186	7	2502	8
Thunderbird//Payne/Collin	TX86D1310	17	3145	9	2797	4	1994	7	2301	6	2559	7
Scout 66	CI13996	2	2142	11	2118	9	2207	4	2500	3	2242	10
Kharkof	CI1442	1	1748	12	1013	12	1637	12	2081	9	1620	12
	MEAN		3152		2381		2052		2265		2463	
	LSD(.05)		957		998		N.S.		N.S.		677	
	C.V.		12.0		18.5		18.2		14.4		15.5	

Table 5. Continued.

C.I. OR SEL. NO.	ENTRY NO.	STILLWATER OKLAHOMA		LAHOMA OKLAHOMA		GOODWELL OKLAHOMA		OKLAHOMA STATE MEAN		AKRON COLORADO		JULESBURG COLORADO		WALSH COLORADO		COLORADO STATE MEAN	
NE87615	30	2998	2	2769	6	5561	2	3776	1	4310	1	2429	4	3690	1	3476	1
CO850061	21	2112	10	2510	9	5574	1	3399	7	4212	2	2308	6	3553	3	3358	2
PI495594	3	2261	8	2812	5	5559	3	3544	5	4135	5	2281	8	3242	4	3219	4
KS87H6	27	3143	1	2845	4	5252	5	3747	2	4190	3	2695	1	3045	5	3310	3
OK87630	6	2655	6	2943	1	4957	8	3519	6	3654	8	2396	5	2947	7	2999	7
OK87W663	4	2787	5	2906	3	5414	4	3702	3	3823	7	1989	10	2931	8	2914	9
OK87542	5	2802	4	2940	2	5022	7	3588	4	4167	4	2488	3	2766	9	3140	5
CO850034	20	2259	9	2740	7	5147	6	3382	8	3494	10	1288	12	3571	2	2784	10
TX86D1332	18	2846	3	2276	10	3951	11	3024	10	3556	9	2584	2	2726	10	2955	8
TX86D1310	17	2579	7	2616	8	3999	10	3065	9	3444	11	2305	7	2527	11	2759	11
CI13996	2	1857	11	1805	11	4380	9	2681	11	3932	6	2135	9	3009	6	3025	6
CI1442	1	1391	12	1062	12	2947	12	1800	12	2370	12	1457	11	2453	12	2093	12
MEAN		2474		2519		4814		3269		3774		2196		3038		3003	
LSD(.05)		823		955		816		654		858		N.S.		638		N.S.	
C.V.		9.9		9.8		5.3		7.6		8.1		13.1		10.8		10.2	

Table 5. Continued.

C.I. OR SEL. NO.	ENTRY NO.	DALLAS TEXAS		PROSPER TEXAS		CHILLI-COTHE TEXAS		BUSHLAND (IRR.) TEXAS		BUSHLAND (DRYL.) TEXAS		TEXAS STATE MEAN		COLUMBIA* MISSOURI	
NE87615	30	1517	10	1714	10	3729	3	6536	5	1881	7	3075	9	899	11
C0850061	21	2167	8	1799	9	4050	2	6783	1	2146	2	3389	5	1317	7
PI495594	3	2399	6	2108	7	3690	4	6692	3	2316	1	3441	4	1837	1
KS87H6	27	1904	9	1915	8	3531	8	5987	8	1837	8	3035	10	1472	5
OK87630	6	2971	3	2910	2	3653	6	6277	6	2014	4	3565	1	1681	3
OK87W663	4	2756	5	2480	5	3637	7	6648	4	2037	3	3512	2	1569	4
OK87542	5	2855	4	2485	4	3663	5	6029	7	1678	11	3342	7	1754	2
C0850034	20	2314	7	2356	6	4209	1	6735	2	1750	10	3473	3	1388	6
TX86D1332	18	3423	1	2639	3	3014	11	5028	10	1837	9	3188	8	904	10
TX86D1310	17	3331	2	2939	1	3305	9	5233	9	1918	5	3345	6	1134	9
CI13996	2	937	11	1482	11	3207	10	4622	11	1884	6	2426	11	1146	8
CI1442	1	363	12	558	12	2087	12	3795	12	996	12	1560	12	529	12
MEAN		2209		2115		3481		5864		1858		3105		.	
LSD(.05)		620		447		986		939		530		704		.	
C.V.		12.4		10.1		9.3		7.2		15.9		10.2		.	

* Not included in regional averages.

Table 5. Continued.

C.I. OR SEL. NO.	ENTRY NO.	CLOVIS (IRR.) NEW MEXICO		CLOVIS (DRYL.) NEW MEXICO		FARMINGTON NEW MEXICO		NEW MEXICO STATE MEAN		ABERDEEN IDAHO		CRAWFORD-SVILLE * IOWA	
NE87615	30	5346	3	616	3	5298	4	3753	3	8323	4	2668	9
C0850061	21	5817	2	433	5	6174	1	4141	1	9786	1	.	.
PI495594	3	6370	1	637	2	5383	3	4130	2	8694	3	2850	8
KS87H6	27	5044	6	417	6	5452	2	3638	4	7057	10	3068	5
OK87630	6	4887	9	184	12	4586	8	3219	9	7994	6	3838	2
OK87W663	4	4935	8	332	9	5060	5	3443	5	8211	5	.	.
OK87542	5	4249	10	355	8	4362	10	2989	11	7634	7	.	.
C0850034	20	5257	4	319	10	4650	7	3409	6	9087	2	.	.
TX86D1332	18	4942	7	437	4	4734	6	3371	7	7371	8	.	.
TX86D1310	17	5114	5	414	7	4377	9	3302	8	7108	9	.	.
CI13996	2	4154	11	755	1	4273	11	3061	10	6334	12	1991	11
CI1442	1	3536	12	313	11	3980	12	2610	12	6364	11	1328	12
MEAN		4971		438		4861		3423		7830		.	
LSD(.05)		1157		N.S.		N.S.		805		1828		.	
C.V.		17.5		53.5		13.5		18.1		17.4		.	

* Not included in regional averages.

Table 5. Concluded.

C.I. OR SEL. NO.	ENTRY NO.	HAYS KANSAS		MANHATTAN KANSAS		COLBY KANSAS		GARDEN CITY KANSAS		KANSAS STATE MEAN		BROOKINGS S. DAKOTA		REGIONAL AVERAGE	
NE87615	30	3959	1	3199	9	5067	2	4575	1	4200	1	3223	1	3679	1
CO850061	21	3738	2	3468	5	4927	3	4321	2	4113	2	1160	11	3649	2
PI495594	3	3656	3	3488	4	4927	4	3986	5	4014	3	1616	8	3613	3
KS87H6	27	3582	5	3232	8	5121	1	3972	6	3977	4	3037	2	3532	4
OK87630	6	3243	7	3814	1	4361	7	3818	9	3809	6	1902	7	3445	5
OK87W663	4	3623	4	3517	3	4231	8	3891	8	3815	5	1487	9	3409	6
OK87542	5	3155	8	3421	6	4552	5	3998	4	3782	8	2414	3	3387	7
CO850034	20	3489	6	3723	2	3976	11	4041	3	3807	7	1110	12	3338	8
TX86D1332	18	2875	11	3374	7	4418	6	3599	10	3567	9	2049	5	3237	9
TX86D1310	17	3099	10	3074	10	4114	9	3455	11	3436	10	1957	6	3214	10
CI13996	2	3132	9	2298	11	4103	10	3924	7	3364	11	2386	4	2899	11
CI1442	1	2273	12	1246	12	2538	12	2905	12	2241	12	1416	10	2105	12
MEAN		3319		3145		4361		3874		3675		1991		3291	
LSD(.05)		665		835		1166		N.S.		608		1252		352	
C.V.		7.3		13.2		5.7		7.2		8.2		15.3		13.6	

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 1991 Southern Regional Performance Nursery grown at 28 locations.

C.I. OR SEL. NO.	ENTRY NO.	MEAN YIELD OVER LOCATIONS KG/HA	REGRESSION COEFFICIENT (B)	CORRELATION COEFFICIENT (R)	COEFFICIENT OF DETERMINATION (R^2)
KSSB-369-7	24	3872	1.01	0.98	0.96
WI88-083	39	3769	1.00	0.98	0.95
XH1231	36	3762	1.22	0.98	0.96
TX89V4138	15	3723	1.17	0.98	0.96
T21-3	43	3709	1.12	0.97	0.93
T19-3	41	3676	0.94	0.98	0.97
XH900	35	3652	1.03	0.98	0.97
KS88H12-2	29	3617	1.21	0.99	0.97
HBC197F	26	3615	0.92	0.96	0.92
KSSB-192-3	25	3608	1.13	0.96	0.91
XH1514	38	3600	1.14	0.98	0.96
PI495594	3	3590	1.06	0.97	0.94
TX88V4635	12	3553	1.20	0.98	0.97
NE87615	30	3538	1.03	0.97	0.94
CO850061	21	3530	1.11	0.97	0.95
TX88V5433	16	3517	0.81	0.95	0.90
TH901	44	3514	0.84	0.98	0.96
TX88V5440	11	3506	0.89	0.95	0.91
XH1322	37	3501	0.82	0.96	0.93
NE88595	33	3481	1.13	0.98	0.96
KS88H12-1	28	3478	1.03	0.97	0.95
TH902	45	3448	0.87	0.97	0.94
OK88767	7	3446	0.93	0.97	0.95
OK88W833	8	3440	1.14	0.94	0.89
TX88V4524	14	3436	0.94	0.97	0.94
KS87H6	27	3436	0.86	0.97	0.93
TX88V4636	9	3411	1.18	0.98	0.96
NE87451	32	3411	0.99	0.98	0.96
TX87V1613	13	3396	1.06	0.98	0.96
TX84V1418HF	10	3373	0.99	0.97	0.94
NE87409	31	3372	0.99	0.96	0.93
OK87630	6	3337	0.88	0.95	0.90
T67	42	3336	0.76	0.94	0.88
WI88-024	40	3310	0.95	0.99	0.97
OK87542	5	3306	0.93	0.97	0.95
NE88427	34	3272	0.92	0.93	0.87
CO860086	22	3232	1.33	0.96	0.93
TX86D1310	17	3205	0.77	0.94	0.88
CO860094	23	3204	1.30	0.96	0.91
TX86D1332	18	3200	0.78	0.94	0.89
OK87W663	4	3186	0.99	0.96	0.93
CO850034	20	3097	1.03	0.94	0.89
CI13996	2	3002	0.82	0.95	0.90
TX88D3424	19	2726	1.00	0.97	0.94
CI1442	1	2062	0.76	0.94	0.88

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 12 entries in the 1990 and 1991 Southern Regional Performance Nursery grown at 24 locations.

C.I. OR SEL. NO.	ENTRY NO.	MEAN YIELD OVER LOCATIONS KG/HA	REGRESSION COEFFICIENT (B)	CORRELATION COEFFICIENT (R)	COEFFICIENT OF DETERMINATION (R^2)
NE87615	30	3679	1.07	0.97	0.94
C0850061	21	3649	1.25	0.97	0.95
PI495594	3	3613	1.14	0.98	0.95
KS87H6	27	3532	0.97	0.96	0.92
OK87630	6	3445	1.02	0.97	0.94
OK87W663	4	3409	1.10	0.97	0.94
OK87542	5	3387	0.97	0.97	0.94
C0850034	20	3338	1.17	0.97	0.93
TX86D1332	18	3237	0.87	0.96	0.92
TX86D1310	17	3214	0.86	0.96	0.91
CI13996	2	2899	0.81	0.92	0.85
CI1442	1	2105	0.77	0.92	0.84

Table 8. Summary of agronomic and yield data for 45 wheats grown in the 1991 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 %	ROOT ROT %	SBM VIRUS 0-9
NO. OF LOCATIONS			23	20	3	5	1	1
Bulk Selection	KSSB-369-7	24	73	123	59	9	0	2
Bulk Selection	WI88-083	39	77	127	71	12	5	2
Quantum Hybrid Wheat	XH1231	36	80	127	86	22	10	2
TAM-200//TX38949-2/TAM-107	TX89V4138	15	77	123	60	43	20	5
TAM-108/Lancota	T21-3	43	82	127	79	54	20	2
TAM-108/TX78V2154	T19-3	41	83	126	94	43	5	8
Quantum Hybrid Wheat	XH900	35	82	125	71	24	10	2
Norkan/TAM-108	KS88H12-2	29	78	130	66	40	0	2
2162 sib/W6430C//W9519A	HBC197F	26	73	127	59	34	0	2
Bulk Selection	KSSB-192-3	25	75	123	58	17	10	2
Quantum Hybrid Wheat	XH1514	38	82	129	90	23	15	2
TAM-107	PI495594	3	76	123	72	6	5	8
TX78V2154/Siouxland	TX88V4635	12	78	126	60	46	0	8
NE68513/NE684457//Ctk/3/Brule	NE87615	30	74	129	83	36	0	8
NS14/NS25//2*Vona	CO850061	21	76	125	58	31	20	8
Karl Resel.	TX88V5433	16	75	125	94	18	10	2
HRW Hybrid	TH901	44	81	124	84	16	10	2
Karl Resel.	TX88V5440	11	73	122	94	20	10	2
Quantum Hybrid Wheat	XH1322	37	83	125	72	15	10	2
Arkan/Colt//Chisholm sib	NE88595	33	78	129	93	27	0	7
Norkan/TAM-108	KS88H12-1	28	77	130	86	43	10	2
HRW Hybrid	TH902	45	82	124	86	10	10	3
F29-76/T105//Csm	OK88767	7	77	125	63	14	30	8
Csm*3/3/Newton/Largo//2*Csm	OK88W833	8	77	124	61	24	40	5
NE78696/Payne	TX88V4524	14	72	124	61	2	5	8
H15A13333/3/5*Led/Egl//Sage/4/TAM-105	KS87H6	27	77	127	73	28	0	8
TX78V2154/Siouxland	TX88V4636	9	76	126	59	40	20	8
NE68513/NE68457//Ctk78/3/Brule	NE87451	32	72	128	90	26	0	5
TAM-105/3/NE70654/BBY/Bow's'	TX87V1613	13	80	124	44	8	10	8
Vona/TX71D4889-V3	TX84V1418HF	10	80	126	66	26	20	8
Nwt/2/Wrr*5/Agent/4/T-105/3/Led//Egl/Sag	NE87409	31	82	129	73	39	0	2
TAM-101/OK79286//Csm	OK87630	6	77	123	67	7	10	8
2165/Vona	T67	42	81	127	67	22	10	2
NS2630/Thunderbird	WI88-024	40	82	128	62	6	0	8
Century sib/Csm	OK87542	5	78	125	65	33	5	8
Bennett/TAM-107	NE88427	34	78	130	91	22	5	7
TX73165/Sandy	CO860086	22	73	132	80	30	10	8
Thunderbird//Payne/Collin	TX86D1310	17	78	126	55	37	15	2
NE76667/Hawk	CO860094	23	77	134	82	33	0	8
TAM-106/Collin	TX86D1332	18	78	126	58	34	10	2
Csm*3/3/Ntn/Largo//Csm	OK87W663	4	75	123	64	16	20	5
NS14/NS603//Newton/3/PB835	CO850034	20	77	126	60	47	90	2
Scout 66	CI13996	2	92	128	79	74	0	8
TX82D4651//Amigo/TX71A106-5	TX88D3424	19	63	123	58	39	0	8
Kharkof	CI1442	1	96	137	90	78	0	8

Table 8. Concluded.

C.I. OR SEL. NO.	ENTRY NO.	STRIPE RUST SEV. %	LEAF RUST SEVERITY %	STEM RUST SEVERITY %	MILDEW 0-9	SEPTORIA NODORUM 0-9	BACTERIAL STRIPE 0-9	SCAB 0-9	COMMON BUNT %	VOLUME WEIGHT KG/HL	YIELD KG/HA
NO. OF LOCATIONS		1	5	2	1	1	1	1	1	25	28
KSSB-369-7	24	80	31	0	6	5	6	6.3	10	76.7	3872
WI88-083	39	80	16	0	0	3	4	5.7	0	74.2	3769
XH1231	36	40	22	15	2	5	6	3	10	73.1	3762
TX89V4138	15	10	54	0	0	7	4	4	5	76.6	3723
T21-3	43	80	45	15	5	8	3	4	10	72.5	3709
T19-3	41	90	74	0	0	9	3	3.3	20	74.5	3676
XH900	35	40	46	3	0	7	6	4.7	15	73	3652
KS88H12-2	29	60	44	0	0	7	3	2.3	20	73.1	3617
HBC197F	26	70	2	0	0	3	4	6	20	72.1	3615
KSSB-192-3	25	1	51	0	0	6	6	8	25	73.7	3608
XH1514	38	80	42	0	5	6	3	3.3	5	73.3	3600
PI495594	3	90	94	0	0	9	4	4.3	0	73.3	3590
TX88V4635	12	10	52	0	0	8	5	4.3	20	71.8	3553
NE87615	30	90	14	0	0	4	3	4.3	15	72.6	3538
CO850061	21	70	76	5	5	6	7	5.3	15	72.7	3530
TX88V5433	16	10	40	5	0	3	2	3.7	25	75	3517
TH901	44	60	70	0	0	6	3	2.3	10	73.6	3514
TX88V5440	11	10	45	5	0	2	3	4	15	74.1	3506
XH1322	37	50	44	0	0	7	4	3	15	74.3	3501
NE88595	33	90	78	0	0	8	2	3.3	15	72.6	3481
KS88H12-1	28	50	50	0	5	7	2	2	15	73.5	3478
TH902	45	80	88	0	0	9	3	3	0	73.1	3448
OK88767	7	50	30	60	0	4	6	5	25	75.3	3446
OK88W833	8	70	70	65	0	5	5	2.7	25	75	3440
TX88V4524	14	20	11	0	4	4	7	7	25	75.6	3436
KS87H6	27	90	39	0	0	4	3	3	5	74.7	3436
TX88V4636	9	50	58	0	0	8	3	4.3	25	71.9	3411
NE87451	32	90	14	0	0	3	3	3.3	15	72.8	3411
TX87V1613	13	1	7	0	5	5	4	5	10	75.6	3396
TX84V1418HF	10	60	39	0	4	5	4	3	15	74.6	3373
NE87409	31	90	66	0	5	9	2	3.3	25	74.7	3372
OK87630	6	70	58	45	5	5	7	3	25	74.2	3337
T67	42	60	62	0	2	6	4	3	25	76	3336
WI88-024	40	15	42	0	1	5	5	4.3	25	75	3310
OK87542	5	70	52	20	0	8	4	3	25	74.5	3306
NE88427	34	90	74	0	4	7	3	3.3	5	74.3	3272
CO860086	22	60	54	0	4	7	2	4.3	5	71.2	3232
TX86D1310	17	80	5	0	0	2	6	4	20	76.1	3205
CO860094	23	90	30	0	6	6	3	3	5	71.3	3204
TX86D1332	18	60	3	0	0	3	7	4.7	20	76.2	3200
OK87W663	4	70	76	70	0	8	6	3.3	25	74.7	3186
CO850034	20	90	84	55	4	6	5	5	15	72.7	3097
CI13996	2	60	78	0	5	8	3	3	20	75.5	3002
TX88D3424	19	1	6	0	0	7	7	7	25	69.2	2726
CI1442	1	15	84	80	5	8	3	1.7	20	73	2062

Table 9.

Seedling reaction to entries of the 1991 Southern Regional Hard Red Winter Wheat Performance Nursery to selected isolates of Puccinia graminis f. sp. tritici. (by D.V. McVey, USDA-ARS, Cereal Rust Laboratory, U. of Minnesota, St. Paul, MN., 55108)

		Reaction Produced by Isolates							
		68- 41- 73A	72- 00- 1370C	69- 21- 399	72- 25- 635C	72- 00- 53A	72- 4- 1A	74- 21- 1409A	
No	Cult./Line	HNLQ	QFBS	QSHS	RKQS	RTQQ	TNMH	TNMK	Post. Gene
1	Karkof	S	S	S	S	S	S	S	None
2	Scout 66	;1	S	S	S	;	;1-	S	17
3	TAM-107	2=	2=	2=	2=	2=	2-	2=	Amigo
4	OK87W663	0	S	S	S	S	S	S	5
5	OK87542	2=	2=	2-	;1-	2=	2,S	2,S	+
6	OK87630	0;	S	S	S	S	S	S	5
7	OK88767	2=	S,2=	2=	S,2=	S,2=	2=	2=,S	seg Amigo
8	OK88W833	0	S	S	S	S	S	S	5
9	TX88V4636	0	2=	2=	2=	2=	2=	2=	5,24/31
10	TX84V1418HF	2=	2=	2-	2-	2-	2-	2-	Amigo?
11	TX88V5440	2-	2=	2-	2-	2-	S	S	Tmp
12	TX88V4635	0	2=	2=	2=	2=	2=	2=	5,24/31
13	TX87V1613	2=	2=	S	S	S	2	2=	9b
14	TX88V4524	0	0;	23CN	2=	S,;	0;	0;	5,6,+,seg17
15	TX89V4138	0;	2=	2=	2=	2=	2=	2-	5,Amigo
26	TX88V5433	2-	2-	2	2	23	S	S	+
17	TXD1310	0	23	23CN	;1N	;1-N	0;	2	5,17
18	TX86D1332	0	2=;	23CN	;1-N	;	;	2	5,17?,+
19	TX88D3424	0	2=	2=	2=	2=	2=	2=	5,Amigo
20	CO850034	;1	2C	S	;1-N	;1N	S	S	10
21	CO850061	0;	0;	S	2=	;	;	2	17,+
22	CO860086	0;	0;	2	S	;	0;	0;	5,6,17,+
23	CO860094	0;	0;	2=	2	;	0;	0;	5,6,17,+
24	KSSB-396-7	0	S	S	S	;	0;	S	5,17
25	KSSB-192-3	0	2=	2=	2=	;	0;	2=	5,17,24/31
26	HBC197F	0	0;	S	S	;	0;	0;	5,6,17
27	KS87H6	0;	2=	1CN	2=	;	0;	2=	17,+
28	KS88H12-1	0;	0	2=	;1-	;1=	0;	0;	6,10,17,+
29	KS88H12-2	0;	0;-	2=	;1-	;1=	0;	0;	6,10,17,+
30	NE87615	0;	;1-	0	2=	;	0;	X	17,36,+
31	NE87409	2=	2=-	2=	2-	2-	2-	2	24
32	NE87451	0	;12-	0	2=	;1	X-	X	36,+
33	NE88595	0;	;,2-	2-	2-	;	0;	2	17,24
34	NE88427	0;	0;	2=	2=	;	0;	;	6,17,Amigo
35	XH900	;	;,2-	S	S	21CN	;1N	2-1CN	+
36	XH1231	;,S	;,2=	2=	2=,S	;1=,S	;1-N,S	2-1CN	+
37	XH1322	;,2-	;,2=	2-,S	2-,S	S,;1	;,2CN	;1-CN	+
38	XH1514	;	0;	2-,S	S,2-	2-,S	;	;	6,+
39	WI88-083	0;	S=	S	S	;	0;	S	17
40	WI88-024	0	2=	2=	2=	;	;	2=	5,17,24
41	T19-3	2=	2=	2=	2=	2=	2-	2-	Amigo
42	T67	0;	0;-	2=	2=	;	;	S	17,+
43	T21-3	0;	;1-	2=	;1N	;	0;	S	10,17,+
44	TH901	;	;	S	S,;1CN	S	;	;	6
45	TH902	;,2=	;	2	2=	2=	;	;	6,+

Table 10.

Adult plant reaction of entries of the 1991 Southern Regional Winter Wheat Performance Nursery to stem rust at St. Paul, MN. (by D.V. McVey, USDA-ARS, Cereal Rust Laboratory, St. Paul, MN.)

Entry No.	Variety or Pedigree	Sel. No.	6/27 Stem Rust
1	Kharkof	CI1442	60S
2	Scout 66	CI13996	40S
3	TAM-107	PI495594	60MS-S
4	Csm*3/3/Ntn/Largo//Csm	OK87W663	80S
5	Century sib/Csm	OK87542	60MS
6	TAM-101/OK79286//Csm	OK87630	60S
7	F29-76/T105//Csm	OK88767	60MS-S
8	Csm*3/3/Newton/Largo//2*Csm	OK88W833	60S
9	TX78V2154/Siouxland	TX88V4636	TR
10	Vona/TX71D4889-V3	TX84V1418HF	TR
11	Karl Resel.	TX88V540	60S
12	TX78V2154/Siouxland	TX88V4635	10R-MR
13	TAM-105/3/NE70654/BBY/Bow's'	TX87V1613	10R-MR
14	NE78696/Payne	TX88V4524	10MS-S
15	TAM-200//TX38949-2/TAM-107	TX89V4138	40MR
16	Karl Resel.	TX88V5433	60S
17	Thunderbird//Payne/Collin	TX86D1310	20MR-MS
18	TAM-106/Collin	TX86D1332	20MR-MS
19	TX82D4651//Amigo/TX71A106-5	TX88D3424	5R
20	NS14/NS603//Newton/3/PB835	CO850034	80S
21	NS14/NS25//2*Vona	CO850061	20MR-MS
22	TX73165/Sandy	CO860086	10MR-MS
23	NE76667/Hawk	CO860094	TR
24	Bulk Selection	KSSB-369-7	5MR-MS
25	Bulk Selection	KSSB-192-3	TR
26	2162 sib/W6430C//W9519A	HBC197F	TMR-MS
27	H15A13333/3/5*Led/Egl//Sage/4/Tam-105	KS87H6	5R-MR
28	Norkan/TAM-108	KS88H12-1	TR
29	Norkan/TAM-108	KS88H12-2	20MR
30	NE68513/NE684457//Ctk/3/Brule	NE87615	0
31	Nwt/2/Wrr*5/Agent/4/TAM-105/3/ Larned//Eagle/Sage	NE87409	TR
32	NE68513/NE68457//Ctk78/3/Brule	NE87451	TR
33	Arkan/Colt//Chisholm sib	NE88595	20S
34	Bennett/TAM-107	NE88427	TMS
35	Quantum Hybrid Wheat	XH900	30S
36	" "	XH1231	30S
37	" "	XH1322	30S
38	" "	XH1514	20S
39	Bulk Selection	WI88-083	5S
40	NS2630/Thunderbird	WI88-024	0
41	TAM-108/TX78V2154	T19-3	30MS
42	2165/Vona	T67	20MS
43	TAM-108/Lancota	T21-3	60S
44	HRW Hybrid	TH901	30S
45	HRW Hybrid	TH902	30S

Table 11. Hessian fly reaction, Great Plains biotype, for entries in the 1991 Southern 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.	NO. OF PLANTS SUSC.
CI1442	1	S	0	15
CI13996	2	S	0	21
PI495594	3	S	0	21
OK87W663	4	S	2	24
OK87542	5	S	0	18
OK87630	6	S	1	20
OK88767	7	S	1	19
OK88W833	8	S	2	21
TX88V4636	9	S	0	26
TX84V1418HF	10	H	5	23
TX88V5440	11	S	0	26
TX88V4635	12	S	0	22
TX87V1613	13	S	0	24
TX88V4524	14	S	2	21
TX89V4138	15	S	1	20
TX88V5433	16	S	1	24
TX86D1310	17	S	0	19
TX86D1332	18	S	0	26
TX88D3424	19	S	0	19
CO850034	20	S	1	27
CO850061	21	S	0	26
CO860086	22	S	0	23
CO860094	23	S	0	23
KSSB-369-7	24	S	0	16
KSSB-192-3	25	S	1	21
HBC197F	26	S	0	24
KS87H6	27	R	21	0
KS88H12-1	28	R	21	1
KS88H12-2	29	R	17	2
NE87615	30	R	23	0
NE87409	31	H	15	10
NE87451	32	R	20	2
NE88595	33	H	11	9
NE88427	34	S	1	22
XH900	35	S	0	23
XH1231	36	S	0	23
XH1322	37	S	0	22
XH1514	38	S	0	19
WI88-083	39	S	0	22
WI88-024	40	S	0	25
T19-3	41	S	0	24
T67	42	S	0	26
T21-3	43	H	6	17
TH901	44	S	0	18
TH902	45	S	0	20
NEWTON			0	23
SENECA			16	5
CALDWELL			19	3
NORKAN			21	2

Table 12. Aluminum tolerance of lines tested in the 1991 SRPN based on hematoxylin staining of seedling roots. (Data provided by B.F. Carver, Stillwater, OK)

Entry No.	Selection No.	Stain Intensity[a] Al Concentration (mM) 0.18	0.36	0.72	Rating[b]
1	Kharkof	C	C	C	VS
2	Scout 66	C	C	C	VS
3	TAM 107	C	C	C	VS
4	OK87W663	P	P+/C	C	MS-I*
5	OK87542	P	C	C	MS
6	OK87630	C/P	C	C	VS-MS*
7	OK88767	P	C	C	MS
8	OK88W833	P	C/P+	C	MS-I*
9	TX88V4636	C	C	C	VS
10	TX84V1418HF	P	C	C	MS
11	TX88V5440	C	C	C	VS
12	TX88V4635	C	C	C	VS
13	TX87V1613	C	C	C	VS
14	TX88V4524	P	C	C	MS
15	TX89V4138	C	C	C	VS
16	TX88V5433	C	C	C	VS
17	TX86D1310	C	C	C	VS
18	TX86D1332	C	C	C	VS
19	TX88D3424	N	P-	P+/C	I-T*
20	CO850034	C	C	C	VS
21	CO850061	P-	P+	C	I
22	CO860086	N	P-	P	T
23	CO860094	N	P-	P	T
24	KSSB-369-7	P-	P	C	I
25	KSSB-192-3	N	P-	P+	T
26	HBC197F	N	N/C	P/C	MS-T*
27	KS87H6	C	C	C	VS
28	KS88H12-1	P	P+/C	C	MS-I*
29	KS88H12-2	P-/C	C/P	C	VS-I*
30	NE87615	N	P-	P	T
31	NE87409	C	C	C	VS
32	NE87451	N	P-	P+	T
33	NE88595	P-	C	C	MS
34	NE88427	C	C	C	VS
35	XH900	N/P	C/P	C/P+	MS-T*
36	XH1231	P	P	C	I
37	XH1322	P/N	C/P	C/P	MS-T*
38	XH1514	P/N	P	C	I
39	WI88-083	C	C	C	VS
40	WI88-024	P-/C/N	C/P	C	VS-I*
41	T19-3	C	C	C	VS
42	T67	P	C	C	MS
43	T21-3	C	C	C	VS
44	TH901	P/P-	C	C	MS
45	TH902	C/P	C/P-	C	VS-I*

[a]C, P, and N = complete, partial, and no staining of root tips, respectively; P- and P+ indicate light and dark intensity, respectively, of partial staining.

[b]VS = very susceptible, MS = moderately susceptible, I = intermediate and T = tolerant ($\leq$ 0.72 mM Al); * = heterogeneous response; predominant stain intensity listed first for each Al concentration.

Table 13a. Mean coleoptile length of seedlings from seed of the 45 entries in the 1991 SRPN grown on dryland at Bushland and Chillicothe, TX, mean seed weight of seed planted in coleoptile trials and location mean plant height. (Data, except for plant height, were collected by K. B. Porter, Professor Emeritus, Texas A&M University Research and Extension Center, Amarillo-Bushland, TX.)

CI, PI or Sel. No.	Entry No.	Coleoptile length				2-Seed-Source Mean Wt. 16 seed planted	Location Mean Plant Height
		Chilli-cothe, TX	Bush-land, TX	1991 Mean	6-Seed-Source (1990 & 91) Mean		
		---------- mm ----------				mg	cm
CI13996	2	104	104	104	103	455	92
WI88-024	40	101	103	102		503	82
CI1442	1	102	99	101	93	415	96
TX84V1418HF	10	79	89	84		426	80
TX88V4635	12	81	87	84		472	78
XH1322*	37	85	81	83		549	83
TX88V4636	9	80	85	83		448	76
OK87W663	4	83	80	82	75	467	75
T67	42	77	83	80		474	81
OK88W833	8	81	79	80		468	77
NE88427	34	77	81	79		416	78
C0850034	20	77	81	79	72	519	77
KS88H12-1	28	76	81	79		419	77
TX88V5433	16	80	77	79		460	75
OK88767	7	76	80	78		465	77
TH901*	44	78	78	78		478	81
TH902*	45	77	78	78		542	82
TX89V4138	15	76	78	77		472	77
OK87630	6	79	73	76	72	489	77
XH1231*	36	75	77	76		446	80
XH900*	35	78	72	75		441	82
KS87H6	27	72	77	75		393	77
KS88H12-2	29	73	76	75		424	78
NE87409	31	74	75	75		373	82
NE87451	32	75	74	75		463	72
PI495594	3	75	74	75	80	470	76
TX88V5440	11	73	73	73		420	73
TX86D1332	18	73	73	73	69	421	78
OK87542	5	73	72	73	68	408	78
XH1514*	38	71	74	73		369	82
KSSB-369-7	24	74	71	73		484	73
C0860094	23	70	72	71		388	77

Table 13a. Concluded.

CI, PI or Sel. No.	Entry No.	Coleoptile length				2-Seed-Source Mean Wt. 16 seed planted	Location Mean Plant Height
		Chillicothe, TX	Bushland, TX	1991 Mean	6-Seed-Source (1990 & 91) Mean		
		---------- mm ----------				mg	cm
WI88-083	39	69	73	71		431	77
TX86D1310	17	71	70	71	68	462	78
HBC197F	26	68	71	70		391	73
KSSB-192-3	25	70	67	69		459	75
C0860086	22	66	70	68		440	73
TX88D3424	19	62	71	67		361	63
NE87615	30	67	66	67	63	424	74
T19-3	41	69	63	66		424	83
TX87V1613	13	68	61	65		455	80
T21-3	43	65	64	65		455	82
NE88595	33	61	67	64		419	78
C0850061	21	61	61	61	59	446	76
TX88V4524	14	58	62	60		366	72
MEAN		76	75	76	75	444	
LSD 5%				6	6	70	
C.V. %				4	7	8	

*Hybrids were evaluated using F_2 seed.

Table 13b. Correlation of coleoptile length of 1991 SRPN entries from 2 seed sources, mean seed weight, and mean plant height over locations.

	Coleoptile length			Mean weight 16 seed planted
	Chillicothe, TX	Bushland, TX	Mean	
r value - Coleoptile length and weight of seed planted	0.34	0.32	0.35	
Probability >r	0.02	0.03	0.02	
r value - Coleoptile length and mean plant height	0.65	0.53	0.60	.20
Probability >r	.0001	.0002	.0001	.1872

Methods used in 1991 were similar to those used in 1990. Significant differences in both coleoptile length and seed weight were found among cultivars, although seed produced at Chillicothe were significantly and substantially heavier than seed from Bushland. There was no difference between the two locations in average coleoptile. Small but statistically significant positive correlation coefficients were obtained between coleoptile length and seed weight at both locations and between the average coleoptile length and average seed weight. However, no more than 12% of the variation in coleoptile length could be attributed to differences in seed weight.

Table 14. Reaction of entries in the 1991 Southern Regional Performance Nursery to Soilborne Mosaic and Wheat Streak Mosaic Viruses. SBMV data provided by A. D. Hewings, Urbana, IL. WSMV data provided by J. Martin, Hays, KS.

C.I. OR SEL. NO.	ENTRY NO.	SOILBORNE MOSAIC REP 1 0-9	SOILBORNE MOSAIC REP 2 0-9	WHEAT STREAK MOSAIC REP 1 R-S	WHEAT STREAK MOSAIC REP 2 R-S
CI1442	1	3	3	S	S
CI13996	2	4	4	S	S
PI495594	3	4	3	MR	MR
OK87W663	4	5	5	MS	MR-MS
OK87542	5	3	2	S	S
OK87630	6	3	3	S	MS
OK88767	7	5	3	S	MS
OK88W833	8	4	4	MS-S	MS-S
TX88V4636	9	5	6	S	S-MS
TX84V1418HF	10	5	5	S	MS
TX88V5440	11	3	4	S	S
TX88V4635	12	5	6	S-MS	MR
TX87V1613	13	6	5	MS-S	MS-S
TX88V4524	14	4	4	MS-S	S
TX89V4138	15	3	4	MR	MR
TX88V5433	16	2	3	S	S
TX86D1310	17	3	5	S	VS
TX86D1332	18	3	5	S	VS
TX88D3424	19	3	2	S	VS
CO850034	20	3	3	S	S
CO850061	21	4	3	MS-S	MS-S
CO860086	22	2	3	S	S
CO860094	23	3	4	MS-MR	MR
KSSB-369-7	24	2	3	S	S
KSSB-192-3	25	2	4	S-MS	MS
HBC197F	26	4	3	S-MR	MS
KS87H6	27	4	4	MS-S	MS
KS88H12-1	28	2	4	MS-S	MS-S
KS88H12-2	29	2	4	S	MS-S
NE87615	30	2	4	S	S
NE87409	31	5	5	VS	MS-S
NE87451	32	5	3	S	MS-S
NE88595	33	2	5	MR	S
NE88427	34	4	4	MS-VS	MR-MS
XH900	35	3	3	S	MR
XH1231	36	2	3	MS	MS
XH1322	37	3	2	MS	MR
XH1514	38	2	3	MS	S-MS
WI88-083	39	2	3	VS	VS
WI88-024	40	4	5	MS	MR-MS
T19-3	41	3	4	MS-S	S
T67	42	4	4	MR	MS
T21-3	43	3	4	MR-MS	MR
TH901	44	3	3	MS	MS-MR
TH902	45	2	3	MR-MS	MR

Table 15. Reaction of entries in the 1991 Southern Regional Performance Nursery to WSBMV. Data provided by Robert M. Hunger and John L. Sherwood, Plant Pathology Department, Oklahoma State University, Stillwater, OK. Information on methods is presented with the Uniform Soilborne Mosaic Nursery results later in this report.

Entry		Visual			ELISA		
No.	Sel. No.	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3
1	CI1442	3	3	2	0.918	1.434	1.830
2	CI13996	3	3	2	1.343	1.878	1.987
3	PI495594	3	3	2	1.179	1.604	1.988
4	OK87W663	3	2	2	1.275	1.482	1.908
5	OK87542	3	2	3	1.488	1.878	2.000
6	OK87630	2	2	2	0.994	1.719	2.000
7	OK88767	3	2	2	1.333	1.580	1.828
8	OK88W833	2	2	2	1.230	1.740	2.000
9	TX88V4636	3	3	3	1.447	1.516	2.000
10	TX84V1418HF	3	2	3	1.372	1.612	2.000
11	TX88V5440	0	0	1	0.068	0.056	1.119
12	TX88V4635	3	2	2	1.229	1.406	2.000
13	TX87V1613	3	3	3	1.290	1.867	2.000
14	TX88V4524	3	3	3	1.340	1.513	1.983
15	TX89V4138	3	3	3	1.771	1.962	1.962
16	TX88V5433	1	1	1	1.001	0.005	0.050
17	TX86D1310	1	2	Seg	1.561	1.625	0.498
18	TX86D1332	2	2	2	1.032	1.802	0.825
19	TX88D3424	3	3	2	1.604	2.000	0.790
20	CO850034	2	3	3	1.345	1.583	0.781
21	CO850061	2	3	3	1.532	2.000	0.656
22	CO860086	2	3	3	1.523	1.461	0.791
23	CO860094	3	3	3	1.219	1.988	1.027
24	KSSB-369-7	3	2	2	1.137	1.678	1.124
25	KSSB-192-3	Seg	1	0	1.208	0.001	0.023
26	HBC197F	0	0	0	0.026	0.007	0.028
27	KS87H6	2	3	2	1.287	1.942	0.902
28	KS88H12-1	1	1	0	1.409	1.782	0.031
29	KS88H12-2	1	1	0	1.615	0.008	0.035
30	NE87615	3	3	2	1.764	1.748	0.962
31	NE87409	1	0	0	0.687	0.032	0.406
32	NE87451	3	2	2	1.746	1.319	2.000
33	NE88595	3	2	2	1.786	1.473	1.691
34	NE88427	3	2	1	1.442	1.156	2.000
35	XH900	1	1	1	1.581	1.303	2.000
36	XH1231	1	1	1	1.783	1.489	2.000
37	XH1322	1	1	1	1.988	1.779	2.000
38	XH1514	1	1	0	1.356	1.176	0.034
39	WI88-083	0	1	0	0.001	0.860	0.055
40	WI88-024	3	2	2	1.879	1.620	1.947
41	TI9-3	3	2	2	1.717	1.645	2.000
42	T67	2	1	2	0.121	1.611	1.684
43	T21-3	0	1	1	0.006	1.968	2.000
44	TH901	0	0	0	0.006	1.912	0.047
45	TH902	1	1	1	2.000	2.000	2.000

1991

Northern Regional Performance Nursery

Entry No.	Variety or Pedigree	Sel. No.	Source
1**	Kharkof	CI1442	Check
2**	Roughrider	CI17439	"
3**	Colt	PI476975	"
4	Lcr/Frd//NE69559/Wnk/3/Nell	SD87144	So. Dakota
5*	Sage/Bsk	SD88218	"
6*	Brule/Dawn	SD88201	"
7*	Brule/Dawn	SD88192	"
8*	Gent/TX78A3630	SD88120	"
9*	TX78A3630/Lco	SD88137	"
10*	SD76501-28-4/Brule	SD88240	"
11*	Sxl/Lco	SD88148	"
12*	Rri/Sxl	SD88171	"
13*	Dawn/4/Butte*2//NW7125/3/SD76705	SD88250	"
14	Hume*2/Era//Siouxland	ND85137	No. Dakota
15	YTO-117/Alab//Minter/3/Ctk/4/Agate	ND86105	"
16*	Wnk/SD6914//Siouxland	ND8844	"
17*	Mvr/KS79397//Nsr/3/Siouxland	ND8892	"
18	Nwt//Wrr*5/Agent/3/NE69441	NE87612	Nebraska
19	NE76668/4/TAM-105/3/Larned//Eagle/Sage	NE87613	"
20	CIMMYT/Scout//Bennett sib/4/Pkr*4/Agent//Bel. 198/Lcr/3/Bez 1/Ctk 78	NE83407	"
21*	T. Diccocoides/Brule//Arkan	NE88536	"
22*	Agent/4*Scout//Hand/3/TAM-105/4/Sxld	NE88635	"
23***	Wrr/*Agent//Kavkaz/4/Pkr*4/Agent//Bel.198/Lcr/3/Vona	NE83498	"
24**	Quantum Hybrid Wheat	XNH1401	HybriTech
25*	" "	XNH1419	"
26*	" "	XNH1469	"
27*	" "	XNH1486	"

* New entry in 1991
** New seed provided
*** Entered from SRPN

TEST SITE INFORMATION - NRPN

Nebraska stations — See information for SRPN.

Brookings, SD — Planted in fallow on 9/15/90. Moisture conditions were good. The winter was extremely mild and somewhat dry, followed by cool and wet spring. Leaf rust was present and stem rust was found late in June. Very little tanspot or septoria. Harvested on 7/17/91.

Pierre, SD — Planted into standing soybeans on 9/11/90. Soil was extremely dry. Winter was very mild and dry followed by wet spring and summer seasons. No tanspot or septoria were found. Harvested on 7/12/90. The Pierre location is a new test site for the breeding program at the new Dakota Lakes Research Station, located on the east bank of the Missouri river, 20 miles south of Pierre.

Winner, SD — Planted into extremely dry fallow on 9/10/90. Abandoned due to poor and irregular stand.

Casselton, ND — The nursery was planted on 9/5/90 into standing flax stubble. Winter survival was 100%. Growing conditions were good, with timely rains throughout the season. Maturity was very early with harvest on July 10.

Carrington, ND — The nursery was planted on 9/12/90 into wheat stubble. Growing conditions were good and leaf rust was severe.

Williston, ND — Planted on 9/11/90. Fall stand was 25 to 50% due to dry soil conditions. Spring stand ratings were not indication of winter survival, but were spring stand establishment. Fertilizer applied was 40 lbs/a N and 26 lbs/a P2O5. Leaf spot diseases and a small amount of leaf rust were present, but no stem rust. Harvested on 7/25/91.

Minnesota stations — Winter survival was 100% for both locations. Growing conditions were highlighted by wet weather and high humidity during May. Scab was not as severe on the winter wheat trials as on spring wheats, as rain did not occur during flowering. Lodging was quite severe and occurred very early at Rosemount, less severe at Waseca. Mildew was present at Rosemount on many lines, and on heads of very susceptible lines. Plots were harvested in mid-July.

Sheridan, WY — Lost to hail storm in mid-June.

Archer, WY — Severe infection of Wheat Streak Mosaic Virus resulted in severe stunting and yellowing of plants and low yields. Significant differences in entry reactions to WSMV infections were noted.

Moccasin, MT — The nursery was lost to hail damage.

Sidney, MT — Planted into summer fallow on 9/10/90 with available fertility of 95 lbs/a N and 47 lbs/a P. Very dry soil conditions at planting resulted in very poor stands. Moisture was ample in late fall and spring with a total of 15.2 inches received during the growing season. Some sawfly damage was noted.

Bozeman, MT — Very severe but uneven winterkill. Stem rust ratings were obtained from planting of one rep at Ft. Ellis that was infected with a mixture of field races collected in Montana. Dwarf bunt ratings were obtained from a natural infection at Ft. Ellis.

Aberdeen, ID — Planted on 10/1/90 with 200 lbs/a N fertilizer and harvested on 8/9/91. Irrigation applied on the NRPN totaled 8 inches. Seeding rate was 75 lbs/a.

Preston, ID — Planted on 9/24/90 with a seeding rate of 60 lbs/a and fertilizer application of 40 lbs/a. Harvested on 7/30/91.

Lind, WA — Lost to winterkill.

Table 16. Yield and agronomic data for 27 entries in the 1991 Northern Regional Performance Nursery.

LINCOLN

NEBRASKA

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
XNH1419	25	2421	72.2	110	142
NE83407	20	2228	69.3	110	142
PI476975	3	2013	68.6	104	143
NE83498	23	1988	67.5	102	143
SD87144	4	1968	72.2	116	142
XNH1401	24	1858	72	108	143
NE88536	21	1847	70.4	104	144
XNH1469	26	1623	68.1	107	144
NE87613	19	1616	67.6	104	142
SD87143	28	1607	71.2	103	145
SD88201	6	1603	73.5	105	147
SD88192	7	1515	70.3	103	144
ND85137	14	1509	71.6	108	146
SD88250	13	1491	71.3	98	144
SD88218	5	1488	73.5	108	144
XNH1486	27	1462	67.6	102	143
SD88171	12	1423	69	110	143
SD88120	8	1406	68.4	100	145
ND8844	16	1370	71	107	147
CI17439	2	1363	74.2	114	146
ND8892	17	1267	71.2	107	148
NE87612	18	1249	64.6	95	144
NE88635	22	1184	67.7	99	144
SD88137	9	1175	68.5	105	144
SD88240	10	1103	70.2	103	144
ND86105	15	1094	69.7	105	147
SD88148	11	1024	67.5	100	144
CI1442	1	883	72.2	103	147
MEAN		1528			
LSD(.05)		514			
C.V.		20.5			

NORTH PLATTE

NEBRASKA

THREE REPLICATIONS

C.I. OR SEL. NO.	ENTRY NO.	YIELD KG/HA	VOLUME WEIGHT KG/HL
SD88218	5	2009	73.5
XNH1419	25	1930	72
ND8844	16	1745	71.1
SD87143	28	1708	72.2
ND8892	17	1706	71
NE88635	22	1688	71.7
SD87144	4	1659	71.6
NE83498	23	1547	71.2
NE87613	19	1514	69.7
SD88137	9	1508	71.6
NE83407	20	1435	68.6
NE88536	21	1397	68.8
ND85137	14	1301	71
SD88171	12	1298	68.8
SD88240	10	1204	72.4
ND86105	15	1172	70.3
NE87612	18	1152	70.3
SD88148	11	1125	71.7
SD88250	13	1003	67.5
XNH1486	27	1000	71.9
PI476975	3	989	69.9
CI17439	2	949	67.7
XNH1469	26	946	69.7
SD88201	6	911	72.8
XNH1401	24	892	69
SD88192	7	835	70.7
CI1442	1	807	67.1
SD88120	8	675	.
MEAN		1289	
LSD(.05)		397	
C.V.		18.8	

SIDNEY

NEBRASKA

THREE REPLICATIONS

C.I. OR SEL. NO.	ENTRY NO.	YIELD KG/HA	VOLUME WEIGHT KG/HL	PLANT HEIGHT CM
XNH1419	25	4322	82.6	86
SD88137	9	4242	81.3	91
SD88218	5	4059	81.3	104
ND8844	16	3970	78.7	112
SD88148	11	3893	81.1	91
SD88201	6	3892	81.3	97
ND86105	15	3890	78.3	109
SD87144	4	3853	80.4	97
SD87143	28	3820	81.3	86
SD88240	10	3800	79.1	102
CI17439	2	3795	79.7	107
SD88171	12	3740	78.8	102
NE88635	22	3731	81.1	89
ND85137	14	3612	77.8	94
ND8892	17	3487	77.4	112
NE87612	18	3444	77.3	86
NE87613	19	3432	79.3	79
SD88192	7	3405	79.7	74
NE83498	23	3364	81.3	79
SD88250	13	3329	76.8	97
NE88536	21	3245	75.9	89
NE83407	20	2949	76.4	79
PI476975	3	2935	78.8	74
XNH1401	24	2853	76.1	86
XNH1469	26	2712	72.5	86
SD88120	8	2690	76.1	86
XNH1486	27	2473	74.4	84
CI1442	1	2269	77.7	109
MEAN		3472		
LSD(.05)		489		
C.V.		8.6		

BROOKINGS

SOUTH 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
SD88137	9	4456	77.3	89	151
XNH1419	25	4287	76	89	150
SD88201	6	3942	78.2	88	152
SD88171	12	3890	76.4	96	151
SD88250	13	3868	77.3	87	152
SD88253	33	3817	76.2	78	150
CI17439	2	3801	79.1	99	153
SD88218	5	3765	77.5	94	150
SD87127	34	3714	78.4	95	151
SD87144	4	3679	76.2	91	151
SD87128	28	3675	79.5	88	150
SD88240	10	3672	76.6	93	151
NE83407	20	3670	73.5	72	150
XNH1401	24	3613	74.4	88	151
NE87613	19	3603	73.8	81	149
SD87143	29	3599	77.3	86	150
SD88192	7	3586	75.1	79	150
ND8844	16	3544	77.1	100	154
SD88231	32	3519	76.6	87	150
SD88185	30	3507	76.2	83	150
SD89333	36	3475	76.4	85	149
ND8892	17	3453	76	95	153
ND85137	14	3399	75.8	92	152
SD89342	35	3349	75.3	102	152
ND86105	15	3334	76.2	98	153
NE83498	23	3169	72.6	75	150
NE88536	21	3159	71.3	90	152
PI476975	3	3144	73.7	67	150
NE88635	22	3086	71.3	83	151
NE87612	18	3031	70	78	150
SD88191	31	2921	71.7	69	151
XNH1469	26	2915	70.6	80	151
SD88148	11	2877	73.1	84	150
XNH1486	27	2422	69.8	79	150
SD88120	8	2244	66.2	68	150
CI1442	1	1851	75.8	101	153
MEAN		3418			
LSD(.05)		508			
C.V.		9.1			

PIERRE

SOUTH DAKOTA

THREE REPLICATIONS

C.I. OR SEL. NO.	ENTRY NO.	YIELD KG/HA	VOLUME WEIGHT KG/HL	PLANT HEIGHT CM
SD87144	4	4212	72.6	83
SD87143	29	4106	75.5	82
NE87612	18	4015	74	71
SD88253	33	4002	71.8	75
SD88137	9	3928	76.8	87
NE83407	20	3899	72.4	73
SD88240	10	3831	75.3	87
XNH1486	27	3826	74.6	76
SD89333	36	3786	70.4	77
SD88192	7	3740	75.1	77
SD87128	28	3654	77.1	90
SD88201	6	3553	77.8	88
SD88231	32	3531	74.2	82
SD88185	30	3504	74.4	84
XNH1419	25	3485	76	81
SD87127	34	3448	74.8	88
NE87613	19	3414	72.8	76
SD88218	5	3384	74.9	88
SD88250	13	3381	70.9	80
NE83498	23	3373	76.2	80
ND86105	15	3329	74.6	91
ND8844	16	3288	71.7	95
NE88536	21	3285	70.9	81
XNH1469	26	3283	68.8	68
SD88191	31	3224	72.4	68
PI476975	3	3221	69.5	67
SD88171	12	3057	72.6	87
XNH1401	24	2987	71.3	89
SD88148	11	2911	72.2	78
SD89342	35	2879	68.6	89
ND8892	17	2701	64.4	86
NE88635	22	2652	67.1	79
ND85137	14	2504	69.1	91
CI17439	2	2431	73.5	85
SD88120	8	2198	61.5	74
CI1442	1	1768	70	91
MEAN		3327		
LSD(.05)		931		
C.V.		17.2		

CASSELTON

NORTH 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
XNH1419	25	4929	82.4	89	147
NE83498	23	4743	79.5	80	147
SEWARD	29	4730	78.9	94	154
NE88635	22	4622	78.8	89	148
SD87143	28	4567	80.2	88	149
XNH1401	24	4561	79.6	94	149
SD88192	7	4507	78.9	75	148
SD87144	4	4502	79.9	90	146
SD88137	9	4469	80.1	92	149
ARAPAHOE	30	4385	78.3	82	149
SD88218	5	4351	80.1	96	149
PI476975	3	4350	78.7	73	147
SD88201	6	4312	81.4	87	151
SD88148	11	4300	77.4	87	148
SD88240	10	4294	78.3	87	148
XNH1486	27	4255	77.4	86	148
NE88536	21	4234	77.4	90	151
NE87613	19	4221	77	80	147
NE83407	20	4221	77.8	73	148
SD88171	12	4188	78.2	90	149
ND8844	16	4187	79.3	93	152
ND86105	15	4137	78	102	152
ND8892	17	4090	78.8	95	152
SD88250	13	4084	77	81	150
SD88120	8	4000	75.7	74	148
ND85137	14	3977	78.8	88	151
CI17439	2	3953	79.6	92	152
NE87612	18	3907	74.8	73	147
XNH1469	26	3882	74.7	78	149
CI1442	1	3402	79.5	100	153
MEAN		4279			
LSD(.05)		396			
C.V.		5.7			

CARRINGTON

NORTH 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 %
SD88137	9	3913	77.8	81	158	83
ARAPAHOE	30	3718	74.6	72	158	78
SD87144	4	3357	75.2	76	155	87
SD87143	28	3256	74.4	69	157	88
SEWARD	29	3215	67	88	162	83
ND85137	14	3199	74.2	78	161	85
XNH1419	25	3186	74.9	68	156	65
ND8892	17	3164	73.1	85	161	85
CI17439	2	3042	71	79	160	83
ND86105	15	2938	69.7	85	161	80
ND8844	16	2878	70.4	85	162	75
SD88218	5	2786	76.6	79	159	72
SD88171	12	2759	67.9	77	158	88
SD88192	7	2672	70.3	72	159	70
NE88635	22	2537	71	65	159	55
SD88250	13	2511	70.2	76	162	63
NE87613	19	2490	73.5	66	155	83
SD88240	10	2429	69	75	158	82
CI1442	1	2422	74.7	85	162	77
NE83498	23	2377	71.5	63	157	73
SD88201	6	2331	68.4	70	160	60
XNH1401	24	2325	68.4	76	160	68
XNH1486	27	2299	66	71	158	83
SD88148	11	2223	71.5	72	159	72
SD88120	8	2112	63.3	69	159	67
NE87612	18	2108	68.9	64	158	75
PI476975	3	2043	72.6	55	159	52
NE83407	20	1900	67.5	63	158	55
NE88536	21	1886	69.1	77	160	65
XNH1469	26	1688	63.2	68	160	58
MEAN		2659				
LSD(.05)		853				
C.V.		19.6				

WILLISTON

NORTH DAKOTA

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 %	BACTERIAL BLIGHT 0-9	TAN SPOT 0-9	GRAIN PROTEIN %
NORSTAR	29	2818	81.4	70	152	88	5	6	14.4
SEWARD	30	2715	79.9	68	159	71	8	5	12.7
ND86105	15	2550	80	68	158	83	5	7	13.5
SD88240	10	2492	81	63	155	76	6	8	13.4
XNH1469	26	2396	78.6	59	157	58	3	7	13.4
SD88171	12	2368	80.1	70	156	79	8	8	14.1
CI17439	2	2356	81.3	63	159	83	7	7	14.9
ND8844	16	2350	79.9	66	158	65	7	6	14.5
SD88250	13	2318	79.6	57	157	56	6	7	13.7
ND85137	14	2308	80	61	158	64	7	7	14.3
XNH1419	25	2303	79.9	63	154	66	4	6	14.3
ND8892	17	2290	80	67	159	70	4	8	14.3
SD88192	7	2242	81.1	51	155	70	8	8	13.7
CI1442	1	2199	79.7	70	158	78	7	8	14.8
NE88635	22	2139	79.6	67	155	68	8	9	13.4
SD88201	6	2099	82	63	157	74	7	6	15.4
SD88148	11	2094	80.9	59	155	65	6	7	13.3
NE83407	20	2086	79.6	55	154	51	5	8	13.4
SD88120	8	2058	79.7	54	156	56	5	7	13.2
SD88137	9	2034	80.6	68	156	58	7	7	15
NE83498	23	2029	80.1	59	154	56	5	7	12.7
PI476975	3	2022	80.4	57	154	58	4	8	14
SD87143	28	2019	80.2	58	156	58	7	7	14.5
XNH1486	27	2018	80.8	58	156	41	4	5	13.3
NE88536	21	2015	77.5	55	157	55	5	7	14.1
XNH1401	24	1987	80.9	63	156	41	7	8	13.3
NE87612	18	1955	79.5	57	154	46	3	7	12.9
SD88218	5	1874	80.6	70	155	50	3	7	14.8
NE87613	19	1778	79.6	56	154	41	3	8	13.4
SD87144	4	1696	79.1	63	155	45	3	8	14.4
MEAN		2187							
LSD(.05)		281							
C.V.		9.1							

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	LODGING 0-9	LEAF RUST SEV. %	LEAF RUST RESP 0-9
SD88137	9	3017	75.5	101	153	7	0	.
PI476975	3	2901	72.9	80	151	5	30	3
SD88250	13	2845	76.8	91	155	7	1	3
XNH1401	24	2768	76.1	97	153	5	40	7
XNH1469	26	2730	71.6	87	153	6	70	8
SD88120	8	2659	71	86	152	7	50	7
NE83498	23	2659	72.2	82	151	7	80	8
ND85137	14	2603	74.2	97	156	7	60	8
NE87612	18	2587	71	91	150	5	10	3
SD88201	6	2567	78.7	100	155	8	60	9
SD88192	7	2538	74.8	91	153	7	40	7
SD88171	12	2468	73.5	101	153	7	60	9
SD88218	5	2448	76.1	104	152	7	20	7
NE83407	20	2439	73.5	80	152	7	60	8
XNH1419	25	2410	74.2	89	151	7	10	3
SD87144	4	2309	76.1	95	150	5	10	3
ND8892	17	2275	72.2	102	156	7	50	7
NE88536	21	2257	73.5	99	153	6	50	7
NE88635	22	2215	69	87	153	8	60	7
CI17439	2	1865	77.4	107	154	6	80	8
NE87613	19	1845	71	91	150	7	40	7
SD88148	11	1789	74.8	95	152	9	50	7
ND86105	15	1778	72.2	110	155	8	40	7
XNH1486	27	1760	70.3	88	153	8	70	8
ND8844	16	1666	71	107	155	8	70	8
SD88240	10	1565	77.4	104	152	8	50	7
CI1442	1	1145	76.1	112	155	9	30	3
MEAN		2300						
LSD(.05)		565						
C.V.		15.0						

WASECA

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	LODGING 0-9
XNH1419	25	3397	77.4	95	152	3
SD87144	4	3222	77.4	101	150	3
NE83407	20	3165	74.2	82	153	3
SD88250	13	3161	76.1	91	153	4
XNH1401	24	3156	76.1	92	153	3
SD88218	5	3094	77.4	105	150	3
SD88240	10	3000	77.4	101	150	4
SD88137	9	2995	76.1	94	153	3
NE88536	21	2973	74.8	98	151	2
SD88201	6	2924	77.4	97	154	3
CI17439	2	2865	78.7	104	153	2
SD88192	7	2662	74.2	97	152	3
NE87613	19	2657	74.2	95	151	2
PI476975	3	2635	73.5	81	153	1
SD88120	8	2578	71.6	94	151	4
SD88171	12	2571	74.8	99	150	2
ND85137	14	2521	71.6	99	154	3
NE83498	23	2498	73.5	88	151	4
NE87612	18	2464	73.5	96	150	3
NE88635	22	2303	72.2	91	151	4
XNH1469	26	2283	71	89	151	2
ND8844	16	2250	73.5	104	156	3
ND8892	17	2160	71	101	156	4
SD88148	11	2149	74.2	96	150	5
XNH1486	27	1868	68.4	90	152	2
ND86105	15	1808	73.5	102	155	6
CI1442	1	1514	73.5	108	154	6
MEAN		2625				
LSD(.05)		372				
C.V.		8.6				

ARCHER

WYOMING

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	WSMV 0-9
SD88137	9	2235	68.2	51	155	2.1
XNH1419	25	2221	70.8	48	155	1.9
NE88635	22	2186	66.7	50	156	2
SD88240	10	2161	68.5	52	156	2.6
XNH1469	26	2107	69.1	48	157	1.9
SD88201	6	2020	70.4	50	157	2.3
NE83407	20	2011	64.2	41	155	2.5
ND8892	17	1997	67.8	61	160	2.2
SD88148	11	1988	68.6	46	155	2.6
XNH1401	24	1988	64.8	54	158	2
XNH1486	27	1979	66.3	50	156	1.9
SD87144	4	1939	69.2	49	154	2.5
ND8844	16	1854	68.7	61	162	1.5
SD88250	13	1760	64.7	52	160	2.3
NE87612	18	1749	65	47	156	2.3
SD88120	8	1699	63.6	41	155	2.4
PI476975	3	1672	67.5	45	156	2.3
SD88218	5	1614	72.4	52	156	2.3
CI1442	1	1594	67.7	56	158	2.8
SD88171	12	1511	66.8	53	158	2.7
NE88536	21	1468	67.6	50	157	2.5
ND85137	14	1439	67.3	50	161	2.7
SD88192	7	1397	64.5	44	156	2.4
NE83498	23	1394	63.7	46	156	2.5
ND86105	15	1305	68.2	58	160	2.6
NE87613	19	1293	65.3	41	154	3.2
CI17439	2	782	56.6	52	161	2.5
MEAN		1754				
LSD(.05)		457				
C.V.		15.9				

SIDNEY

MONTANA

FOUR REPLICATIONS

C.I. OR SEL. NO.	ENTRY NO.	YIELD KG/HA	VOLUME WEIGHT KG/HL	PLANT HEIGHT CM
ND8844	16	3266	76.9	81
CI17439	2	2892	77.6	80
ND85137	14	2719	78.3	76
ND86105	15	2599	77.2	80
ND8892	17	2570	77.1	81
SD88171	12	2419	77.1	77
SD88250	13	2219	78.6	72
SD88192	7	2141	79.8	64
SD88240	10	2088	79	75
SD88201	6	1963	80.9	74
XNH1419	25	1928	77.9	72
XNH1486	27	1919	77.7	72
SD88148	11	1892	79.4	70
NE83407	20	1785	77.3	61
NE88536	21	1753	75.3	74
NE88635	22	1677	76.2	70
SD88120	8	1631	78.2	69
CI1442	1	1609	79.3	92
SD87144	4	1609	77.8	71
SD88218	5	1564	79.2	74
SD88137	9	1506	78.4	74
NE87613	19	1504	78.1	62
XNH1469	26	1445	74.9	69
XNH1401	24	1412	77.5	69
PI476975	3	1381	78.4	58
NE87612	18	1141	76.6	62
NE83498	23	808	76.7	59
MEAN		1905		
LSD(.05)		789		
C.V.		29.3		

BOZEMAN

MONTANA

THREE REPLICATIONS

C.I. OR SEL. NO.	ENTRY NO.	YIELD KG/HA	PLANT HEIGHT CM	DAYS TO HEADING FROM 1/1	WINTER SURVIVAL %	STAND %	STEM RUST 1-4	DWARF BUNT 0-2
ND86105	15	5842	103	178	15	64	1	2
XNH1401	24	5704	93	173	21	81	4	0
XNH1469	26	5637	89	172	21	84	2	1
ND8844	16	5562	99	178	21	71	2	2
XNH1486	27	5441	91	172	23	80	4	0
SD88240	10	5341	92	172	29	80	0	2
SD88148	11	5205	96	170	30	80	1	2
ND85137	14	4977	95	174	24	73	2	2
SD88120	8	4926	87	172	30	78	2	2
XNH1419	25	4813	89	170	26	73	2	1
NE83498	23	4781	87	171	26	80	1	1
SD87144	4	4763	98	169	29	74	3	2
SD88250	13	4628	91	176	25	71	1	2
ND8892	17	4605	102	178	21	78	3	2
NE83407	20	4544	81	171	29	75	0	1
SD88192	7	4521	104	172	30	81	1	2
SD88171	12	4489	103	173	33	79	3	2
SD88201	6	4441	95	174	28	84	1	2
NE88635	22	4361	81	170	20	61	2	1
NE87613	19	4317	77	169	15	59	1	2
NE88536	21	4291	89	174	15	70	1	1
SD88218	5	4194	94	172	28	79	2	1
NE87612	18	4183	77	171	19	58	1	1
SD88137	9	4117	94	173	24	68	0	1
CI17439	2	3697	107	176	31	78	2	1
PI476975	3	3684	71	169	21	72	0	0
CI1442	1	3250	123	177	31	81	4	2
MEAN		4678						
LSD(.05)		1071						
C.V.		16.2						

ABERDEEN

IDAHO

TWO 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	STRIPE RUST SEV.	STRIPE RUST RESP	COMMON BUNT %
NE83407	20	10279	77.8	114	162	3	30	5	25
NE87613	19	9640	77.5	113	160	1	30	8	20
NE87612	18	9391	77.4	112	162	1.5	30	7	20
SD88120	8	9055	78.7	114	164	1.5	30	7	.
PI476975	3	8658	80.4	91	165	1	30	6	5
NE83498	23	8486	78.6	117	164	1.5	15	4	20
NE88536	21	8483	76.2	121	165	2.5	30	8	15
ND85137	14	8022	80.1	122	166	5	20	5	25
XNH1419	25	7945	77.4	122	163	6	30	7	15
XNH1486	27	7924	75.5	118	165	5.5	30	9	5
SD88240	10	7877	80.4	119	163	7.5	30	9	25
XNH1401	24	7877	76.8	123	164	6	30	6	15
NE88635	22	7834	78.4	118	163	4	25	5	20
SD88171	12	7615	78.8	123	164	7.5	30	9	15
WESTON	30	7551	81.1	121	164	7.5	10	3	10
ND8892	17	7517	78.7	122	166	7.5	30	6	15
SD88201	6	7437	82.6	119	164	4.5	30	7	25
SD88218	5	7168	80.6	130	162	7.5	30	8	20
XNH1469	26	7158	75.2	118	165	5.5	30	8	10
SD88137	9	7151	78.6	119	164	2	30	9	20
SD88250	13	7070	78.7	123	165	5.5	30	9	25
MT7811	29	7043	76	118	167	6	30	9	10
BLIZZARD	28	6999	79.9	123	169	5.5	30	7	0
SD87144	4	6892	79.1	124	165	6.5	30	8	10
SD88192	7	6791	76	118	163	3.5	30	8	10
ND86105	15	6720	77.5	124	167	7	30	9	15
ND8844	16	6549	77.8	123	167	6	30	9	20
CI17439	2	6448	80.6	121	166	5	30	5	10
SD88148	11	6347	79.1	121	160	8	30	6	25
CI1442	1	5301	79.3	127	168	9	15	4	15
MEAN		7641							
LSD(.05)		1929							
C.V.		12.3							

PRESTON

IDAHO

TWO REPLICATIONS

C.I. OR SEL. NO.	ENTRY NO.	YIELD KG/HA	VOLUME WEIGHT KG/HL	PLANT HEIGHT CM
NE83407	20	3131	77.3	75
XNH1469	26	3037	76.5	80
BLIZZARD	28	2805	78.4	80
XNH1486	27	2795	78.7	76
ND8844	16	2691	76.5	86
NE87613	19	2677	79.1	79
ND85137	14	2657	79.1	76
XNH1419	25	2570	77.8	80
XNH1401	24	2523	77.3	77
SD88192	7	2489	78.7	72
NE87612	18	2415	75.9	71
SD88137	9	2341	75.9	81
SD87144	4	2328	76.2	86
SD88120	8	2324	72.6	69
SD88250	13	2122	76.5	76
SD88240	10	2095	76.1	77
SD88148	11	2042	74.9	80
WESTON	30	1995	74.7	89
SD88201	6	1961	77.1	71
NE83498	23	1941	74.9	71
CI17439	2	1894	77.3	75
ND86105	15	1894	75.5	77
SD88218	5	1873	76.9	84
MT7811	29	1847	75.6	64
ND8892	17	1786	77.4	79
CI1442	1	1601	75.2	86
PI476975	3	1571	76.2	61
NE88536	21	1416	72.9	76
NE88635	22	1392	77.4	71
SD88171	12	1255	73	74
MEAN		2182		
LSD(.05)		N.S.		
C.V.		25.9		

Table 17. Summary of mean yields (kg/ha) of 27 wheats grown in the 1991 Northern Regional Performance Nursery at 15 locations with state means and ranks.

C.I. OR SEL. NO.	ENTRY NO.	LINCOLN NEBRASKA		NORTH PLATTE NEBRASKA		SIDNEY NEBRASKA		NEBRASKA STATE MEAN		ARCHER WYOMING		BROOKINGS S. DAKOTA		PIERRE S. DAKOTA		SOUTH DAKOTA STATE MEAN	
XNH1419	25	2421	1	1930	2	4322	1	2891	1	2221	2	4287	2	3485	9	3886	3
NE83407	20	2228	2	1435	10	2949	21	2204	7	2011	7	3670	10	3899	4	3784	4
SD88137	9	1175	23	1508	9	4242	2	2308	5	2235	1	4456	1	3928	3	4192	1
SD87144	4	1968	5	1659	6	3853	8	2493	3	1939	12	3679	8	4212	1	3945	2
ND8844	16	1370	18	1745	3	3970	4	2362	4	1854	13	3544	14	3288	15	3416	13
SD88240	10	1103	24	1204	14	3800	9	2035	17	2161	4	3672	9	3831	5	3751	5
ND85137	14	1509	12	1301	12	3612	13	2141	13	1439	22	3399	16	2504	24	2952	23
XNH1401	24	1858	6	892	24	2853	23	1868	23	1988	9	3613	11	2987	20	3300	15
NE87613	19	1616	9	1514	8	3432	16	2187	9	1293	26	3603	12	3414	10	3508	11
SD88201	6	1603	10	911	23	3892	6	2135	14	2020	6	3942	3	3553	8	3747	6
SD88250	13	1491	13	1003	18	3329	19	1941	21	1760	14	3868	5	3381	12	3625	8
SD88218	5	1488	14	2009	1	4059	3	2519	2	1614	18	3765	7	3384	11	3575	9
NE83498	23	1988	4	1547	7	3364	18	2300	6	1394	24	3169	18	3373	13	3271	16
ND8892	17	1267	20	1706	4	3487	14	2153	12	1997	8	3453	15	2701	22	3077	22
SD88192	7	1515	11	835	25	3405	17	1918	22	1397	23	3586	13	3740	7	3663	7
SD88171	12	1423	16	1298	13	3740	11	2154	11	1511	20	3890	4	3057	19	3473	12
NE87612	18	1249	21	1152	16	3444	15	1948	20	1749	15	3031	22	4015	2	3523	10
ND86105	15	1094	25	1172	15	3890	7	2052	15	1305	25	3334	17	3329	14	3332	14
XNH1469	26	1623	8	946	22	2712	24	1760	24	2107	5	2915	23	3283	17	3099	21
NE88536	21	1847	7	1397	11	3245	20	2163	10	1468	21	3159	19	3285	16	3222	17
NE88635	22	1184	22	1688	5	3731	12	2201	8	2186	3	3086	21	2652	23	2869	25
XNH1486	27	1462	15	1000	19	2473	26	1645	25	1979	11	2422	25	3826	6	3124	19
PI476975	3	2013	3	989	20	2935	22	1979	19	1672	17	3144	20	3221	18	3183	18
SD88120	8	1406	17	675	27	2690	25	1590	26	1699	16	2244	26	2198	26	2221	26
CI17439	2	1363	19	949	21	3795	10	2036	16	782	27	3801	6	2431	25	3116	20
SD88148	11	1024	26	1125	17	3893	5	2014	18	1988	9	2877	24	2911	21	2894	24
CI1442	1	883	27	807	26	2269	27	1320	27	1594	19	1851	27	1768	27	1810	27
MEAN		1525		1274		3459		2086		1754		3387		3246		3317	
LSD(.05)		495		396		491		613		457		500		992		828	
C.V.		19.8		19.0		8.7		13.5		15.9		9.0		18.7		14.3	

Table 17. Continued.

C.I. OR SEL. NO.	ENTRY NO.	WASECA MINNESOTA		ROSEMOUNT MINNESOTA		MINNESOTA STATE MEAN		WILLISTON N. DAKOTA		CASSELTON N. DAKOTA		CARRINGTON N. DAKOTA		NORTH DAKOTA STATE MEAN	
XNH1419	25	3397	1	2410	15	2904	4	2303	9	4929	1	3186	4	3473	1
NE83407	20	3165	3	2439	14	2802	5	2086	16	4221	15	1900	25	2736	22
SD88137	9	2995	8	3017	1	3006	1	2034	18	4469	7	3913	1	3472	2
SD87144	4	3222	2	2309	16	2765	8	1696	27	4502	6	3357	2	3185	4
ND8844	16	2250	22	1666	25	1958	24	2350	6	4187	18	2878	8	3138	8
SD88240	10	3000	7	1565	26	2282	19	2492	2	4294	12	2429	15	3072	12
ND85137	14	2521	17	2603	8	2562	14	2308	8	3977	23	3199	3	3161	6
XNH1401	24	3156	5	2768	4	2962	3	1987	23	4561	4	2325	19	2958	16
NE87613	19	2657	13	1845	21	2251	21	1778	26	4221	15	2490	14	2829	20
SD88201	6	2924	10	2567	10	2745	9	2099	14	4312	10	2331	18	2914	17
SD88250	13	3161	4	2845	3	3003	2	2318	7	4084	21	2511	13	2971	15
SD88218	5	3094	6	2448	13	2771	6	1874	25	4351	8	2786	9	3004	14
NE83498	23	2498	18	2659	6	2578	13	2029	19	4743	2	2377	17	3050	13
ND8892	17	2160	23	2275	17	2218	22	2290	10	4090	20	3164	5	3181	5
SD88192	7	2662	12	2538	11	2600	12	2242	11	4507	5	2672	11	3140	7
SD88171	12	2571	16	2468	12	2519	16	2368	4	4188	17	2759	10	3105	10
NE87612	18	2464	19	2587	9	2525	15	1955	24	3907	25	2108	23	2657	26
ND86105	15	1808	26	1778	23	1793	26	2550	1	4137	19	2938	7	3208	3
XNH1469	26	2283	21	2730	5	2507	17	2396	3	3882	26	1688	27	2655	27
NE88536	21	2973	9	2257	18	2615	11	2015	22	4234	14	1886	26	2712	24
NE88635	22	2303	20	2215	19	2259	20	2139	13	4622	3	2537	12	3099	11
XNH1486	27	1868	25	1760	24	1814	25	2018	21	4255	13	2299	20	2857	19
PI476975	3	2635	14	2901	2	2768	7	2022	20	4350	9	2043	24	2805	21
SD88120	8	2578	15	2659	6	2618	10	2058	17	4000	22	2112	22	2723	23
CI17439	2	2865	11	1865	20	2365	18	2356	5	3953	24	3042	6	3117	9
SD88148	11	2149	24	1789	22	1969	23	2094	15	4300	11	2223	21	2872	18
CI1442	1	1514	27	1145	27	1330	27	2199	12	3402	27	2422	16	2674	25
MEAN		2625		2300		2463		2150		4247		2577		2991	
LSD(.05)		372		565		669		292		396		880		N.S.	
C.V.		8.6		15.0		11.8		9.6		5.7		20.8		11.8	

Table 17. Concluded.

C.I. OR SEL. NO.	ENTRY NO.	SIDNEY MONTANA		BOZEMAN MONTANA		MONTANA STATE MEAN		ABERDEEN IDAHO		PRESTON IDAHO		IDAHO STATE MEAN		REGIONAL AVERAGE	
XNH1419	25	1928	11	4813	10	3370	12	7945	9	2570	7	5257	7	3476	1
NE83407	20	1785	14	4544	15	3165	18	10279	1	3131	1	6705	1	3316	2
SD88137	9	1506	21	4117	24	2812	23	7151	19	2341	11	4746	14	3272	3
SD87144	4	1609	18	4763	12	3186	17	6892	21	2328	12	4610	20	3199	4
ND8844	16	3266	1	5562	4	4414	1	6549	24	2691	4	4620	18	3145	5
SD88240	10	2088	9	5341	6	3715	4	7877	11	2095	15	4986	12	3130	6
ND85137	14	2719	3	4977	8	3848	3	8022	8	2657	6	5340	6	3116	7
XNH1401	24	1412	24	5704	2	3558	7	7877	11	2523	8	5200	9	3100	8
NE87613	19	1504	22	4317	20	2911	21	9640	2	2677	5	6159	2	3067	9
SD88201	6	1963	10	4441	18	3202	16	7437	16	1961	17	4699	15	3064	10
SD88250	13	2219	7	4628	13	3424	11	7070	20	2122	14	4596	21	3053	11
SD88218	5	1564	20	4194	22	2879	22	7168	17	1873	21	4521	22	3045	12
NE83498	23	808	27	4781	11	2795	24	8486	6	1941	18	5213	8	3010	13
ND8892	17	2570	5	4605	14	3587	6	7517	15	1786	22	4652	16	3005	14
SD88192	7	2141	8	4521	16	3331	13	6791	22	2489	9	4640	17	3003	16
SD88171	12	2419	6	4489	17	3454	10	7615	14	1255	27	4435	23	3003	15
NE87612	18	1141	26	4183	23	2662	25	9391	3	2415	10	5903	3	2986	17
ND86105	15	2599	4	5842	1	4220	2	6720	23	1894	19	4307	24	2959	18
XNH1469	26	1445	23	5637	3	3541	9	7158	18	3037	2	5097	11	2923	19
NE88536	21	1753	15	4291	21	3022	19	8483	7	1416	25	4949	13	2914	20
NE88635	22	1677	16	4361	19	3019	20	7834	13	1392	26	4613	19	2907	21
XNH1486	27	1919	12	5441	5	3680	5	7924	10	2795	3	5360	5	2896	22
PI476975	3	1381	25	3684	26	2532	26	8658	5	1571	24	5114	10	2881	23
SD88120	8	1631	17	4926	9	3279	15	9055	4	2324	13	5689	4	2817	24
CI17439	2	2892	2	3697	25	3294	14	6448	25	1894	19	4171	26	2809	25
SD88148	11	1892	13	5205	7	3549	8	6347	26	2042	16	4194	25	2791	26
CI1442	1	1609	18	3250	27	2429	27	5301	27	1601	23	3451	27	2108	27
MEAN		1905		4678		3292		7690		2179		4934		3000	
LSD(.05)		789		1071		N.S.		2005		N.S.		N.S.		352	
C.V.		29.3		16.2		20.4		12.7		23.8		15.8		15.7	

Table 18. Summary of mean yields (kg/ha) and ranks for 27 wheats grown in the 1991 Northern Regional Performance Nursery at 7 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.	SIDNEY NEBRASKA		BROOKINGS S. DAKOTA		WASECA MINNESOTA		ROSEMOUNT MINNESOTA		WILLISTON N. DAKOTA		CASSELTON N. DAKOTA		ABERDEEN IDAHO		REGIONAL AVERAGE	
XNH1419	25	4322	1	4287	2	3397	1	2410	15	2303	9	4929	1	7945	9	4227	1
NE83407	20	2949	21	3670	10	3165	3	2439	14	2086	16	4221	15	10279	1	4115	2
SD88137	9	4242	2	4456	1	2995	8	3017	1	2034	18	4469	7	7151	19	4052	3
SD88201	6	3892	6	3942	3	2924	10	2567	10	2099	14	4312	10	7437	16	3882	5
NE87613	19	3432	16	3603	12	2657	13	1845	21	1778	26	4221	15	9640	2	3882	4
NE83498	23	3364	18	3169	18	2498	18	2659	6	2029	19	4743	2	8486	6	3850	6
SD88171	12	3740	11	3890	4	2571	16	2468	12	2368	4	4188	17	7615	14	3834	7
XNH1401	24	2853	23	3613	11	3156	5	2768	4	1987	23	4561	4	7877	11	3831	8
NE87612	18	3444	15	3031	22	2464	19	2587	9	1955	24	3907	25	9391	3	3826	9
SD88218	5	4059	3	3765	7	3094	6	2448	13	1874	25	4351	8	7168	17	3823	10
SD88240	10	3800	9	3672	9	3000	7	1565	26	2492	2	4294	12	7877	11	3814	11
SD88250	13	3329	19	3868	5	3161	4	2845	3	2318	7	4084	21	7070	20	3811	12
PI476975	3	2935	22	3144	20	2635	14	2901	2	2022	20	4350	9	8658	5	3806	13
ND85137	14	3612	13	3399	16	2521	17	2603	8	2308	8	3977	23	8022	8	3777	14
NE88536	21	3245	20	3159	19	2973	9	2257	18	2015	22	4234	14	8483	7	3767	15
SD87144	4	3853	8	3679	8	3222	2	2309	16	1696	27	4502	6	6892	21	3736	16
NE88635	22	3731	12	3086	21	2303	20	2215	19	2139	13	4622	3	7834	13	3704	17
SD88192	7	3405	17	3586	13	2662	12	2538	11	2242	11	4507	5	6791	22	3676	18
SD88120	8	2690	25	2244	26	2578	15	2659	6	2058	17	4000	22	9055	4	3612	19
ND8892	17	3487	14	3453	15	2160	23	2275	17	2290	10	4090	20	7517	15	3610	20
CI17439	2	3795	10	3801	6	2865	11	1865	20	2356	5	3953	24	6448	25	3583	21
ND8844	16	3970	4	3544	14	2250	22	1666	25	2350	6	4187	18	6549	24	3502	22
ND86105	15	3890	7	3334	17	1808	26	1778	23	2550	1	4137	19	6720	23	3460	23
XNH1469	26	2712	24	2915	23	2283	21	2730	5	2396	3	3882	26	7158	18	3439	24
SD88148	11	3893	5	2877	24	2149	24	1789	22	2094	15	4300	11	6347	26	3350	25
XNH1486	27	2473	26	2422	25	1868	25	1760	24	2018	21	4255	13	7924	10	3246	26
CI1442	1	2269	27	1851	27	1514	27	1145	27	2199	12	3402	27	5301	27	2526	27
MEAN		3459		3387		2625		2300		2150		4247		7690		3694	
LSD(.05)		491		500		372		565		292		396		2005		522	
C.V.		8.7		9.0		8.6		15.0		9.6		5.7		12.7		10.7	

Table 19. Summary of mean yields (kg/ha) and ranks of 27 wheats grown in the Northern Regional Performance Nursery for 4 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		REGIONAL AVERAGE	
NO. OF LOCATIONS		6		4		2		3		15	
XNH1419	25	3128	1	4264	2	4058	2	2572	9	3529	1
SD88137	9	2899	2	3992	5	4191	1	2489	15	3333	2
NE83407	20	2648	5	4592	1	3060	22	2590	7	3293	3
SD87144	4	2782	4	3753	16	3929	3	2505	14	3240	4
ND8844	16	2424	16	3766	14	3532	11	2968	1	3196	5
SD88240	10	2390	19	3983	6	3362	15	2804	3	3172	6
ND85137	14	2491	11	3933	8	3588	6	2510	13	3147	7
SD88201	6	2640	6	3827	9	3321	17	2538	11	3115	8
SD88218	5	2810	3	3678	19	3569	8	2274	20	3108	9
NE87613	19	2445	13	4261	3	3355	16	2232	21	3090	10
XNH1401	24	2523	10	3810	10	3443	14	2129	24	3085	11
SD88250	13	2616	7	3570	21	3297	18	2640	5	3070	12
SD88171	12	2565	8	3530	23	3473	13	2615	6	3049	13
ND8892	17	2391	18	3697	18	3627	4	2520	12	3035	14
NE83498	23	2537	9	3796	11	3560	9	2070	25	3033	15
SD88192	7	2424	17	3520	24	3590	5	2707	4	3028	16
ND86105	15	2179	23	3452	25	3538	10	2826	2	3018	17
NE87612	18	2321	21	4250	4	3008	25	2370	17	3015	18
NE88635	22	2368	20	3786	13	3580	7	2156	23	2959	19
NE88536	21	2480	12	3653	20	3060	23	2351	18	2935	20
XNH1469	26	2202	22	3754	15	2785	27	2375	16	2910	21
PI476975	3	2436	15	3709	17	3197	21	2208	22	2885	22
CI17439	2	2440	14	3230	26	3498	12	2560	10	2871	23
XNH1486	27	1831	26	3793	12	3277	19	2588	8	2869	24
SD88148	11	2143	24	3567	22	3262	20	2299	19	2860	25
SD88120	8	2042	25	3942	7	3056	24	1963	26	2809	26
CI1442	1	1412	27	2691	27	2912	26	1859	27	2118	27
MEAN		2428		3770		3412		2434		3000	
LSD(.05)		424		N.S.		N.S.		N.S.		352	
C.V.		11.9		14.4		12.2		20.1		15.7	

Table 20. Summary of mean yields (kg/ha) and ranks for 10 wheats grown in the Northern Regional Performance Nursery at 11 sites in 1990 and 1991 with state means and ranks.

C.I. OR SEL. NO.	ENTRY NO.	LINCOLN NEBRASKA		NORTH PLATTE NEBRASKA		SIDNEY NEBRASKA		NEBRASKA STATE MEAN		ARCHER WYOMING		ROSEMOUNT MINNESOTA		BROOKINGS S. DAKOTA	
NE83407	20	3449	1	2830	2	2812	7	3030	1	1705	5	2304	3	2530	5
XNH1401	24	3088	4	2625	6	2646	8	2786	6	1807	1	2241	6	2161	8
NE87613	19	3024	5	2953	1	3002	5	2993	3	1584	6	1885	9	2538	4
NE87612	18	2989	6	2783	3	3005	4	2926	4	1735	2	2108	8	2101	9
ND85137	14	2497	7	2473	7	3010	3	2660	7	1426	8	2251	4	2436	6
SD87144	4	3144	3	2752	4	3127	1	3008	2	1724	4	2572	1	2812	3
PI476975	3	3351	2	2712	5	2493	9	2852	5	1574	7	2563	2	2190	7
ND86105	15	2040	8	2144	9	3110	2	2431	8	1382	9	2187	7	2855	2
CI17439	2	1947	9	2154	8	2962	6	2354	9	1203	10	2250	5	3264	1
CI1442	1	1521	10	2072	10	2286	10	1959	10	1732	3	1491	10	1273	10
MEAN		2705		2550		2845		2700		1587		2185		2416	
LSD(.05)		1122		N.S.		N.S.		N.S.		N.S.		N.S.		960	
C.V.		12.0		11.6		7.2		10.4		14.9		23.9		12.2	

Table 20. Concluded.

C.I. OR SEL. NO.	ENTRY NO.	SIDNEY MONTANA		BOZEMAN MONTANA		MONTANA STATE MEAN		WILLISTON N. DAKOTA		ABERDEEN IDAHO		PRESTON IDAHO		IDAHO STATE MEAN		REGIONAL AVERAGE	
NE83407	20	2263	5	4685	3	3474	3	1566	8	9398	1	2828	1	6113	1	3306	1
XNH1401	24	2092	9	4855	1	3474	4	1648	5	9179	2	2657	2	5918	2	3182	2
NE87613	19	2135	8	4693	2	3414	5	1635	6	8584	4	2484	4	5534	4	3138	3
NE87612	18	1985	10	4620	4	3302	7	1573	7	8797	3	2492	3	5645	3	3108	4
ND85137	14	2759	1	4556	5	3657	1	1924	3	8026	5	2359	5	5193	5	3065	5
SD87144	4	2311	4	4498	6	3405	6	1375	10	6679	7	2214	6	4446	7	3019	6
PI476975	3	2156	6	3750	8	2953	9	1522	9	8006	6	2065	7	5036	6	2944	7
ND86105	15	2599	3	4393	7	3496	2	2001	1	6470	8	1407	10	3939	9	2781	8
CI17439	2	2756	2	3692	9	3224	8	1925	2	6330	9	1903	9	4117	8	2762	9
CI1442	1	2148	7	3128	10	2638	10	1769	4	5393	10	1980	8	3686	10	2254	10
MEAN		2320		4279		3300		1694		7686		2239		4963		2955	
LSD(.05)		N.S.		N.S.		N.S.		N.S.		2991		N.S.		N.S.		433	
C.V.		16.0		15.1		15.9		10.9		11.6		22.5		14.6		14.9	

Table 21. Mean yield, regression coefficient, correlation coefficient, and coefficient of determination from linear regression analysis of variety mean yield on nursery mean yield for the 27 entries in the 1991 Northern Regional Performance Nursery grown at 15 locations.

C.I. OR SEL. NO.	ENTRY NO.	MEAN YIELD OVER LOCATIONS KG/HA	REGRESSION COEFFICIENT (B)	CORRELATION COEFFICIENT (R)	COEFFICIENT OF DETERMINATION (R^2)
XNH1419	25	3476	0.97	0.98	0.96
NE83407	20	3316	1.26	0.95	0.91
SD88137	9	3272	0.90	0.93	0.87
SD87144	4	3199	0.88	0.96	0.92
ND8844	16	3145	0.84	0.93	0.86
SD88240	10	3130	1.07	0.98	0.96
ND85137	14	3116	1.00	0.97	0.95
XNH1401	24	3100	1.07	0.97	0.94
NE87613	19	3067	1.25	0.98	0.96
SD88201	6	3064	0.98	0.98	0.97
SD88250	13	3053	0.90	0.98	0.97
SD88218	5	3045	0.91	0.97	0.94
NE83498	23	3010	1.14	0.98	0.96
ND8892	17	3005	0.93	0.97	0.95
SD88192	7	3003	0.90	0.98	0.96
SD88171	12	3003	0.99	0.98	0.96
NE87612	18	2986	1.22	0.97	0.94
ND86105	15	2959	0.96	0.94	0.88
XNH1469	26	2923	0.94	0.94	0.89
NE88536	21	2914	1.10	0.98	0.96
NE88635	22	2907	1.02	0.98	0.95
XNH1486	27	2896	1.06	0.95	0.91
PI476975	3	2881	1.10	0.96	0.93
SD88120	8	2817	1.19	0.96	0.93
CI17439	2	2809	0.82	0.92	0.85
SD88148	11	2791	0.90	0.96	0.92
CI1442	1	2108	0.67	0.94	0.89

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 10 entries in the 1990 and 1991 Northern Regional Performance Nursery grown at 11 locations.

C.I. OR SEL. NO.	ENTRY NO.	MEAN YIELD OVER LOCATIONS KG/HA	REGRESSION COEFFICIENT (B)	CORRELATION COEFFICIENT (R)	COEFFICIENT OF DETERMINATION (R^2)
NE83407	20	3306	1.24	0.98	0.97
XNH1401	24	3182	1.24	0.96	0.93
NE87613	19	3138	1.16	0.98	0.97
NE87612	18	3108	1.20	0.99	0.97
ND85137	14	3065	1.03	0.99	0.98
SD87144	4	3019	0.85	0.97	0.95
PI476975	3	2944	1.06	0.97	0.95
ND86105	15	2781	0.82	0.91	0.84
CI17439	2	2762	0.75	0.93	0.87
CI1442	1	2254	0.65	0.94	0.88

Table 23. Summary of agronomic and yield data for 27 wheats grown in the 1991 Northern 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 0-9	DWARF BUNT 0-2
NO. OF LOCATIONS			14	10	3	3	1
Quantum Hybrid Wheat	XNH1419	25	84	154	53	5	1
Complex Pedigree	NE83407	20	76	154	45	4	1
TX78A3630/Lco	SD88137	9	88	155	55	4	1
Lcr/Frd//NE69559/Wnk/3/Nell	SD87144	4	89	154	53	5	2
Wnk/SD6914//Siouxland	ND8844	16	94	159	54	6	2
SD76501-28-4/Brule	SD88240	10	88	155	62	7	2
Hume*2/Era//Siouxland	ND85137	14	88	158	58	5	2
Quantum Hybrid Wheat	XNH1401	24	86	156	44	5	0
NE76668/4/TAM-105/3/Larned//Eagle/Sage	NE87613	19	79	153	47	3	2
Brule/Dawn	SD88201	6	86	157	54	5	2
Dawn/4/Butte*2//NW7125/3/SD76705	SD88250	13	84	157	48	6	2
Sage/Bsk	SD88218	5	92	155	50	6	1
Complex Pedigree	NE83498	23	78	154	52	4	1
Mvr/KS79397//Nsr/3/Siouxland	ND8892	17	92	159	59	6	2
Brule/Dawn	SD88192	7	80	155	57	5	2
Rri/Sxl	SD88171	12	90	155	67	6	2
Nwt//Wrr*5/Agent/3/NE69441	NE87612	18	77	154	47	3	1
YTO-117/Alab//Minter/3/Ctk/4/Agate	ND86105	15	94	158	59	7	2
Quantum Hybrid Wheat	XNH1469	26	80	156	46	5	1
T. Diccocoides/Brule//Arkan	NE88536	21	85	156	45	4	1
Agent/4*Scout//Hand/3/TAM-105/4/Sxld	NE88635	22	81	155	48	5	1
Quantum Hybrid Wheat	XNH1486	27	82	155	49	5	0
Colt	PI476975	3	70	155	44	2	0
Gent/TX78A3630	SD88120	8	78	155	51	4	2
Roughrider	CI17439	2	92	158	66	5	1
Sxl/Lco	SD88148	11	84	154	56	7	2
Kharkof	CI1442	1	97	158	62	8	2

Table 23. Concluded.

C.I. OR SEL. NO.	ENTRY NO.	LEAF RUST SEVERITY %	STRIPE RUST SEV. %	STEM RUST SEVERITY 0-4	WSMV 0-9	BACTERIAL BLIGHT 0-9	TAN SPOT 0-9	GRAIN PROTEIN %	VOLUME WEIGHT KG/HL	YIELD KG/HA
NO. OF LOCATIONS		1	1	1	1	1	1	1	15	15
XNH1419	25	10	30	2	2	4	6	14.3	76.5	3476
NE83407	20	60	30	0	2	5	8	13.4	73.5	3316
SD88137	9	0	30	0	2	7	7	15	76.2	3272
SD87144	4	10	30	3	3	3	8	14.4	75.9	3199
ND8844	16	70	30	2	1	7	6	14.5	74.5	3145
SD88240	10	50	30	0	3	6	8	13.4	75.8	3130
ND85137	14	60	20	2	3	7	7	14.3	74.9	3116
XNH1401	24	40	30	4	2	7	8	13.3	74.3	3100
NE87613	19	40	30	1	3	3	8	13.4	74.2	3067
SD88201	6	60	30	1	2	7	6	15.4	77.3	3064
SD88250	13	1	30	1	2	6	7	13.7	74.4	3053
SD88218	5	20	30	2	2	3	7	14.8	77.2	3045
NE83498	23	80	15	1	3	5	7	12.7	74.2	3010
ND8892	17	50	30	3	2	4	8	14.3	74	3005
SD88192	7	40	30	1	2	8	8	13.7	74.9	3003
SD88171	12	60	30	3	3	8	8	14.1	74	3003
NE87612	18	10	30	1	2	3	7	12.9	72.8	2986
ND86105	15	40	30	1	3	5	7	13.5	74.3	2959
XNH1469	26	70	30	2	2	3	7	13.4	71.7	2923
NE88536	21	50	30	1	2	5	7	14.1	73	2914
NE88635	22	60	25	2	2	8	9	13.4	73.5	2907
XNH1486	27	70	30	4	2	4	5	13.3	72.8	2896
PI476975	3	30	30	0	2	4	8	14	74.4	2881
SD88120	8	50	30	2	2	5	7	13.2	71.3	2817
CI17439	2	80	30	2	3	7	7	14.9	75.3	2809
SD88148	11	50	30	1	3	6	7	13.3	74.7	2791
CI1442	1	30	15	4	3	7	8	14.8	74.9	2108

Table 24.
Seedling reaction of entries of the 1991 Northern Regional Hard Red Winter Wheat Performance Nursery to selected isolates of Puccinia graminis f. sp. tritici. (by D.V. McVey, USDA-ARS, Cereal Rust Laboratory, U. of Minnesota, St. Paul, MN. 55108)

		Reaction Produced by Isolates							
		68-41-73A	72-00-1370C	69-21-399	72-25-639C	72-00-53A	72-4-1A	74-21-1409A	
NO	Line	HNLQ	QFBS	QSHS	RKQS	RTQQ	TNMH	TNMK	Post Genes
1	KHARKOF	S	S	S	S	S	S	S	None
2	ROUGHRIDER	0	;1=	0	S	S	0;	S	5,36
3	COLT	0	0;	2=	1N	0;	0;	0;	6,7b,10,17
4	SD87144	0	2	S	S	;1-N	;	S	17,+
5	SD88218	0;	2	2	S	;1-	;	S	7b,17
6	SD88201	0	0;	S	XN	S	;	0;	6,10
7	SD88192	0	0;	S	S	S	0;,S	0;	6
8	SD88120	0;	0;	S	S	S	0;	0;	6
9	SD88137	0;	0;	S	2=	S	0;	0;	6,+
10	SD88240	0	0;	2	2=	0;	0;	0;	6,17,+
11	SD88148	0	S	S	2-	0;	0;	S	17,+
12	SD88171	0	2	2=	2=	2=	2	2-	5,24/31
13	SD88250	0	0;	0	2=	X	0;	0;	5,6,36,+
14	ND85137	2=	2-	2=	2=	2-	2-	2=	24/31
15	ND86105	0	0;	S	1	0;	0;	0;	6,10,17
16	ND8844	0	2-	2	21N	0;	0;	2	5,17,24/31
17	ND8892	0	2-	2-C	2=	2	2-	2-	5,24/31
18	NE87612	0	2=	2	2=	2-	0;,2-	0;,2	5,24/31,seg6
19	NE87613	0;	2=	2-	2=	0;	0;	2=	17,24
20	NE83407	0	0	2-	2	0;	0;	0;	5,6,17,24
21	NE88536	0	0	S	S	0;	0;	0;	6,17
22	NE88635	0	2=	2=	2=	2-	2=	2=	5,24/31
23	NE83498	0;	2=	2-	2-	0;	0;	2=	17,24/31
24	XNH1401	0	2	S	S	S	S	S	5,+
25	XNH1419	0	0;	2=	2=	2	0;	0;	6,+
26	XNH1469	;1	S	S	S	S	S	S	5
27	XNH1486	S	S	S	S	S	S	S	None
28	SD87143	;1-	1N	S	S	0;,S	0;,S	;1,S	seg6 & 17

Table 25.

Adult plant field reaction of entries of the 1991 Northern Regional Performance Nursery to stem rust grown at St. Paul, MN. (by D.V. McVey, USDA-ARS, Cereal Rust Laboratory, St Paul, MN.)

Entry No.	Variety or Pedigree	Sel. No.	6/27 Stem Rust
1	Kharkof	CI1441	60S
2	Roughrider	CI17439	5S
3	Colt	PI476975	TR-MR
4	Lcr/Frd//NE69559/Wnk/3/Nell	SD87144	20S
5	Sage/Bsk	SD88218	10R-MR
6	Brule/Dawn	SD88201	TR
7	Brule/Dawn	SD88192	40S
8	Gent/Tx78A3630	SD88120	30MS-S
9	Tx78A3630/Lco	SD88137	40MR-MS
10	SD76501-28-4/Brule	SD88240	0
11	Siouxland/Lco	SD88148	0
12	Rri/Siouxland	SD88171	30MS
13	Dawn/4/Butte*4//NW7125/3/ SD76705	SD88250	0
14	Hume*2/Era//Siouxland	ND85137	30MR
15	YTO-117/Aiab//Minter/3/Ctk/4/ Agate	ND86105	5MR
16	Wnk/SD6914//Siouxland	ND8844	40MR-MS
17	Mvr/KS79397//Nsr/3/Sxl	ND8892	5MR-MS
18	Nwt//Wrr*5/Agent/3/NE69441	NE87612	5MR
19	NE76668/4/TAM105/3/Larned// Eagle/Sage	NE87613	40MR-MS
20	CIMMYT/Scout//Bennett sib/4/ Pkr*4/Agent//Bel.198/Lcr/3/ Bez 1/Ctk 78	NE83407	TR
21	T.diccocoides /Brule//Arkan	NE88536	TR
22	Agent/4*Sct//Hand/3/TAM105/4/ Siouxland	NE88635	40MR-MS
23	Wrr/*Agent//Kavkaz/4/Pkr*4/ Agent//Bel.198/Lcr/3/Vona	NE83498	30MR-MS
24	Quantum Hybrid Wheat	XNH1401	40MR-MS
25	" " "	XNH1419	5MR-MS
26	" " "	XNH1469	60S
27	" " "	XNH1486	60S
28	----------	SD87143	60MS-S

Table 26. Hessian fly reaction, Great Plains biotype, for entries in the 1991 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	HESSIAN FLY NO. OF PLANTS RES.	HESSIAN FLY NO. OF PLANTS SUSC.
CI1442	1	S	0	21
CI17439	2	H	7	17
PI476975	3	H	7	15
SD87144	4	S	2	23
SD88218	5	S	2	22
SD88201	6	H	16	6
SD88192	7	H	4	20
SD88120	8	S	2	25
SD88137	9	S	0	21
SD88240	10	S	0	25
SD88148	11	S	3	21
SD88171	12	H	9	14
SD88250	13	S	3	19
ND85137	14	S	0	24
ND86105	15	S	2	16
ND8844	16	S	3	18
ND8892	17	H	4	17
NE87612	18	H	12	8
NE87613	19	R	23	2
NE83407	20	S	0	23
NE88536	21	S	2	16
NE88635	22	S	0	21
NE83498	23	S	1	19
XNH1401	24	S	0	15
XNH1419	25	S	0	21
XNH1469	26	S	0	20
XNH1486	27	S	0	23
NEWTON			0	21
SENECA			18	3
CALDWELL			23	0
NORKAN			20	4

Table 27. Aluminum tolerance of lines tested in the 1991 NRPN based on hematoxylin staining of seedling roots. (Data provided by B.F. Carver, Stillwater, OK)

Entry No.	Selection No.	Stain Intensity[a] Al Concentration (mM) 0.18	0.36	0.72	Rating[b]
1	Kharkof	C	C	C	VS
2	Roughrider	C	C	C	VS
3	Colt	P+	C	C	MS
4	SD87144	C	C	C	VS
5	SD88218	C	C	C	VS
6	SD88201	N	N	P	T
7	SD88192	N	N	P-/C	I-T*
8	SD88120	C/P+	C	C	VS-MS*
9	SD88137	C	C	C	VS
10	SD88240	P	C	C	MS
11	SD88148	C	C	C	VS
12	SD88171	C	C	C	VS
13	SD88250	C	C	C	VS
14	ND85137	C	C	C	VS
15	ND86105	P	C	C	MS
16	ND8844	C	C	C	VS
17	ND8892	C/P-	P-/C	C/P+	VS-T*
18	NE87612	C	C	C	VS
19	NE87613	C	C	C	VS
20	NE83407	C	C	C	VS
21	NE88536	P-/C	P/C	C	VS-I*
22	NE88635	C	C	C	VS
23	NE83498	C	C	C	VS
24	XNH1401	P+/C	C	C	VS-MS*
25	XNH1419	N	P-	P	T
26	XNH1469	C	C	C	VS
27	XNH1486	C	C	C	VS

[a]C, P, and N = complete, partial, and no staining of root tips, respectively; P- and P+ indicate light and dark intensity, respectively, of partial staining.

[b]VS = very susceptible, MS = moderately susceptible, I = intermediate and T = tolerant ($\leq$ 0.72 mM Al); * = heterogeneous response; predominant stain intensity listed first for each Al concentration.

Table 28. Reaction of entries in the 1991 Northern Regional Performance Nursery to Soilborne Mosaic Virus. Data provided by A. D. Hewings, Urbana, IL.

C.I. OR SEL. NO.	ENTRY NO.	SOILBORNE MOSAIC REP 1 0-9	SOILBORNE MOSAIC REP 2 0-9
CI1442	1	5	4
CI17439	2	4	2
PI476975	3	3	4
SD87144	4	4	3
SD88218	5	4	5
SD88201	6	2	2
SD88192	7	2	3
SD88120	8	4	5
SD88137	9	4	3
SD88240	10	4	4
SD88148	11	4	4
SD88171	12	4	5
SD88250	13	4	3
ND85137	14	4	4
ND86105	15	4	4
ND8844	16	6	4
ND8892	17	6	6
NE87612	18	5	5
NE87613	19	4	4
NE83407	20	5	3
NE88536	21	6	3
NE88635	22	3	2
NE83498	23	5	5
XNH1401	24	3	3
XNH1419	25	4	3
XNH1469	26	3	3
XNH1486	27	3	2

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Entry No.	Variety or Pedigree	Sel. No.	Source
1**	Larned	CI17650	Check
2**	Siouxland	PI483469	"
3**	Lamar	C0820009	"
4**	Arapahoe	PI518591	"
5*	TAM-105/Sandy	C0860154	Colorado
6*	C0810026/TAM-108	C0870228	"
7*	Carson/Sandy	C0870258	"
8*	Oslo/Sandy//Hawk	C0870310	"
9*	C0820026/Arkan	C0870434	"
10*	Colt/TX80GH3006	C0880240	"
11*	T. Diccocoides/Brule//Arkan	NE88536	Nebraska
12*	Brule//Wrr*5/Agent/3/Agate sib/Colt sib	NE88556	"
13*	Colt/Cody	NE86501	"
14*	KS81H1640GB/TX78V2154	TX89V4613	Texas
15*	Brule/Vee's'	TX89V5029	"
16*	C0693591/Ctk	2IWWSN-7159	"
17*	Agate/TAM-105	TX88V4425	"
18*	(TAM-105*4/Ami)*4//Largo	TXGH10209	"
19*	(TAM-105*4/Ami)*4//Largo	TXGH10289	"
20*	Syl/Vona	TX86A7210	"
21*	TX86V1540/TX78V2430-4	TX90V6132	"
22*	Siouxland//Nadadores 63/Sturdy	TX86D1340	"
23*	Quantum Hybrid Wheat	QT542	Hybritech
24*	" "	XNH1401	"
25*	" "	XH1332	"
26*	" "	XH1419	"
27*	NS2630/Thunderbird	WI88-024	Agripro
28*	Brule/Trakia	N86L075	NE, USDA
29*	Plainsman V/2/NE76702/NE7060	N87L313	"

* New entries
** New seed provided

TEST SITE INFORMATION - WPRPN

1991 was the first year for production and evaluation of entries in the Western Plains Regional Performance Nursery. This nursery is intended exclusively for evaluation of tall wheats (non-semidwarf) in the dryland production areas of the western Great Plains. Six locations were planted for evaluation of the nursery entries.

Bushland, TX — No additional information provided.

Goodwell, OK — No additional information provided.

Colby, KS — See information for SRPN. Entry 21 was damaged by birds and badly shattered at harvest. Entry 23 was found to be very susceptible to the late season infection of stem rust.

Scottsbluff, NE — Planted into fallow ground and good stands were obtained. There was very little disease development.

Burlington, CO — The nursery was lost to hail.

Archer, WY — Severe infection of Wheat Streak Mosaic Virus resulted in severe stunting and yellowing of plants and low yields. Significant differences in entry reactions to WSMV infections were noted.

Table 29. Yield and agronomic data for entries in the 1991 Western Plains Regional Performance Nursery.

BUSHLAND (DRYL.)

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
TXGH10289	19	3688	73.3	65	112
XH1419	26	3481	73.8	63	116
2IWWSN-7159	16	3387	74.7	59	116
CO870434	9	3383	73.5	58	112
TXGH10209	18	3380	75.1	60	112
XH1332	25	3273	74.8	63	117
TX86A7210	20	3208	74.8	58	117
PI518591	4	3206	72.8	58	119
QT542	23	3194	76.2	64	120
CO870228	6	3181	73.5	58	115
PI483469	2	3172	76.4	60	119
CO870310	8	3163	77.3	61	115
XNH1401	24	3114	76.8	64	121
CO870258	7	3098	75.5	61	121
TX86D1340	22	3053	76	65	120
TX89V5029	15	3004	73.9	54	113
WI88-024	27	2993	77.3	60	117
NE88556	12	2957	74.9	59	118
TX90V6132	21	2946	75.6	69	119
CO860154	5	2934	77	58	121
TX88V4425	17	2928	75.5	60	118
CI17650	1	2919	75.2	60	116
N86L075	28	2903	71.6	58	117
NE86501	13	2887	76	55	118
N87L313	29	2804	71.6	54	116
TX89V4613	14	2777	76	55	115
CO820009	3	2701	75.5	58	119
CO880240	10	2564	77.3	55	125
NE88536	11	2535	72.6	58	121
MEAN		3063			
LSD(.05)		464			
C.V.		9.3			

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
CO870258	7	3752	77.8	69	128
CI17650	1	3491	77.8	70	121
PI483469	2	3486	76.2	70	125
XH1332	25	3436	77.5	72	122
2IWWSN-7159	16	3429	76.6	65	125
CO860154	5	3410	79.1	72	127
QT542	23	3400	77.5	70	126
TXGH10289	19	3353	76.9	70	116
TX86A7210	20	3338	77.8	68	122
CO870228	6	3335	77.5	59	123
TX90V6132	21	3331	77.1	74	127
TX86D1340	22	3330	78.4	75	127
XNH1401	24	3326	78.8	74	128
NE88556	12	3305	77.5	68	121
CO880240	10	3281	76.6	66	127
TXGH10209	18	3279	77.5	67	114
N86L075	28	3260	75.9	63	125
TX88V4425	17	3258	78.9	78	123
XH1419	26	3247	77.7	70	119
CO820009	3	3224	78.4	68	127
NE88536	11	3209	75.5	69	128
NE86501	13	3058	76.1	62	123
WI88-024	27	3038	78.3	69	124
CO870310	8	3024	78	60	123
PI518591	4	2989	76	61	126
CO870434	9	2980	75.3	62	118
N87L313	29	2978	74.9	60	121
TX89V4613	14	2970	78	62	121
TX89V5029	15	2929	75.1	60	116
MEAN		3257			
LSD(.05)		397			
C.V.		7.5			

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	LODGING %
XH1419	26	4860	75.2	92	137	4
NE88556	12	4548	73.1	87	138	5
PI518591	4	4542	73.4	92	140	17
XH1332	25	4510	73.3	94	140	13
CI17650	1	4331	75.1	90	138	50
TX86A7210	20	4210	73.5	91	139	7
NE86501	13	4174	72	87	140	7
TX86D1340	22	4143	75.8	97	141	22
TX89V4613	14	4113	73.2	88	139	50
CO870434	9	4107	74.1	79	136	18
TX89V5029	15	4075	71.3	74	135	25
CO870310	8	4057	72.7	85	138	7
CO880240	10	3950	73.9	91	143	4
TXGH10289	19	3927	72	86	135	15
CO820009	3	3914	73.9	88	141	13
N86L075	28	3856	71.6	86	140	3
PI483469	2	3838	74.1	97	140	4
WI88-024	27	3824	73.9	86	138	2
TX88V4425	17	3822	74.5	97	140	37
TXGH10209	18	3773	73.4	82	135	7
CO860154	5	3685	72	94	141	7
N87L313	29	3679	69.4	80	137	8
2IWWSN-7159	16	3676	70.1	91	139	22
NE88536	11	3600	70.4	93	141	6
CO870258	7	3542	70.7	92	142	15
XNH1401	24	3540	72.6	97	142	7
CO870228	6	3322	70.3	84	138	13
QT542	23	3315	70.8	95	141	4
TX90V6132	21	1928	71.5	99	141	8
MEAN		3892				
LSD(.05)		367				
C.V.		5.8				

SCOTTSBLUFF

NEBRASKA

FOUR REPLICATIONS

C.I. OR SEL. NO.	ENTRY NO.	YIELD KG/HA	VOLUME WEIGHT KG/HL	PLANT HEIGHT CM
PI483469	2	3583	78.6	79
XH1332	25	3400	78.8	71
2IWWSN-7159	16	3322	77	70
CO880240	10	3292	78.8	64
TXGH10209	18	3206	78.8	57
TX86D1340	22	3149	77.5	75
TX86A7210	20	3058	79.3	69
TX88V4425	17	3037	79.2	74
XH1419	26	3036	79.3	65
QT542	23	3024	75.5	75
TX90V6132	21	2989	73.5	74
TXGH10289	19	2984	77.3	65
WI88-024	27	2984	77.8	62
PI518591	4	2933	75.5	69
XNH1401	24	2914	77.9	71
NE88536	11	2911	75.5	69
NE88556	12	2876	76.8	64
TX89V4613	14	2818	77.5	62
CO870258	7	2803	74.7	69
CO820009	3	2759	77.4	67
N86L075	28	2748	74.3	62
CO870228	6	2666	76.6	58
CI17650	1	2642	78.9	66
NE86501	13	2523	74.3	62
CO860154	5	2479	75.7	66
CO870434	9	2452	76.8	55
TX89V5029	15	2433	74.9	47
N87L313	29	2201	73.1	53
CO870310	8	2117	73.4	61
MEAN		2874		
LSD(.05)		433		
C.V.		10.7		

ARCHER

WYOMING

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	WSMV 0-9
XH1332	25	1881	68.9	43	157	3.4
PI483469	2	1775	72.2	48	158	3.1
QT542	23	1746	69.1	47	159	4.1
CO870258	7	1686	65.7	48	160	3.7
TXGH10209	18	1679	70.7	41	154	3.3
CO880240	10	1632	69.2	46	158	3.9
NE88556	12	1621	72.2	43	154	3.9
2IWWSN-7159	16	1612	62.9	43	157	4.1
CO820009	3	1560	72.1	49	158	4.3
XH1419	26	1533	70	44	156	4.7
PI518591	4	1506	65.4	38	155	3.3
TXGH10289	19	1500	68.2	43	154	3
XNH1401	24	1471	69	47	159	4.1
N86L075	28	1446	68.5	42	157	4.9
CO860154	5	1435	69.9	47	158	3.3
TX89V4613	14	1419	70.4	41	154	3.6
CI17650	1	1403	73.6	43	154	3.4
WI88-024	27	1401	71.7	47	158	3.5
CO870310	8	1381	67.9	43	156	4.5
TX88V4425	17	1370	69.8	43	155	3.9
NE86501	13	1302	68.7	42	155	3.3
TX90V6132	21	1287	65.4	54	162	4.1
CO870228	6	1253	65.7	41	156	3.3
NE88536	11	1231	68	45	155	3.6
TX89V5029	15	1089	67.7	36	154	4
CO870434	9	939	62.3	40	155	4.3
TX86A7210	20	939	62.6	43	158	3.7
TX86D1340	22	939	62.3	48	160	4.3
N87L313	29	513	51.5	41	158	4.9
MEAN		1398				
LSD(.05)		380				
C.V.		16.6				

Table 30. Summary of mean yields (kg/ha) and ranks of 29 wheats grown in the 1991 Western Plains Regional Performance Nursery at 5 locations.

C.I. OR SEL. NO.	ENTRY NO.	BUSHLAND (DRYL.) TEXAS		GOODWELL OKLAHOMA		COLBY KANSAS		ARCHER WYOMING		SCOTTS-BLUFF NEBRASKA		REGIONAL AVERAGE	
XH1332	25	3273	6	3436	4	4510	4	1881	1	3400	2	3300	1
XH1419	26	3481	2	3247	19	4860	1	1533	10	3036	9	3231	2
PI483469	2	3172	11	3486	3	3838	17	1775	2	3583	1	3171	3
TXGH10289	19	3688	1	3353	8	3927	14	1500	12	2984	12	3090	4
2IWWSN-7159	16	3387	3	3429	5	3676	23	1612	8	3322	3	3085	5
TXGH10209	18	3380	5	3279	16	3773	20	1679	5	3206	5	3063	6
NE88556	12	2957	18	3305	14	4548	2	1621	7	2876	17	3061	7
PI518591	4	3206	8	2989	25	4542	3	1506	11	2933	14	3035	8
CO870258	7	3098	14	3752	1	3542	25	1686	4	2803	19	2976	9
CI17650	1	2919	22	3491	2	4331	5	1403	17	2642	23	2957	10
TX86A7210	20	3208	7	3338	9	4210	6	939	26	3058	7	2951	11
CO880240	10	2564	28	3281	15	3950	13	1632	6	3292	4	2944	12
QT542	23	3194	9	3400	7	3315	28	1746	3	3024	10	2936	13
TX86D1340	22	3053	15	3330	12	4143	8	939	26	3149	6	2923	14
TX88V4425	17	2928	21	3258	18	3822	19	1370	20	3037	8	2883	15
XNH1401	24	3114	13	3326	13	3540	26	1471	13	2914	15	2873	16
WI88-024	27	2993	17	3038	23	3824	18	1401	18	2984	12	2848	17
N86L075	28	2903	23	3260	17	3856	16	1446	14	2748	21	2842	18
CO820009	3	2701	27	3224	20	3914	15	1560	9	2759	20	2832	19
TX89V4613	14	2777	26	2970	28	4113	9	1419	16	2818	18	2820	20
CO860154	5	2934	20	3410	6	3685	21	1435	15	2479	25	2789	22
NE86501	13	2887	24	3058	22	4174	7	1302	21	2523	24	2789	21
CO870434	9	3383	4	2980	26	4107	10	939	28	2452	26	2772	23
CO870228	6	3181	10	3335	10	3322	27	1253	23	2666	22	2751	24
CO870310	8	3163	12	3024	24	4057	12	1381	19	2117	29	2748	25
TX89V5029	15	3004	16	2929	29	4075	11	1089	25	2433	27	2706	26
NE88536	11	2535	29	3209	21	3600	24	1231	24	2911	16	2697	27
TX90V6132	21	2946	19	3331	11	1928	29	1287	22	2989	11	2496	28
N87L313	29	2804	25	2978	27	3679	22	513	29	2201	28	2435	29
MEAN		3063		3257		3892		1398		2874		2895	
LSD(.05)		464		397		367		380		433		394	
C.V.		9.3		7.5		5.8		16.6		10.7		9.1	

Table 31. Summary of agronomic and yield data for 29 wheats grown in the 1991 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 %	WSMV 0-9	VOLUME WEIGHT KG/HL	YIELD KG/HA
NO. OF LOCATIONS			5	4	1	1	5	5
Quantum Hybrid Wheat	XH1332	25	69	134	13	3	74.7	3300
Quantum Hybrid Wheat	XH1419	26	67	132	4	5	75.2	3232
Siouxland	PI483469	2	71	135	4	3	75.5	3171
(TAM-105*4/Ami)*4//Largo	TXGH10289	19	66	129	15	3	73.5	3091
CO693591/Ctk	2IWWSN-7159	16	66	134	22	4	72.3	3086
(TAM-105*4/Ami)*4//Largo	TXGH10209	18	62	129	7	3	75.1	3064
Brule//Wrr*5/Agent/3/Agate sib/Colt sib	NE88556	12	64	133	5	4	74.9	3062
Arapahoe	PI518591	4	64	135	17	3	72.6	3036
Carson/Sandy	CO870258	7	68	138	15	4	72.9	2977
Larned	CI17650	1	66	132	50	3	76.1	2958
Syl/Vona	TX86A7210	20	66	134	7	4	73.6	2951
Colt/TX80GH3006	CO880240	10	64	138	4	4	75.2	2944
Quantum Hybrid Wheat	QT542	23	70	137	4	4	73.8	2936
Siouxland//Nadadores 63/Sturdy	TX86D1340	22	72	137	22	4	74	2923
Agate/TAM-105	TX88V4425	17	70	134	37	4	75.6	2883
Quantum Hybrid Wheat	XNH1401	24	71	137	7	4	75	2873
NS2630/Thunderbird	WI88-024	27	65	134	2	4	75.8	2848
Brule/Trakia	N86L075	28	62	135	3	5	72.4	2843
Lamar	CO820009	3	66	136	13	4	75.5	2832
KS81H1640GB/TX78V2154	TX89V4613	14	62	132	50	4	75	2820
TAM-105/Sandy	CO860154	5	68	137	7	3	74.7	2789
Colt/Cody	NE86501	13	62	134	7	3	73.4	2789
CO820026/Arkan	CO870434	9	58	130	18	4	72.4	2772
CO810026/TAM-108	CO870228	6	60	133	13	3	72.7	2752
Oslo/Sandy//Hawk	CO870310	8	62	133	7	5	73.9	2749
Brule/Vee's'	TX89V5029	15	54	130	25	4	72.6	2707
T. Diccocoides/Brule//Arkan	NE88536	11	67	136	6	4	72.4	2698
TX86V1540/TX78V2430-4	TX90V6132	21	74	137	8	4	72.6	2496
Plainsman V/2/NE76702/NE7060	N87L313	29	58	133	8	5	68.1	2435

Table 32.

Seedling reaction of entries of the 1991 Western Plains Regional Winter Wheat Performance Nursery to selected isolates of Puccinia graminis f. sp. tritici. (by D.V. McVey, USDA-ARS, Cereal Rust Laboratory, U. of Minnesota, St. Paul, MN., 55108)

		Reaction Produced by Isolates							
No	Cultivar/Line	68-41-73A HNLQ	72-00-1370C QFBS	69-21-399 QSHS	72-25-635C RKQS	72-00-53A RTQQ	72-4-1A TNMH	74-21-1409A TNMK	Post. Gene
1	LARNED	;	2	2	2	;	0;	S	17,+
2	SIOUXLAND	0	2=	2=	2=	2=	2=	2=	5,24/31
3	LAMAR	0	1	2	2=	0;	0;	2	6,+
4	ARAPAHOE	0	0;	2=	2=	0;	0;	0;	5,6,17,24
5	CO860154	0	0;	2,S	S	0;	0;	X	5,17,+
6	CO870228	0	0;	S	S	S	;	0;	5,6
7	CO870258	0	0;	S	S	0;	S	0;	5,6,17
8	CO870310	2	1	2	2=	2=	S,0;	S,X	+
9	CO870434	0;	0;	0	2=	0;	0;	X	17,36
10	CO880240	0;	0;	S	S	0;	0;	XC	17,+
11	NE88536	0	0;,2=	S	S,2=	0;,2=	0;	XC	5,+,seg17
12	NE88556	0	0;	2	2	0;	0;	;1	5,6,17,24
13	NE86501	0	0;	2-	2-	0;	0;	0;	6,6,17,24
14	TX89V4613	;	2=	2-	2=	;	;	2=	17,Amigo
15	TX89V5029	0;	0;	2-	2=	0;	0;	X	17,31
16	2IWWSN-7159	0;	S	S	S	;	0;	S	5,17
17	TX88V4425	0;	S	S	S	S,0;	0;,S	S	5,seg17
18	TXGH10209	2=	2=	2	2=	;1C	2=	2=	Amigo
19	TXGH10289	2=	2=	2-	;1C	;1C	2=	2=	Amigo
20	TX86A7210	0	2=	2=	2=	0;	0;	0;	5,Amigo
21	TX90V6132	;1-	1	1	1	2=	;1	;1	Amigo
22	TX86D1340	0	;1-	2=	2=	;	;	;1	5,6,17,24/31
23	QT542 (HYBRIT	0	S	S	S	S	S	S	5
24	XNH1401 (HYBR	0	S	S	S	S	S	S	5
25	XH1332 (HYBRI	0	0;,2=	2=	2=	;1	0;,2=	0;	5,17,24,seg6
26	XH1419 (HYBRI	0	0;	2=	2=	2=	;	;	6,24
27	WI88-024 (AGR	0	2=	;1	2=	0;	0;	;1-	5,17,+
28	N86L075 (NE)	0	0;	S	S	S	0;	0;	5,6
29	N87L313 (NE)	0	;	2=	2=	2=	;	;1	5,6,24

Table 33.
Adult plant field reaction of entries of the 1991 Western Plains Regional Performance Nursery to stem rust at St. Paul, MN. (by D.V. McVey, USDA-ARS, Cereal Rust Laboratory, St. Paul, MN.)

Entry No.	Variety or Pedigree	Sel. No.	6/27 Stem Rust
1	Larned	CI17650	30MS-S
2	Siouxland	PI483469	20MR-MS
3	Lamar	CO820009	30MR
4	Arapahoe	PI518591	TR
5	TAM-105/Sandy	CO860154	20MS
6	CO810026/TAM-108	CO870228	60S
7	Carson/Sandy	CO870258	60S
8	Oslo/Sandy//Hawk	CO870310	40S
9	CO820026/Arkan	CO870434	TR
10	Colt/TX80GH3006	CO880240	0
11	T.diccocoides/Brule//Arkan	NE88536	TR
12	Brule//Wrr*5/Agent/3/Agate sib/Coltsib	NE88556	0
13	Colt/Cody	NE86501	TR
14	KS81H1640GB/TX78V2154	TX89V4613	TR
15	Brule/Vee's'	TX89V5029	TR
16	CO693591/Ctk	2IWWSN-7159	60S
17	Agate/TAM-105	TX88V4425	60S
18	(TAM-105*4/Ami)*4//Largo	TXGH10209	10MR
19	(TAM-105*4/Ami)*4//Largo	TXGH10289	30MR
20	Syl/Vona	TX86A7210	TR
21	TX86V1540/TX78V2430-4	TX90V6132	TR
22	Siouxland//Nadadores 63/Sturdy	TX86D1340	TR
23	Quantum Hybrid Wheat	QT542	30S
24	" " "	XNH1401	30S
25	" " "	XNH1332	5MR-MS
26	" " "	XNH1419	20MR
27	NS2630/Thunderbird	WI88-024	TR-MR
28	Brule/Trakia	N86L075	5MS-S
29	Plainsman V//NE76702/NE7060	N87L313	5MR-MS

QUALITY DATA

Composites of 1-lb samples of each SRPN and NRPN entry from each harvested nursery site 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 1991, the Southern Materials Section contained 177 entries and Northern Section 84 entries. Bozeman, Montana was the only site from which differential winter survival was reported. Nursery lists and survival data appear in the tabulations that follow.

1991
Uniform Winterhardiness Nursery
Southern Section

Entry No.	Variety or Pedigree	Sel. No.	Source	Bozeman, MT % Surv.
1	Warrior	CI13190	Check	25
2	LR16/LR17//LED/3/CHY/LED/4/BNTsib/5/TAM-107	KS87H325-2	Hays, KS	25
3	LR16/LR17//2*LED/3/CHY/LED/4/BNTsib/5/PB830	KS89H19	"	15
4	LR16/LR17//2*LED/3/CHY/LED/4/BNTsib/5/PB830	KS89H20-1	"	10
5	LR16/LR17//2*LED/3/CHY/LED/4/BNTsib/5/PB830	KS89H20-2	"	2
6	LR16/LR17//2*LED/3/CHY/LED/4/BNTsib/5/COLT	KS89H33-2	"	15
7	DULAR/EGL//2*CHY/LED/3/COLT	KS89H48-1	"	20
8	DULAR/EGL//2*CHY/LED/3/COLT	KS89H50-1	"	0
9	DULAR/EGL//2*CHY/LED/3/COLT	KS89H50-2	"	2
10	Scout 66	CI13996	Check	30
11	P1	KS89H54-3	Hays, KS	5
12	P2	KS89H123-5	"	5
13	P2	KS89H130-4	"	10
14	P2	KS89H130-5	"	10
15	P2	KS89H132-4	"	10
16	LR16/LR17//2*LED/3/CHY/LED/4/BNTsib/5/PB830	KS89H185-1	"	2
17	LR16/LR17//2*LED/3/CHY/LED/4/BNTsib/5/PB830	KS89H185-4	"	0
18	LR16/LR17//2*LED/3/CHY/LED/4/BNTsib/5/PB830	KS89H185-5	"	5
19	LR16/LR17//2*LED/3/CHY/LED/4/BNTsib/5/COLT	KS89H190-2	"	10
20	Vona	CI17441	Check	1
21	LR16/LR17//2*LED/3/CHY/LED/4/BNTsib/5/COLT	KS89H190-5	Hays, KS	2
22	LR16/LR17//2*LED/3/CHY/LED/4/BNTsib/5/COLT	KS89H191-1	"	7
23	KS84HW200/KS83H139	KS90H8	"	15
24	Norkan/TAM-108	KS88H12-1-1	"	25
25	Norkan/TAM-108	KS88H12-1-5	"	30
26	Norkan/TAM-108	KS88H12-2-1	"	35
27	Norkan/TAM-108	KS88H12-2-2	"	40
28	Norkan/TAM-108	KS88H12-2-4	"	35
29	Norkan/TAM-108	KS88H12-2-5	"	20
30	Warrior	CI13190	Check	60
31	Unknown	KS90HW53	Hays, KS	25
32	KS84HW200/KS83HW139	KS90HW28	"	15
33	Quantum Hybrid Wheat	8825101	HybriTech	35
34	" "	8825102	"	30
35	" "	8825401	"	25
36	" "	8825402	"	20
37	" "	8825501	"	7
38	" "	8825502	"	10
39	" "	8825601	"	20
40	Scout 66	CI13996	Check	30
41	Quantum Hybrid Wheat	8825602	HybriTech	15
42	" "	8825603	"	25
43	" "	8825604	"	25
44	" "	8720005	"	15
45	Quantum Hybrid Wheat	8720006	HybriTech	25
46	" "	8720007	"	30
47	" "	8720008	"	35
48	" "	8720051	"	30
49	" "	8720052	"	25
50	Vona	CI17441	Check	25
51	Quantum Hybrid Wheat	8720101	HybriTech	10
52	" "	8720102	"	5
53	" "	8720203	"	1
54	" "	8720204	"	25
55	CIMMYT/Scout//Bennett's'/Pkr*4/Agent//Bel.198 /Lcr/3/Bez1/Ctk78	NE83404	Nebraska	25
56	" "	NE83407	"	5
57	Wrr*5/Agent//Kavkaz/4/Pkr//Agent/Bel.198 /Lcr/3/Vona	NE83498	"	25
58	Colt/Cody	NE86501	"	25
59	Colt/Cody	NE86503	"	20
60	Warrior	CI13190	Check	25

1991 UWHN, Southern Section, Continued

Entry No.	Variety or Pedigree	Sel. No.	Source	Bozeman, MT % Surv.
61	Wrr/Sut//MoW6811/3/Agate's' (NE77615)//Cody	NE86606	Nebraska	25
62	Newton//Wrr*5/Agent/3/NE76668/4/TAM105 /3/Larned//Eagle/Sage	NE87409	"	25
63	NE68513/NE68457//Ctk78/3/Brule	NE87451	"	15
64	Colt*2/Chisholm	NE87513	"	20
65	Centura//Sage/Arthur (KS79H70)	NE87522	"	10
66	Newton//Wrr*5/Agent/3/NE69441	NE87612	"	25
67	NE76668/4/TAM-105/3/Larned//Eagle/Sage	NE87613	"	20
68	NE68513/NE68457//Ctk//Brule	NE87615	"	10
69	Bennett/TAM-107	NE88427	"	20
70	Scout 66	CI13996	Check	30
71	Wrr*5/Agent//Aurora/3/Ctk78/4/Brule	NE88453	Nebraska	20
72	Severodonskaya/Siouxland	NE88526	"	25
73	T. Dicoccoides/Brule//Arkan	NE88536	"	15
74	Brule//Wrr*5/Agent/3/Agate's'/Colt's'	NE88556	"	20
75	Centura/Dawn//Colt's'	NE88584	"	25
76	" "	NE88588	"	20
77	Arkan/Colt//Chisholm's'	NE88595	"	20
78	Agent/4*Sut//Hand/3/TAM-105/4/Sxld	NE88635	"	20
79	TAM-107 x Hawk x Wrr*5/Agent//Ctk78	NE89429	"	10
80	Vona	CI17441	Check	5
81	TAM-107 x Larned x Brule sel.	NE89439	Nebraska	15
82	Sxld/C0725082*2//Rrr/3/Dawn	NE89468	"	20
83	Sxld/NE7060	NE89479	"	20
84	" "	NE89482	"	25
85	NE69613/Sage (NE80431)//Migro Archer	NE89504	"	20
86	Newton/Colt seln.	NE89511	"	15
87	TX80GH2679/Brule seln.	NE89522	"	25
88	TX80GH2679/Bennett	NE89523	"	30
89	Lancota seln./Sxld//TAM-103/KS73167	NE89526	"	20
90	Warrior	CI13190	Check	40
91	NE80413 x NE78414 x TAM-103/KS73167 x TX792729	NE89529	Nebraska	30
92	Colt seln.//Colt/Severodonskaya	NE89532	"	20
93	" "	NE89534	"	25
94	" "	NE89544	"	25
95	TX79A2729/Bennett*2	NE89565	Nebraska	25
96	Sxld/Colt	NE89622	"	30
97	Colt*2/Partizanka	NE89646	"	20
98	Brule/3/Pkr*4/Agent//Bel.198/Lcr	NE89657	"	20
99	TAM-107/Arkan//Brule seln.	NE89665	"	20
100	Scout 66	CI13996	Check	35
101	Sxld/Arkan//NE77655 seln. x NE82765 x Dawn	NE89671	Nebraska	10
102	NapHal/Lcr//Karlik1/3/NS622/4/Ctk/GK-Tiz//PlV	N86L177	"	20
103	Kharkof	CI1442	Check	35
104	Scout 66	CI13996	"	20
105	TAM-107	PI495594	"	25
106	Csm*3/3/Ntn/Largo//Csm	OK87W663	Oklahoma	25
107	Century sib/Csm	OK87542	"	30
108	TAM-101/OK79286//Csm	OK87630	"	25
109	F29-76/T105//Csm	OK88767	"	25
110	Vona	CI17441	Check	20
111	Csm*3/3/Newton/Largo//2*Csm	OK88W833	Oklahoma	25
112	TX78V2154/Siouxland	TX88V4636	Texas	30
113	Vona/TX71D4889-V3	TX84V1418HF	"	20
114	Karl Resel.	TX88V5440	"	35
115	TX78V2154/Siouxland	TX88V4635	"	35
116	TAM-105/3/NE70654/BBY/Bow's'	TX87V1613	"	10
117	NE78696/Payne	TX88V4524	"	20
118	TAM-200//TX38949-2/TAM-107	TX89V4138	"	5
119	Karl Resel.	TX88V5433	"	20
120	Warrior	CI13190	Check	25

1991 UWHN, Southern Section, Concluded.

Entry No.	Variety or Pedigree	Sel. No.	Source	Bozeman, MT % Surv.
121	Thunderbird//Payne/Collin	TX86D1310	Texas	15
122	TAM-106/Collin	TX86D1332	"	15
123	TX82D4651//Amigo/TX71A106-5	TX88D3424	"	5
124	NS14/NS603//Newton/3/PB835	CO850034	Colorado	5
125	NS14/NS25//2*Vona	CO850061	"	1
126	TX73165/Sandy	CO860086	"	7
127	NE76667/Hawk	CO860094	"	15
128	Bulk Selection	KSSB-369-7	Kansas	5
129	Bulk Selection	KSSB-192-3	"	5
130	Scout 66	CI13996	Check	35
131	Bulk Selection	KSSB-192-3	Kansas	15
132	2162 sib/W6430C//W9519A	HBC197F	"	25
133	H15A13333/3/5*Led/Egl//Sage/4/TAM-105	KS87H6	"	20
134	Norkan/TAM-108	KS88H12-1	"	25
135	Norkan/TAM-108	KS88H12-2	"	25
136	Quantum Hybrid Wheat	XH900	HybriTech	25
137	Warrior	CI13190	Check	25
138	Quantum Hybrid Wheat	XH1322	HybriTech	20
139	" "	XH1514	"	25
140	Vona	CI17441	Check	10
141	Bulk Selection	WI88-083	Agripro	35
142	NS2630-1/Thunderbird	WI88-024	"	35
143	TAM-108/TX78V2154	T19-3	Trio	35
144	2165/Vona	T67	"	30
145	TAM-108/Lancota	T21-3	"	25
146	HRW Hybrid	TH901	"	25
147	HRW Hybrid	TH902	"	30
148	Larned	CI17650	Check	35
149	Siouxland	PI483469	"	30
150	Warrior	CI13190	Check	35
151	Lamar	CO820009	Check	30
152	Arapahoe	PI518591	"	30
153	TAM-105/Sandy	CO860154	Colorado	30
154	CO810026/TAM-108	CO870228	"	25
155	Carson/Sandy	CO870258	"	20
156	Oslo/Sandy//Hawk	CO870310	"	10
157	CO820026/Arkan	CO870434	"	30
158	Colt/TX80GH3006	CO880240	"	30
159	KS81H1640GB/TX78V2154	TX89V4613	Texas	30
160	Scout 66	CI13996	Check	40
161	Brule/Vee's'	TX89V5029	Texas	25
162	CO693591/Ctk	2IWWSN-7159	"	30
163	Agate/TAM-105	TX88V4425	"	60
164	(TAM-105*4/Ami)*4//Largo	TXGH10209	"	30
165	(TAM-105*4/Ami)*4//Largo	TXGH10289	"	35
166	Syl/Vona	TX86A7210	"	40
167	TX86V1540/TX78V2430-4	TX90V6132	"	25
168	Siouxland//Nadadores 63/Sturdy	TX86D1340	"	40
169	Quantum Hybrid Wheat	QT542	HybriTech	50
170	Vona	CI17441	Check	50
171	" "	XNH1401	HybriTech	50
172	" "	XH1332	"	40
173	" "	XH1419	"	35
174	NS2630-1/Thunderbird	WI88-024	Agripro	50
175	Brule/Trakia	N86L075	NE, USDA	50
176	Plainsman V/2/NE76702/NE7060	N87L313	"	25
177	Warrior	CI13190	Check	35

1991
Uniform Winterhardiness Nursery
Northern Section

Entry No.	Variety or Pedigree	Sel. No.	Source	Bozeman, MT % Surv.
1	Norstar	CI17735	Check	.
2	CIMMYT/Sut//Wnk/NE68466/3/Nsr	ND8727	No. Dakota	25
3	Newton/TAM W-101//Frd/SD675/3/Rrr	ND8735	"	20
4	Rrr/NE79517	ND87143	"	30
5	ND7723/Cody	ND8819	"	20
6	ND7723/NE78414	ND8826	"	30
7	ND77101/SD76602	ND8873	"	30
8	ND77101/SD76602	ND8876	"	25
9	Mvr/KS79379//Nsr/3/Sxld	ND8886	"	25
10	Warrior	CI13190	Check	35
11	Mvr/KS79397//Nsr/3/Cody	ND8889	No. Dakota	35
12	Gent/Sxld	SD89333	So. Dakota	25
13	Ctk78/Nell	SD89186	"	20
14	Rose/Ctk	SD89132	"	25
15	Brule/Agate	SD89119	"	25
16	Rita/Brule	SD89341	"	35
17	Rita/Brule	SD89338	"	15
18	Brule/Rita	SD89347	"	35
19	Bnt/Rose	SD89268	"	25
20	Centurk 78	CI17724	Check	10
21	Bnt/Rose	SD89271	So. Dakota	20
22	TAM-105/Dawn	SD89138	"	25
23	Brule/Rita	SD89245	"	35
24	Rocky/Rita	SD89174	"	20
25	Bnt/Sxld	SD89282	"	20
26	Brule/Rose	SD89135	"	25
27	Bnt/Rita	SD89197	"	15
28	Brule/Rita	SD89246	"	15
29	Brule/Nell	SD89145	"	5
30	Norstar	CI17735	Check	.
31	Bnt/Rose	SD89262	So. Dakota	60
32	Brule/Nell	SD89149	"	35
33	TX78V3630/Lco	SD89222	"	40
34	Bnt/Rose	SD89266	"	40
35	Brule/OK754615E	SD89153	"	65
36	NAPB80300/Ctk78	SD89102	"	60
37	Bnt/Rose	SD89267	"	35
38	Gent/Sxld	SD89334	"	30
39	Bnt/Sxld	SD89286	"	30
40	Warrior	CI13190	Check	30
41	NE77682/Dawn	SD89205	So. Dakota	10
42	Rita/Brule	SD89244	"	20
43	Wnk/Dawn	SD89108	"	20
44	Brule/TX79A2729	SD89340	"	5
45	SD75284/Agate	SD89256	"	10
46	NE77682/Dawn	SD89204	"	15
47	Bnt/Rose	SD89261	"	10
48	CO786741/TX78A2729	SD89342	"	25
49	Brule/Nell	SD89143	"	35
50	Centurk 78	CI17724	Check	30
51	Bnt/Rose	SD89264	So. Dakota	30
52	Brule/Rita	SD89253	"	30
53	NAPB80300/Ctk78	SD89101	"	15
54	Kharkof	CI1442	Check	30
55	Roughrider	CI17439	"	50
56	Colt	PI476975	"	10
57	Lcr/Frd//NE69559/Wnk/3/Nell	SD87144	So. Dakota	30
58	Sage/Bsk	SD88218	"	40
59	Brule/Dawn	SD88201	"	45

1991 UWHN, Northern Section, Concluded.

Entry No.	Variety or Pedigree	Sel. No.	Source	Bozeman, MT % Surv.
60	Norstar	CI17735	Check	.
61	Brule/Dawn	SD88192	So. Dakota	25
62	Gent/TX78A3630	SD88120	"	30
63	TX78A3630/Lco	SD88137	"	40
64	SD76501-28-4/Brule	SD88240	"	35
65	Sxl/Lco	SD88148	"	15
66	Rri/Sxl	SD88171	"	35
67	Dawn/4/Butte*2//NW7125/3/SD76705	SD88250	"	35
68	Hume*2/Era//Siouxland	ND85137	No. Dakota	25
69	YTO-117/Alab//Minter/3/Ctk/4/Agate	ND86105	"	35
70	Warrior	CI13190	Check	30
71	Wnk/SD6914//Siouxland	ND8844	No. Dakota	30
72	Mvr/KS79397//Nar/3/Siouxland	ND8892	"	20
73	Nwt//Wrr*5/Agent/3/NE69441	NE87612	Nebraska	15
74	NE76668/4/TAM-105/3/Larned//Eagle/Sage	NE87613	"	15
75	CIMMYT/Scout//Bennett sib/4/Pkr*4/Agent//Bel. 198/Lcr/3/Bez 1/Ctk 78	NE83407	"	15
76	T. Diccocoides/Brule//Arkan	NE88536	"	20
77	Agent/4*Scout//Hand/3/TAM-105/4/Sxld	NE88635	"	10
78	Wrr/*Agent//Kavkaz/4/Pkr*4/Agent//Bel.198/Lcr/3/Vona	NE83498	"	20
79	Quantum Hybrid Wheat	XNH1401	HybriTech	15
80	Centurk 78	CI17724	Check	1
81	Quantum Hybrid Wheat	XNH1419	HybriTech	5
82	" "	XNH1469	"	7
83	" "	XNH1486	"	10
84	Norstar	CI17735	Check	.

SOIL-BORNE MOSAIC NURSERY

The nursery contained 92 entries in 1991. Disease reaction data from field trials at Lincoln, NE and Urbana, IL are included.

Also included are data provided by R. M. Hunger and J. L. Sherwood, Oklahoma State University, from both field symptomatology and enzyme-linked immunosorbent assay (ELISA) reactions. Entries in the SBMV Nursery were planted in a field with history of severe SBMV infection on 9/26/90 and replicated twice (SRPN entries were replicated three times). The field was fallowed the previous year and irrigated at emergence to facilitate infection by *Polymyxa graminis* Led. Nurseries were evaluated for SBMV symptoms and foliar samples collected the week of 3/14/91. Visual scores were as follows: 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 Seg = segregating. ELISA values indicate presence or absence of SBMV capsid (coat protein) in the sample. Values <0.10 indicate little or no capsid present, and values >0.50 indicate capsid was present. Intermediate values (between 0.10 and 0.50 indicate some accumulation of SBMV capsid. The ELISA test is extremely sensitive and as few as one infected plant in the row can result in an ELISA value >0.10. ELISA values of foliage from the resistant cultivars Hawk or Newton sometimes are >1.0, which indicates that cultivars can support virus replication even though they are considered resistant to SBMV. Positive ELISA values frequently occur in combination with visual assessments indicating resistance. Interpretation of ELISA values and decisions of resistance or susceptibility should be considered in relation to visual assessments and other information available. Additional information regarding the ELISA testing procedures can be obtained from: Hunger, R. M., Sherwood, J. L., Smith, E. L., and Armitage, C. R. 1991. Symptomatology and enzyme-linked immunosorbent assay used to facilitate breeding for resistance to Wheat Soilborne Mosaic. Crop Science. 31(4):900-904.

1991
Soilborne Mosaic Nursery

Entry No.	Variety or Pedigree	Sel. No.	Source	Urbana, IL Rep 1	Urbana, IL Rep 2	Lincoln, NE
				-- 0-9 --		1-3*
1	Pawnee	CI11669	Check	7	8	2
2	F29-76/T105//Csm	OK88767	Oklahoma	5	7	2
3	Csm*3/3/Newton/Largo//2*Csm	OK88W833	"	7	7	3
4	TX78V2154/Siouxland	TX88V4636	Texas	9	9	3
5	Vona/TX71D4889-V3	TX84V1418HF	"	7	7	2
6	Karl Resel.	TX88V5440	"	2	1	1
7	TX78V2154/Siouxland	TX88V4635	"	9	9	3
8	TAM-105/3/NE70654/BBY/Bow's'	TX87V1613	"	9	9	2
9	NE78696/Payne	TX88V4524	"	8	8	2
10	Concho	CI12517	Check	3	5	1
11	TAM-200//TX38949-2/TAM-107	TX89V4138	Texas	9	9	3
12	Karl Resel.	TX88V5433	"	2	1	2
13	TX82D4651//Amigo/TX71A106-5	TX88D3424	"	9	9	3
14	TX73165/Sandy	CO860086	Colorado	7	8	2
15	NE76667/Hawk	CO860094	"	7	7	2
16	Bulk Selection	KSSB-369-7	Kansas	3	5	3
17	Bulk Selection	KSSB-192-3	"	3	5	2
18	2162 sib/W6430C//W9519A	HBC197F	"	3	5	2
19	Norkan/TAM-108	KS88H12-1	"	2	5	2
20	Bison	CI12518	Check	9	9	3
21	Norkan/TAM-108	KS88H12-2	Kansas	2	4	2
22	Nwt/2/Wrr*5/Agent/4/TAM-105/3/Larned //Eagle/Sage	NE87409	Nebraska	7	5	1
23	NE68513/NE68457//Ctk78/3/Brule	NE87451	"	7	7	2
24	Arkan/Colt//Chisholm sib	NE88595	"	7	7	2
25	Bennett/TAM-107	NE88427	"	7	7	3
26	Quantum Hybrid Wheat	XH900	HybriTech	5	5	2
27	Concho	CI12517	Check	5	3	2
28	Quantum Hybrid Wheat	XH1322	HybriTech	3	3	3
29	" "	XH1514	"	2	3	1
30	Pawnee	CI11669	Check	9	8	2
31	Bulk Selection	WI88-083	Agripro	6	6	2
32	NS2630/Thunderbird	WI88-024	"	7	7	3
33	TAM-108/TX78V2154	T19-3	Trio	7	7	3
34	2165/Vona	T67	"	7	6	3
35	TAM-108/Lancota	T21-3	"	1	2	1
36	HRW Hybrid	TH901	"	1	3	2
37	HRW Hybrid	TH902	"	4	3	2
38	Sage/Bsk	SD88218	So. Dakota	9	9	3
39	Brule/Dawn	SD88201	"	9	9	2
40	Concho	CI12517	Check	5	5	1
41	Brule/Dawn	SD88192	So. Dakota	7	9	2
42	Gent/TX78A3630	SD88120	"	8	9	3
43	TX78A3630/Lco	SD88137	"	7	9	2
44	SD76501-28-4/Brule	SD88240	"	9	9	2
45	Sxl/Lco	SD88148	"	7	7	2
46	Rri/Sxl	SD88171	"	9	9	1
47	Dawn/4/Butte*2//NW7125/3/SD76705	SD88250	"	5	3	2
48	Wnk/SD6914//Siouxland	ND8844	No. Dakota	9	7	3
49	Mvr/KS79397//Nsr/3/Siouxland	ND8892	"	8	6	2
50	Bison	CI12518	Check	8	7	1
51	T. Diccocoides/Brule//Arkan	NE88536	Nebraska	9	8	3
52	Agent/4*Scout//Hand/3/TAM-105/4/Sxld	NE88635	"	4	5	2
53	" "	XNH1419	HybriTech	7	6	2
54	" "	XNH1469	"	8	6	3
55	" "	XNH1486	"	7	7	3
56	Colt*2/Chisholm	NE87513	Nebraska	6	5	2
57	Centura//Sage/Arthur (KS79H70)	NE87522	"	7	7	3
58	Newton//Wrr*5/Agent/3/NE69441	NE87612	"	8	7	3
59	NE76668/4/TAM-105/3/Larned//Eagle/Sage	NE87613	"	6	7	2

1991 Soilborne Mosaic Nursery, Concluded.

Entry No.	Variety or Pedigree	Sel. No.	Source	Urbana, IL Rep 1	Urbana, IL Rep 2	Lincoln, NE
				-- 0-9 --		1-3*
60	Pawnee	CI11669	Check	7	8	2
61	NE68513/NE68457//Ctk//Brule	NE87615	Nebraska	7	7	2
62	Bennett/TAM-107	NE88427	"	5	7	2
63	Wrr*5/Agent//Aurora/3/Ctk78/4/Brule	NE88453	"	7	7	3
64	Severodonskaya/Siouxland	NE88526	"	7	7	3
65	Brule//Wrr*5/Agent/3/Agate's'/Colt's'	NE88556	"	8	8	2
66	Centura/Dawn//Colt's'	NE88584	"	7	7	2
67	" "	NE88588	"	7	7	3
68	Arkan/Colt//Chisholm's'	NE88595	"	7	8	3
69	TAM-107 x Hawk x Wrr*5/Agent//Ctk78	NE89429	"	8	8	2
70	Concho	CI12517	Check	3	3	2
71	TAM-107 x Larned x Brule sel.	NE89439	Nebraska	7	7	3
72	Sxld/CO725082*2//Rrr/3/Dawn	NE89468	"	7	7	3
73	Sxld/NE7060	NE89479	"	9	8	2
74	" "	NE89482	"	9	8	3
75	NE69613/Sage (NE80431)//Migro Archer	NE89504	"	7	7	2
76	Newton/Colt seln.	NE89511	"	6	3	3
77	TX80GH2679/Brule seln.	NE89522	"	7	6	2
78	TX80GH2679/Bennett	NE89523	"	7	6	3
79	Lancota seln./Sxld//TAM-103/KS73167	NE89526	"	8	8	3
80	Bison	CI12518	Check	9	8	2
81	NE80413 x NE78414 x TAM-103/KS73167 x TX792729	NE89529	Nebraska	5	4	2
82	Colt seln.//Colt/Severodonskaya	NE89532	"	7	7	3
83	" "	NE89534	"	7	7	3
84	" "	NE89544	"	7	7	3
85	TX79A2729/Bennett*2	NE89565	"	6	6	2
86	Sxld/Colt	NE89622	"	5	6	3
87	Colt*2/Partizanka	NE89646	"	7	8	3
88	Brule/3/Pkr*4/Agent//Bel.198/Lcr	NE89657	"	7	8	2
89	TAM-107/Arkan//Brule seln.	NE89665	"	5	3	3
90	Sxld/Arkan//NE77655 seln. x NE82765 x Dawn	NE89671	"	7	7	3
91	NapHal/Lcr//Karlik1/3/NS622/4/Ctk/GK-Tiz//PlV	N86L177	"	3	1	2
92	Pawnee	CI11669	Check	8	7	1

* 1 = no symptoms, 2 = mild symptoms, 3 = severe symptoms

1991 Soilborne Mosaic Nursery
Data provided by Robert M. Hunger and John L. Sherwood,
Department of Plant Pathology, Oklahoma State University

Entry		Visual		ELISA	
No.	Selection No.	Rep 1	Rep 2	Rep 1	Rep 2
1	CI11669	3	2	0.669	1.829
2	OK88767	2	2	0.651	1.670
3	OK88W833	2	2	0.693	1.851
4	TX88V4636	3	3	0.726	1.331
5	TX84V1418HF	3	2	0.736	1.788
6	TX88V5440	0	0	0.118	0.055
7	TX88V4635	3	3	0.753	1.799
8	TX87V1613	-	3	-----	1.556
9	TX88V4524	3	3	0.780	1.627
10	CI12517	Seg	Seg	0.791	1.089
11	TX89V4138	2	2	1.065	1.846
12	TX88V5433	0	0	0.029	0.029
13	TX88D3424	3	3	1.385	1.890
14	CO860086	2	3	0.799	1.844
15	CO860094	2	3	1.027	1.652
16	KSSB-369-7	2	2	0.831	1.085
17	KSSB-192-3	2	1	0.884	0.014
18	HBC197F	0	1	0.054	0.034
19	KS88H12-1	Seg	1	1.038	1.457
20	CI12518	2	2	0.931	1.044
21	KS88H12-2	0	1	0.080	0.818
22	NE87409	0	1	0.118	0.066
23	NE87451	2	3	0.740	1.491
24	NE88595	2	3	0.772	1.527
25	NE88427	3	2	0.685	0.842
26	XH900	1	2	1.129	1.308
27	CI12517	0	1	0.020	0.740
28	XH1322	1	1	0.856	1.671
29	XH1514	1	1	1.175	1.646
30	CI11669	2	2	1.466	1.760
31	WI88-083	1	0	0.033	0.089
32	WI88-024	3	3	0.877	1.749
33	T19-3	2	3	1.132	1.910
34	T67	2	2	1.035	0.605
35	T21-3	0	1	0.010	0.526
36	TH901	1	1	0.003	0.008
37	TH902	1	2	1.114	1.747
38	SD88218	2	3	0.959	1.611
39	SD88201	3	3	0.958	1.730
40	CI12517	1	1	0.019	0.053
41	SD88192	2	2	1.112	1.226
42	SD88120	3	2	1.040	1.988
43	SD88137	3	2	0.799	1.610
44	SD88240	3	2	1.260	1.652
45	SD88148	3	2	0.872	1.845
46	SD88171	2	2	1.430	1.703

1991 Soilborne Mosaic Nursery (continued)

Entry No.	Selection No.	Visual Rep 1	Visual Rep 2	ELISA Rep 1	ELISA Rep 2
47	SD88250	2	1	1.056	0.317
48	ND8844	3	3	0.947	1.802
49	ND8892	3	3	0.987	1.954
50	CI12518	3	3	1.334	1.739
51	NE88536	3	3	1.572	1.937
52	NE88635	0	0	0.034	0.084
53	XNH1419	2	2	0.932	1.338
54	XNH1469	2	2	1.368	1.848
55	XNH1486	2	2	0.918	1.870
56	NE87513	0	0	0.056	0.061
57	NE87522	2	2	1.520	1.911
58	NE87612	2	2	1.156	1.857
59	NE87613	2	2	1.201	1.667
60	CI11669	3	2	0.982	1.826
61	NE87615	3	2	0.806	1.713
62	NE88427	2	2	1.016	1.930
63	NE88453	2	3	1.223	1.903
64	NE88526	2	3	0.879	1.835
65	NE88556	2	3	1.402	1.859
66	NE88584	2	2	1.819	1.513
67	NE88588	2	2	1.684	1.745
68	NE88595	2	2	1.278	1.885
69	NE89429	3	3	1.296	1.580
70	CI12517	1	0	1.253	0.041
71	NE89439	3	3	1.515	1.844
72	NE89468	3	3	1.009	1.638
73	NE89479	3	3	0.932	2.000
74	NE89482	3	3	0.945	1.648
75	NE89504	3	2	1.571	1.940
76	NE89511	2	0	1.637	0.051
77	NE89522	2	3	1.808	1.762
78	NE89523	3	2	1.568	1.295
79	NE89526	3	3	1.564	1.223
80	CI12518	3	2	1.909	1.961
81	NE89529	1	0	0.038	0.048
82	NE89532	2	2	1.716	1.625
83	NE89534	3	3	0.964	0.959
84	NE89544	3	3	1.677	1.692
85	NE89565	2	1	0.980	0.469
86	NE89622	2	3	1.123	1.683
87	NE89646	2	3	0.925	1.921
88	NE89657	2	3	0.756	1.747
89	NE89665	0	0	0.034	0.021
90	NE89671	2	3	0.983	1.476
91	N86L177	2	2	1.569	1.651
92	CI11669	2	2	1.631	1.810

Summary of agronomic data and mean yields (kg/ha) for entries in the 1991 Pioneer Observation Nursery (PON) grown at 7 locations. Coordinated by R. G. Sears and T. J. Martin, Kansas State University.

VARIETY OR PEDIGREE	C.I. OR SEL. NO.	ENTRY NO.	VERNON,TX TEST WT. KG/HL	KANSAS MEAN TEST WT. KG/HL	BERTHOUD, CO: PLANT HT. CM	STEM RUST 0-5	STEM RUST QCC 0-9	6 SITE YIELD AVERAGE	
W8447D*W2436/W3420)	HBF0425	306	76.2	71.3	100	0	0	4371	1
YW191_PAR*SIOUXLAND/TAM105)	VBE017	72	79.6	75.5	86	0	0	4361	2
W8447D*W2436/W3420)	HBF0425	212	78	.	79	0	0	4344	3
W8447D*SIOUXLAND/W3419)	HBF0429	308	78.2	72.9	86	0	0	4315	4
W2439*2172/W0402A)	HBF0248	296	77.8	73.9	85	0	0	4290	5
W2440*W9488A/2163)	HBF0263	161	78	74.2	87	0	0	4289	6
W2439/2163)	HBE0771	112	77.8	70.6	80	0	0	4283	7
COK797*TAM108/2180)	VBF0544	257	78.3	73.3	78	4	8	4267	8
2172*2163/W9419B)	HBF0276	297	77.3	70.8	86	0	0	4248	9
WX12907*TAM108/W2440)	HBE0363	96	77.7	73	88	0	0	4244	10
W2439*2172/W3417)	HBF0247	292	78.2	74.5	88	0	0	4241	11
W9523A*2154/W3417)	HBF0340	201	80.4	.	75	0	0	4231	12
W9471A*W9523A/W3415)	HBF0290	169	79.9	74.5	91	0	0	4221	13
W9488A*2163/2180)	HBF0337	197	79.5	.	78	0	8	4212	14
2163/W9523A)	HBE0780	280	77.7	75.1	80	0	0	4194	15
OK754615*WWP4394(AUS)/TAM108*2165)	HBC727	69	81.4	75.3	82	0	0	4193	16
WX11731*2163/W9523A)	HBF0435	216	77.5	.	81	0	0	4191	17
SIOUXLAND*W2421/PONY)	VBE0186	236	77.9	.	86	0	0	4186	18
WX12907*TAM108/W2440)	HBE0363	97	78.4	72.5	88	0	0	4177	19
COK797*TAM108/2180)	VBF0544	256	76.9	70.7	80	3	0	4171	20
W2439/2163)	HBE0771	111	78.3	74.5	74	2	8	4164	21
2555_SIS*VONA/2180)	VBF0589	270	80.6	72.8	84	0	0	4153	22
W9488A*2163/2180)	HBF0337	196	77.8	.	78	0	0	4149	23
W0543*SIOUXLAND/W0402A)	HBF0432	312	76.5	72.1	86	0	0	4148	24
2163*W9523A/W3445)	HBF0441	314	75.6	73.3	96	0	0	4146	25
W8447D*W2436/W3420)	HBF0425	307	76.2	69.8	85	0	0	4145	26
WX12846*TX71A889/W0402A)	HBF0408	211	78.8	.	87	1	8	4142	27
W9476C*2163/W9523A)	HBF0302	173	79.5	73.8	78	0	8	4138	28
W2439*W9523A/W0402A)	HBF0246	156	80.2	75.8	87	0	0	4136	29
WX11088*2165/W8447)	HBC059E	77	78	71.1	90	0	0	4134	30
W2439*W9523A/W0402A)	HBF0246	157	79.2	74.4	81	0	0	4129	32
2555_SIS*VONA/2180)	VBF0589	264	77.1	74.3	80	0	0	4129	31
W9476C*2163/W9523A)	HBF0302	178	77.8	73.6	87	0	0	4126	33
W9523A*SIOUXLAND/W3415)	HBF0345	202	79.3	.	87	0	0	4119	34
2154*HAWK/W0423A)	HBF0361	209	81.3	.	73	0	8	4114	35
W9476C*2163/W0541A)	HBF0303	184	74.6	70.9	87	0	0	4112	36
W9476C/2163)	HBE0779	116	78.7	73.7	84	0	0	4111	37
W9523A*W2413/2180)	HBF0350	204	80.1	.	82	0	0	4109	38
W9476C*2163/W0541A)	HBF0303	298	74.6	68.8	88	0	0	4108	39
SIOUXLAND/XW171)	VBF1100	319	80.5	76.2	92	0	0	4067	40
W2439/2163)	HBE0771	113	75.7	69.4	70	0	0	4066	42
16TH_IBWSN#21*W2413/W3415)	HBF0611	232	75.1	.	85	0	0	4066	41
W2439*WINGS/2180)	HBF0255	160	77.4	71.8	79	0	0	4065	43
2172/2163)	HBE0773	273	77.1	72.2	76	0	0	4058	44
W2413*2172/2157)	HBF0096	133	74.4	72.5	91	0	0	4055	45

Agronomic summary of the 1991 Pioneer Observation Nursery, Continued.

VARIETY OR PEDIGREE	C.I. OR SEL. NO.	ENTRY NO.	VERNON,TX TEST WT. KG/HL	KANSAS MEAN TEST WT. KG/HL	BERTHOUD, CO: PLANT HT. CM	STEM RUST 0-5	STEM RUST QCC 0-9	6 SITE YIELD AVERAGE	
W9471A*W9523A/W3415)	HBF0290	170	80	76.2	82	0	0	4055	46
W2407*W2434/W2439)	HBE0321	92	80	75.2	94	0	0	4048	47
W2439/2163)	HBE0771	109	77.4	73.4	82	0	0	4047	48
2555_SIS*VONA/2180)	VBF0589	268	78.4	74.2	86	1	8	4046	49
W2415*W2439/2180)	HBF0140	289	81.9	70.7	82	0	0	4045	50
W2439*2172/W0402A)	HBF0248	294	74.6	73.4	88	0	0	4042	51
PAM'S'-ALD'S'*NE77465/2157)	HBF0539	222	77.5	.	81	0	0	4041	52
2555_SIS*VONA/2180)	VBF0589	269	77.8	73.2	86	0	0	4037	53
W2414*W8447D/W3417)	HBF0114	136	78.8	73.6	84	3	8	4034	54
W8447D*W2436/W3420)	HBF0425	213	76.6	.	75	0	8	4033	55
W9471A*W9523A/W3415)	HBF0290	171	78.8	75.5	84	0	0	4030	56
2172/2163)	HBE0773	276	76.8	70.1	82	0	0	4030	57
W2415*TAM108/W0402A)	HBF0139	288	77.8	74	92	0	0	4019	58
OK754615*WWP4394(AUS)/TAM108*2165)	HBC727	68	80.6	75	82	0	0	4012	59
W9476C*2163/W0541A)	HBF0303	188	78.9	.	75	0	0	4009	60
2163*W9523A/W3445)	HBF0441	316	78.8	73.1	92	0	0	4002	61
2551*W9476C/W3445)	HBF0588	229	73.3	.	86	0	0	3996	62
W3438*TAM107/2165)	VBG0339	64	80.4	76.1	90	0	8	3995	63
HBY411A*W3459/W0487D)	VBF0015	240	78.8	.	81	0	0	3993	64
2172*2163/W9419B)	HBF0276	163	76.9	71.2	87	0	0	3988	66
W0543*SIOUXLAND/W0402A)	HBF0432	214	78	.	78	0	0	3988	65
W9488A/2163)	HBE0894	124	78	73.9	69	0	0	3978	67
W2415*TAM108/W0402A)	HBF0139	286	77.4	72.9	94	0	0	3975	68
HBZ224A*VONA/2180)	VBF0077	243	80.4	.	89	0	0	3973	69
WVA016*2157_PAR/HGC040)	HBE0242	88	79.7	72.8	86	0	0	3969	70
W2439*2172/W0402A)	HBF0248	293	78.2	74.2	91	0	0	3965	71
W0543*SIOUXLAND/W0402A)	HBF0432	311	75.6	71	82	0	0	3964	72
W9476C*2163/W9523A)	HBF0302	177	75.5	72	87	0	0	3963	73
W1404/TX79A2729)	HCC0076	233	80.5	.	88	0	0	3962	75
2163/W9523A)	HBE0780	279	77.7	72.2	86	0	0	3962	74
2163/W9523A)	HBE0780	120	77.9	71.6	86	0	0	3961	76
2163*W9523A/W3445)	HBF0441	218	76	.	85	0	0	3961	77
W9523A*SIOUXLAND/W3415)	HBF0345	304	78.2	72.7	87	0	0	3958	78
HRE_LT-11(OR)*HOMESTEAD/W8447)	HBE0726	106	79.3	69.4	80	0	0	3956	80
2551*W9476C/W3445)	HBF0588	228	78.6	.	83	0	0	3956	79
HRE_LT-11(OR)*HOMESTEAD/W8447)	HBE0726	104	77.5	71.3	95	0	0	3955	81
W2440*W2410/2165)	VBF0223	252	79.5	76.3	81	0	8	3952	82
COK797*TAM108/2180)	VBF0544	259	77.5	72	74	3	8	3950	83
W8427*2157_SIB/W2440)	HBE0249	89	79.6	69	89	0	0	3947	84
2163/W9523A)	HBE0780	278	78.2	71.8	78	0	0	3944	85
W2439*2172/SIOUXLAND)	HBF0250	159	75.2	71.2	82	0	0	3943	87
TAM107*2555_SIS/2180)	VBF0586	262	80.4	73.4	82	2	8	3943	86
W2415*W2439/2180)	HBF0140	141	80.5	75.9	81	0	0	3941	88
W2439*TAM108/W9419B)	HBF0241	153	76.4	69.4	82	0	0	3930	89
2555_SIS*VONA/2180)	VBF0589	263	78.4	75.7	81	1	6	3926	90

Agronomic summary of the 1991 Pioneer Observation Nursery, Continued.

VARIETY OR PEDIGREE	C.I. OR SEL. NO.	ENTRY NO.	VERNON,TX TEST WT. KG/HL	KANSAS MEAN TEST WT. KG/HL	BERTHOUD, CO: PLANT HT. CM	STEM RUST 0-5	STEM RUST QCC 0-9	6 SITE YIELD AVERAGE	
COK797*TAM108/2180)	VBF0544	260	76.4	71	87	3	8	3924	91
BRULE*W1406/SIOUXLAND)	HBE0127	318	77	69.9	90	0	0	3921	92
W0516*ARKAN/W0541A)	HBF0438	217	78	.	78	0	0	3920	93
W9519*ROCKY/2163_PAR)X1XXX5XX)	HBC224	81	77.8	73	98	0	0	3917	94
W0543*SIOUXLAND/W0402A)	HBF0432	313	74.6	68.8	82	0	0	3916	95
W9500A/HGC040)	HCC288	317	79.2	73.2	88	0	0	3914	96
W9476C*2163/W9523A)	HBF0302	172	78.6	74.3	74	0	0	3911	97
W1406*2369/TAM105)	HBC757	9	79.6	73.1	96	0	0	3907	98
VONA*W4068/W443)	HBY880	71	80.1	75.6	82	0	0	3907	99
W9476C*2163/W0541A)	HBF0303	299	74.8	69.9	78	0	0	3901	100
W9518*W2439/ARKAN)	HBE0415	102	76	72.2	80	0	0	3898	101
2172*2163/W9419B)	HBF0276	166	77	71.2	80	0	0	3892	103
2154*ARKAN/W9523A)	HBF0357	208	77.1	.	88	0	0	3892	102
W2414*W8447D/W3417)	HBF0114	284	78.6	71.9	101	0	0	3881	104
W2435*W2439/W0541A)	HBF0214	149	78.2	70	82	0	0	3880	105
W1407*W9523A/2163)	HBF0053	129	75.2	72.8	80	0	0	3879	106
W9476C*2163/W9523A)	HBF0302	174	77.5	69.6	89	2	8	3877	107
2163_PAR*PL145/W9503)	HBC208	80	76.4	71.8	86	2	8	3874	108
W9476C*2163/W0541A)	HBF0303	302	72.5	69.1	87	0	0	3872	109
W9476C*2163/W0541A)	HBF0303	183	74.7	70	87	0	0	3866	110
W0010E*16TH_IBWSN#21/2172*SXLD)	HBF0551	223	77.4	.	73	0	0	3865	111
W9523A*W2413/2180)	HBF0350	203	78.4	.	78	0	0	3863	112
W2439/2163)	HBE0771	272	77.5	73.4	84	0	0	3863	113
W9476C*2163/W0541A)	HBF0303	300	75.1	69.7	86	0	0	3858	114
W2415*ARKAN/W3415)	HBF0133	138	77.1	74.8	85	0	0	3854	115
W2439/2163)	HBE0771	108	79.6	75.4	75	0	0	3853	117
W9476C*2163/W0541A)	HBF0303	190	75.9	.	79	0	0	3853	116
W9487A*NE77465/2172)	HBF0325	192	75.3	.	86	0	0	3853	117
W2430*W9523A/W3417)	HBF0209	148	78.7	69.5	82	0	0	3851	119
FL302*SIOUXLAND/W3415)	HBF0576	227	77.5	.	84	0	0	3851	120
W2436*2172/W3415)	HBF0220	152	80.9	71.4	90	0	0	3850	121
W2415*TAM108/W3417)	HBF0137	140	78.9	73.7	88	0	0	3849	122
W9476C*2163/W9523A)	HBF0302	176	76.5	69.5	85	0	0	3847	123
COK797*TAM108/2180)	VBF0544	258	77	70.5	82	3	8	3845	124
W0543*SIOUXLAND/W3445)	HBF0431	309	78.6	75.7	86	0	0	3845	125
2163/W9523A)	HBE0780	123	78.8	73.3	72	3	8	3843	126
W9476C/2163)	HBE0779	117	75.5	71.3	80	0	0	3840	127
W2424*SIOUXLAND/2163)	HBF0174	144	75.5	71.6	82	0	0	3838	128
HBZ419A*W3459/W9523A)	VBF0147	33	79.6	72.4	92	0	0	3835	129
W2440*W2410/2165)	VBF0223	253	79.2	76.2	88	0	8	3835	130
W2414/2163)	HBE1066	126	76.1	70.3	78	0	0	3831	131
2163/W9523A)	HBE0780	119	77.1	69.7	78	0	0	3829	132
W9485*WX9280/W8447)	HBE0379	100	76.8	72.9	88	0	0	3827	134
2555_SIS*VONA/2180)	VBF0589	266	74.4	67	71	0	0	3827	133
2157*TX79A2729/2165)	VBE0043	234	78.2	.	79	0	0	3826	135

Agronomic summary of the 1991 Pioneer Observation Nursery, Continued.

VARIETY OR PEDIGREE	C.I. OR SEL. NO.	ENTRY NO.	VERNON,TX TEST WT. KG/HL	KANSAS MEAN TEST WT. KG/HL	BERTHOUD, CO: PLANT HT. CM	STEM RUST 0-5	STEM RUST QCC 0-9	6 SITE YIELD AVERAGE	
WX12907*TAM108/W2440)	HBE0363	99	79.6	71.1	87	0	0	3823	136
W9476C*2163/W0541A)	HBF0303	189	74.9	.	72	0	0	3823	137
2154*ARKAN/W9523A)	HBF0357	207	78.3	.	88	0	0	3819	138
W2415*ARKAN/W3415)	HBF0133	139	78.7	76	96	0	0	3817	139
2172*2163/W9419B)	HBF0276	164	75.1	68.8	84	0	0	3816	140
W0405D*ARKAN/ARKAN)	VBG0048	60	75.9	74.9	90	0	0	3814	141
HGE021(CIMMYT)*NE77465/2172*2163)	HBF0508	220	71	.	79	0	0	3814	142
W9476C*2163/W0541A)	HBF0303	301	73.8	70.8	91	0	0	3811	143
XW171_SIS*2165/2180)	VBF0154	44	78.3	71.2	84	4	8	3803	144
2172*W9523A/W3441)	HBF0278	168	78.3	72.7	80	0	0	3796	145
HBZ222A*W3459/W0487D)	VBF0072	242	80.1	.	87	0	0	3793	146
2163/W9523A)	HBE0780	121	77.5	72.1	77	2	8	3792	147
W9507*W2426/SIOUXLAND)	HBE0402	101	74.9	68.5	97	0	0	3787	148
W9476C*2163/W0541A)	HBF0303	187	74.8	68.6	85	0	0	3785	149
W9523A*2154/W3417)	HBF0340	200	79.3	.	73	0	0	3785	151
PAM'S'-ALD'S'*NE77465/2157)	HBF0539	221	78.2	.	82	0	0	3785	150
2163/W9523A)	HBE0780	281	76	73.1	80	0	0	3779	152
W9476C*2163/W9523A)	HBF0302	180	77.8	73	80	1	8	3770	153
W2413*W2421/ARKAN*SIOUXLAND)	VBE0271	73	79.5	72.8	82	0	0	3769	154
TAM107*2551/2180)	VBF0573	53	76.2	70.7	82	1	8	3765	155
2555_SIS*DOVE'S'/W2440)	HBF0572	226	74	.	84	0	0	3765	156
W1404*AUBURN/HAWK)	HBE0217	87	81.3	75.8	86	0	0	3764	158
2555_SIS*NE77465/2163*W9523A)	HBF0568	224	75.6	.	84	0	0	3764	157
W9476C*2163/W0541A)	HBF0303	182	74.7	69.3	81	0	0	3760	159
2172/2163)	HBE0773	274	77.1	71.9	78	0	0	3758	160
2172/2163)	HBE0773	277	75.5	69.1	82	0	0	3757	161
HBZ321A*SGW054(ARG)/2180)	VBF0111	32	78.7	77.1	92	0	0	3754	162
W2435*2163/W3441)	HBF0219	290	76.2	70.5	81	0	0	3754	163
NK812*2180/2180)	VBG0110	74	78.8	73.8	70	0	0	3750	164
FILL	KS801072	91	78.6	70.3	89	0	0	3749	167
W2407*W2434/W2439)	HBE0321	93	80	73.9	86	0	0	3749	165
W2415*TAM108/W0402A)	HBF0139	287	78.2	73.9	92	0	0	3749	166
2163/W9523A)	HBE0780	122	78.4	74	74	3	4	3742	168
W2414*W8447D/W3417)	HBF0114	283	79.3	70.9	100	0	0	3742	169
W0543*SIOUXLAND/W3445)	HBF0431	310	76	74.3	82	0	0	3740	170
W9476C/2172)	HBE0778	114	78.4	69.5	86	0	0	3733	171
XW171_SIS*2157/2180)	VBF0151	40	79.1	74.3	94	0	0	3729	172
W2440/W9488A)	HBE0876	282	77.4	71.9	88	0	8	3723	173
W9476C*2163/W0541A)	HBF0303	181	76.4	69.5	87	0	0	3722	174
XW171_SIS*VONA/2180)	VBF0159	250	77.1	75	85	0	0	3720	175
W2439/2163)	HBE0771	271	76.9	73.1	82	0	0	3716	176
W9487A*NE77465/2163)	HBF0327	303	75.7	71	86	0	0	3714	177
HBZ419A*W3459/W9523A)	VBF0147	34	75.1	71.9	94	0	0	3697	178
UKN(ARG)*2157_PAR/2180)	VBF0200	52	79.5	74.9	80	2	8	3692	179
WX12907*TAM108/W2440)	HBE0363	98	78.3	69.6	90	0	0	3691	180

Agronomic summary of the 1991 Pioneer Observation Nursery, Continued.

VARIETY OR PEDIGREE	C.I. OR SEL. NO.	ENTRY NO.	VERNON,TX TEST WT. KG/HL	KANSAS MEAN TEST WT. KG/HL	BERTHOUD, CO: PLANT HT. CM	STEM RUST 0-5	STEM RUST QCC 0-9	6 SITE YIELD AVERAGE	
W2420*W2425/2157)	HBF0146	142	81.3	75.8	74	0	0	3688	182
W2430*2163/W2435)	HBF0204	147	77.9	74.4	76	0	0	3688	181
2553*ROCKY/SIOUXLAND)	HBE0046	86	78.9	76.6	81	0	0	3674	183
2163/W9523A)	HBE0780	118	75.6	67.8	78	0	0	3660	184
W9488A*2163/2180)	HBF0337	198	79.7	.	82	0	0	3654	186
XW171_SIS*VONA/W0487D)	VBF0161	251	77.5	73.4	77	0	8	3654	185
HRE_LT-11(OR)*HOMESTEAD/W8447)	HBE0726	107	79.3	72.5	76	0	0	3644	187
W7431*2165_PAR/2157_PAR*NEWTON)	HBB114	66	81.3	73.7	90	3	8	3643	188
W2439*2172/W3417)	HBF0247	158	76.6	71.7	79	0	0	3636	189
W2413*2172/W9419B)	HBF0097	134	78.6	71.4	82	0	0	3633	190
PI447045*NE78659/W3441)	HBF0471	219	74.3	.	75	0	0	3633	191
W9523A*W2413/2180)	HBF0350	206	78.2	.	75	0	0	3631	192
W2414*2163/W3445)	HBF0116	137	76	70.2	85	0	0	3630	193
OK754615*KAVKAZ_107/TX71A889*2157)	HBC696	4	75.5	74.3	76	0	0	3622	194
XW171_SIS*VONA/2180)	VBF0159	47	79.9	72.9	74	0	8	3622	196
W2435*2163/W3441)	HBF0219	150	77.5	70.7	78	0	0	3622	195
TX78V3630*2165/KS76H3237*OK754615)	HBC652	67	77.1	71.5	86	0	8	3610	197
W2413*W2420/W3423)	HBF0094	132	77.8	71.8	64	2	8	3609	198
XW171_SIS*VONA/2180)	VBF0159	49	78.4	70	78	4	8	3601	199
HBZ321A*TAM105/2180)	VBF0094	28	79.3	72.6	84	0	0	3599	200
W2430*2163/W2435)	HBF0204	146	79.5	74.8	82	0	8	3591	201
UKW(OREGON)*W8476B/W9523A)	HBE0683	103	78.9	73	78	0	0	3574	202
W9476C*2163/W9523A)	HBF0302	179	77.4	73.2	86	0	0	3555	204
W9488A*2163/2180)	HBF0337	194	79.9	.	75	0	0	3555	203
2551*VONA/2180)	VBF0576	56	79.7	71	84	0	8	3550	205
XW171_SIS*2157/2180)	VBF0151	246	78.3	.	89	0	0	3548	206
2172*W9523A/2157)	HBF0277	167	79.7	72.8	79	0	0	3539	207
MCNAIR1003*16TH_IBWSN#21/COLT)	HBF0363	210	79.1	.	76	0	0	3538	208
W9476C*2163/W0541A)	HBF0303	186	74	69.7	80	0	0	3528	209
OK754615*KAVKAZ_107/TX71A889*2157)	HBC696	6	76.8	72.2	70	0	0	3526	210
HBY411A*W8452C/W0487D)	VBF0008	239	74.4	.	82	0	0	3526	211
W2420*2163/W3437)	HBF0157	143	75.5	67.3	74	0	8	3525	212
HBZ221A*PONY/2180)	VBF0046	241	77.1	.	82	0	0	3521	213
W2439*ARCHER/W0402A)	HBF0244	154	77.1	70.3	82	0	0	3509	214
W9487A*NE77465/2163)	HBF0327	193	77.7	.	80	0	8	3505	215
XW171_SIS*NK812/2180)	VBF0168	50	80.4	71.8	82	0	0	3504	216
W2436*2172/W3415)	HBF0220	151	82.2	72.3	89	0	0	3499	217
W2404*W2413/BRULE)	VBE0254	237	77.9	.	83	0	0	3497	218
13981(ARG)/2172)	HBB840	1	77.1	71.9	82	0	0	3492	219
W2407*HGB003/HVC003)	HBE0324	94	77.3	71.5	82	0	0	3487	220
XW171_SIS*2165/2180)	VBF0154	43	76.6	70.8	86	4	8	3474	221
XW171_SIS*VONA/2180)	VBF0159	249	80.4	.	86	0	0	3471	222
W2413*W2440/W3417)	HBF0085	131	80.1	75.1	78	0	8	3470	223
HBZ321A*W3459/2180)	VBF0107	30	76.9	70.8	86	0	8	3464	224
W8427*ROCKY/HAWK)	HBE0007	83	76.1	70.9	79	0	0	3460	225

Agronomic summary of the 1991 Pioneer Observation Nursery, Continued.

VARIETY OR PEDIGREE	C.I. OR SEL. NO.	ENTRY NO.	VERNON,TX TEST WT. KG/HL	KANSAS MEAN TEST WT. KG/HL	BERTHOUD, CO: PLANT HT. CM	STEM RUST 0-5	STEM RUST QCC 0-9	6 SITE YIELD AVERAGE	
2551*VONA/2180)	VBF0576	54	77	68.1	88	0	8	3458	226
OK754615*KAVKAZ_107/TX71A889*2157)	HBC696	7	76	72.7	74	0	0	3452	227
W1406*2369/TAM105)	HBC757	10	79.2	72.8	92	0	0	3451	228
WX12833)X3X1X*2157/W8447)	HBC090	78	78.9	71.9	77	0	8	3444	229
HBZ321A*SGW054(ARG)/2180)	VBF0111	31	81.5	77	90	0	0	3440	230
2553*SBT477/W6430C*NK835)	HBC804	13	79.1	71.9	76	0	8	3436	231
2555_SIS*VONA/2180)	VBF0589	267	78.4	65.3	78	0	0	3431	232
HBZ321A*W3459/2180)	VBF0107	29	77.5	71.6	86	0	8	3425	233
W1406*SIOUXLAND/2154)	HBF0025	127	79.9	73.2	88	0	0	3424	234
XW171_SIS*2157/2180)	VBF0151	39	79.3	71	80	0	8	3421	235
W2413*W2440/W3417)	HBF0085	130	77.9	69.8	78	0	0	3413	236
XW171_SIS*VONA/2180)	VBF0159	46	79.3	72.4	74	0	0	3407	237
2553*SBT477/W6430C*NK835)	HBC804	70	78.4	73.8	82	0	0	3407	238
W9488A*2163/2180)	HBF0337	199	77.5	.	69	0	0	3402	239
W2439/2163)	HBE0771	110	77.1	68.6	72	0	0	3398	240
TAM107*2551/2180)	VBF0573	261	77.7	73.6	79	2	8	3395	241
2551*VONA/2180)	VBF0576	57	80.8	69.3	84	0	0	3388	242
2551*VONA/2180)	VBF0576	58	79.7	72.2	90	0	8	3386	243
2551*W8447D/W2440)	HBF0592	231	74.7	.	85	0	0	3377	244
W9487A*TX78V3630/W3437)	HBF0321	191	81.3	.	78	0	0	3366	245
TAM108*2165/NK835*HOMESTEAD)	HBC664	2	79.5	74.3	84	0	0	3359	246
OK754615*KAVKAZ_107/TX71A889*2157)	HBC696	3	76.6	74	72	0	0	3358	248
TAM107*NEWTON/W2414)	VBE0050	19	81.3	75.6	92	0	8	3358	247
COK797*TAM108/2180)	VBF0544	254	77.8	72.1	78	0	8	3342	249
W0587*2369/TAM105)	HBC753	8	75.1	70.2	84	0	8	3304	250
XW171_SIS*2157/2180)	VBF0151	37	78.6	72.2	78	0	8	3284	251
HBZ321A*PONY/W0487D)	VBF0105	244	75.5	.	82	0	0	3278	252
TX71A889*W1405/KS76H3237*NK835)	HBC643	82	78.9	72.5	86	0	0	3276	253
W1407*2172/2180)	HBF0049	128	76	66	80	0	0	3262	254
W8447*W8487/2172)	HBB080	76	77.9	68.2	90	0	0	3257	255
WX12833)X3X1X*2157/W8447)	HBC090	79	79.1	71.7	79	0	8	3257	256
XW171_SIS*2157/2180)	VBF0151	41	82.7	73.1	70	0	0	3226	257
XW171_SIS*NK812/2180)	VBF0168	51	78.4	72	74	2	8	3224	258
XW171_SIS*2165/2180)	VBF0154	42	76.9	70.6	76	5	8	3218	259
HBZ321A*TAM105/2180)	VBF0094	27	79.6	71.9	86	0	0	3209	260
NK812*2180/2180)	VBG0110	61	78.7	73.1	68	0	0	3207	261
YW191_PAR*W2421/OK79257*ARKAN)	VBE0269	23	80.4	74.6	90	0	0	3203	262
13981(ARG)*W2421/OK79257*ARKAN)	VBE0263	238	81.5	.	79	0	8	3203	263
W9401*VONA/2172)	HBE0297	90	80.1	70.7	78	0	0	3200	264
XW171_SIS*VONA/2180)	VBF0159	248	78.9	.	84	0	0	3191	265
2165*2551/2157)	VBG0134	62	78.9	73.8	76	3	6	3189	266
XW171_SIS*2157/2180)	VBF0151	38	79.2	67.9	76	4	8	3165	267
XW171_SIS*VONA/2180)	VBF0159	48	80	71.3	78	0	8	3152	268
XW171_SIS*2157/2180)	VBF0151	36	79.7	70.5	84	4	8	3134	269
W2439*W9523A/2180)	HBF0245	291	75.3	66.1	85	0	0	3130	270

Agronomic summary of the 1991 Pioneer Observation Nursery, Concluded.

VARIETY OR PEDIGREE	C.I. OR SEL. NO.	ENTRY NO.	VERNON,TX TEST WT. KG/HL	KANSAS MEAN TEST WT. KG/HL	BERTHOUD, CO: PLANT HT. CM	STEM RUST 0-5	STEM RUST QCC 0-9	6 SITE YIELD AVERAGE	
W2401*TAM108/PONY)	VBE0206	21	77.5	73	90	0	8	3129	271
2165*2551/2157)	VBG0134	63	79.1	73.9	78	0	8	3114	272
W1404*LEN/TAM105)	HBC766	12	80.4	70.4	76	0	0	3110	273
2157*W6040A/PRONTO*TAM107)	VBE133B	26	81	75.1	80	0	0	3096	274
XW171_SIS*VONA/2180)	VBF0159	247	81	.	84	0	0	3073	275
W2401*TAM108/PONY)	VBE0206	22	77.5	73.5	88	0	8	3056	276
2551*NE78659/W2439)	HBF0590	230	72.8	.	71	0	0	3053	277
W1406*2369/TAM105)	HBC757	11	79.7	68.7	72	0	0	3032	278
W2401*TAM108/PONY)	VBE0206	20	78.7	73.2	90	0	8	3032	279
2551*VONA/2180)	VBF0576	59	81.1	70	82	5	8	3028	280
W2440*W9488A/2163)	HBF0263	162	75.7	70	81	0	8	2999	281
WX9280*ROCKY/SIOUXLAND)	HBE0040	84	74.2	68.5	81	0	8	2925	282
W2413/SIOUXLAND)	HCC296	18	77.5	66.8	78	0	0	2852	283
2157*W6040A/PRONTO*TAM107)	VBE133B	24	80.1	74.9	84	5	8	2850	284
TX78V3630/2157)	HCB201	16	82.8	73.1	94	0	8	2848	285
W2413/SIOUXLAND)	HCC296	17	77.9	68.7	80	0	0	2692	286
SGW017*2165_PAR/W9519)	HBZ231	14	77.8	69.7	72	0	0	2576	287

Summary of yields (kg/ha) and ranks for entries in the 1991 Pioneer Observation Nursery (PON) grown at 7 locations.
Coordinated by R. G. Sears and T. J. Martin, Kansas State Univ.

C.I. OR SEL. NO.	ENTRY NO.	BERTHOUD COLORADO		MEAD NEBRASKA		STILLWATER OKLAHOMA		VERNON TEXAS		HUTCHINSON KANSAS		MANHATTAN KANSAS		OXFORD KANSAS		6 SITE REGIONAL AVERAGE	
HBF0425	306	6564	26	.	.	4143	2	3974	227	4058	69	3872	37	3617	60	4371	1
VBE017	72	6698	20	.	.	3185	64	4149	55	4235	34	3796	52	4102	7	4361	2
HBF0425	212	6537	29	2494	86	3755	7	4069	142	3800	117	3588	98	4316	2	4344	3
HBF0429	308	7115	6	.	.	3744	9	4075	132	3717	134	3763	56	3473	82	4315	4
HBF0248	296	6960	8	.	.	3831	6	4055	155	3818	114	3871	38	3204	129	4290	5
HBF0263	161	6335	51	3422	15	3336	43	4069	142	4862	2	3603	94	3531	74	4289	6
HBE0771	112	6772	14	.	.	3088	86	4055	155	4198	42	3923	24	3665	47	4283	7
VBF0544	257	6288	59	.	.	3658	16	4082	124	3847	107	4318	4	3409	96	4267	8
HBF0276	297	5905	108	1991	106	3734	11	4028	192	4151	47	4535	1	3137	140	4248	9
HBE0363	96	6812	13	.	.	2625	200	4048	166	4383	22	3660	77	3934	16	4244	10
HBF0247	292	6483	34	1831	110	4207	1	4075	132	3404	206	3921	26	3355	108	4241	11
HBF0340	201	7572	2	3103	35	2765	163	4190	25	3938	90	2923	250	3997	13	4231	12
HBF0290	169	5461	153	.	.	3540	22	4163	44	4681	6	3380	150	4102	7	4221	13
HBF0337	197	6436	41	.	.	3260	50	4143	61	4541	10	2991	244	3904	22	4212	14
HBE0780	280	5757	123	.	.	3540	22	4048	166	4151	47	4422	2	3244	121	4194	15
HBC727	69	6261	63	.	.	3206	60	4243	8	4299	26	3547	105	3598	63	4193	16
HBF0435	216	5878	111	.	.	3034	101	4042	171	4502	13	3822	48	3868	28	4191	17
VBE0186	236	6725	17	.	.	2292	242	4062	148	4498	14	3652	80	3889	26	4186	18
HBE0363	97	7061	7	.	.	2270	245	4089	114	4435	20	3337	161	3867	29	4177	19
VBF0544	256	6503	32	.	.	3755	7	4008	209	3585	165	4000	16	3172	135	4171	20
HBE0771	111	5474	151	.	.	3949	4	4082	124	4137	52	3876	36	3463	83	4164	21
VBF0589	270	6402	43	2611	72	3013	104	4203	20	4385	21	3786	54	3129	142	4153	22
HBF0337	196	5299	173	3646	8	3346	41	4055	155	4616	7	3732	63	3846	32	4149	23
HBF0432	312	6940	10	2118	104	3432	31	3988	221	3938	90	3310	172	3280	116	4148	24
HBF0441	314	6342	49	2765	64	3691	15	3941	245	3896	100	3859	40	3151	139	4146	25
HBF0425	307	7505	3	.	.	2507	221	3974	227	3922	95	3214	191	3749	40	4145	26
HBF0408	211	6900	11	.	.	3497	26	4109	94	3555	174	2892	254	3900	24	4142	27
HBF0302	173	5891	110	3024	40	3120	76	4143	61	4247	32	3658	79	3766	38	4138	28
HBF0246	156	6059	87	.	.	3120	76	4183	33	4036	73	3753	59	3665	47	4136	29
HBC059E	77	6523	31	.	.	2798	154	4069	142	3812	115	3699	70	3901	23	4134	30
HBF0246	157	6375	46	.	.	2733	168	4129	76	4020	77	3480	124	4035	12	4129	32
VBF0589	264	6449	37	.	.	3454	28	4022	194	4155	46	3994	17	2699	218	4129	31
HBF0302	178	6167	71	.	.	3099	83	4055	155	4228	37	3539	107	3665	47	4126	33
HBF0345	202	7350	4	3117	34	2421	230	4136	68	4588	9	2736	267	3484	79	4119	34
HBF0361	209	6214	68	3604	11	3056	93	4237	9	4206	40	3142	211	3832	34	4114	35
HBF0303	184	6443	40	2891	55	3163	68	3887	272	4058	69	3691	73	3430	88	4112	36
HBE0779	116	5689	129	.	.	3056	93	4102	101	3804	116	3880	35	4136	5	4111	37
HBF0350	204	6234	66	.	.	3389	37	4176	34	4125	53	2800	261	3929	20	4109	38
HBF0303	298	6543	28	2395	95	3056	93	3887	272	4024	75	4146	9	2989	170	4108	39
VBF1100	319	5938	102	2557	81	3077	88	4196	22	3926	93	4217	6	3047	162	4067	40
HBE0771	113	6026	89	2790	63	3368	39	3948	242	4279	28	3377	153	3396	98	4066	42
HBF0611	232	6476	35	.	.	2981	112	3914	260	4539	11	3026	238	3459	85	4066	41
HBF0255	160	6718	19	2964	43	3045	97	4035	186	4259	30	3343	160	2993	166	4065	43
HBE0773	273	6126	79	2558	80	3712	13	4022	194	4011	79	3724	64	2753	206	4058	44
HBF0096	133	6947	9	.	.	3045	97	3880	276	3981	85	3486	118	2993	166	4055	45

Yield summary of the 1991 Pioneer Observation Nursery (PON), continued.

C.I. OR SEL. NO.	ENTRY NO.	BERTHOUD COLORADO		MEAD NEBRASKA		STILLWATER OKLAHOMA		VERNON TEXAS		HUTCHINSON KANSAS		MANHATTAN KANSAS		OXFORD KANSAS		6 SITE REGIONAL AVERAGE	
HBF0290	170	5333	169	.	.	3142	71	4170	40	4714	5	3609	92	3363	105	4055	46
HBE0321	92	5165	182	3044	39	3217	55	4170	40	4003	83	4303	5	3430	88	4048	47
HBE0771	109	6322	54	2819	59	3411	34	4035	186	4184	43	3440	133	2892	185	4047	48
VBF0589	268	6537	29	3393	19	3744	9	4089	114	3389	210	3900	31	2617	235	4046	49
HBF0140	289	6658	22	1802	112	2841	147	4270	5	3504	188	3551	103	3449	86	4045	50
HBF0248	294	6268	61	.	.	3293	45	3887	272	3782	121	3605	93	3420	94	4042	51
HBF0539	222	6295	57	.	.	3131	75	4042	171	4097	56	3205	196	3477	81	4041	52
VBF0589	269	6147	76	3368	20	3497	26	4055	155	3851	106	3818	49	2853	193	4037	53
HBF0114	136	5454	155	3852	1	3626	18	4109	94	4519	12	3502	116	2993	166	4034	54
HBF0425	213	6752	15	2584	76	3013	104	3995	217	3178	238	3650	81	3610	61	4033	55
HBF0290	171	4324	233	.	.	2927	128	4109	94	4746	4	4007	15	4069	9	4030	56
HBE0773	276	5730	125	1923	108	3712	13	4001	214	3906	96	3826	46	3004	165	4030	57
HBF0139	288	6604	24	.	.	3067	91	4055	155	3567	170	3142	211	3681	45	4019	58
HBC727	68	6301	56	.	.	3293	45	4203	20	3289	228	3318	169	3665	47	4012	59
HBF0303	188	5985	95	3056	37	3206	60	4116	86	4066	64	3468	127	3215	127	4009	60
HBF0441	316	6160	73	2625	71	3519	24	4109	94	4082	59	3183	203	2960	173	4002	61
HBF0588	229	6725	17	.	.	3024	103	3820	284	3822	112	2886	256	3699	43	3996	62
VBG0339	64	5306	172	.	.	3217	55	4190	25	4206	38	3486	118	3564	70	3995	63
VBF0015	240	5313	171	.	.	3002	108	4109	94	4614	8	3026	237	3896	25	3993	64
HBF0276	163	6449	37	3013	41	2776	158	4008	209	4170	44	3869	39	2656	225	3988	66
HBF0432	214	6335	51	.	.	2410	233	4069	142	3972	87	3202	198	3943	14	3988	65
HBE0894	124	5003	196	3281	26	3002	108	4069	142	4030	74	3828	44	3934	16	3978	67
HBF0139	286	5710	127	.	.	3206	60	4035	186	3646	150	3613	89	3642	56	3975	68
VBF0077	243	5770	122	.	.	2776	158	4190	25	4070	61	3107	220	3925	21	3973	69
HBE0242	88	6261	63	2611	72	2615	203	4156	48	3401	207	3685	74	3699	44	3969	70
HBF0248	293	6402	43	.	.	2744	165	4075	132	3368	214	3845	42	3355	108	3965	71
HBF0432	311	6254	65	2208	102	3314	44	3941	245	3660	146	3234	187	3383	103	3964	72
HBF0302	177	6369	47	.	.	3250	53	3934	249	3527	182	3101	221	3598	63	3963	73
HCC0076	233	6295	57	2918	50	3271	48	4196	22	3463	193	2751	265	3796	36	3962	75
HBE0780	279	5346	168	.	.	3411	34	4048	166	3882	102	4017	14	3069	158	3962	74
HBE0780	120	6281	60	.	.	3067	91	4062	148	3666	144	3296	173	3396	98	3961	76
HBF0441	218	5938	102	.	.	3099	83	3961	233	4233	35	2681	269	3853	30	3961	77
HBF0345	304	6207	69	.	.	2981	112	4075	132	3732	128	3632	85	3122	148	3958	78
HBE0726	106	6429	42	3400	18	3728	12	4136	68	3519	185	3034	234	2892	185	3956	80
HBF0588	228	5642	135	3219	29	3970	3	4096	107	3297	224	2880	258	3853	30	3956	79
HBE0726	104	6678	21	.	.	2389	234	4042	171	4851	3	3486	118	2287	263	3955	81
VBF0223	252	5111	190	.	.	3443	29	4143	61	3900	97	3906	28	3208	128	3952	82
VBF0544	259	6557	27	.	.	3045	97	4042	171	3788	120	3323	166	2946	180	3950	83
HBE0249	89	6476	35	3226	28	2604	204	4149	55	3376	213	3644	82	3430	88	3947	84
HBE0780	278	4573	216	.	.	3519	24	4075	132	4231	36	4078	10	3190	133	3944	85
HBF0250	159	5958	101	2793	62	2195	253	3921	258	4151	47	3800	51	3632	57	3943	87
VBF0586	262	6584	25	2677	67	3174	66	4190	25	3244	236	3722	65	2746	207	3943	86
HBF0140	141	5494	150	.	.	2389	234	4196	22	4476	16	3595	96	3497	76	3941	88
HBF0241	153	6624	23	.	.	2970	120	3981	223	3583	166	3193	200	3228	122	3930	89
VBF0589	263	5972	98	3687	6	3163	68	4089	114	3646	151	4164	8	2520	249	3926	90

Yield summary of the 1991 Pioneer Observation Nursery (PON), continued.

C.I. OR SEL. NO.	ENTRY NO.	BERTHOUD COLORADO		MEAD NEBRASKA		STILLWATER OKLAHOMA		VERNON TEXAS		HUTCHINSON KANSAS		MANHATTAN KANSAS		OXFORD KANSAS		6 SITE REGIONAL AVERAGE	
VBF0544	260	6066	86	2581	78	2862	144	3981	223	3629	158	3902	30	3101	150	3924	91
HBE0127	318	7707	1	2837	57	2712	175	4015	205	3966	88	3069	227	2057	270	3921	92
HBF0438	217	5925	104	2866	56	3056	93	4069	142	3551	176	3169	205	3749	40	3920	93
HBC224	81	6449	37	.	.	2593	208	4055	155	3595	164	3007	240	3800	35	3917	94
HBF0432	313	6355	48	.	.	3443	29	3887	272	3565	171	2896	251	3348	110	3916	95
HCC288	317	6322	54	.	.	3260	50	4129	76	3441	200	3378	152	2954	179	3914	96
HBF0302	172	5562	144	.	.	3260	50	4096	107	3924	94	3666	76	2959	174	3911	97
HBC757	9	7196	5	3728	4	2679	181	4149	55	3508	187	3390	146	2522	244	3907	98
HBY880	71	4593	215	.	.	3174	66	4176	34	3644	152	3314	170	4539	1	3907	99
HBF0303	299	5723	126	2807	60	2927	128	3901	267	3796	119	3923	24	3137	140	3901	100
HBE0415	102	4943	199	.	.	3206	60	3961	233	3936	92	3845	42	3497	76	3898	101
HBF0276	166	6026	89	2798	61	2496	223	4015	205	4251	31	3906	28	2656	225	3892	103
HBF0357	208	6490	33	.	.	2948	124	4022	194	3453	196	2556	273	3886	27	3892	102
HBF0114	284	6106	81	.	.	2981	112	4096	107	3405	205	3511	114	3190	133	3881	104
HBF0214	149	5992	93	.	.	2970	120	4075	132	3378	212	3267	181	3598	63	3880	105
HBF0053	129	5965	99	.	.	2927	128	3921	258	3900	97	3738	62	2825	194	3879	106
HBF0302	174	6133	78	.	.	3120	76	4042	171	3488	191	3046	233	3430	88	3877	107
HBC208	80	5582	142	3740	3	2884	139	3981	223	3825	111	3611	90	3363	105	3874	108
HBF0303	302	5683	130	2652	68	2776	158	3779	286	3756	124	4358	3	2882	189	3872	109
HBF0303	183	6032	88	3207	30	2744	165	3894	269	4105	54	3496	117	2925	182	3866	110
HBF0551	223	5831	117	2354	96	2356	239	4035	186	3900	97	3277	178	3789	37	3865	111
HBF0350	203	5447	156	3406	17	2658	192	4089	114	4151	47	2896	251	3936	15	3863	112
HBE0771	272	6200	70	.	.	2981	112	4042	171	3289	228	3623	87	3040	163	3863	113
HBF0303	300	5710	127	2509	83	2722	170	3914	260	3654	147	4041	12	3108	149	3858	114
HBF0133	138	3746	263	.	.	3572	19	4022	194	4441	19	3849	41	3497	76	3854	115
HBE0771	108	4997	197	2249	99	2937	126	4149	55	4344	23	3294	174	3396	98	3853	117
HBF0303	190	4425	226	3206	31	3045	97	3954	240	4447	17	3660	77	3588	69	3853	116
HBF0325	192	6752	15	.	.	3142	71	3927	256	3295	225	3030	235	2972	171	3853	117
HBF0209	148	5979	96	3636	9	2873	142	4102	101	4062	68	2997	242	3094	151	3851	119
HBF0576	227	4297	238	3301	25	3163	68	4042	171	4484	15	3436	135	3681	45	3851	120
HBF0220	152	5784	121	.	.	3013	104	4217	18	3553	175	3441	131	3094	151	3850	121
HBF0137	140	5272	176	.	.	3422	32	4116	86	3839	108	3320	167	3127	143	3849	122
HBF0302	176	5602	139	.	.	3551	20	3988	221	3413	203	3269	180	3262	117	3847	123
VBF0544	258	5017	194	2459	90	3282	47	4015	205	4103	55	3712	68	2943	181	3845	124
HBF0431	309	5878	111	3480	12	3400	36	4096	107	3754	125	3312	171	2631	231	3845	125
HBE0780	123	4304	237	.	.	2894	134	4109	94	4247	32	3437	134	4069	9	3843	126
HBE0779	117	5979	96	.	.	2894	134	3934	249	3697	139	3109	219	3430	88	3840	127
HBF0174	144	5528	147	.	.	2604	204	3934	249	3975	86	3521	111	3463	83	3838	128
VBF0147	33	6342	49	.	.	2937	126	4082	124	4066	64	3196	199	2387	257	3835	129
VBF0223	253	4553	217	3165	33	2862	144	4129	76	4083	58	3990	18	3391	102	3835	130
HBE1066	126	5286	174	3676	7	2981	112	3968	231	4068	62	3961	20	2724	210	3831	131
HBE0780	119	5071	191	.	.	2679	181	4022	194	3648	149	3722	65	3833	33	3829	132
HBE0379	100	4889	203	.	.	3120	76	4001	214	4295	27	3461	128	3194	130	3827	134
VBF0589	266	5145	184	.	.	3841	5	3880	276	3291	227	4072	11	2735	208	3827	133
VBE0043	234	3652	268	.	.	3551	20	4075	132	4445	18	3083	224	4151	4	3826	135

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C.I. OR SEL. NO.	ENTRY NO.	BERTHOUD COLORADO		MEAD NEBRASKA		STILLWATER OKLAHOMA		VERNON TEXAS		HUTCHINSON KANSAS		MANHATTAN KANSAS		OXFORD KANSAS		6 SITE REGIONAL AVERAGE	
HBE0363	99	5407	164	.	.	2776	158	4149	55	3583	166	3457	129	3564	70	3823	136
HBF0303	189	5266	177	.	.	3346	41	3907	265	3822	112	3884	34	2710	216	3823	137
HBF0357	207	6086	83	2223	101	2658	192	4082	124	3362	215	3064	230	3660	54	3819	138
HBF0133	139	5151	183	3102	36	3228	54	4102	101	4011	79	3212	193	3194	130	3817	139
HBF0276	164	5622	136	2601	75	2776	158	3914	260	3886	101	3673	75	3026	164	3816	140
VBG0048	60	5420	160	.	.	3217	55	3954	240	4015	78	3421	138	2858	191	3814	141
HBF0508	220	5965	99	2265	98	3077	88	3699	287	3827	110	2939	248	3377	104	3814	142
HBF0303	301	6335	51	2633	70	2690	177	3847	283	3120	245	4217	6	2656	225	3811	143
VBF0154	44	5992	93	.	.	2582	209	4082	124	3577	168	3763	56	2825	194	3803	144
HBF0278	168	5824	118	2912	52	2841	147	4082	124	3727	129	3210	194	3094	151	3796	145
VBF0072	242	5905	108	2408	94	2808	152	4176	34	3386	211	2888	255	3595	68	3793	146
HBE0780	121	4862	204	.	.	2830	151	4042	171	4064	66	3288	176	3665	47	3792	147
HBE0402	101	6886	12	.	.	2625	200	3907	265	2552	273	3152	208	3598	63	3787	148
HBF0303	187	5609	138	2900	54	3013	104	3901	267	3642	153	3588	98	2959	174	3785	149
HBF0340	200	5595	141	2113	105	2561	215	4136	68	3752	127	3234	187	3430	87	3785	151
HBF0539	221	4855	205	2509	83	2443	227	4075	132	4334	24	3742	60	3262	117	3785	150
HBE0780	281	4405	229	.	.	2991	110	3961	233	4206	38	4035	13	3075	156	3779	152
HBF0302	180	5286	174	.	.	3120	76	4055	155	3500	190	3128	215	3531	74	3770	153
VBE0271	73	6389	45	.	.	2572	212	4143	61	3074	251	3510	115	2925	182	3769	154
VBF0573	53	5602	139	3325	23	3142	71	3974	227	3565	171	3482	122	2825	194	3765	155
HBF0572	226	6086	83	2728	65	3379	38	3860	281	3360	217	2566	272	3337	111	3765	156
HBE0217	87	5575	143	.	.	2432	229	4237	9	3701	136	3277	178	3363	105	3764	158
HBF0568	224	5925	104	.	.	3077	88	3941	245	4022	76	2886	256	2735	208	3764	157
HBF0303	182	4600	214	2582	77	2755	164	3894	269	4200	41	3781	55	3329	112	3760	159
HBE0773	274	5562	144	.	.	3357	40	4022	194	3124	244	3982	19	2502	250	3758	160
HBE0773	277	5736	124	2502	85	3088	86	3934	249	3086	249	3900	31	2796	198	3757	161
VBF0111	32	5393	165	.	.	2518	220	4102	101	4054	71	3332	164	3127	143	3754	162
HBF0219	290	6106	81	2229	100	2647	197	3974	227	3218	237	3353	158	3226	124	3754	163
VBG0110	74	4842	207	.	.	2894	134	4109	94	3525	184	3398	144	3732	42	3750	164
KS801072	91	6160	73	3424	14	1905	267	4096	107	3250	235	3788	53	3295	113	3749	167
HBE0321	93	4425	226	3346	21	2722	170	4170	40	3675	142	3738	61	3766	38	3749	165
HBF0139	287	6073	85	.	.	3034	101	4075	132	3060	252	2767	264	3484	79	3749	166
HBE0780	122	4062	253	.	.	2787	155	4089	114	4163	45	3416	139	3934	16	3742	168
HBF0114	283	5622	136	.	.	2679	181	4136	68	3409	204	3384	148	3219	126	3742	169
HBF0431	310	5461	153	2270	97	3110	81	3961	233	3607	163	3541	106	2760	202	3740	170
HBE0778	114	4842	207	.	.	2948	124	4089	114	3770	123	3116	218	3632	57	3733	171
VBF0151	40	5810	119	.	.	2378	236	4122	81	3609	161	3629	86	2825	194	3729	172
HBE0876	282	5118	187	.	.	2841	147	4035	186	3701	136	3570	102	3072	157	3723	173
HBF0303	181	5441	158	2579	79	2668	187	3981	223	3719	133	3529	110	2993	166	3722	174
VBF0159	250	5857	114	.	.	2668	187	4022	194	3330	219	3482	122	2961	172	3720	175
HBE0771	271	5555	146	.	.	2981	112	4008	209	3453	196	3410	141	2889	188	3716	176
HBF0327	303	5528	147	.	.	2658	192	3948	242	3754	125	3539	107	2860	190	3714	177
VBF0147	34	5837	115	.	.	2443	227	3914	260	3640	154	3592	97	2757	203	3697	178
VBF0200	52	5367	167	.	.	2981	112	4143	61	3683	141	3326	165	2656	225	3692	179
HBE0363	98	6140	77	.	.	2690	177	4082	124	3151	242	2923	249	3161	136	3691	180

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C.I. OR SEL. NO.	ENTRY NO.	BERTHOUD COLORADO		MEAD NEBRASKA		STILLWATER OKLAHOMA		VERNON TEXAS		HUTCHINSON KANSAS		MANHATTAN KANSAS		OXFORD KANSAS		6 SITE REGIONAL AVERAGE	
HBF0146	142	4432	225	2477	89	2916	133	4237	9	4082	59	3365	155	3094	151	3688	182
HBF0204	147	4243	247	.	.	3142	71	4062	148	3855	105	3531	109	3295	113	3688	181
HBE0046	86	4277	244	3315	24	2313	241	4116	86	4097	56	3644	83	3598	63	3674	183
HBE0780	118	4257	246	3054	38	2927	128	3941	245	3699	138	3474	125	3665	47	3660	184
HBF0337	198	5474	151	.	.	2717	174	4156	48	4038	72	2742	266	2796	198	3654	186
VBF0161	251	4943	199	.	.	2658	192	4042	171	3561	173	3471	126	3252	119	3654	185
HBE0726	107	4768	210	2923	49	2367	237	4136	68	4882	1	3124	216	2589	236	3644	187
HBB114	66	3860	261	3783	2	3217	55	4237	9	3453	196	3425	137	3665	47	3643	188
HBF0247	158	5124	186	.	.	2679	181	3995	217	3772	122	3118	217	3127	143	3636	189
HBF0097	134	4096	251	.	.	3217	55	4096	107	3632	156	3699	71	3060	159	3633	190
HBF0471	219	4391	230	2944	48	2808	152	3874	279	4261	29	2841	260	3620	59	3633	191
HBF0350	206	4210	248	.	.	2604	204	4075	132	3715	135	3073	226	4108	6	3631	192
HBF0116	137	6019	91	.	.	2496	223	3961	233	3482	192	3067	229	2757	203	3630	193
HBC696	4	5387	166	.	.	1894	269	3934	249	4068	62	3896	33	2556	242	3622	194
VBF0159	47	5508	149	.	.	2572	212	4163	44	3512	186	3251	183	2724	210	3622	196
HBF0219	150	4990	198	3342	22	2787	155	4042	171	3551	176	3236	186	3127	143	3622	195
HBC652	67	5656	133	3688	5	2636	198	4022	194	2970	257	3214	191	3161	136	3610	197
HBF0094	132	5252	178	.	.	2582	209	4055	155	3608	162	3028	236	3127	143	3609	198
VBF0159	49	5118	187	3623	10	2690	177	4089	114	3630	157	3390	146	2690	219	3601	199
VBF0094	28	5057	192	.	.	2927	128	4136	68	3362	215	3320	167	2791	200	3599	200
HBF0204	146	3685	267	.	.	3422	32	4143	61	3301	223	3064	230	3934	16	3591	201
HBE0683	103	3403	274	.	.	3110	81	4116	86	4315	25	3572	100	2925	182	3574	202
HBF0302	179	4291	239	.	.	3185	64	4035	186	3417	202	3208	195	3194	130	3555	204
HBF0337	194	6005	92	.	.	2529	219	4163	44	3106	247	2572	271	2957	178	3555	203
VBF0576	56	4909	201	3005	42	2475	226	4156	48	3549	179	3519	112	2690	219	3550	205
VBF0151	246	5024	193	.	.	3271	48	4082	124	2853	264	2462	279	3599	62	3548	206
HBF0277	167	5319	170	2964	43	2507	221	4156	48	3401	207	3431	136	2421	255	3539	207
HBF0363	210	5118	187	.	.	2281	243	4122	81	4064	66	2556	273	3086	155	3538	208
HBF0303	186	3800	262	2946	47	2712	175	3860	281	4009	81	3359	157	3430	88	3528	209
HBC696	6	5205	180	.	.	1926	266	4001	214	3577	168	3925	22	2522	244	3526	210
VBF0008	239	5649	134	.	.	2674	186	3880	276	2729	267	2976	246	3248	120	3526	211
HBF0157	143	3867	260	1900	109	2744	165	3934	249	3439	201	3599	95	3564	70	3525	212
VBF0046	241	5669	131	.	.	2421	230	4022	194	2542	274	3062	232	3412	95	3521	213
HBF0244	154	6160	73	.	.	2851	146	4022	194	2019	285	2775	263	3228	122	3509	214
HBF0327	193	4472	222	.	.	2959	123	4048	166	3328	221	3001	241	3223	125	3505	215
VBF0168	50	5925	104	3196	32	2217	249	4190	25	2905	260	3402	142	2387	257	3504	216
HBF0220	151	4311	236	.	.	2841	147	4284	4	3502	189	3099	222	2959	174	3499	217
VBE0254	237	6227	67	.	.	2152	258	4062	148	3551	176	2282	283	2706	217	3497	218
HBB840	1	5434	159	.	.	2281	243	4022	194	3800	117	3935	21	1480	285	3492	219
HBE0324	94	4755	211	.	.	3099	83	4028	192	2956	258	2687	268	3396	98	3487	220
VBF0154	43	4465	224	.	.	2690	177	3995	217	3727	129	3245	185	2724	210	3474	221
VBF0159	249	6167	71	.	.	1603	279	4190	25	3664	145	3083	224	2122	268	3471	222
HBF0085	131	2825	284	2457	91	2894	134	4176	34	3839	108	3925	22	3161	136	3470	223
VBF0107	30	4492	220	.	.	2970	120	4008	209	3307	222	3486	118	2522	244	3464	224
HBE0007	83	4351	232	.	.	2098	261	3968	231	3262	231	3514	113	3564	70	3460	225

Yield summary of the 1991 Pioneer Observation Nursery (PON), continued.

C.I. OR SEL. NO.	ENTRY NO.	BERTHOUD COLORADO		MEAD NEBRASKA		STILLWATER OKLAHOMA		VERNON TEXAS		HUTCHINSON KANSAS		MANHATTAN KANSAS		OXFORD KANSAS		6 SITE REGIONAL AVERAGE	
VBF0576	54	4909	201	2951	46	2367	237	4015	205	3086	249	3714	67	2656	225	3458	226
HBC696	7	4607	213	.	.	2238	247	3961	233	3859	104	3691	72	2354	260	3452	227
HBC757	10	5925	104	2637	69	2217	249	4129	76	2881	261	3068	228	2488	251	3451	228
HBC090	78	3248	278	.	.	2733	168	4116	86	2875	262	3453	130	4237	3	3444	229
VBF0111	31	3705	266	.	.	2550	217	4250	6	3946	89	3226	189	2959	174	3440	230
HBC804	13	4324	233	1988	107	2722	170	4122	81	3397	209	3763	56	2287	263	3436	231
VBF0589	267	6126	79	2478	88	2227	248	4089	114	3650	148	2478	278	2015	272	3431	232
VBF0107	29	4492	220	.	.	2981	112	4042	171	3453	196	3159	207	2421	255	3425	233
HBF0025	127	4808	209	.	.	2206	251	4163	44	4139	51	3412	140	1816	279	3424	234
VBF0151	39	4008	254	2434	93	2668	187	4136	68	3634	155	3191	201	2892	185	3421	235
HBF0085	130	4412	228	.	.	2991	110	4062	148	3252	234	3138	213	2623	232	3413	236
VBF0159	46	4264	245	3267	27	2539	218	4136	68	4005	82	2976	245	2522	244	3407	237
HBC804	70	5131	185	.	.	2787	155	4089	114	2473	276	3171	204	2791	200	3407	238
HBF0337	199	3282	276	2825	58	2668	187	4042	171	3859	103	3267	181	3291	115	3402	239
HBE0771	110	3470	270	2913	51	2658	192	4694	1	3289	228	3216	190	3060	159	3398	240
VBF0573	261	6268	61	3416	16	1732	277	4048	166	3094	248	2995	243	2233	266	3395	241
VBF0576	57	5447	156	.	.	1539	280	4210	19	3457	194	3827	45	1849	276	3388	242
VBF0576	58	4291	239	3469	13	1937	265	4156	48	3537	180	3705	69	2690	219	3386	243
HBF0592	231	5414	163	.	.	2894	134	3894	269	3034	255	1383	287	3646	55	3377	244
HBF0321	191	5420	160	.	.	2572	212	4237	9	2623	272	1946	285	3398	97	3366	245
HBC864	2	3974	256	.	.	2873	142	4143	61	3340	218	3336	162	2488	251	3359	246
HBC696	3	4358	231	.	.	1958	263	3995	217	3527	182	3921	26	2387	257	3358	248
VBE0050	19	4512	218	.	.	2195	253	4237	9	3043	253	3572	100	2589	236	3358	247
VBF0544	254	4855	205	.	.	2184	255	4055	155	3687	140	3146	209	2122	268	3342	249
HBC753	8	4284	242	.	.	3648	17	3914	260	2693	271	3333	163	1950	274	3304	250
VBF0151	37	3194	279	.	.	2668	187	4096	107	3618	160	3369	154	2757	203	3284	251
VBF0105	244	5669	131	1829	111	2163	257	3934	249	3330	219	1896	286	2678	224	3278	252
HBC643	82	5239	179	.	.	1894	269	4116	86	2747	266	3810	50	1849	276	3276	253
HBF0049	128	5810	119	.	.	2184	255	3961	233	2536	275	2490	277	2589	236	3262	254
HBB080	76	5871	113	.	.	2335	240	4062	148	2204	283	2380	281	2690	219	3257	255
HBC090	79	2488	287	.	.	2604	204	4122	81	2432	277	3825	47	4069	9	3257	256
VBF0151	41	4317	235	2453	92	2152	258	4324	2	3293	226	2681	269	2589	236	3226	257
VBF0168	51	3719	265	.	.	2582	209	4089	114	3457	194	3011	239	2488	251	3224	258
VBF0154	42	3255	277	.	.	2722	170	4008	209	3157	241	3644	83	2522	244	3218	259
VBF0094	27	4472	222	.	.	2679	181	4149	55	2719	269	2781	262	2455	254	3209	260
VBG0110	61	3383	275	.	.	2884	139	4102	101	3038	254	3146	209	2690	219	3207	261
VBE0269	23	3961	258	2962	45	1861	273	4190	25	3535	181	3621	88	2051	271	3203	262
VBE0263	238	4129	250	.	.	1775	274	4250	6	3987	84	2435	280	2642	230	3203	263
HBE0297	90	4291	239	2703	66	1743	276	4176	34	3128	243	3611	90	2253	265	3200	264
VBF0159	248	5420	160	.	.	1754	275	4116	86	3159	240	2495	276	2200	267	3191	265
VBG0134	62	3739	264	2607	74	2636	198	4116	86	3110	246	2976	246	2556	242	3189	266
VBF0151	38	3053	282	2482	87	2130	260	4129	76	3671	143	3286	177	2724	210	3165	267
VBF0159	48	5017	194	.	.	1636	278	4170	40	3261	233	3251	183	1580	284	3152	268
VBF0151	36	2932	283	2538	82	2206	251	4156	48	3721	132	3167	206	2623	232	3134	269
HBF0245	291	4499	219	.	.	2884	139	3927	256	2229	282	2525	275	2717	215	3130	270

Yield summary of the 1991 Pioneer Observation Nursery (PON), concluded.

C.I. OR SEL. NO.	ENTRY NO.	BERTHOUD COLORADO		MEAD NEBRASKA		STILLWATER OKLAHOMA		VERNON TEXAS		HUTCHINSON KANSAS		MANHATTAN KANSAS		OXFORD KANSAS		6 SITE REGIONAL AVERAGE	
VBE0206	21	3114	281	.	.	2421	230	4042	171	3178	238	3294	174	2724	210	3129	271
VBG0134	63	3423	273	2156	103	2486	225	4122	81	2703	270	3091	223	2858	191	3114	272
HBC766	12	5837	115	.	.	1442	283	4190	25	2930	259	2849	259	1412	286	3110	273
VBE133B	26	4082	252	.	.	1948	264	4223	16	3022	256	3550	104	1749	281	3096	274
VBF0159	247	4284	242	.	.	1517	282	4223	16	3723	131	2368	282	2323	261	3073	275
VBE0206	22	3120	280	.	.	2270	245	4042	171	2871	263	3441	131	2589	236	3056	276
HBF0590	230	4687	212	.	.	1905	267	3793	285	3623	159	2013	284	2298	262	3053	277
HBC757	11	5185	181	.	.	1313	285	4156	48	2725	268	3402	142	1412	286	3032	278
VBE0206	20	2825	284	.	.	2625	200	4102	101	2812	265	3204	197	2623	232	3032	279
VBF0576	59	4136	249	.	.	1431	284	4230	15	3262	231	3361	156	1749	281	3028	280
HBF0263	162	2683	286	.	.	2561	215	3948	242	2364	280	3380	150	3060	159	2999	281
HBE0040	84	3584	269	.	.	1991	262	3867	280	2388	279	3132	214	2589	236	2925	282
HCC296	18	3887	259	.	.	1894	269	4042	171	2414	278	2894	253	1984	273	2852	283
VBE133B	24	4001	255	.	.	1528	281	4176	34	2358	281	3185	202	1849	276	2850	284
HCB201	16	3430	272	.	.	1872	272	4317	3	2185	284	3398	144	1883	275	2848	285
HCC296	17	3968	257	.	.	1173	287	4062	148	1820	286	3345	159	1782	280	2692	286
HBZ231	14	3470	270	2906	53	1194	286	4055	155	1736	287	3384	148	1614	283	2576	287