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 1976

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Lincoln, Nebraska
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NORTH CENTRAL REGION

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By

V. A. Johnson[1]

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(The asterisk denotes U.S.D.A. employees)

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REGIONAL NOTES

Hard red winter wheat breeders met on June 11 at the Fort Hays Experiment Station to observe experimental materials and wheat research.

Dr. John H. Johnson, Professor, Department of Flour and Feed Milling Industries, Kansas State University died on February 2, 1977. Professor Johnson, a long-time collaborator in the hard red winter wheat regional program, supervised collaborative large-scale milling and baking tests of new varieties in the hard red winter wheat region.

Dr. Ralph Matlock, Chairman of the Department of Agronomy, Oklahoma State University, passed away on March 23, 1977.

Mr. E. A. Wood, Jr., ARS Entomologist at Oklahoma State University, retired on January 1, 1977. His replacement has not been named.

Dr. Byron S. Miller was appointed research leader of a new grade standards research unit at the USDA Grain Marketing Research Center in Manhattan, Kansas in November. The unit will develop chemical, biochemical and physical methods for determining quality of cereal grains entering market channels.

Dr. R. W. Pylman, Jr. resigned his position as spring wheat breeder, South Dakota State University, on July 1 to become Director of Research for Ravenhorst, Bellows and Associates, Inc. of Olivia, Minnesota.

New office and laboratory facilities at the Plains Branch Agricultural Experiment Station, New Mexico State University, Clovis, New Mexico were dedicated on September 2, 1976.

DeKalb AgResearch, Inc. curtailed its spring wheat research effort in 1976 and, in the future, will concentrate on hard and soft winter wheat hybrid development.

Dr. Gregorio Vazquez and Mr. Herb Schmidt were transferred from the spring wheat area to Wichita, Kansas.

NEW VARIETIES

Foundation seed of KS70H210 was distributed to certified Kansas growers in 1976 under the name 'Larned'. Larned was described in the 1975 regional report.

'Parker 76' (KS74124) (CI17685), an increase of a single head from Parker*5/Agent selected in 1971, was jointly released by the Kansas Agricultural Experiment Station and the Agricultural Research Service, USDA. Foundation seed of Parker 76 was distributed to certified producers in 1976. It is superior to Parker in leaf and stem rust resistance. It is also resistant to Hessian fly but lacks resistance to bunt, loose smut, soil-borne mosaic, and wheat-streak mosaic.

The Kansas Agricultural Experiment Station plans to multiply seed of KS73112 in anticipation of naming and release in 1977 subject to quality tests by collaborators. KS73112 was selected from the cross Pitic 62/Chris sib//2*Sonora 64/3/Klein Rendilor/4/Scout made by the Pioneer Cereal Seed Division at Hutchinson, Kansas. It combines soil-borne mosaic, leaf rust and stem rust resistance, and semi-dwarf plant stature with high yield potential. It is susceptible to WSMV, bunt, mildew, and Hessian fly.

The Kansas Agricultural Experiment Station also announced intention to release Scout/Tascosa, KS73H441. It combines soil-borne mosaic resistance with productivity equal to that of Scout.

Certified seed of CO725049 (II21183/CO652363//Lancer/KS62136) was distributed to certified producers by Colorado State University in 1976 under the name 'Vona'. Vona has shorter straw than standard varieties and has some resistance to stem rust. It has been 10% more productive than commercially-grown varieties in Colorado and regional trials.

The Oklahoma Agricultural Experiment Station and the Agricultural Research Service, USDA, jointly released 'Amigo', 73G132x5 as greenbug resistant germplasm in 1976. Resistance to biotype C of Schizaphis graminum is combined with mid-season maturity and mid-tall plant height in Amigo. Amigo carries a single dominant gene for greenbug resistance from the Argentinian strain of rye 'Insave F.A.' It has 21 chromosome pairs.

Decision was made by the Nebraska Experiment Station to release CI17463 (NE69442), Pnc/3*Cnn/3/Ky58/Nth/2/2*Cnn/Tm/Mi/Hope/4/Sut. CI17463 was released to growers as 'Agate' in 1976. CI17463 combines excellent winterhardiness with tolerance to wheat streak mosaic, Hessian fly, and resistance to stem rust. It is similar to Warrior in productivity and maturity.

THE 1976 CROP YEAR

The year was dominated by dry soils and high temperatures throughout much of the hard red winter wheat region. Inadequate soil moisture in much of the central and southern plains production areas produced uneven stands. Serious deterioration occurred through the winter season in these areas. Spring temperatures were higher than normal. Decline of the wheat condition was halted by late April rains and much of the wheat made excellent recovery except in South Dakota. Some freeze damage occurred in May. Rust losses over the region were low. The estimated losses from leaf rust of 3% in Texas and 2% in Oklahoma declined to trace losses in the other hard winter wheat plains states. Stem rust was present in trace amounts only.

Average state winter wheat yields in the 10 states comprising the hard red winter wheat region ranged from only 18 bu/a on 970 thousand harvested acres in South Dakota to 32 bu/a in Nebraska and Montana, each of which harvested approximately 3 million acres. Kansas had an excellent average yield of 30 bu/a on 11+ million harvested acres. Seeded acreage abandonment ranged from 53% in New Mexico to 4% in Montana and North Dakota.

Winter wheat production statistics for cooperating states in 1976:

State	Acres seeded	Acres harvested	Abandonment	Yield per harvested acre	Production (bu)
	1,000	1,000	%	bu.	1,000
New Mexico	454	213	53	23.0	4,899
Texas	6,500	4,700	28	22.0	103,400
Oklahoma	7,800	6,300	19	24.0	151,200
Colorado	2,830	2,200	22	21.5	47,300
Kansas	12,900	11,300	12	30.0	339,000
Nebraska	3,400	2,950	13	32.0	94,400
Montana	3,200	3,080	4	32.0	98,560
Wyoming	270	240	11	25.0	6,000
South Dakota	1,190	970	18	18.0	17,460
North Dakota	140	135	4	28.0	3,780

Data from Crop Production, 1976 Annual Summary, Crop Reporting Board, Statistical Reporting Service, U.S.D.A., Washington, DC.

SOUTHERN REGIONAL PERFORMANCE NURSERY

The nursery was comprised of 32 entries, 23 of which were new in 1976. Thirty replicated nurseries were seeded at 28 sites and there were observation plantings at 3 sites. Yield data were reported from 27 replicated nurseries in 11 states. Nurseries were abandoned at Bushland, TX (dryland); Garden City, KS; Akron, CO due to poor fall stand establishment. Data from observation plantings at 3 sites were reported.

Pedigrees, C.I. or State Selection Numbers, and the source of nursery entries appear in the listing that follows. Data from reporting sites are contained in Table 1. Stem rust seedling reactions to isolates of Puccinia graminis tritici and field adult plant reactions to stem and leaf rust at St. Paul, Minnesota provided by D. V. McVey are summarized in Tables 2 and 3. Seedling ratings to 4 Hessian fly biotypes, determined by R. L. Gallun, appear in Table 4.

Entry no.	Variety or Pedigree	C. I. or Sel. No.	Source
1	Kharkof	1442	Check
2	Scout 66	13996	"
3	Sage	17277	"
4	II21183/CO652643//Lancer/ KS62136 (Vona)	CO725049	Colorado
5	" "	CO725082	"
6*	" "	CO725061	"
7*	CIMMYT[1]/Scout	KS73112	Kansas
8*	" "	KS73114	"
9*	" "	KS73167	"
10*	" "	KS73253	"
11*	" "	KS73261	"
12*	Centurk Selection	NE69291	Nebraska
13*	Centurk	15075	"
14*	Buckskin/Homestead	NE73491	"
15*	" "	NE73641	"
16*	" "	NE73644	"
17*	" "	NE73649	"
18**	Pnc/3*Cnn/3/Ky58/Nth/2/2*Cnn/ Tm/Mi/Hope/4/Scout	NE69442	"
19	62A2712-7/Centurk	TX71A801	Texas
20*	Triumph 64/T_1//Sturdy	OK711092A	Oklahoma
21*	" "	OK711092B	"
22*	Tascosa/T_1//Sturdy	OK711252A	"
23*	Tascosa/T_1//Parker	OK722721	"
24*	" "	OK722692	"
25*	Short Wheat/Scout	TX69A418-2	Texas
26*	" "	TX69A569-1	"

Entry no.	Variety or Pedigree	C. I. or Sel. no.	Source
27*	62A2782-8/Centurk	TX73A2694	Texas
28*	Red River 68/Trapper	TX73A2798	"
29	Ottawa/5*Scout	KS70H210	Kansas
30	Scout/Tascosa	KS73H441	"
31*	Parker/TX65A1682	IL71-5838	Illinois
32*	Gage/TX65A1682	IL72-2489	"

* New entry in 1976
** Entered from NRPN
1/ CIMMYT = Pitic 62/Chris sib//2*Sonora/3/Klein Rendidor

Test Site Information

Clovis, NM -- Both irrigated and dryland nurseries were grown. The irrigated nursery was seeded October 1; irrigated 5 times and fertilized with 150 lbs of N during the growing season. BYDV infection occurred in the nursery. Flowering occurred earlier than normal in the spring but cool temperatures prolonged grain filling and contributed to high yields.

The dryland nursery was seeded on summer fallowed ground on September 17. Precipitation amounting to 0.68 inch on September 21 permitted good seed germination and emergence. Effective precipitation occurred in November but from December through May only 1.66 inches was received. June rainfall of 1.26 inches brought the growing season total to 4.69 inches. Very little dryland wheat in the Clovis area was harvested. The dryland nursery also was infected with BYDV.

Farmington, NM -- An irrigated nursery was grown. Seeding was done on September 10. The nursery received two fall and five spring irrigations. Applications of 50 lbs of N and 47 lbs. P_2O_5 in the fall and 50 lbs. of N in the spring were made.

Dallas, TX -- Information not provided.

Chillicothe, TX -- The nursery was seeded October 22 on land fallowed the previous season. Soil moisture was ample at seeding time as the result of 16.3 inches of rain received from July to October, 1975. Only 1.48 inches fell between late December and April 1. Moisture stress was evident during the heading of early varieties in late March and early April. Rains in mid-April favored the medium- and late-maturing varieties. Temperatures were favorable during grain filling but rainfall during the period contributed to high incidence of yellowberry. Greenbugs became prevalent in February but spraying prevented significant damage. Leaf rust was noted on May 7 and traces of stem occurred prior to harvest. Neither disease was a factor in yield.

Bushland, TX -- Both dryland and irrigated trials were sown but the dryland seeding failed to emerge. The irrigated trial was seeded on October 1 without preplant irrigation but with preplant application of 150 lbs. N. The nursery received an estimated one inch of water on October 15 via sprinkler irrigation. Flood irrigation water was applied December 12, March 19, May 7 and May 21. The nursery was sprayed twice in early spring for greenbug control. Leaf and stem rust were noted but they did no apparent damage. Yellow dwarf symptoms were present on the flag leaves. The nursery benefited from below-normal temperatures in May and early June.

Stillwater, OK -- The nursery was seeded October 8 on fallow ground. It received 70 lbs. N in split applications. Emergence was initially spotty due to limited surface moisture at seeding but full stands were eventually obtained. An extended dry spell in early spring reduced yield prospects -- especially on early-maturing entries. The nursery was sprayed for greenbug but some damage occurred. Root rot and/or nematodes also caused some damage. BYDV symptoms were evident in the nursery.

Lahoma, OK -- Seeding was done on fallowed ground on October 20. Emergence was excellent. There was little evidence of temperature or moisture stress during a relatively mild winter. The nursery was sprayed for greenbug control in February. Septoria tritici symptoms occurred and leaf rust developed but did not become serious.

Altus, OK -- Good fall stands were obtained and conditions were normal during the fall and winter. Severe moisture stress developed in early spring with early entries particularly affected. Greenbugs became severe during the winter and were only partially controlled by spraying. Leaf rust was present but failed to develop sufficiently to affect yields.

Goodwell, OK -- Good fall stands were obtained from an October 10 seeding on pre-irrigated ground. The nursery was irrigated 5 times during the season. Greenbugs and mustards were serious and chemical treatments were applied for their control. Septoria and leaf rust were present but not severe. Severe yellowing and some stunting was attributed to BYDV. High winds and blowing sand during periods of the fall and winter caused observable variability in the nursery.

Hutchinson, KS -- Information not reported.

Hays, KS -- The nursery was seeded on September 29 on ground with good subsoil but limited surface moisture. Stands which were initially spotty improved somewhat with late October rain but the development of the late-emerging plants was hampered by cold weather. Early spring was dry but conditions were ideal from late April to harvest. Traces of leaf and stem rust did not affect yield. Severe shattering of some varieties and Septoria were yield factors.

Garden City, KS -- Fall stand establishment was poor due to lack of soil moisture. Severe blowing occurred during the winter and the nursery was abandoned.

Colby, KS -- Subsoil moisture was excellent but there was only limited surface moisture at seeding time. Good fall stands were obtained but there was only limited fall development of a secondary root system. Although the winter was not severe, some loss of stand occurred probably for lack of root development and spring stands were spotty. Above-average April precipitation resulted in excellent growth and tillering. May and June moisture was below normal but temperatures were moderate and only limited stress developed. Some late leaf rust occurred.

Fort Collins, CO -- The nursery was not irrigated but there was ample moisture in the soil profile at the 2 to 5 ft. depth from irrigation of the surrounding fields. The nursery was inoculated with races 15-B-2 and 56 stem rust in late May. Lodging was severe in tall varieties.

Akron, CO -- The nursery was abandoned due to poor fall emergence.

Julesburg, CO -- The growing season was about normal but hot, dry winds preceeding harvest reduced yields and test weights.

Burlington, CO -- The growing season was very dry and the crop was produced almost entirely on stored soil moisture.

Springfield, CO -- The fall and winter were very dry but spring rains provided sufficient moisture for surprisingly good yields.

Nebraska sites -- There was limited subsoil and top soil moisture at all test sites at seeding time (Mead, Clay Center, North Platte, Sidney and Alliance) but generally good stands were obtained. Mead and Clay Center had little snow during the winter in contrast to the western sites where there was significant snow cover during portions of the winter. The nurseries developed well during the spring and summer following a few timely spring rains and moderate June temperatures. Yields were relatively high at all sites except Sidney where hot, dry winds in June substantially reduced yields. Diseases were not a factor in varietal performance. Some winterkilling occurred at Mead.

Columbia, MO -- Winter temperatures were milder than normal and early spring was unusually warm. Below-freezing temperatures occurred on April 26 and May 3 during wheat flowering, resulting in considerable sterility in some varieties. Moisture during the season, although somewhat below normal, was adequate for high yields. Septoria leaf blotch became severe and considerable leaf rust developed late in the season. Hessian fly was more severe than normal.

Ames, IA -- Fall nursery establishment was good but considerable winterkilling occurred which is believed to have been associated with ice formation from freezing rain in February. Lodging occurred during high winds on June 13 and hail on June 29 caused sufficient shattering to make yield data suspect.

Urbana, IL -- Fall moisture was adequate for normal emergence and fall growth. Heavy infestation of aphids resulted in severe fall infection of BYDV. There was no winterkilling. Mildew became heavy in early spring but probably had minimal effect on yield in contrast to BYDV and possibly other viruses which are believed to have caused significant yield reduction of most entries.

Brookings, SD -- Observation plots were grown. Some winterkilling occurred probably as a result of rain in February followed by low temperatures without snow cover.

Presho, SD -- Excellent fall stands were obtained from seeding on fallowed ground with ample moisture for germination and emergence. Most entries overwintered well but frost on May 8 (18°F) killed the spikes of the earlier varieties. This accounts for the higher yields of later-maturing entries. High temperatures prevailed during fruiting which may have led to straw breakage observed in TX69A418-2 and KS73H441.

Aberdeen and Tetonia, ID -- Observation plots grown at each site were irrigated at Aberdeen and dryland at Tetonia.

Lind, WA -- Soil moisture was adequate for good fall stand establishment. The winter was unusually mild with no apparent winter injury. Below-normal precipitation for the crop year was compensated by cool June weather resulting in good yields of high test weight grain.

Table 1.--Yield and other data for varieties evaluated in the Southern Regional Performance Nursery in 30 trials in 1976.

Clovis, New Mexico
Three replications
(Dryland)

Entry No.	C. I. or Sel. No.	Yield 1/ kg/ha	Volume weight kg/hl	Days to head from 1/1	Plant height cm
18	NE69442	2201	80.0	127	57
26	TX69A569-1	1699	80.6	120	48
1	1442	1631	74.8	133	64
23	OK722721	1541	80.0	124	48
16	NE73644	1393	78.0	121	49
14	NE73491	1385	77.4	119	50
29	KS70H210	1349	80.6	120	55
7	KS73112	1321	80.0	120	51
25	TX69A418-2	1306	80.0	119	47
24	OK722692	1260	80.0	123	48
5	CO725082	1246	83.2	122	44
6	CO725061	1244	81.3	122	45
15	NE73641	1226	78.7	120	47
8	KS73114	1139	81.3	119	52
2	13996	1136	80.0	120	54
22	OK711252A	1134	79.3	132	47
12	NE69291	1073	80.0	127	46
3	17277	1010	80.0	122	51
9	KS73167	998	81.3	120	45
32	IL72-2489	957	--	121	47
4	CO725049	927	80.6	120	45
27	TX73A2694	903	80.0	127	43
17	NE73649	901	--	120	40
19	TX71A801	873	--	122	38
11	KS73261	844	80.0	119	45
13	15075	819	80.5	128	42
21	OK711092B	788	--	123	42
28	TX73A2798	774	76.1	120	50
31	IL71-5838	774	--	121	42
20	OK711092A	521	--	124	43
30	KS73H441	507	--	119	47
10	KS73253	464	--	118	41

$LSD_{.05}$ = 713 C.V. = 39.5%

1/ Adjusted to 14% moisture.

Clovis, New Mexico (irrigated)
Three replications

Entry no.	C. I. or Sel. No.	Yield[1/]	Volume weight	Plant height
		kg/ha	kg/hl	cm.
7	KS73112	6263	82.4	77
12	NE69291	6043	81.8	84
6	CO725061	5845	81.4	77
3	17277	5831	80.5	93
26	TX69A569-1	5798	80.8	75
20	OK711092A	5785	79.7	81
4	CO725049	5781	83.1	73
19	TX71A801	5772	83.6	73
32	IL72-2489	5687	79.7	73
29	KS70H210	5663	82.3	88
17	NE73649	5661	80.5	77
27	TX73A2694	5624	80.4	78
2	13996	5598	81.0	87
18	NE69442	5572	80.2	88
23	OK722721	5550	81.8	85
8	KS73114	5503	81.3	77
13	15075	5490	81.5	84
28	TX73A2798	5414	81.0	74
9	KS73167	5387	82.3	76
25	TX69A418-2	5385	81.6	82
10	KS73253	5371	81.5	79
14	NE73491	5318	79.5	84
24	OK722692	5313	82.8	92
21	OK711092B	5313	79.2	78
11	KS73261	5273	82.2	74
15	NE73641	5248	79.6	80
30	KS73H441	5142	82.4	87
5	CO725082	5139	83.5	78
16	NE73644	5034	79.7	76
31	IL71-5838	4620	81.6	80
22	OK711252A	4534	80.9	71
1	1442	4200	78.2	104

$LSD_{.05}$ = 923 C.V. = 10.4%

[1/] Adjusted to 14% moisture

Farmington, New Mexico
Three replications
(Irrigated)

Entry No.	C. I. or Sel. No.	Yield	Volume weight	% Headed on May 13	Plant height	Winter survival	Lodging	Shattering
		kg/ha	kg/hl		cm	0-9	0-9	0-9
32	IL72-2489	6757	79.8	13	63	9	0	0
6	CO725061	6559	81.3	5	82	9	0	0
28	TX73A2798	6214	82.4	43	63	9	0	0
5	CO725082	6016	80.4	40	72	9	0	0
26	TX69A569-1	5943	80.8	43	63	9	0	0
4	CO725049	5819	81.9	10	72	9	0	0
27	TX73A2694	5671	81.3	0	72	9	0	0
7	KS73112	5597	81.5	60	63	9	0	0
31	IL71-5838	5597	81.9	80	63	9	0	0
3	17277	5573	82.1	60	91	9	0	0
18	NE69442	5572	79.3	5	92	9	0	0
22	OK711252A	5499	81.1	17	72	9	0	0
19	TX71A801	5498	82.4	73	61	9	0	0
23	OK722721	5424	81.5	43	82	9	0	0
25	TX69A418-2	5400	80.4	70	63	9	0	0
29	KS70H210	5399	82.1	55	82	9	0	0
21	OK711092B	5351	81.7	3	72	9	0	0
30	KS73H441	5277	82.6	80	63	9	0	0
12	NE69291	5227	80.6	53	82	9	0	0
11	KS73261	5178	81.9	80	61	9	0	0
20	OK711092A	5154	82.3	5	72	9	0	0
13	15075	5153	80.8	17	92	9	0	0
24	OK722692	5104	81.5	27	91	9	0	0
9	KS73167	5080	81.5	73	62	9	0	0
8	KS73114	4980	81.3	87	63	9	0	0
17	NE73649	4956	81.1	38	72	9	0	0
16	NE73644	4759	80.4	30	72	9	0	0
1	1442	4585	77.4	32	111	9	0	0
10	KS73253	4512	82.4	87	61	9	0	0
14	NE73491	4463	80.6	83	72	9	0	0
15	NE73641	4142	81.5	60	63	9	0	0
2	13996	4117	80.8	60	91	9	0	0

$LSD_{.05}$ = 1492 C.V. = 17.1%

Dallas, Texas
Three replications

Entry no.	C. I. or Sel. No.	Yield	Volume weight	Days to head	Plant height	Lodging	Shattering	Leaf Rust 2/ Resp.	Leaf Rust 2/ Sev.	Leaf Rust 3/ Resp.	Leaf Rust 3/ Sev.	Mildew Resp.	Mildew Sev.
		kg/ha	kg/hl	from 1/1	cm.	0-9	0-9	0-9	%	0-9	%	0-9	%
10	KS73253	4761	81.3	104	93	0	T	-	10	8	70	1	25
11	KS73261	4516	81.3	103	91	0	0	-	10	8	60	1	25
23	OK722721	4423	82.6	104	93	0	1	-	T	8	40	1	50
19	TX71A801	4341	80.0	101	78	0	1	7	10	7	30	0	10
7	KS73112	4324	79.3	107	91	0	T	7	20	8	80	1	40
27	TX73A2694	4286	80.0	105	86	0	0	2	5	7	15	0	10
12	NE69291	4239	80.0	101	99	0	1	8	45	8	70	0	5
25	TX69A418-2	4151	78.7	106	91	0	0	8	20	8	50	0	5
26	TX69A569-1	4128	80.0	107	86	0	0	8	20	8	60	0	20
9	KS73167	4088	80.0	106	91	0	T	8	T	8	70	1	35
24	OK722692	4059	80.6	101	99	0	1	-	35	8	60	1	40
8	KS73114	4055	80.0	105	91	0	T	7	5	8	80	1	40
13	15075	3992	78.7	102	109	0	1	8	40	8	60	0	5
4	CO725049	3887	79.3	96	81	0	2	8	50	8	60	0	5
17	NE73649	3871	78.7	107	96	0	1	-	35	8	70	0	15
14	NE73491	3842	78.7	107	104	0	T	8	20	8	70	0	10
16	NE73644	3727	78.0	108	96	0	T	8	35	8	70	0	10
3	17277	3667	80.0	109	109	0	T	3	5	8	40	0	10
20	OK711092A	3631	77.4	99	81	0	1	-	T	3	5	1	50
21	OK711092B	3546	76.1	100	78	0	1	7	20	8	40	1	40
2	13996	3490	79.3	106	104	0	T	8	40	8	60	0	20
29	KS70H210	3357	80.0	107	104	0	T	8	40	8	70	0	20
6	CO725061	3333	78.7	97	86	0	1	8	70	8	80	0	T
22	OK711252A	3324	78.0	119	86	0	0	2	5	7	30	1	50
30	KS73H441	3308	80.6	102	99	0	T	8	40	8	60	0	20
31	IL71-5838	3270	80.6	99	91	0	2	8	40	8	60	1	30
18	NE69442	3158	76.8	114	116	1	0	-	35	8	60	0	10
15	NE73641	3127	76.8	108	96	0	T	8	40	8	70	0	5
5	CO725082	3107	80.0	98	83	0	1	8	70	8	80	0	10
28	TX73A2798	3073 1/	76.8	120	78	0	4	-	T	7	35	1	25
32	IL72-2489	2743	76.1	107	78	0	T	8	40	8	70	1	40
1	1442	1918	76.8	121	114	3	T	8	30	8	60	1	35

$LSD_{.05}$ = 494 C.V. = 8.2%

1/ 2 replications damaged by rats.
2/ Notes taken May 3.
3/ Notes taken May 18.

Chillicothe, Texas
Three replications

Entry No.	C. I. or Sel. No.	Yield	Volume weight	Days to head from 1/1	Plant height
		kg/ha	kg/hl		cm
26	TX69A569-1	3269	76.1	103	64
25	TX69A418-2	3143	76.5	103	66
29	KS70H210	3125	74.8	105	69
22	OK711252A	3081	77.8	112	67
24	OK722692	3060	76.5	102	67
30	KS73H441	2879	76.1	101	67
23	OK722721	2836	77.8	104	59
3	17277	2830	77.4	108	71
2	13996	2784	78.7	105	68
12	NE69291	2746	77.4	104	59
17	NE73649	2746	74.4	105	60
7	KS73112	2742	76.5	103	59
14	NE73491	2722	74.4	104	62
8	KS73114	2713	77.0	102	58
5	CO725082	2690	78.3	103	62
27	TX73A2694	2688	76.5	105	62
13	15075	2648	76.1	104	62
18	NE69442	2639	76.5	111	78
32	IL72-2489	2634	75.2	103	59
19	TX71A801	2594	78.3	103	52
15	NE73641	2549	74.8	105	59
6	CO725061	2538	77.4	102	55
16	NE73644	2507	75.7	105	59
4	CO725049	2408	76.5	101	50
20	OK711092A	2408	75.2	103	60
9	KS73167	2379	79.1	103	56
10	KS73253	2370	76.5	100	58
11	KS73261	2370	77.4	101	56
21	OK711092B	2354	75.2	102	60
28	TX73A2798	2330	73.1	100	58
1	1442	1944	73.1	113	90
31	IL71-5838	1906	77.8	100	59

$LSD_{.05}$ = 388 C.V. = 9.0%

Bushland, Texas
Three replications
(Irrigated)

Entry No.	C. I. or Sel. No.	Yield kg/ha	Volume weight kg/hl	Days to head from 1/1	Plant height cm	Lodging 0-9
26	TX69A569-1	5440	78.8	123	90	0
9	KS73167	5436	81.9	123	93	0
25	TX69A418-2	5394	80.5	123	91	1
7	KS73112	5335	80.6	123	95	0
20	OK711092A	5250	78.4	125	96	0
8	KS73114	5250	81.0	122	94	0
11	KS73261	5138	81.7	123	84	1
16	NE73644	5118	78.8	123	91	0
4	CO725049	5088	80.1	123	85	0
21	OK711092B	5004	78.4	125	96	0
32	IL72-2489	5001	78.7	125	83	0
12	NE69291	4916	79.9	128	94	0
3	17277	4914	78.7	125	102	0
6	CO725061	4898	79.9	126	94	0
22	OK711252A	4880	74.4	134	89	0
27	TX73A2694	4869	78.1	126	92	0
13	15075	4746	80.6	127	98	0
19	TX71A801	4653	81.7	124	83	0
29	KS70H210	4647	79.7	123	95	0
23	OK722721	4604	80.6	125	95	0
10	KS73253	4590	80.8	122	88	0
2	13996	4537	79.3	124	97	0
17	NE73649	4494	79.3	122	93	0
15	NE73641	4452	78.4	124	92	1
14	NE73491	4382	79.2	124	98	0
28	TX73A2798	4359	79.7	123	88	0
18	NE69442	4346	68.1	131	104	0
24	OK722692	4072	81.1	123	96	0
1	1442	4030	74.4	137	115	1
5	CO725082	4025	81.4	124	93	0
31	IL71-5838	3870	81.5	122	89	0
30	KS73H441	3379	81.1	122	94	2

$LSD_{.05}$ = 826 C.V. = 10.7%

Stillwater, Oklahoma
Three replications

Entry No.	C. I. or Sel. No.	Yield kg/ha	Volume weight kg/hl	Days to head from 1/1	Plant height cm	Leaf rust Resp. 0-9	Leaf rust Sev. %
30	KS73H441	3184	80.8	107	87	8	50
25	TX69A418-2	2870	79.0	107	74	8	5
24	OK722692	2836	79.8	106	79	8	13
9	KS73167	2825	80.5	107	73	8	15
29	KS70H210	2814	78.4	108	83	8	50
26	TX69A569-1	2780	77.0	109	75	8	15
13	15075	2769	78.9	108	77	8	10
8	KS73114	2702	78.5	107	76	8	13
12	NE69291	2645	78.8	107	78	8	15
6	CO725061	2635	79.9	104	69	8	70
23	OK722721	2612	80.6	108	73	8	2
20	OK711092A	2601	77.5	103	67	8	1
22	OK711252A	2589	78.5	117	73	8	1
11	KS73261	2578	79.9	106	67	8	15
10	KS73253	2545	78.1	106	70	8	10
7	KS73112	2545	78.5	109	71	6	8
27	TX73A2694	2478	79.4	107	72	8	4
3	17277	2477	78.5	112	86	8	11
2	13996	2466	78.4	109	85	8	40
15	NE73641	2455	75.8	111	72	8	60
4	CO725049	2433	78.6	104	63	8	15
18	NE69442	2388	79.2	116	87	8	60
16	NE73644	2365	77.1	109	75	8	50
21	OK711092B	2365	76.2	103	69	8	2
14	NE73491	2332	76.3	109	75	8	40
17	NE73649	2321	76.8	111	72	8	15
19	TX71A801	2264	78.5	105	65	8	5
32	IL72-2489	2186	75.9	111	69	8	40
5	CO725082	2152	79.8	104	65	8	80
28	TX73A2798	2007	77.0	102	64	8	8
31	IL71-5838	1995	78.9	104	69	8	50
1	1442	1659	77.6	118	86	8	40

$LSD_{.05}$ = 444 C.V. = 10.9%

Lahoma, Oklahoma
Three replications

Entry no.	C. I. or Sel. No.	Yield	Volume weight	Plant height
		kg/ha	kg/hl	cm.
18	NE69442	4586	79.5	101
7	KS73112	4496	78.8	84
23	OK722721	4204	79.9	82
29	KS70H210	4204	79.0	89
11	KS73261	4036	80.1	79
25	TX69A418-2	4014	79.4	81
22	OK711252A	3991	77.1	80
3	17277	3969	77.7	92
9	KS73167	3957	79.8	81
8	KS73114	3924	78.5	80
20	OK711092A	3924	76.2	74
26	TX69A569-1	3890	78.1	79
30	KS73H441	3789	78.9	80
27	TX73A2694	3756	79.3	80
1	1442	3744	77.6	101
10	KS73253	3744	78.8	79
12	NE69291	3722	79.0	83
32	IL72-2489	3711	76.8	78
2	13996	3699	79.2	86
16	NE73644	3688	76.8	75
14	NE73491	3666	76.8	87
21	OK711092B	3610	75.4	77
13	15075	3576	79.0	85
17	NE73649	3520	78.0	81
24	OK722692	3509	78.0	81
15	NE73641	3464	76.3	81
31	IL71-5838	3408	79.0	74
6	CO725061	3374	79.4	67
4	CO725049	3251	78.4	58
5	CO725082	3139	78.4	68
28	TX73A2798	3083	74.5	68
19	TX71A801	2803	76.5	67

$LSD_{.05}$ = 460 C.V. = 7.6%

Altus, Oklahoma
Three replications

Entry	C. I. or Sel. No.	Yield	Volume weight	Plant height
		kg/ha	kg/hl	cm.
26	TX65A569-1	3700	79.9	60
22	OK711252A	3588	77.6	71
23	OK722721	3565	80.5	63
32	IL72-2489	3498	79.0	62
18	NE69442	3431	77.9	81
14	NE73491	3375	77.9	63
6	CO725061	3307	80.5	57
24	OK722692	3251	79.7	66
7	KS73112	3218	79.0	63
29	KS70H210	3206	79.5	70
4	CO725049	3150	80.1	54
17	NE73649	3105	78.9	63
2	13996	3083	79.4	71
16	NE73644	3083	77.9	61
30	KS73H441	3083	80.5	64
25	TX69A418-2	3038	79.8	58
15	NE73641	3004	78.4	62
27	TX73A2694	2993	79.0	66
12	NE69291	2993	79.4	63
9	KS73167	2892	80.1	57
5	CO725082	2870	79.9	61
13	15075	2870	79.3	64
3	17277	2859	78.0	68
19	TX71A801	2724	79.2	57
1	1442	2702	76.5	74
8	KS73114	2702	78.9	60
21	OK711092B	2691	76.1	65
31	IL71-5838	2657	79.4	64
28	TX73A2798	2601	76.8	60
10	KS73253	2590	78.3	55
20	OK711092A	2455	75.4	67
11	KS73261	2321	79.3	56

$LSD_{.05}$ = 418 C.V. = 8.5%

Goodwell, Oklahoma
Three replications
(Irrigated)

Entry No.	C. I. or Sel. No.	Yield kg/ha	Volume weight kg/hl	Days to head from 1/1	BYDV 0-3
12	NE69291	5029	81.7	135	0
13	15075	4989	81.5	133	1
20	OK711092A	4960	78.5	132	1
4	CO725049	4846	81.4	131	1
27	TX73A2694	4690	80.3	138	0
9	KS73167	4660	81.2	135	2
14	NE73491	4644	79.7	132	2
17	NE73649	4628	80.8	133	1
25	TX69A418-2	4624	80.3	132	2
7	KS73112	4619	79.7	133	3
8	KS73114	4617	80.1	133	2
26	TX69A569-1	4545	79.0	132	1
3	17277	4532	80.7	133	3
16	NE73644	4507	79.7	133	2
6	CO725061	4469	81.0	132	2
11	KS73261	4402	81.2	132	2
29	KS70H210	4348	81.2	131	3
2	13996	4345	81.1	133	2
10	KS73253	4271	80.6	132	3
5	CO725082	4262	81.4	132	2
19	TX71A801	4249	81.6	131	1
22	OK711252A	4226	76.7	140	1
23	OK722721	4204	81.1	133	2
18	NE69442	4197	79.0	141	2
24	OK722692	3973	81.1	132	1
21	OK711092B	3845	78.6	132	1
30	KS73H441	3688	82.1	131	3
15	NE73641	3531	79.9	133	2
32	IL72-2489	3177	79.3	138	1
28	TX73A2798	3171	78.6	131	2
1	1442	2789	78.1	140	3
31	IL71-5838	2623	81.2	131	3

$LSD_{.05}$ = 786 C.V. = 11.4%

Hutchinson, Kansas
Three replications

Entry no.	C. I. or Sel. No.	Yield	Volume weight	Days to ripe	Plant height
		kg/ha	kg/hl	from 1/1	cm.
17	NE73649	5001	77.9	126	95
3	17277	4920	78.3	127	98
26	TX69A569-1	4673	78.0	124	85
16	NE73644	4662	77.4	126	91
12	NE69291	4552	78.9	127	95
6	CO725061	4523	80.1	122	87
22	OK711252A	4469	78.9	131	86
23	OK722721	4295	80.2	125	91
25	TX69A418-2	4283	78.7	123	91
18	NE69442	4236	78.9	131	114
5	CO725082	4227	79.3	120	86
7	KS73112	4212	78.6	125	88
11	KS73261	4191	79.5	124	86
31	IL71-5838	4185	79.6	119	85
29	KS70H210	4153	79.6	125	98
4	CO725049	4144	77.7	119	79
21	OK711092B	4129	76.2	125	89
20	OK711092A	4100	76.2	125	90
8	KS73114	4072	78.6	125	89
32	IL72-2489	4048	75.7	127	85
15	NE73641	4041	77.1	126	88
27	TX73A2694	3996	78.7	127	87
14	NE73491	3994	77.1	127	100
13	15075	3967	78.3	126	96
24	OK722692	3952	79.2	122	94
28	TX73A2798	3927	76.0	121	79
30	KS73H441	3774	77.3	122	89
9	KS73167	3696	79.3	127	86
2	13996	3676	78.6	125	101
10	KS73253	3570	78.9	124	86
19	TX71A801	3541	74.9	122	74
1	1442	3172	77.0	135	115

$LSD_{.05}$ = 619 C.V. = 9.2%

Hays, Kansas
Three replications

Entry No.	C. I. or Sel. No.	Yield kg/ha	Volume weight kg/hl	Days to head from 1/1	Plant height cm	Lodging 1/	Shattering 1-9	Septoria 1-9
29	KS70H210	3663	80.0	139	93	73	3	5
26	TX69A569-1	3609	77.2	137	81	77	2	5
4	CO725049	3542	80.3	134	80	70	4	5
16	NE73644	3517	79.4	137	86	77	3	5
21	OK711092B	3508	77.9	139	82	80	4	4
25	TX69A418-2	3495	79.7	135	82	65	2	5
11	KS73261	3454	80.9	136	85	75	4	5
7	KS73112	3423	79.2	138	84	76	4	5
27	TX73A2694	3399	79.5	141	83	77	2	5
3	17277	3394	79.5	138	96	78	4	4
19	TX71A801	3378	79.2	136	74	80	3	5
15	NE73641	3371	78.6	140	81	80	2	4
20	OK711092A	3318	79.0	138	83	78	4	4
17	NE73649	3288	79.7	139	86	77	3	5
22	OK711252A	3259	79.2	144	77	80	2	4
6	CO725061	3226	80.2	137	86	70	4	5
28	TX73A2798	3183	78.7	135	79	67	5	5
32	IL72-2489	3148	77.2	142	77	80	3	5
9	KS73167	3140	80.3	142	81	77	3	5
12	NE69291	3094	79.9	139	91	73	4	5
14	NE73491	3094	78.5	139	91	77	3	5
13	15075	3033	79.9	140	95	73	4	5
23	OK722721	2986	80.0	139	91	72	3	5
2	13996	2975	80.2	139	96	72	3	5
5	CO725082	2938	79.9	137	81	68	5	5
8	KS73114	2923	78.5	141	84	78	4	5
31	IL71-5838	2905	81.8	134	87	77	6	5
10	KS73253	2842	80.4	136	84	82	6	5
30	KS73H441	2829	80.8	134	93	65	4	5
24	OK722692	2802	79.7	138	93	77	5	4
18	NE69442	2730	78.6	143	101	77	2	5
1	1442	1874	76.8	146	111	70	5	5

$LSD_{.05}$ = 430 C.V. = 8.3%

1/ Degrees from horizontal

Colby, Kansas
Three replications

Entry E	C. I. or Sel. No.	Yield kg/ha	Volume weight kg/hl	Maturity 1/	Plant height cm	Winter survival 0-9
28	TX73A2798	4169	78.9	+2.0	81	8
5	CO725082	4035	79.3	+1.6	91	9
26	TX69A569-1	4035	76.1	+0.6	86	9
4	CO725049	3967	77.4	0.0	84	9
9	KS73167	3967	80.9	+1.0	89	9
25	TX69A418-2	3967	77.7	-2.7	86	9
19	TX71A801	3900	79.1	-1.7	79	8
2	13996	3833	79.6	0.0	99	9
29	KS70H210	3833	78.7	0.0	101	9
14	NE73491	3833	78.0	-1.0	91	9
17	NE73649	3833	79.6	0.0	91	9
21	OK711092B	3766	78.4	+2.3	91	9
23	OK722721	3766	77.7	+1.0	94	9
24	OK722692	3766	78.3	-0.7	99	9
3	17277	3698	78.0	+2.3	99	9
6	CO725061	3698	78.4	+1.3	91	9
7	KS73112	3698	78.4	+1.6	89	8
16	NE73644	3698	78.9	+0.6	91	9
30	KS73H441	3698	79.6	-1.7	99	8
32	IL72-2489	3631	77.4	+4.0	79	9
12	NE69291	3631	78.0	+2.3	97	9
31	IL71-5838	3497	81.0	-0.7	91	9
15	NE73641	3497	78.0	+1.0	89	9
13	15075	3497	77.1	+3.0	99	9
27	TX73A2694	3429	78.3	+1.3	89	9
18	NE69442	3362	78.0	+4.3	104	9
10	KS73253	3362	79.6	0.0	86	8
11	KS73261	3362	79.6	+0.6	84	9
8	KS73114	3295	79.7	+3.0	89	8
22	OK711252A	3228	78.4	+6.0	79	9
20	OK711092A	3093	77.7	+2.6	86	9
1	1442	2555	76.8	+7.3	117	9

$LSD_{.05}$ = 491 C.V. = 8.2%

1/ Days earlier (-) or later (+) in heading than Scout 66.

Fort Collins, Colorado
Three replications

Entry No.	C. I. or Sel. No.	Yield	Volume weight	Days to head from 1/1	Plant height	Lodging 1/	Stem Rust Resp.	Stem Rust Sev.
		kg/ha	kg/hl		cm	1-9	0-9	%
4	CO725049	7749	79.3	154	96	1	2	5
9	KS73167	7530	79.9	154	104	1	8	50
22	OK711252A	7225	78.9	158	96	1	2	1
28	TX73A2798	7225	77.0	155	101	1	2	1
24	OK722692	7018	80.6	153	106	2	2	1
27	TX73A2694	6987	79.2	154	111	1	2	5
6	CO725061	6839	79.7	155	101	1	8	40
19	TX71A801	6826	77.4	152	96	1	2	30
8	KS73114	6812	79.3	153	109	1	8	40
5	CO725082	6677	79.1	154	109	3	2	15
25	TX69A418-2	6606	77.8	152	104	5	2	1
30	KS73H441	6574	78.9	151	126	8	8	30
16	NE73644	6494	78.0	154	121	2	2	1
32	IL72-2489	6485	76.9	156	96	1	8	70
10	KS73253	6453	78.7	152	99	1	8	50
13	15075	6386	79.3	155	126	7	2	1
7	KS73112	6301	78.8	154	104	1	8	50
12	NE69291	6261	79.5	156	129	7	2	10
26	TX69A569-1	6247	78.3	154	101	1	8	80
11	KS73261	6238	78.7	153	104	3	8	50
23	OK722721	6157	81.3	154	109	1	2	1
15	NE73641	6153	76.2	154	111	5	2	1
20	OK711092A	6036	76.9	155	104	1	2	1
29	KS70H210	5955	78.0	154	126	8	2	1
17	NE73649	5929	77.5	154	109	8	2	1
31	IL71-5838	5825	80.8	152	109	1	8	40
14	NE73491	5821	76.6	153	121	8	2	1
2	13996	5677	77.8	154	124	8	2	10
18	NE69442	5556	77.1	155	126	7	2	1
3	17277	5314	77.8	154	126	8	2	5
21	OK711092B	5094	77.8	155	99	1	2	5
1	1442	3942	76.4	159	137	8	8	60

$LSD_{.05}$ = 1153 C.V. = 11.2%

1/ 1 = Erect, 9 = Flat.

Julesburg, Colorado
Three replications

Entry No.	C. I. or Sel. No.	Yield kg/ha	Volume weight kg/hl	Plant height cm
26	TX69A569-1	2408	76.0	65
27	TX73A2694	2263	78.4	75
28	TX73A2798	2249	77.9	66
7	KS73112	2159	76.9	69
4	CO725049	2128	74.6	66
30	KS73H441	2111	80.1	75
10	KS73253	2094	76.9	70
25	TX69A418-2	2090	76.6	70
9	KS73167	2062	76.1	71
24	OK722692	2049	76.8	80
15	NE73641	2007	75.3	70
12	NE69291	1993	72.9	83
16	NE73644	1980	75.9	68
31	IL71-5838	1952	80.0	70
8	KS73114	1932	73.5	67
14	NE73491	1924	70.8	72
5	CO725082	1907	75.7	67
2	13996	1883	67.1	85
22	OK711252A	1883	76.9	66
32	IL72-2489	1883	76.2	68
29	KS70H210	1859	76.1	80
17	NE73649	1835	75.6	74
18	NE69442	1787	70.6	78
13	15075	1783	73.0	79
3	17277	1779	73.3	85
23	OK722721	1759	75.6	75
11	KS73261	1745	76.1	71
19	TX71A801	1690	76.5	55
20	OK711092A	1580	71.9	70
21	OK711092B	1531	71.7	71
6	CO725061	1517	74.0	71
1	1442	1455	68.4	95

$LSD_{.05}$ = 444 C.V. = 14.2%

Burlington, Colorado
Three replications

Entry no.	C. I. or Sel. No.	Yield	Volume weight
		kg/ha	kg/hl
26	TX69A569-1	2235	78.7
14	NE73491	2139	75.5
16	NE73644	2042	78.2
25	TX69A418-2	2021	78.9
2	13996	1987	77.4
28	TX73A2798	1966	76.1
15	NE73641	1945	76.8
30	KS73H441	1945	78.7
5	CO725082	1935	76.8
6	CO725061	1894	78.9
17	NE73649	1856	77.7
24	OK722692	1849	78.2
29	KS70H210	1828	76.6
8	KS73114	1773	75.6
7	KS73112	1769	76.8
21	OK711092B	1766	76.9
27	TX73A2694	1759	76.1
9	KS73167	1752	77.5
1	1442	1742	73.7
3	17277	1738	76.5
4	CO725049	1738	77.4
18	NE69442	1731	73.7
10	KS73253	1724	77.0
20	OK711092A	1718	77.7
32	IL72-2489	1718	77.4
22	OK711252A	1702	74.8
23	OK722721	1649	77.9
19	TX71A801	1583	76.8
13	15075	1580	72.2
11	KS73261	1517	77.8
31	IL71-5838	1459	78.6
12	NE69291	1455	76.2

$LSD_{.05}$ = 413 C.V. = 14.1%

Springfield, Colorado
Three replications

Entry no.	C. I. or Sel. No.	Yield	Volume weight	Days to ripening	Plant height
		kg/ha	kg/hl	from 1/1	cm.
28	TX73A2798	3336	78.7	178	65
23	OK722721	3166	81.4	176	71
22	OK711252A	3125	81.3	178	59
9	KS73167	3077	80.4	179	62
25	TX69A418-2	3032	81.0	175	65
7	KS73112	3028	80.4	176	62
13	15075	2987	79.7	175	65
4	CO725049	2967	80.4	176	61
2	13996	2966	78.9	180	80
29	KS70H210	2959	80.0	177	65
27	TX73A2694	2904	80.5	178	62
8	KS73114	2887	81.4	177	62
32	IL72-2489	2870	81.1	177	65
11	KS73261	2842	81.5	177	65
5	CO725082	2839	80.0	177	61
12	NE69291	2829	80.0	177	65
26	TX69A569-1	2815	80.4	175	57
24	OK722692	2752	81.0	177	69
3	17277	2732	77.9	179	65
15	NE73641	2670	78.8	175	59
31	IL71-5838	2670	81.5	175	65
18	NE69442	2573	77.8	180	61
20	OK711092A	2556	78.6	177	61
17	NE73649	2552	78.9	174	57
6	CO725061	2511	80.8	178	59
21	OK711092B	2490	78.8	178	61
14	NE73491	2490	78.8	174	60
30	KS73H441	2483	82.3	174	67
10	KS73253	2315	81.5	179	65
1	1442	2311	77.8	184	86
16	NE73644	2290	77.7	177	59
19	TX71A801	2242	80.5	177	54

$LSD_{.05}$ = 640 C.V. = 14.2%

Mead, Nebraska
Three replications

Entry No.	C. I. or Sel. No.	Yield	Volume weight	Days to flower	Plant height	Winter survival	Lodging	Leaf rust Resp.	Stem rust Resp 1/	Mildew 2/	Septoria 3/
		kg/ha	kg/hl	from 1/1	cm	0-9	0-9	0-9	0-4		
16	NE73644	3837	76.4	148	99	8	1	7	0	M-5	8
14	NE73491	3711	76.2	148	105	9	1	7	0;1	M-4	7
7	KS73112	3706	73.7	150	90	7	1	2	2+	M-5	7
17	NE73649	3659	76.9	149	103	8	2	7	0	tr	7
12	NE69291	3614	74.8	148	103	9	2	7	0	M-3	7
15	NE73641	3534	76.2	149	96	8	1	7	0	tr	7
29	KS70H210	3422	75.1	149	106	8	3•	8	1+	M-7	7
19	TX71A801	3401	75.5	146	76	6	0	3	0;3	S-8	8
3	17277	3386	76.8	150	107	7	2	2	0	M-3	6
23	OK722721	3386	75.9	149	100	8	1	2	2	S-8	7
26	TX69A569-1	3366	71.7	149	86	8	0	3	3	M-7	8
30	KS73H441	3350	78.7	145	105	8	4	8	0;-1	M-5	8
9	KS73167	3296	76.0	150	88	5	1	2	2-3	M-6	7
25	TX69A418-2	3253	74.8	146	90	8	1	3	1+	tr	8
2	13996	3249	75.7	148	106	8	2	7	1	tr	7
10	KS73253	3242	76.2	149	87	5	1	2	3	M-7	7
24	OK722692	3161	75.5	148	100	7	2	3	2-3	S-8	8
31	IL71-5838	3141	77.5	146	92	7	1	7	4	M-5	8
4	CO725049	3139	74.0	147	78	6	0	3	0	M-6	8
27	TX73A2694	3123	74.6	149	92	7	1	2	0	tr	7
20	OK711092A	3069	73.0	149	87	8	1	2	2-3	S-8	8
6	CO725061	3029	74.9	148	88	6	1	7	0	tr	7
21	OK711092B	2998	73.4	148	88	8	1	3	3	S-9	8
13	15075	2926	73.9	149	104	8	2	7	0	tr	6
5	CO725082	2870	74.2	147	85	5	1	7	0	tr	8
18	NE69442	2865	75.9	153	110	8	3	7	0	tr	6
32	IL72-2489	2769	69.7	151	82	7	1	8	3	S-8	8
28	TX73A2798	2766	74.8	146	77	5	1	2	1+	S-7	8
22	OK711252A	2639	73.4	154	82	8	0	2	2	S-8	7
8	KS73114	2596	72.4	151	90	4	0	2	2+	S-5	7
11	KS73261	2558	75.5	150	84	6	1	2	2-3	tr	7
1	1442	1968	71.1	156	115	9	2	7	4	M-5	6

$LSD_{.05}$ = 753 C.V. = 14.6%

1/ Greenhouse evaluation of physiological race 15B-2.
2/ Letters = sporulation. Numbers = height of disease on plant.
3/ Saari method of foliar disease rating i.e. height of disease on plant.

Clay Center, Nebraska
Three replications

Entry No.	C. I. or Sel. No.	Yield kg/ha	Volume weight kg/hl	Days to flower from 1/1	Plant height cm	Winter survival 0-9	Lodging 0-9
28	TX73A2798	4278	73.5	147	79	7	0
16	NE73644	4153	76.8	148	93	8	0
15	NE73641	4007	77.4	148	95	9	0
26	TX69A569-1	3917	73.7	147	85	8	0
23	OK722721	3857	76.2	148	87	8	0
14	NE73491	3814	74.9	148	95	8	0
17	NE73649	3794	77.8	148	94	9	0
10	KS73253	3718	74.6	148	84	7	0
4	CO725049	3682	75.3	148	77	7	0
5	CO725082	3632	74.9	149	85	7	0
12	NE69291	3605	75.3	149	90	8	0
11	KS73261	3507	75.5	148	83	6	0
24	OK722692	3495	76.1	147	95	8	0
20	OK711092A	3493	72.8	149	87	8	0
7	KS73112	3464	72.5	149	88	6	0
25	TX69A418-2	3453	74.2	148	85	7	0
27	TX73A2694	3446	76.0	149	89	7	0
29	KS70H210	3401	76.5	149	104	9	0
32	IL72-2489	3383	71.9	150	80	7	0
3	17277	3363	77.1	150	105	8	0
31	IL71-5838	3343	78.0	148	86	7	0
6	CO725061	3323	74.6	147	82	7	0
9	KS73167	3260	73.0	150	84	5	0
13	15075	3222	75.1	149	95	8	0
22	OK711252A	3148	72.6	152	84	9	0
19	TX71A801	3103	73.7	146	74	7	0
8	KS73114	3087	71.1	152	84	4	0
2	13996	3078	77.4	149	104	9	0
21	OK711092B	3060	71.5	149	85	8	0
18	NE69442	2917	75.2	153	104	9	0
1	1442	2314	69.5	156	114	9	0
30	KS73H441	1926	78.7	146	91	8	4

$LSD_{.05}$ = 458 C.V. = 8.2%

North Platte, Nebraska
Three replications

Entry no.	C. I. or Sel. No.	Yield	Volume weight	Lodging
		kg/ha	kg/hl	0-9
6	CO725061	4313	76.8	0
30	KS73H441	4269	79.3	0
4	CO725049	4023	78.4	0
28	TX73A2798	3949	76.5	0
19	TX71A801	3927	78.2	0
5	CO725082	3888	78.4	0
32	IL72-2489	3858	75.5	0
10	KS73253	3827	75.7	0
8	KS73114	3796	73.8	0
26	TX69A569-1	3763	78.2	0
16	NE73644	3744	77.4	0
15	NE73641	3724	78.0	0
23	OK722721	3718	74.6	0
9	KS73167	3663	78.7	0
14	NE73491	3586	76.8	0
27	TX73A2694	3577	77.3	0
24	OK722692	3508	76.8	1
20	OK711092A	3445	77.4	0
17	NE73649	3353	78.4	0
29	KS70H210	3339	75.5	2
7	KS73112	3312	72.9	0
12	NE69291	3257	73.9	0
31	IL71-5838	3238	80.0	0
11	KS73261	3232	78.7	0
25	TX69A418-2	3202	77.8	1
3	17277	3188	75.5	1
21	OK711092B	3123	69.7	0
13	15075	3020	74.8	1
22	OK711252A	2921	72.2	0
18	NE69442	2725	72.2	3
2	13996	2602	75.5	2
1	1442	2108	69.7	1

$LSD_{.05}$= 677 C.V. = 11.9%

Sidney, Nebraska
Three replications

Entry no.	C. I. or Sel. No.	Yield	Volume weight	Straw breakage
		kg/ha	kg/hl	0-9
30	KS73H441	2022	79.3	1
27	TX73A2694	1995	80.0	T
23	OK722721	1906	72.2	2
16	NE73644	1897	75.5	T
19	TX71A801	1845	78.7	T
12	NE69291	1800	73.5	T
28	TX73A2798	1742	76.8	T
31	IL71-5838	1719	77.4	1
14	NE73491	1704	69.0	T
13	15075	1695	74.8	1
26	TX69A569-1	1693	74.2	T
10	KS73253	1677	76.1	T
32	IL72-2489	1677	73.5	T
20	OK711092A	1668	74.8	1
11	KS73261	1654	76.1	T
17	NE73649	1587	77.4	T
5	CO725082	1574	75.1	T
1	1442	1540	74.8	1
4	CO725049	1540	74.3	1
18	NE69442	1529	76.1	1
9	KS73167	1525	78.0	1
29	KS70H210	1471	73.5	1
22	OK711252A	1450	76.8	T
24	OK722692	1417	74.8	3
21	OK711092B	1374	72.9	1
3	17277	1372	70.8	1
7	KS73112	1358	72.9	1
6	CO725061	1296	74.8	1
8	KS73114	1944	75.5	T
25	TX69A418-2	1291	74.2	1
15	NE73641	1833	76.1	T
2	13996	1213	69.7	3

$LSD_{.05}$ = 445 C.V. = 16.8%

Alliance, Nebraska
Three replications

Entry no.	C. I. or Sel. No.	Yield	Volume weight
		kg/ha	kg/hl
5	CO725082	4110	82.9
28	TX73A2798	4081	81.3
12	NE69291	3884	81.7
24	OK722692	3865	81.4
32	IL72-2489	3836	79.7
3	17277	3811	81.4
19	TX71A801	3789	80.5
4	CO725049	3767	82.6
13	15075	3699	81.0
26	TX69A569-1	3653	79.9
15	NE73641	3606	79.9
7	KS73112	3554	80.8
6	CO725061	3547	81.4
23	OK722721	3547	80.0
21	OK711092B	3523	79.3
2	13996	3498	81.7
18	NE69442	3489	80.2
9	KS73167	3477	81.9
22	OK711252A	3446	81.3
16	NE73644	3417	79.2
31	IL71-5838	3401	82.0
11	KS73261	3395	81.4
27	TX73A2694	3390	82.3
10	KS73253	3334	80.4
30	KS73H441	3285	82.4
17	NE73649	3260	79.5
14	NE73491	3220	78.6
20	OK711092A	3206	79.9
8	KS73114	3184	80.5
29	KS70H210	3045	81.4
1	1442	2950	80.5
25	TX69A418-2	2740	77.1

$LSD_{.05}$ = 608 C.V. = 10.6%

Columbia, Missouri
Three replications

Entry no.	C. I. or Sel. No.	Yield	Volume weight	Days to head	Plant height	Lodging	Pearled off	Leaf rust Sev.	Septoria tritici	Septoria nodorum
		kg/ha	kg/hl	from 1/1	cm.	0-9	%	%	%	%
12	NE69291	4361	79.3	132	116	0	39	0	30	1
6	CO725061	4156	80.0	129	102	0	30	67	20	4
5	CO725082	4072	81.3	128	98	0	30	67	30	1
4	CO725049	4059	80.0	128	92	0	33	7	40	8
13	15075	3876	78.7	133	114	0	37	3	25	1
26	TX69A569-1	3828	78.0	132	105	0	38	3	15	3
7	KS73112	3811	80.6	132	109	0	31	0	32	1
29	KS70H210	3665	78.7	133	123	0	38	12	22	13
9	KS73167	3640	80.6	131	108	0	43	7	48	8
24	OK722692	3609	80.0	131	114	0	39	0	20	1
10	KS73253	3592	80.6	128	105	0	41	0	47	8
27	TX73A2694	3502	78.7	133	101	0	31	0	27	3
25	TX69A418-2	3498	78.7	130	111	0	36	10	27	4
20	OK711092A	3495	78.7	130	107	0	38	0	20	5
8	KS73114	3406	80.0	130	106	0	43	0	33	8
2	13996	3400	80.6	132	126	0	37	37	23	8
19	TX71A801	3349	79.3	128	88	0	30	0	50	13
17	NE73649	3306	79.3	133	115	0	35	20	25	3
14	NE73491	3271	79.3	132	116	0	36	3	22	6
3	17277	3175	78.7	134	123	0	35	13	17	10
11	KS73261	3172	80.0	129	103	0	38	0	42	6
22	OK711252A	3139	76.1	139	92	0	32	0	22	8
21	OK711092B	3126	76.8	130	105	0	35	0	25	3
16	NE73644	3095	79.3	133	111	0	36	53	25	8
18	NE69442	3082	76.1	139	132	0	36	37	17	1
23	OK722721	2984	81.3	132	112	0	38	0	23	3
30	KS73441	2979	82.6	130	119	0	39	7	35	8
31	IL71-5838	2935	80.6	128	105	0	38	17	28	3
15	NE73641	2880	78.7	133	109	0	35	50	23	8
32	IL72-2489	2643	76.1	136	93	0	33	53	22	13
28	TX73A2798	2600	76.1	126	91	0	37	0	28	5
1	1442	2343	75.5	141	140	2	37	40	27	8

$LSD_{.05}$ = 640 C.V. = 11.6%

Ames, Iowa
Three replications

Entry No.	C. I. or Sel. No.	Yield	Volume weight	Days to Head	Days to Ripe	Plant height	Winter survival	Lodging
		kg/ha	kg/hl	from 1/1		cm	0-9	0-9
14	NE73491	3917	77.9	145	184	97	9	5
22	OK711252A	3453	79.5	150	189	76	9	1
26	TX69A569-1	3392	77.9	145	185	83	9	2
12	NE69291	3370	79.2	146	185	90	9	2
13	15075	3291	77.9	147	185	94	6	5
25	TX69A418-2	3202	78.2	144	185	78	8	4
27	TX73A2694	3128	79.2	148	187	82	9	3
15	NE73641	3123	76.9	146	185	87	9	2
20	OK711092A	3121	79.3	148	186	80	8	2
17	NE73649	3105	78.0	146	183	88	9	2
18	NE69442	3049	76.6	148	187	104	9	4
32	IL72-2489	3018	77.9	149	186	77	8	1
24	OK722692	2937	78.3	145	187	91	8	4
16	NE73644	2899	77.1	145	185	82	9	2
3	17277	2787	77.4	147	185	93	8	4
6	CO725061	2762	79.1	146	187	77	6	2
23	OK722721	2733	77.4	146	185	89	9	2
1	1442	2650	77.4	152	187	113	9	6
21	OK711092B	2498	77.8	147	185	77	8	2
7	KS73112	2343	76.9	148	187	77	5	4
2	13996	2186	77.4	145	184	93	8	6
29	KS70H210	2087	77.9	145	185	90	9	5
30	KS73H441	2016	77.7	145	186	84	6	5
28	TX73A2798	1885	74.6	145	187	70	8	2
31	IL71-5838	1881	78.9	145	187	74	5	3
9	KS73167	1751	77.1	147	187	71	4	4
8	KS73114	1377	74.8	149	188	75	2	5
10	KS73253	1195	76.1	146	187	69	6	3
5	CO725082	1170	76.9	148	189	68	2	3
11	KS73261	1031	75.6	147	188	71	3	5
19	TX71A801	603	--	148	188	63	3	2
4	CO725049	412	--	147	189	55	0	1

$LSD_{.05}$ = 1239 C.V. = 31.0%

Urbana, Illinois
Three replications

Entry No.	C. I. or Sel. No.	Yield	Volume weight	Days to head	Plant height	Mildew	BYDV Resp.	BYDV Sev.
		kg/ha	kg/hl	from 1/1	cm	0-9	0-9	%
19	TX71A801	4134	79.5	135	71	7	3	47
26	TX69A569-1	3663	78.8	136	86	7	3	27
25	TX69A418-2	3574	77.8	136	81	5	3	43
6	CO725061	3452	79.5	137	77	3	3	37
22	OK711252A	3348	78.8	143	67	7	3	47
27	TX73A2694	3241	79.5	137	80	6	3	43
4	CO725049	3214	79.5	137	69	7	4	53
18	NE69442	2979	78.4	144	95	6	3	37
29	KS70H210	2946	79.5	138	94	7	3	53
3	17277	2921	79.8	140	97	6	4	33
7	KS73112	2895	80.1	138	76	7	5	43
8	KS73114	2895	79.5	138	71	7	5	60
14	NE73491	2890	78.1	137	100	4	3	37
32	IL72-2489	2859	76.4	140	71	8	5	63
17	NE73649	2845	77.8	137	87	6	3	43
5	CO725082	2827	79.5	137	76	2	4	40
30	KS73H441	2783	81.1	136	92	8	4	37
12	NE69291	2779	79.1	138	91	6	3	40
15	NE73641	2705	77.5	138	87	5	5	40
10	KS73253	2662	79.8	136	74	8	5	57
16	NE73644	2655	78.1	139	82	7	4	43
2	13996	2622	79.5	139	96	8	3	37
21	OK711092B	2602	75.4	138	75	7	3	30
13	15075	2575	78.8	137	87	6	3	37
9	KS73167	2555	80.8	137	78	7	4	57
20	OK711092A	2450	75.4	138	80	8	4	47
28	TX73A2798	2383	76.8	136	69	8	5	63
24	OK722692	2349	79.5	137	87	6	5	43
1	1442	2115	76.8	144	95	8	4	47
31	IL71-5838	2052	80.1	137	80	7	4	43
23	OK722721	2035	80.5	139	81	8	5	53
11	KS73261	1666	80.1	137	73	8	6	73

$LSD_{.05}$ = 524 C.V. = 11.5%

Brookings, South Dakota
Observation plot

Entry No.	C. I. or Sel. No.	Yield	Winter survival
		kg/ha	0-9
12	NE69291	3120	5
1	1442	3113	7
18	NE69442	3025	6
15	NE73641	2918	2
23	OK722721	2864	7
7	KS73112	2776	1
16	NE73644	2769	2
24	OK722692	2682	7
32	IL72-2489	2668	5
26	TX69A569-1	2648	6
21	OK711092B	2628	7
3	17277	2527	0
28	TX73A2798	2439	4
20	OK711092A	2432	5
27	TX73A2694	2419	7
8	KS73114	2392	2
13	15075	2217	0
29	KS70H210	2163	7
9	KS73167	2069	3
31	IL71-5838	1947	3
11	KS73261	1698	3
17	NE73649	1556	0
25	TX69A418-2	1442	6
22	OK711252A	1341	4
30	KS73H441	1233	7
5	CO725082	1011	0
6	CO725061	1011	1
19	TX71A801	849	0
14	NE73491	600	0
10	KS73253	586	2
4	CO725049	243	0
2	13996	--	0

Presho, South Dakota
Three replications

Entry No.	C. I. or Sel. No.	Yield: kg/ha	Volume weight: kg/hl	Days to head from 1/1	Winter survival 0-9	Lodging 0-9	Shattering 0-9	Leaf rust Resp. 0-9	Stem rust Resp. 0-9
1	1442	1850	71.8	153	6	0	0	0	0
16	NE73644	1795	71.4	150	5	0	0	0	0
26	TX69A569-1	1789	71.0	149	4	0	0	0	0
28	TX73A2798	1646	67.7	151	4	0	0	0	0
23	OK722721	1641	70.5	149	6	0	0	0	0
12	NE69291	1623	71.2	150	6	0	0	0	0
14	NE73491	1602	71.0	149	5	0	0	0	0
5	CO725082	1558	69.8	151	5	0	0	0	0
22	OK711252A	1520	71.9	151	5	0	0	0	0
21	OK711092B	1514	69.3	149	6	0	0	0	0
4	CO725049	1506	69.1	151	4	0	0	0	0
9	KS73167	1502	69.8	151	4	0	0	0	0
15	NE73641	1498	71.1	150	5	0	0	0	0
17	NE73649	1497	72.8	151	5	0	0	0	0
13	15075	1494	70.9	149	6	0	0	0	0
32	IL72-2489	1416	68.2	149	5	0	0	0	0
3	17277	1407	73.0	148	5	0	0	0	0
27	TX73A2694	1388	72.7	150	5	0	0	0	0
18	NE69442	1380	72.7	149	5	0	0	0	0
24	OK722692	1349	69.8	150	5	0	0	0	0
25	TX69A418-2	1277	72.7	147	5	0	0	0	0
2	13996	1269	73.7	148	5	0	0	0	0
31	IL71-5838	1250	73.9	149	4	0	0	0	0
19	TX71A801	1243	70.2	149	6	0	0	0	0
20	OK711092A	1238	67.5	152	5	0	0	0	0
7	KS73112	1235	71.2	150	5	0	0	0	0
8	KS73114	1232	71.4	151	5	0	0	0	0
29	KS70H210	1216	73.7	148	5	0	0	0	0
30	KS73H441	1182	73.3	148	5	0	0	0	0
6	CO725061	1173	71.2	151	4	0	0	0	0
10	KS73253	942	73.3	149	5	0	0	0	0
11	KS73261	761	74.8	149	5	0	0	0	0

$LSD_{.05}$ = 400 C.V. = 17.4%

Aberdeen, Idaho
Observation plot

Entry No.	C. I. or Sel. No.	Yield	Volume weight	Days to head	Plant height	Stripe rust Sev.
		kg/ha	kg/hl	from 1/1	cm	%
12	NE69291	6692	82.7	165	97	2
27	TX73A2694	6349	81.6	163	102	0
5	CO725082	6262	82.9	163	86	5
6	CO725061	5663	82.2	166	91	5
23	OK722721	5562	81.6	161	97	20
32	IL72-2489	5381	80.3	163	86	T
21	OK711092B	5199	78.7	167	86	T
22	OK711252A	5038	81.6	166	86	10
14	NE73491	4897	79.6	165	102	5
4	CO725049	4849	83.1	163	81	10
18	NE69442	4715	79.2	167	97	2
24	OK722692	4614	81.8	163	104	20
28	TX73A2798	4601	79.9	164	86	5
13	15075	4459	82.5	166	99	2
20	OK711092A	4264	79.0	168	84	0
1	1442	4197	80.9	169	122	5
29	KS70H210	4163	78.3	163	97	10
31	IL71-5838	3989	78.3	161	94	T
26	TX69A569-1	3975	78.0	163	86	20
17	NE73649	3968	78.0	164	91	2
16	NE73644	3935	77.7	163	94	5
15	NE73641	3834	75.4	164	91	2
2	13996	3740	73.4	165	102	5
30	KS73H441	3726	72.8	164	94	20
7	KS73112	3645	80.9	163	86	10
3	17277	3639	71.5	163	97	10
8	KS73114	3578	70.6	163	91	10
9	KS73167	3538	68.9	165	86	10
25	TX69A418-2	3524	78.3	161	86	30
19	TX71A801	2798	55.4	165	76	0
10	KS73253	2482	47.7	163	79	10
11	KS73261	1661	36.1	165	81	5

Tetonia, Idaho
Observation plot

Entry No.	C. I. or Sel. No.	Yield kg/ha	Volume weight kg/hl	Days to head from 1/1	Plant height cm	Winter survival 0-9
12	NE69291	3652	80.5	184	74	8
18	NE69442	3154	80.9	184	69	9
20	OK711092A	3107	78.0	185	66	9
6	CO725061	3013	80.1	184	64	9
15	NE73641	2926	79.9	184	71	8
1	1442	2859	79.9	186	79	9
24	OK722692	2852	79.9	183	74	9
14	NE73491	2845	79.6	186	74	8
29	KS70H210	2690	81.2	184	76	8
17	NE73649	2677	79.9	184	69	9
5	CO725082	2670	81.2	184	66	8
4	CO725049	2657	81.2	184	64	7
27	TX73A2694	2643	79.6	184	66	9
30	KS73H441	2637	81.2	184	71	8
2	13996	2623	80.3	186	74	8
26	TX69A569-1	2583	78.6	184	66	9
22	OK711252A	2576	79.9	185	58	9
21	OK711092B	2556	77.3	184	61	8
3	17277	2556	80.5	184	74	8
16	NE73644	2516	79.0	184	71	8
9	KS73167	2509	80.5	185	64	9
23	OK722721	2458	80.5	184	66	9
8	KS73114	2313	79.0	184	64	9
28	TX73A2798	2260	78.3	185	61	6
7	KS73112	2246	79.9	184	66	8
31	IL71-5838	2193	81.2	184	66	5
32	IL72-2489	2112	78.3	185	64	6
10	KS73253	2112	78.6	184	66	8
19	TX71A801	1964	79.0	184	61	7
11	KS73261	1735	81.2	185	66	5
25	TX69A418-2	1614	80.3	184	66	7
13	15075	740	--	185	69	1

Table 2.--
Seedling reactions of the 1976 Southern Regional Hard Red Winter Wheat Nursery to Puccinia graminis f. sp. tritici.

		ISOLATES													
		72-14-504C	72-25-639C	72-00-53A	74-16-19C	71-21-584E	74-14-479C	72-00-1370C	65-39-2	72-4-1A	71-41-140A	Rugby	75-45-1730A	71-25-305B	
		RACES													
	Variety or Sel. No.	11-32-113						151	15B-2		15		?	?	Speculative Sr genes
		RFQQ	RKQS	RTQQ	RCRS	RHRS	RJCS	QFBS	TLMH	TNMH	TMRT	TMMT	MRCS	GJCJ	
1	Kharkof, CI 1442	S	S	S	S	S	S	S	S	S	S	S	2,S	S	+
2	Scout 66, CI 13996	;	S	;	S	S	S	S	;	;1-	S	S	2=	S	17, +
3	Sage, CI 17277	;	2+	;	2	2	2	2	;	;	2	2	2-	2	17, 24
4	CO 725049	;	2	;	2	2-	2	2	;	;	2-	2-	2-	2-	17, 24?
5	CO 725082	;	;1	;	;1	;1-	;1	;	;	;	1	2-	;1-	;1-	6,11,17,+
6	CO 725061	;	2-	;	2	2	2-	2	;	;	2-	2=	2-	2-	8, 9a, 17
7	KS 73112	;	;1-	;	2-	;,2.	;1	;,2	;	;	2-	2-	2-	;1-,S	8, 11, 17
8	KS 73114	2,;	2	2,;	2	2	2	2	2,;	2,;	2	2	2=	2	Seg 17, 24?
9	KS 73167	2	2	2-	2	2-	2	2	2	2	2	2	2=	2	24?
10	KS 73253	2-	2	2	2=	2=	2-	2	2	2-	2=	2-	2=;	2	24?
11	KS 73261	2	2	2	2=	2=	2	2	2	2-	2=	2-	2=	2	24?
12	NE 69291 Centurk 78	;	S	;	;	2c	S	;	;	;	;	;	;	;	5,6,8,9a,17,+, 24 absent
13	Centurk, CI 15075	;	S	;	;	2c	23	;	;	;	;	;	;	;	5,6,8,9a,17,+
14	NE 73491	;	2c	;1-N	S,;	S	S,2	2c	;	;	S	S,;	;,2	;	Seg 566, 8,17,+
15	NE 73641	;	2c	;1-N	2	2c	S	2c	;	;	2-	2c	2c,;	S,;	Seg 5, 8,17,+
16	NE 73644	;	23c	;	;	S	S	;	;	;	;	;	;	;,S	5, 6, 17, +
17	NE 73649	;	23c	;	;	2c	S	;	;	;	2,;	;,2-c	;,2c	;,S	Seg 5, 6,8,17,+
18	NE 69442	;	2-	;	;	2	2-	;	;	;	;	;	;	;1=,2	6,8,9a,17,+
19	TX 71AS01	2,;	2	S,;	2=	2-c	S	2	;,S	;	2-	2-	2-	;	5, 8, Seg 17
20	OK 711092A	2=	2-	2-	2-	2-	2-	2	2-	S	2-	2-	2=	2-	Tmp, +
21	OK 711092B	2=	2	2-	2-	2-	2-	2	2	S	S	2	2-	2	Tmp, +
22	OK 711252A	2=	2	2-	2=	2-	2-	2-	2-	2=	2=	2-	2=	2-	8, Tmp, +
23	OK 722721	2-	2	2	2=	2-	2-	2	2-	2-	2-	2-	2=	2-	8, Tmp, +
24	OK 722692	2-	2	2	2-	2-	2=	2	2-	S	S	S	2=	2-	Tmp, +
25	TX 69A418-2	;	2	;	23	23	2-	23	2-	;	S	2	2	S	
26	TX 69A569-1	2	2	23	23	23	2	2	2	2	2	2	2	S	
27	TX 73A2694	;	S	;	;	2	S	;	;	;	;	;	;	;	5, 6, 8, 17, +
28	TX 73A2798	;	S	2-	;	2=	2	;	;	;	;	;	;	S	6, 17, +
29	KS 70H210	;1-	2	;1-N	S	S	23	2	;	;	S	S	2	S	17, +
30	KS 73H441	;1-	2	;1-	2	2	2	2	;1-N	;	S	S	2	S	17, +
31	IL 71-5838	2-	2	23	2	23	2	-	S	S	S	S	;2=	2	
32	IL 72-2489	2-	-	;	2	2	2-	2	S	S	S	S	;,2=	2-	

Data provided by D. V. McVey, Cereal Rust Laboratory, ARS, University of Minnesota, St. Paul, Minnesota.

Lind, Washington
Three replications

Entry no.	C. I. or Sel. No.	Yield	Volume weight	Days to head	Plant height
		kg/ha	kg/hl	from 1/1	cm.
4	CO725049	2854	81.4	142	71
23	OK722721	2762	81.3	143	78
28	TX73A2798	2743	81.1	143	71
5	CO725082	2669	81.7	143	71
13	15075	2667	81.5	144	81
7	KS73112	2657	81.0	142	71
24	OK722692	2630	81.4	142	73
12	NE69291	2623	81.5	143	73
9	KS73167	2575	81.4	142	71
32	IL72-2489	2539	80.0	144	66
30	KS73H441	2497	82.0	140	71
6	CO725061	2493	81.4	142	71
17	NE73649	2456	80.4	140	73
19	TX71A801	2449	81.3	141	60
18	NE69442	2421	80.5	144	76
8	KS73114	2357	81.0	142	68
27	TX73A2694	2350	81.3	143	71
14	NE73491	2271	79.1	140	73
1	1442	2228	78.2	148	86
10	KS73253	2187	80.1	140	68
22	OK711252A	2182	81.1	144	66
16	NE73644	2175	80.1	141	68
21	OK711092B	2173	78.4	144	73
3	17277	2161	80.1	143	68
29	KS70H210	2119	80.9	141	78
31	IL71-5838	2093	80.9	141	71
20	OK711092A	2076	78.7	145	55
15	NE73641	2002	79.6	141	63
26	TX69A569-1	1954	80.6	141	60
2	13996	1937	80.6	141	76
25	TX69A418-2	1930	80.6	140	66
11	KS73261	1906	80.4	141	63

$LSD_{.05}$ = 516 C.V. = 13.5%

Table 3.--
Adult plant reactions of the 1976 Southern Regional Hard Red Winter Wheat Performance Nursery to stem rust at St. Paul, MN inoculated nursery.

Entry No.	Variety or Sel. No.	Stem Rust
1	Kharkof	40S
2	Scout 66	40MR
3	Sage	20MR-S
4	CO 725049	TR
5	CO 725082	40MS-S
6	CO 725061	40S
7	KS 73112	40S
8	KS 73114	40MS-S
9	KS 73167	40S
10	KS 73253	40MS-S
11	KS 73261	60S
12	NE 69291	40S
13	Centurk	40S
14	NE 73491	5MS-S
15	NE 73641	5MS-S
16	NE 73644	5MS-S
17	NE 73649	5MR-S
18	NE 69442	5MR-MS
19	TX 71A801	40S
20	OK 711092A	40MS-S
21	OK 711092B	40S
22	OK 711252A	10MR-MS
23	OK 722721	10MR-MS
24	OK 722692	10MS-S
25	TX 69A418-2	5MS-S
26	TX 69A569-1	40S
27	TX 73A2694	30S
28	TX 73A2798	20MS-S
29	KS 70H210	20MR-S
30	KS 73H441	20MS-S
31	IL 71-5838	40S
32	IL 72-2489	40S

Data provided by D. V. McVey.

Table 4.--Seedling rating of the entries in the 1976 Southern Regional Performance Nursery to 4 Hessian fly biotypes.[1/]

Entry no.	C. I. or Sel. No.	Biotype GP[2/]	B	C	D
1	1442	S[3/]	S	S	S
2	13996	S	1-10	S	S
3	17277	S	S	S	S
4	CO725049	4-9[4/]	S	S	S
5	CO725082	6-4	S	S	2-15
6	CO725061	R[5/]	S	S	S
7	KS73112	7-5	S	S	S
8	KS73114	7-2	S	S	S
9	KS73167	10-5	S	S	S
10	KS73253	10-4	S	S	S
11	KS73261	S	S	S	S
12	NE69291	2-6	S	S	S
13	15075	3-13	S	S	S
14	NE73491	S	S	S	S
15	NE73641	7-9	S	S	S
16	NE73644	8-7	S	S	S
17	NE73649	22-5	S	4-18	S
18	NE69442	R	3-8	S	4-12
19	TX71A801	13-2	S	S	S
20	OK711092A	R	S	S	S
21	OK711092B	R	1-12	S	S
22	OK711252A	R	3-15	S	S
23	OK722721	13-2	7-10	S	S
24	OK722692	R	1-14	S	S
25	TX69A418-2	15-3	2-13	S	S
26	TX69A569-1	6-5	S	S	S
27	TX73A2694	13-3	S	S	S
28	TX73A2798	6-3	4-12	S	S
29	KS70H210	11-5	S	13-1	S
30	KS73H441	2-9	2-19	S	S
31	IL71-5838	R	2-15	S	S
32	IL72-2489	12-3	S	S	S

[1/] Data collected by R. L. Gallun, Purdue University.
[2/] Great Plains Biotype.
[3/] All plants susceptible.
[4/] 4 plants resistant, 9 plants susceptible.
[5/] All plants resistant.

Summary of SRPN Yields

Yields from 26 reporting sites in 1976 are summarized in Table 5. Varieties are listed according to their 26-station mean yields. TX69A569-1, CO725049 (Vona), and KS73112 in that order were the most productive varieties -- all with yields above 3500 kg/ha. TX69A569-1 ranked no lower than 7th in any state except Washington where its performance was poor at Lind. These average yields compared with only 2525 kg/ha made by the Kharkof check variety -- the least productive SRPN entry in 1976. Only 8 varieties were tested both in 1975 and 1976. Their regional average yields are reported in Table 6. Vona, TX71A801, and CO725082 in that order have been the most productive with Vona ranking 1st or 2nd in all states. The yield parameters $b_{y.x}$, r, and r^2 for SRPN entries in 1976 appear in Table 7 and for 1975 and 1976 in Table 8. Strongest yield response to changes in production environment were shown by Vona (CO725049) and CO725061. The performance of these 2 varieties also was most strongly correlated with nursery mean performance and was most predictable in 1976. Vona also produced 2-year yield parameters similar to those for Vona in 1976.

Summary of Agronomic Data

Agronomic data for SRPN entries are summarized in Table 9. TX69A569-1, CO725049, and KS73112, the most productive varieties on the average, also were among the earliest and shortest-statured varieties in the nursery. All, however, were among the most severely winter-damaged varieties at 6 reporting stations. Lodging was not a problem in any of the entries in 1976.

Table 5. Summary of mean yields (kg/ha) of the 32 varieties grown in the 1976 Southern Regional Performance Nursery at 26 sites with state means and rank.

Entry No.	C. I. or Sel. No.	Pedigree	Colorado						Kansas				
			Fort Collins	Julesburg	Burlington	Springfield	Mean	Rank	Hutchinson	Hays	Colby	Mean	Rank
26	TX69A569-1	Short Wheat/Scout	6247	2408	2235	2815	3426	7	4673	3609	4035	4097	1
4	CO725049	II21183/CO652643//Lancer/KS62136	7749	2128	1738	2967	3646	2	4144	3542	3967	3880	7
7	KS73112	CIMMYT[1]/Scout	6301	2159	1769	3028	3314	11	4212	3423	3698	3778	10
12	NE69291	Centurk/Selection	6261	1993	1455	2829	3135	21	4552	3094	3631	3749	12
6	CO725061	II21183/CO652643//Lancer/KS62136	6839	1517	1894	2511	3190	16	4523	3226	3698	3822	8
25	TX69A418-2	Short Wheat/Scout	6606	2090	2021	3032	3437	6	4283	3495	3967	3918	5
27	TX73A2694	62A2782-8/Centurk	6987	2263	1759	2904	3478	5	3996	3399	3429	3610	19
23	OK722721	Tascosa/T1//Parker	6157	1759	1649	3166	3183	18	4295	2986	3766	3677	14
9	KS73167	CIMMYT[1]/Scout	7530	2062	1752	3077	3605	3	3696	3140	3967	3599	21
16	NE73644	Buckskin/Homestead	6494	1980	2042	2290	3201	14	4662	3517	3698	3970	4
29	KS70H210	Ottawa/5*Scout	5955	1859	1828	2959	3150	19	4153	3663	3833	3888	6
5	CO725082	II21183/CO652643//Lancer/KS62136	6677	1907	1935	2839	3340	10	4227	2938	4035	3743	13
8	KS73114	CIMMYT[1]/Scout	6812	1932	1773	2887	3351	9	4072	2923	3295	3435	29
17	NE73649	Buckskin/Homestead	5929	1835	1856	2552	3043	26	5001	3288	3833	4035	2
19	TX71A801	62A2712-7/Centurk	6826	1690	1583	2242	3085	25	3541	3378	3900	3598	22
3	17277	Sage	5314	1779	1738	2732	2891	30	4920	3394	3698	4015	3
24	OK722692	Tascosa/T_1// Parker	7018	2049	1849	2752	3417	8	3952	2802	3766	3498	25
22	OK711252A	Tascosa/T_1//Sturdy	7225	1883	1702	3125	3484	4	4469	3259	3228	3651	16
14	NE73491	Buckskin/Homestead	5821	1924	2139	2490	3094	23	3994	3094	3833	3641	17
13	15075	Centurk	6386	1783	1580	2987	3184	17	3967	3033	3497	3490	27
28	TX73A2798	Red River 68/Trapper	7225	2249	1966	3336	3694	1	3927	3183	4169	3749	11
32	IL72-2489	Gage/TX65A1682	6485	1883	1718	2870	3239	13	4048	3148	3631	3608	20
18	NE69442	Pnc/3*Cnn/3/Ky58/Nth/2/2*Cnn/Tm/Mi/Hope/4/Scout	5556	1787	1731	2573	2912	29	4236	2730	3362	3449	28
20	OK711092A	Triumph 64/T_1//Sturdy	6036	1580	1718	2556	2972	28	4100	3318	3093	3494	26
15	NE73641	Buckskin/Homestead	6153	2007	1945	2670	3194	15	4041	3371	3497	3631	18
10	KS73253	CIMMYT[1]/Scout	6453	2094	1724	2315	3147	20	3570	2842	3362	3259	31
30	KS73H441	Scout/Tascosa	6574	2111	1945	2483	3278	12	3774	2829	3698	3424	30
11	KS73261	CIMMYT[1]/Scout	6238	1745	1517	2842	3086	24	4191	3454	3362	3669	15
2	13996	Scout 66	5677	1883	1987	2966	3128	22	3676	2975	3833	3502	24
21	OK711092B	Triumph 64/T_1//Sturdy	5094	1531	1766	2490	2721	31	4129	3508	3766	3804	9
31	IL71-5838	Parker/TX65A1682	5825	1952	1459	2670	2977	27	4185	2905	3497	3539	23
1	1442	Kharkof	3942	1455	1742	2311	2362	32	3172	1874	2555	2525	32
	Mean		6325	1915	1795	2758	3199		4137	3167	3648	3648	
	LSD.05		1153	444	413	640	529		619	430	491	429	
	C.V.		11.2%	14.2%	14.1%	14.2%	13.9%		9.2%	8.3%	8.2%	8.7%	

[1]/CIMMYT = Pitic 62/Chris sib//2*Sonora/3/Klein Rendidor

Table 5. (Continued)

Entry No.	E. I. or Sel. No.	Illinois		Nebraska							Texas					Washington	
		Urbana	Rank	Mead	Clay Center	North Platte	Sidney	Al-liance	Mean	Rank	Bush-land	Chil-licothe	Dallas	Mean	Rank	Lind	Rank
26	TX69A569-1	3663	2	3366	3917	3763	1693	3653	3278	5	5440	3269	4128	4279	1	1954	29
4	CO725049	3214	7	3139	3682	4023	1540	3767	3230	7	5088	2408	3887	3794	14	2854	1
7	KS73112	2895	11	3706	3464	3312	1358	3554	3079	17	5335	2742	4324	4134	3	2657	6
12	NE69291	2779	18	3614	3605	3257	1800	3884	3232	6	4916	2746	4239	3967	7	2623	8
6	CO725061	3452	4	3029	3328	4313	2196	3547	3101	15	4898	2538	3333	3590	24	2493	12
25	TX69A418-2	3574	3	3253	3453	3202	1291	2740	2788	28	5394	3143	4151	4230	2	1930	31
27	TX73A2694	3241	6	3123	3446	3577	1995	3390	3106	13	4869	2688	4286	3947	9	2350	17
23	OK722721	2035	31	3386	3857	3718	1906	3547	3283	4	4604	2836	4423	3954	8	2762	2
9	KS73167	2555	25	3296	3260	3663	1525	3477	3044	18	5436	2379	4088	3968	6	2575	9
16	NE73644	2655	21	3837	4153	3744	1897	3417	3409	2	5118	2507	3727	3784	15	2175	22
29	KS70H210	2946	9	3422	3401	3339	1471	3045	2935	24	4647	3125	3357	3710	19	2119	25
5	CO725082	2827	16	2870	3632	3888	1574	4110	3215	8	4025	2690	3107	3274	28	2669	4
8	KS73114	2895	12	2596	3087	3796	1944	3184	2991	20	5250	2713	4055	4006	5	2357	16
17	NE73649	2845	15	3659	3794	3353	1587	3260	3131	12	4494	2746	3871	3704	20	2456	13
19	TX71A801	4134	1	3401	3103	3927	1845	3789	3213	9	4653	2594	4341	3863	11	2449	14
3	17277	2921	10	3386	3363	3188	1372	3811	3024	19	4914	2830	3667	3802	12	2161	24
24	OK722692	2349	28	3161	3495	3508	1417	3865	3089	16	4072	3060	4059	3730	18	2630	7
22	OK711252A	3348	5	2639	3148	2921	1450	3446	2721	30	4880	3081	3324	3761	17	2182	21
14	NE73491	2890	13	3711	3814	3586	1704	3220	3207	10	4382	2722	3842	3649	21	2271	18
13	15075	2575	24	2926	3222	3020	1695	3699	2912	25	4746	2648	3992	3795	13	2667	5
28	TX73A2798	2383	27	2766	4278	3949	1742	4081	3363	3	4359	2330	3073	3254	29	2743	3
32	IL72-2489	2859	14	2769	3383	3858	1677	3836	3105	14	5001	2634	2743	3460	25	2539	10
18	NE69442	2979	8	2865	2917	2725	1529	3489	2705	31	4346	2639	3158	3381	26	2421	15
20	OK711092A	2450	26	3069	3493	3445	1668	3206	2976	21	5250	2408	3631	3763	16	2076	27
15	NE73641	2705	19	3534	4007	3724	1833	3606	3448	1	4452	2549	3127	3376	27	2002	28
10	KS73253	2662	20	3242	3718	3827	1677	3334	3160	11	4590	2370	4761	3907	10	2187	20
30	KS73H441	2783	17	3350	1926	4269	2022	3285	2970	22	3379	2879	3308	3189	30	2497	11
11	KS73261	1666	32	2558	3507	3232	1654	3395	2869	26	5138	2370	4516	4008	4	1906	32
2	13996	2622	22	3249	3078	2602	1213	3498	2728	29	4537	2784	3490	3604	23	1937	30
21	OK711092B	2602	23	2998	3060	3123	1374	3523	2816	27	5004	2354	3546	3635	22	2173	23
31	IL71-5838	2052	30	3141	3343	3238	1719	3401	2968	23	3870	1906	3270	3015	31	2093	26
1	1442	2115	29	1968	2314	2108	1540	2950	2176	32	4030	1944	1918	2631	32	2228	19
	Mean	2802		3157	3414	3475	1620	3500	3039		4722	2645	3711	3693		2348	
	$LSD_{.05}$	534		753	458	677	445	608	415		825	388	494	653		516	
	C.V.	11.5%		14.6%	8.2%	11.9%	16.8%	10.6%	12.1%		10.7%	9.0%	8.2%	9.9%		13.5%	

Table 5. (Concluded)

Entry No.	C. I. or Sel. No.	Oklahoma						New Mexico					South Dakota		Missouri		26 Station
		Good-well	Still-water	Lahoma	Altus	Mean	Rank	Clovis (Dry.)	Clovis (Irr.)	Farmington	Mean	Rank	Presho	Rank	Columbia	Rank	Mean
26	TX69A569-1	4545	2780	3890	3700	3728	1	1699	5798	5943	4480	2	1789	3	3828	6	3647
4	CO725049	4846	2433	3251	3150	3419	18	927	5781	5819	4176	6	1506	11	4059	4	3523
7	KS73112	4619	2545	4496	3218	3719	2	1321	6263	5597	4394	5	1235	26	3811	7	3502
12	NE69291	5029	2645	3722	2993	3597	8	1073	6043	5227	4114	12	1623	6	4361	1	3460
6	CO725061	4469	2635	3374	3307	3446	16	1244	5845	6559	4549	1	1173	30	4156	2	3431
25	TX69A418-2	4624	2870	4014	3038	3636	6	1306	5385	5400	4030	15	1277	21	3498	13	3425
27	TX73A2694	4690	2478	3756	2993	3479	14	903	5624	5671	4066	13	1388	18	3502	12	3412
23	OK722721	4204	2612	4204	3565	3646	4	1541	5550	5424	4172	7	1641	5	2984	26	3406
9	KS73167	4660	2825	3957	2892	3584	9	998	5387	5080	3822	19	1502	12	3640	9	3401
16	NE73644	4507	2365	3688	3083	3411	19	1393	5034	4759	3729	24	1795	2	3095	24	3372
29	KS70H210	4348	2814	4204	3206	3643	5	1349	5663	5399	4137	9	1216	28	3665	8	3346
5	CO725082	4262	2152	3139	2870	3106	28	1246	5139	6016	4134	11	1558	8	4072	3	3324
8	KS73114	4617	2702	3924	2702	3486	12	1139	5503	4980	3874	17	1232	27	3406	15	3317
17	NE73649	4628	2321	3520	3105	3394	21	901	5661	4956	3839	18	1497	14	3306	18	3317
19	TX71A801	4249	2264	2803	2724	3010	29	873	5772	5498	4048	14	1243	24	3349	17	3313
3	17277	4532	2477	3969	2859	3459	15	1010	5831	5573	4138	8	1407	17	3175	20	3310
24	OK722692	3973	2836	3509	3251	3393	22	1260	5313	5104	3892	16	1349	20	3609	10	3307
22	OK711252A	4226	2589	3991	3588	3599	7	1134	4534	5499	3722	25	1520	9	3139	22	3289
14	NE73491	4644	2332	3666	3375	3504	11	1385	5318	4463	3722	26	1602	7	3271	19	3288
13	15075	4989	2769	3576	2870	3551	10	819	5490	5153	3821	20	1494	15	3876	5	3286
28	TX73A2798	3171	2007	3083	3431	2715	31	774	5414	6214	4134	10	1646	4	2600	31	3278
32	IL72-2489	3177	2186	3711	3498	3143	25	957	5687	6757	4467	3	1416	16	2643	30	3273
18	NE69442	4197	2388	4586	2455	3650	3	2201	5572	5572	4449	4	1380	19	3082	25	3210
20	OK711092A	4960	2601	3924	2455	3485	13	521	5785	5154	3820	21	1238	25	3495	14	3200
15	NE73641	3531	2455	3464	3004	3114	27	1226	5248	4142	3539	30	1498	13	2880	29	3196
10	KS73253	4271	2545	3744	2590	3288	24	464	5371	4512	3449	32	942	31	3592	11	3183
30	KS73H441	3688	3184	3789	3083	3436	17	507	5142	5277	3642	28	1182	29	2979	27	3151
11	KS73261	4402	2578	4036	2321	3334	23	844	5273	5178	3765	23	761	32	3172	21	3148
2	13996	4345	2466	3699	3083	3399	20	1136	5598	4117	3617	29	1269	22	3400	16	3121
21	OK711092B	3845	2365	3610	2691	3128	26	788	5313	5351	3817	22	1514	10	3126	23	3102
31	IL71-5838	2623	1995	3408	2657	2671	32	774	4620	5597	3664	27	1250	23	2935	28	2939
1	1442	2789	1659	3744	2702	2724	30	1631	4200	4585	3472	31	1850	1	2343	32	2525
	Mean	4239	2496	3733	3019	3372		1104	5442	5331	3959		1406		3377		3281
	$LSD_{.05}$	786	444	460	418	513		713	923	1492	740		400		640		206
	C.V.	11.4%	10.9%	7.6%	8.5%	10.0%		39.5%	10.4%	17.1%	16.9%		17.4%		11.6%		12.5%

Table 6. Summary of mean yields (kg/ha) for 8 lines grown in the Southern Regional Performance Nursery at 20 sites in 1975 and 1976, with state means and ranks.

Entry No.	Sel. No.	Pedigree	Nebraska						Colorado	
			Mead	Clay Center	Sidney	Alliance	Mean	Rank	Fort Collins	Rank
4	CO725049	II21183/CO652643//Lancer/KS62136	3850	3684	3219	3210	3491	1	7322	1
19	TX71A801	62A2712-7/Centurk	3422	3256	3388	3095	3290	3	6594	2
5	CO725082	II21183/CO652643//Lancer/KS62136	3416	3587	3167	3390	3390	2	6498	3
29	KS70H210	Ottawa/5*Scout	3603	3691	2682	2607	3146	4	5989	4
3	17277	Sage	3767	3346	2595	2873	3145	5	5386	7
2	13996	Scout 66	3411	3331	2182	2856	2945	6	5503	6
30	KS73H441	Scout/Tascosa	3494	2505	2789	2704	2873	7	5908	5
1	1442	Kharkof	2341	2439	2396	2299	2369	8	4446	8
	Mean		3413	3230	2802	2879	3081		5956	
	$LSD_{.05}$		774	693	1168	488	450		1172	
	C.V.		7.8%	8.6%	10.6%	13.1%	10.0%		8.6%	

Table 6. (Continued)

Entry No.	C. I. or Sel. No.	Kansas					Oklahoma						Illinois	
		Hutchinson	Hays	Colby	Mean	Rank	Stillwater	Goodwell	Lahoma	Altus	Mean	Rank	Urbana	Rank
4	C0725049	3751	3414	3558	3574	1	2541	4692	3906	3064	3551	1	3964	2
19	TX71A801	3144	3415	3223	3261	5	2397	4664	3336	3095	3373	2	4420	1
5	C0725082	3783	2896	3579	3419	2	2289	4030	3451	2623	3098	6	3725	3
29	KS70H210	3489	3103	3469	3353	4	2470	4098	3524	2614	3176	4	3716	4
3	17277	3841	3114	3208	3388	3	2317	4164	3545	2687	3178	3	3582	5
2	13996	3151	2901	3504	3185	6	2211	4027	3439	2689	3092	7	3336	6
30	KS73H441	3344	2775	3375	3165	7	2680	3813	3491	2503	3122	5	3252	7
1	1442	2673	2059	2540	2424	8	1249	2689	2576	1956	2117	8	2793	8
	Mean	3397	2960	3307	3221		2269	4022	3408	2654	3088		3599	
	LSD.05	769	747	650	586		867	873	2098	1190	1066		640	
	C.V.	7.2%	7.3%	8.1%	7.5%		14.6%	11.5%	9.9%	10.5%	11.6%		10.9%	

Table 6. (Concluded)

Entry No.	C. I. or Sel. No.	New Mexico				Texas					Missouri		Washington		2-year Mean
		Clovis (Irr.)	Clovis (Dry)	Mean	Rank	Dallas	Chillicothe	Bushland[1]	Mean	Rank	Columbia	Rank	Lind	Rank	
4	CO725049	6677	2266	4471	1	3460	2806	5711	3992	2	3535	1	2928	1	3878
19	TX71A801	5998	1993	3996	6	3723	3075	5397	4065	1	2938	6	2524	3	3655
5	CO725082	5896	2477	4186	4	2860	2791	4711	3454	6	3432	2	2800	2	3570
29	KS70H210	6380	2311	4345	2	2716	2937	5364	3672	4	3402	3	1918	7	3504
3	17277	6080	2402	4241	3	3044	2771	5432	3749	3	3034	5	2251	4	3472
2	13996	5853	2236	4044	5	2891	2697	5123	3570	5	3127	4	1843	8	3315
30	KS73H441	5490	1938	3714	7	2736	2926	4613	3425	7	2924	7	2175	5	3272
1	1442	4582	2182	3382	8	1446	2154	3655	2418	8	2268	8	2143	6	2544
	Mean	5869	2226	4048		2859	2770	5001	2543		3083		2323		3401
	LSD .05	894	960	1069		455	790	1496	719		710		541		312
	C.V.	7.2%	25.6%	12.4%		10.8%	8.7%	11.0%	11.0%		9.2%		19.4%		10.9%

[1] Irrigated

Table 7. Mean yield, regression coefficient, correlation coefficient and coefficient of determination from linear regression analyses of variety yield on nursery mean yield for the 32 entries in the Southern Regional Performance Nursery in 1976.

Entry No.	C. I. or Sel. No.	Mean yield over 26 locations (kg/ha)	Regression coefficient ($b_{y \cdot x}$)	Correlation coefficient (r)	Coefficient of determination (r^2)
26	TX69A569-1	3647	.99	.93	.87
4	CO725049	3523	1.17	.95	.90
7	KS73112	3502	1.08	.94	.88
12	NE69291	3460	1.04	.94	.88
6	CO725061	3431	1.16	.96	.91
25	TX69A418-2	3425	1.03	.93	.87
27	TX73A2694	3412	1.07	.96	.93
23	OK722721	3406	.96	.89	.80
9	KS73167	3401	1.10	.95	.90
16	NE73644	3372	.95	.94	.88
29	KS70H210	3346	.97	.94	.88
5	CO725082	3324	1.00	.92	.85
8	KS73114	3317	1.04	.94	.89
17	NE73649	3317	.99	.94	.88
19	TX71A801	3313	1.07	.93	.86
3	17277	3310	1.01	.94	.88
24	OK722692	3307	.98	.92	.85
22	OK711252A	3289	1.01	.93	.86
14	NE73491	3288	.87	.93	.86
13	15075	3286	1.02	.94	.88
28	TX73A2798	3278	1.06	.90	.82
32	IL72-2489	3273	1.08	.92	.85
18	NE69442	3210	.89	.89	.78
20	OK711092A	3200	1.08	.92	.85
15	NE73641	3196	.86	.89	.79
10	KS73253	3183	1.03	.93	.86
30	KS73H441	3151	.92	.88	.78
11	KS73261	3148	1.09	.93	.86
2	13996	3121	.89	.92	.85
21	OK711092B	3102	.95	.93	.87
31	IL71-5838	2939	.92	.91	.82
1	1442	2525	.61	.80	.64

Table 8. Mean yield, regression coefficient, correlation coefficient and coefficient of determination from linear regression analyses of variety yield on nursery mean yield for 8 entries in the Southern Regional Performance Nursery in 1975 and 1976.

Entry No.	C. I. or Sel. No.	Mean yield over 20 locations (kg/ha)	Regression coefficient (by·x)	Correlation coefficient (r)	Coefficient of determination (r^2)
4	CO725049	3878	1.14	.94	.89
19	TX71A801	3655	.98	.90	.81
5	CO725082	3570	.95	.93	.86
29	KS70H210	3504	1.03	.95	.90
3	17277	3472	.96	.94	.89
2	13996	3315	.93	.95	.90
30	KS73H441	3272	.89	.89	.80
1	1442	2544	.69	.82	.67

Table 9. Summary of agronomic and yield data for varieties grown in the 1976 Southern Regional Performance Nursery.

Entry No.	C. I. or Sel. No.	Pedigree	Days to head from 1/1	Days to ripe from 1/1	Plant height cm	Lodging 0-9	Winter survival 0-9	Shattering 0-9	Pearled off %
		Number of trials	14	3	20	7	6	1	1
26	TX69A569-1	Short Wheat/Scout	129	160	77	0	7	0	38
4	CO725049	II21183/CO652643//Lancer/KS62136	128	160	70	0	4	2	33
7	KS73112	CIMMYT[1]/Scout	130	161	78	1	6	T	31
12	NE69291	Centurk Selection	131	161	85	1	8	1	39
6	CO725061	II21183/CO652643//Lancer/KS62136	129	161	77	0	6	1	30
25	TX69A418-2	Short Wheat/Scout	128	159	79	1	7	0	36
27	TX73A2694	62A2782-8/Centurk	132	162	79	1	7	0	31
23	OK722721	Tascosa/T_1//Parker	130	160	83	1	8	1	38
9	KS73167	CIMMYT[1]//Scout	130	162	76	1	5	T	43
16	NE73644	Buckskin/Homestead	130	161	80	0	8	T	36
29	KS70H210	Ottawa/5*Scout	130	161	89	2	8	T	38
5	CO725082	II21183/CO652643//Lancer/KS62136	129	160	75	1	5	1	30
8	KS73114	CIMMYT[1]/Scout	129	162	77	1	3	T	43
17	NE73649	Buckskin/Homestead	130	160	82	1	8	1	35
19	TX71A801	62A2712-7/Centurk	129	160	68	0	5	1	30
3	17277	Sage	132	162	91	1	7	T	35
24	OK722692	Tascosa/T_1//Parker	129	160	86	1	7	1	39
22	OK711252A	Tascosa/T_1//Sturdy	137	164	75	0	8	0	32
14	NE73491	Buckskin/Homestead	130	160	86	1	8	T	36
13	15075	Centurk	131	160	86	1	7	1	37
28	TX73A2798	Red River 68/Trapper	128	160	72	1	6	4	37
32	IL72-2489	Gage/TX65A1682	132	183	73	0	7	T	33
18	NE69442	Pnc/3*Cnn/3/Ky58/Nth/2/2*Cnn/Tm/Mi/Hope/4/Scout	135	164	95	2	8	0	36
20	OK711092A	Triumph 64/T_1//Sturdy	130	161	78	0	7	1	38
15	NE73641	Buckskin/Homestead	131	161	80	1	8	T	35
10	KS73253	CIMMYT[1]/Scout	128	161	75	1	6	T	41
30	KS73H441	Scout/Tascosa	128	159	84	3	7	T	39
11	KS73261	CIMMYT[1]/ Scout	129	161	74	1	5	0	38
2	13996	Scout 66	130	161	91	2	8	T	37
21	OK711092B	Triumph 64/T_1//Sturdy	130	161	77	0	8	1	35
31	IL71-5838	Parker/TX65A1682	128	159	77	1	6	2	38
1	1442	Kharkof	138	167	103	2	8	T	37

[1] CIMMYT - Pitic 62/Chris sib//2*Sonora/3/Klein Rendidor

Table 9. Concluded.

Entry No.	C. I. or Sel. No.	Leaf rust Sev. %	Leaf rust Resp.	Stem rust Sev. %	Stem rust Resp.	Mildew Sev. %	Mildew Resp.	Septoria tritici Sev. %	Septoria nodorum Sev. %	BYDV Sev. %	BYDV Resp.	Volume weight kg/hl	Yield kg/ha
	Number of trials	3	3	1	1	1	2	1	1	1	1	26	26
26	TX69A569-1	17	MS	80	S	20	M	15	3	27	MR	77.9	3647
4	CO725049	18	MS	5	R	5	M	40	13	53	M	78.8	3523
7	KS73112	16	M	50	S	40	M	28	1	43	M	78.2	3502
12	NE69291	17	S	10	R	5	MR	30	1	40	MR	78.5	3460 — 51.5
6	CO725061	70	S	40	S	T	R	20	4	37	MR	78.9	3431
25	TX69A418-2	15	MS	1	R	5	MR	27	4	43	MR	78.4	3425
27	TX73A2694	4	M	5	R	10	MR	27	3	43	MR	78.9	3412
23	OK722721	7	MS	1	R	50	M	23	3	53	M	79.0	3406
9	KS73167	20	MS	50	S	35	M	48	8	53	M	79.3	3401
16	NE73644	55	S	1	R	10	M	25	8	43	M	77.8	3372
29	KS70H210	34	S	1	R	20	M	22	13	53	MR	78.5	3346
5	CO725082	73	S	15	R	10	VR	30	1	40	M	78.9	3324
8	KS73114	18	MS	40	S	40	M	33	8	60	M	77.9	3317
17	NE73649	27	S	1	R	15	MR	25	3	43	MR	78.2	3317
19	TX71A801	7	MS	30	R	10	M	50	13	47	MR	78.8	3313
3	17277	17	MS	5	R	10	MR	17	10	33	M	78.3	3310
24	OK722692	14	MS	1	R	40	M	20	1	43	M	78.9	3307
22	OK711252A	5	M	1	R	50	M	22	8	47	MR	77.9	3289
14	NE73491	27	S	1	R	10	R	22	6	37	MR	77.1	3288
13	15075	15	S	1	R	5	MR	25	1	37	MR	78.1	3286 — 48.9
28	TX73A2798	8	M	1	R	25	M	28	5	63	M	77.0	3278
32	IL72-2489	52	S	70	S	40	MS	22	13	63	M	76.5	3273
18	NE69442	48	S	1	R	10	MR	17	1	37	MR	77.0	3210
20	OK711092A	1	M	1	R	50	M	20	5	47	M	77.3	3200
15	NE73641	57	S	1	R	5	MR	23	8	40	M	77.6	3196
10	KS73253	15	MS	50	S	25	M	47	8	57	M	78.6	3183
30	KS73H441	30	S	30	S	20	M	35	8	37	M	78.8	3151
11	KS73261	15	MS	50	S	25	M	42	6	73	M	79.1	3148
2	13996	42	S	10	R	20	M	23	8	37	MR	78.3	3121
21	OK711092B	7	MS	5	R	40	M	25	3	30	MR	76.5	3102
31	IL71-5838	35	S	40	S	30	M	28	3	43	M	79.8	2939
1	1442	43	S	60	S	35	M	27	8	47	M	75.6	2525

NORTHERN REGIONAL PERFORMANCE NURSERY

Sixteen varieties were evaluated, 8 of which were new entries in the nursery and 2 of which were entered from the SRPN. The varieties are identified in the listing that follows. Twenty-one replicated nurseries were seeded at 20 sites in 9 states and at Lethbridge, Alberta. An observation nursery was grown at Aberdeen, Idaho. Yield data were received from 20 nurseries. The Brookings, SD nursery was abandoned for yield purposes because of winterkilling.

Data from the reporting stations appear in Table 10. Seedling reactions to stem rust isolates provided by D. V. McVey are summarized in Table 11. Adult plant field reactions to stem rust at St. Paul, Minnesota are given in Table 12. Ratings of the NRPN entries to 4 Hessian fly biotypes reported in Table 13 were provided by R. L. Gallun.

Entry no.	Variety or Pedigree	C. I. or Sel. No.	Source
1	Kharkof	1442	Check
2	Warrior	13190	"
3*	Buckskin/Homestead	NE73491	Nebraska
4*	" "	NE73641	"
5*	" "	NE73644	"
6*	" "	NE73649	"
7*	Centurk Selection	NE69291	"
8*	Centurk	15075	"
9	Pnc/3*Cnn/3/Ky58/Nth/2/2*Cnn/ Tm/Mi/Hope/4/Scout	NE69442	"
10**	Ottawa/5*Scout	KS70H210	Kansas
11**	II21183/CO652643//Lancer/ KS62136 (Lindon)	CO725055	Colorado
12***	Winoka//Jaral66/Minter	SD7143	S. Dakota
13***	II21031/Trapper//CO652363	CO701733	"
14*	SS/12500//RCh/Pn/3/Cnn/4/ Kaw/Sk//2*Cnn	SD713-11	"
15	Yogo*3/Cnn Sel. 2-3-13-6	MT6715	Montana
16*	NE63265/Hume/3/Yogo/Fta// 2*Minter	ND7121	N. Dakota

* New entry in 1976
** Entered from SRPN
*** New seed provided

Test Site Information

Nebraska Stations -- The nursery was grown at Mead, North Platte, Sidney, and Alliance. See information for the SRPN.

Brookings, SD -- Rain in February followed by low temperatures without snow cover caused heavy winterkilling. The nursery was abandoned for yield purposes.

Presho, SD -- See information for the SRPN.

Highmore, SD -- There was good stand establishment in the fall and no winterkilling. Drouth was acute from winter onward. There were high temperatures during the fruiting period.

St. Paul and Waseca, MN -- See information for the SRPN.

Casselton, ND -- Favorable fall moisture and mild winter temperatures resulted in excellent spring stands. There was no rainfall until 2 inches fell on June 10. The nursery was under severe stress from drouth, high temperatures, and winds.

Williston, ND -- Soil moisture was adequate for full germination and excellent stand establishment in the fall. There was fair snow cover during the winter and early spring and winter survival was generally good. The wheat broke dormancy in late March. Rainfall was somewhat above normal in April, May, and June. Conditions were excellent for disease development and wheat streak mosaic, bacterial blight, Pyrenophora, Septoria, and leaf rust were prevalent. No insect problems were observed. The crop was harvested early and seed quality was excellent.

Hettinger, ND -- Fall, winter, and spring moisture and temperatures were generally favorable.

Archer, WY -- Diseases and insects were no problem. Extreme drouth during the latter portion of the growing season reduced yields significantly.

Sheridan, WY -- Early spring moisture was excellent but May and June were dry. A good rain late in the growing season contributed to test weight and yield.

Moccasin, MT -- Many entries were severely injured by the winter with some almost entirely killed. Diseases and insects were not a problem. Moisture was favorable throughout the growing season.

Sidney, MT -- Fall stand establishment was excellent but some winterkilling occurred. Heading was 7-10 days earlier than normal. Moisture was above-normal in April and June and contributed to extensive damage from bacterial blight and leaf-spotting diseases. Pyrenophora trichostoma, Septoria nodorum, Pseudomonas syringae, Xanthomonas translucens, Puccinia recondita, and Puccinia graminis

tritici were isolated from entries in the nursery. Heaviest damage to the upper leaves was caused by Pseudomonas while most lower leaf damage was attributed to Pyrenophora and Septoria. Although present, leaf and stem rust are not believed to have affected yield or test weight. Thrips were present but not damaging.

Aberdeen and Tetonia, ID -- Information not provided. The observation nursery at Aberdeen was irrigated.

Lethbridge, Alberta -- The nursery was good for yield evaluation despite below-normal rainfall. Rain that fell was timely. The winter was very mild and no killing occurred.

Lind, WA -- See information for the SRPN.

Clovis, NM -- Both dryland and irrigated nurseries were grown. See information for the SRPN.

Table 10.--Yield and other data for varieties evaluated in the Northern Regional Performance Nursery in 1976.

Mead, Nebraska
Three replications

Entry No.	C. I. or Sel. No.	Yield kg/ha	Volume weight kg/hl	Days to flowering from 1/1	Plant height cm	Winter survival 0-9	Lodging 0-9	Leaf rust Resp. 0-9	Stem rust Resp.[1/] 0-9
4	NE73641	4108	76.8	149	103	9	2	8	0; 1-
5	NE73644	4076	76.9	149	103	8	2	7	0
6	NE73649	3939	77.5	149	104	8	1	7	0
12	SD7143	3875	75.1	148	99	9	1	2	0; 1-3
3	NE73491	3850	76.1	149	112	8	2	8	0; 1-
7	NE69291	3312	74.9	149	110	9	3	7	0
11	CO725055	3311	75.5	149	92	7	2	8	0; 1
10	KS70H210	3199	75.5	149	112	8	5	8	1
8	15075	3177	74.8	149	107	9	3	7	0
9	NE69442	3045	75.3	153	117	9	3	7	0
14	SD713-11	3000	74.7	147	109	8	2	8	0; 2
13	CO701733	2955	72.9	150	97	9	3	2	1
15	MT6715	2825	74.0	152	115	9	3	8	1+
1	1442	2396	71.9	155	121	9	3	7	4
16	ND7121	2208	72.8	154	116	9	2	8	2, 3
2	13190	2083	67.2	153	115	9	2	8	3

$LSD_{.05}$ = 725 C.V. = 13.6%

[1/] Greenhouse evaluation of resistance to physiological race 15B-2.

North Platte, Nebraska
Three replications

Entry no.	C. I. or Sel. No.	Yield	Volume weight	Lodging
		kg/ha	kg/hl	0-9
6	NE73649	4785	79.9	0
11	CO725055	4538	79.6	1
5	NE73644	4306	79.3	0
4	NE73641	3936	79.3	0
8	15075	3789	78.7	1
10	KS70H210	3718	80.0	2
13	CO701733	3634	77.4	3
2	13190	3605	73.8	0
3	NE73491	3595	78.3	0
9	NE69442	3556	78.7	1
12	SD7143	3466	78.2	0
14	SD713-11	3047	77.1	1
16	ND7121	3028	79.3	1
1	1442	2899	75.2	2
7	NE69291	2761	77.8	1
15	MT6715	2736	78.2	2

$LSD_{.05}$ = 1269 C.V. = 21.2%

Sidney, Nebraska
Three replications

Entry no.	C. I. or Sel. No.	Yield	Lodging[1/]
		kg/ha	0-9
4	NE73641	1751	0
7	NE69291	1578	1
8	15075	1551	1
12	SD7143	1504	0
3	NE73491	1500	1
5	NE73644	1500	1
6	NE73649	1412	1
13	CO701733	1325	1
16	ND7121	1280	1
2	13190	1258	1
11	CO725055	1255	1
9	NE69442	1175	1
10	KS70H210	1101	2
1	1442	1083	2
15	MT6715	872	3
14	SD713-11	771	4

$LSD_{.05}$ = 300 C.V. = 13.8%

[1/] Breakage

Alliance, Nebraska
Three replications

Entry no.	C. I. or Sel. No.	Yield	Volume weight
		kg/ha	kg/hl
7	NE69291	3680	78.9
12	SD7143	3610	77.4
11	CO725055	3448	80.2
13	CO701733	3303	78.2
6	NE73649	3220	78.4
5	NE73644	3186	77.9
8	15075	3175	78.7
16	ND7121	3136	79.2
2	13190	2984	77.8
15	MT6715	2955	77.7
4	NE73641	2812	78.3
1	1442	2767	78.7
9	NE69442	2765	78.3
3	NE73491	2289	74.4
10	KS70H210	2143	73.8
14	SD713-11	1796	72.5

$LSD_{.05}$ = 624 C.V. = 12.7%

Brookings, South Dakota
Two replications

Entry No	C. I. or Sel. No.	Winter survival 0-9
1	1442	4
2	13190	4
3	NE73491	2
4	NE73641	1
5	NE73644	4
6	NE73649	0
7	NE69291	0
8	15075	0
9	NE69442	3
10	KS70H210	1
11	CO725055	0
12	SD7143	2
13	CO701733	1
14	SD713-11	1
15	MT6715	5
16	ND7121	8

Presho, South Dakota
Three replications

Entry no.	C. I. or Sel. No.	Yield	Volume weight	Plant height	Winter survival
		kg/ha	kg/hl	cm.	0-9
2	13190	1621	70.7	54	6
12	SD7143	1589	70.9	59	6
11	CO725055	1563	72.7	55	5
4	NE73641	1515	72.1	50	6
9	NE69442	1505	72.3	58	5
15	MT6715	1503	72.1	67	6
8	15075	1443	72.0	58	5
13	CO701733	1433	70.0	60	6
16	ND7121	1379	70.6	66	6
5	NE73644	1370	71.8	50	6
14	SD713-11	1347	69.8	60	6
7	NE69291	1337	70.1	54	5
10	KS70H210	1315	71.4	60	5
1	1442	1308	70.0	69	6
3	NE73491	1254	69.2	49	5
6	NE73649	1161	71.0	53	4

$LSD_{.05}$ = 373 C.V. = 15.8%

Highmore, South Dakota
Three replications

Entry no.	C. I. or Sel. No.	Yield	Volume weight	Days to head	Plant height
		kg/ha	kg/hl	from 1/1	cm.
4	NE73641	1532	71.2	150	63
13	CO701733	1508	69.1	152	68
5	NE73644	1459	70.3	150	53
3	NE73491	1390	69.5	151	58
8	15075	1311	68.1	152	66
14	SD713-11	1271	70.7	151	73
7	NE69291	1226	68.5	154	66
6	NE73649	1223	69.9	152	55
2	13190	1221	69.9	154	60
12	SD7143	1192	70.7	154	66
9	NE69442	1184	71.8	154	66
10	KS70H210	1125	68.7	152	63
11	CO725055	1062	70.5	152	58
1	1442	1061	68.2	156	68
15	MT6715	948	69.1	155	63
16	ND7121	924	67.8	156	63

$LSD_{.05}$ = 293 C.V. = 14.3%

St. Paul, Minnesota
Three replications

Entry no.	C. I. or Sel. No.	Yield	Volume weight	Days to head	Plant height	Winter survival	Leaf Rust		Stem Rust	
							Resp.	Sev.	Resp.	Sev.
		kg/ha	kg/hl	from 1/1	cm.	0-9	0-9	%	0-9	%
11	CO725055	3114	78.0	240	75	9	8	40	-	0
2	13190	3105	80.0	236	101	7	8	10	2	0
3	NE73491	3103	76.1	234	88	9	8	60	2	0
5	NE73644	2894	76.8	235	80	8	8	60	-	0
4	NE73641	2859	76.8	234	80	9	8	5	8	0
15	MT6715	2802	78.0	240	105	9	8	60	-	0
8	15075	2800	76.1	238	90	7	8	40	-	0
10	KS70H210	2699	76.8	237	91	9	8	60	-	0
16	ND7121	2686	78.7	242	90	9	8	60	-	0
12	SD7143	2677	75.5	240	87	9	8	60	-	0
6	NE73649	2659	78.7	236	82	8	8	20	-	0
7	NE69291	2628	75.5	238	84	9	8	40	-	0
14	SD713-11	2623	77.4	238	90	9	8	40	-	0
13	CO701733	2616	74.8	240	88	9	8	0	-	0
9	NE69442	2565	80.6	239	102	7	8	20	-	0
1	1442	2220	77.4	242	96	9	8	60	8	5

$LSD_{.05}$ = 664 C.V. = 14.5%

Waseca, Minnesota
Three replications

Entry no.	C. I. or Sel. No.	Yield	Volume weight	Plant height	Lodging
		kg/ha	kg/hl	cm.	1-9
10	KS70H210	4466	80.6	91	1
12	SD7143	4215	80.6	86	1
7	NE69291	4164	80.0	86	1
16	ND7121	4146	80.0	91	1
8	15075	4121	80.6	91	1
13	CO701733	4110	80.6	86	1
1	1442	4016	80.0	97	1
3	NE73491	3928	80.0	89	1
2	13190	3767	81.3	102	1
14	SD713-11	3754	81.9	91	1
9	NE69442	3677	81.9	104	1
15	MT6715	3675	80.0	107	2
6	NE73649	3610	80.0	84	1
5	NE73644	3576	78.7	81	1
4	NE73641	3311	79.3	81	1
11	CO725055	3020	82.6	76	1

$LSD_{.05}$ = 794 C.V. = 12.4%

Casselton, North Dakota
Three replications

Entry no.	C. I. or Sel. No.	Yield	Volume weight	Days to head	Plant height	Winter survival	Stem rust Resp.	Stem rust Sev.
		kg/ha	kg/hl	from 1/1	cm.	0-9	0-9	%
7	NE69291	4142	81.3	156	73	8	-	-
8	15075	3733	82.1	156	73	9	-	-
2	13190	3694	81.5	156	78	9	8	30
15	MT6715	3520	78.7	159	83	9	8	30
10	KS70H210	3487	81.5	154	77	9	8	T
1	1442	3459	80.0	158	82	9	8	30
9	NE69442	3397	79.8	156	73	8	-	-
13	CO701733	3229	82.1	154	63	9	-	-
12	SD7143	3133	79.3	154	73	9	-	-
16	ND7121	3060	80.9	157	83	9	-	-
14	SD713-11	3049	81.9	155	78	8	8	10
4	NE73641	2819	80.6	155	67	9	-	-
6	NE73649	2718	81.1	154	65	8	-	-
11	CO725055	2701	82.1	156	62	6	8	5
5	NE73644	2674	80.9	153	68	8	-	-
3	NE73491	2494	80.8	153	73	9	-	-

$LSD_{.05}$ = 730 C.V. = 13.6%

Williston, North Dakota
Three replications

Entry no.	C. I. or Sel. No.	Yield	Volume weight	Days to head	Plant height	Winter survival	Leaf rust	WSMV[1/]	Bacterial blight	Fungal leaf
		kg/ha	kg/hl	from 1/1	cm.	0-9	sev. %	0-5	0-9	0-9
9	NE69442	2623	79.9	154	72	9	40	1	6	7
14	SD713-11	2559	81.7	152	75	9	40	1	8	9
4	NE73641	2539	79.5	152	62	9	30	2	5	8
1	1442	2524	78.0	156	90	9	33	2	7	8
10	KS70H210	2500	81.0	152	70	8	73	2	9	7
15	MT6715	2492	79.2	157	86	9	23	4	9	9
12	SD7143	2462	78.7	154	66	8	0	1	5	6
16	ND7121	2451	79.6	155	78	9	30	2	7	7
2	13190	2442	79.7	154	74	8	63	4	5	9
13	CO701733	2390	80.9	155	67	7	10	2	7	9
5	NE73644	2323	80.5	153	64	8	27	1	5	9
7	NE69291	2291	80.2	155	63	7	17	2	5	9
3	NE73491	2271	80.1	153	64	8	40	2	7	9
6	NE73649	2265	81.0	153	62	8	30	3	5	8
8	15075	2132	77.9	155	69	7	37	2	3	9
11	CO725055	1351	80.2	155	63	3	63	3	8	9

$LSD_{.05}$ = 446 C.V. = 11.4%

[1/] 0 = free; 5 = 100% infected.

Hettinger, North Dakota
Three replications

Entry No.	C. I. or Sel. No.	Yield	Volume weight	Days to head	Plant height	Winter survival
		kg/ha	kg/hl	from 1/1	cm	0-9
16	ND7121	2803	77.0	155	77	9
2	13190	2776	77.6	153	75	9
7	NE69291	2694	78.3	154	71	8
1	1442	2672	76.1	157	82	9
9	NE69442	2650	77.2	154	68	9
14	SD713-11	2627	78.2	152	72	9
13	CO701733	2563	79.6	153	66	8
15	MT6715	2451	76.8	156	87	9
8	15075	2433	77.4	154	73	6
10	KS70H210	2395	77.6	152	70	9
12	SD7143	2388	74.8	153	70	8
3	NE73491	2354	76.3	152	67	8
6	NE73649	2354	76.8	152	61	9
4	NE73641	2324	75.9	152	61	9
5	NE73644	2313	76.8	152	65	9
11	CO725055	1864	78.3	153	64	5

$LSD_{.05}$ = 575 C.V. = 13.9%

Archer, Wyoming
Three replications

Entry no.	C. I. or Sel. No.	Yield	Volume weight[1/]	Days to head	Plant height
		kg/ha	kg/hl	from 1/1	cm
7	NE69291	991	74.1	174	41
15	MT6715	962	75.4	174	40
3	NE73491	923	69.6	174	37
12	SD7143	874	--	175	41
11	CO725055	836	--	175	35
2	13190	809	--	175	40
8	15075	809	--	175	40
9	NE69442	787	--	175	42
1	1442	782	--	175	38
16	ND7121	775	--	176	40
4	NE73641	764	--	172	35
10	KS70H210	692	--	176	39
6	NE73649	688	--	176	37
13	CO701733	674	--	174	40
5	NE73644	637	--	174	39
14	SD713-11	499	--	175	40

$LSD_{.05}$ = 205 C.V. = 15.7%

[1/] Most yields too low to measure test weight

Sheridan, Wyoming
Three replications

Entry no.	C. I. or Sel. No.	Yield	Volume weight	Days to head	Plant height
		kg/ha	kg/hl	from 1/1	cm.
13	CO701733	2529	80.8	156	53
7	NE69291	2394	81.8	157	64
11	CO725055	2372	81.8	155	59
9	NE69442	2285	84.7	159	68
14	SD713-11	2206	79.3	155	69
8	15075	2141	78.9	158	66
4	NE73641	2137	79.7	154	71
16	ND7121	2108	80.0	160	76
2	13190	2094	78.6	158	68
5	NE73644	2033	82.5	155	66
3	NE73491	2013	79.9	155	71
1	1442	1863	79.9	160	74
12	SD7143	1838	75.0	157	61
6	NE73649	1762	81.8	155	67
10	KS70H210	1744	80.2	155	69
15	MT6715	1468	--	159	68

$LSD_{.05}$ = 510 C.V. = 14.8%

Moccasin, Montana
Three replications

Entry No.	C. I. or Sel. No.	Yield	Volume weight	Days to head	Plant height	Winter survival
		kg/ha	kg/hl	from 1/1	cm	0-9
9	NE69442	4067	79.1	174	83	9
2	13190	3731	79.7	168	83	9
16	ND7121	3491	80.9	175	91	9
4	NE73641	3164	79.5	166	71	9
1	1442	3164	76.4	175	96	9
5	NE73644	2776	79.5	166	66	9
6	NE73649	2572	79.5	166	78	9
8	15075	2376	78.9	168	83	5
12	SD7143	2260	77.8	170	68	8
3	NE73491	2042	78.4	167	76	8
10	KS70H210	2016	79.3	168	73	5
15	MT6715	1995	--	--	--	0
14	SD713-11	1668	--	--	--	0
7	NE69291	1495	78.4	168	83	5
13	CO701733	845	76.6	168	58	5
11	CO725055	753	77.4	169	68	5

$LSD_{.05}$ = 1100 C.V. = 24.4%

Sidney, Montana

3 Replications

Entry No.	C. I. or Sel. No.	Yield kg/ha	Volume weight kg/hl	Days to head from 1/1	Plant height cm	Winter survival 0-9	Av. leaf spot disease complex 1/
16	ND7121	4525	80.6	161	89	8	5
12	SD7143	4079	79.3	159	76	5	5
2	13190	3851	80.0	160	90	3	2
5	NE73644	3813	80.0	157	75	4	2
14	SD713-11	3567	81.3	156	81	4	3
9	NE69442	3417	78.7	161	87	3	3
4	NE73641	3392	79.3	158	75	3	2
15	MT6715	3315	77.4	163	103	3	5
1	1442	3168	78.0	163	103	3	2
6	NE73649	3036	79.3	158	75	3	3
11	CO725055	2801	80.6	158	70	3	2
3	NE73491	2756	79.3	156	75	3	4
13	CO701733	2734	79.3	160	79	1	2
10	KS70H210	2091	80.0	158	79	1	4
7	NE69291	2081	80.0	160	75	1	3
8	15075	1591	77.4	161	78	1	3

$LSD_{.05}$ = 1559 C.V. = 29.8%

1/ Leaf disease reaction to bacteria and leaf spot fungi taken on June 14. Diseases include Pseudomonas syringae, Pyrenophora trichostoma (previously reported as Helminthosporium Tritici-repentis) and Septoria nodorum. 9 = most susceptible.

Aberdeen, Idaho
Observation plot

Entry No.	C. I. or Sel. No.	Yield	Volume weight	Days to head	Plant height	Lodging	Shattering 1/	Stripe rust
		kg/ha	kg/hl	from 1/1	cm	1-9		%
13	CO701733	6692	81.8	163	91	1	0	0
7	NE69291	6450	83.1	163	107	2	L	0
11	CO725055	6154	80.0	163	84	1	L	T
16	ND7121	5374	81.8	167	104	4	0	0
9	NE69442	5259	80.4	164	104	1	L	T
2	13190	5226	81.2	165	104	2	0	T
8	15075	5132	83.1	163	102	3	L	0
15	MT6715	5024	80.9	164	109	7	0	0
12	SD7143	4722	78.2	165	84	1	L	0
6	NE73649	4708	79.6	160	91	1	L	T
5	NE73644	4325	83.2	160	91	1	0	0
14	SD713-11	3995	77.4	161	94	1	0	T
3	NE73491	3989	78.3	160	99	1	L	0
4	NE73641	3841	75.4	160	86	1	0	5
1	1442	3619	71.3	168	109	2	M	0
10	KS70H210	3356	65.8	161	94	1	0	T

1/ 0 = None; L = Light; M = Medium

Tetonia, Idaho
Three replications

Entry No.	C. I. or Sel. No.	Yield kg/ha	Volume weight kg/hl	Days to head from 1/1	Plant height cm	Winter survival 0-9
15	MT6715	3527	79.6	185	75	9
13	CO701733	3484	78.2	184	65	9
2	13190	3356	78.0	185	77	9
8	15075	3309	78.7	185	69	9
1	1442	3300	79.5	186	76	9
7	NE69291	3211	78.3	185	70	9
3	NE73491	3199	77.4	184	70	9
9	NE69442	3130	78.6	185	71	9
16	ND7121	3085	79.4	186	73	9
12	SD7143	3076	77.3	185	69	9
6	NE73649	3071	78.2	184	70	9
11	CO725055	3040	81.6	185	64	9
4	NE73641	2937	78.3	184	67	9
10	KS70H210	2889	80.9	184	70	9
14	SD713-11	2800	79.0	184	71	9
5	NE73644	2789	78.3	184	64	9

$LSD_{.05}$ = 492 C.V. = 9.4%

Lethbridge, Alberta
Three replications

Entry no.	C. I. or Sel. No.	Yield	Volume weight	1000-kernel weight	Days to head	Days to ripe	Plant height	Winter survival	Lodging	Shattering[1]
		kg/ha	kg/hl	gms.	from 1/1	from 1/1	cm.	0-9	0-9	%
7	NE69291	3853	82.3	37.2	160	205	67	9	1	3
1	1442	3756	81.7	45.2	163	208	87	9	1	4
13	CO701733	3692	82.3	38.8	158	205	67	9	1	0
2	13190	3637	81.7	39.6	163	208	86	9	1	2
15	MT6715	3543	81.1	36.0	162	205	82	9	1	20
9	NE69442	3532	81.1	45.4	162	205	76	9	1	0
8	15075	3485	82.3	36.8	160	205	67	9	1	0
10	KS70H210	3351	83.5	46.4	156	202	65	9	1	0
16	ND7121	3308	81.1	36.8	162	205	70	9	1	12
5	NE73644	3302	82.9	41.2	157	202	58	9	1	2
14	SD713-11	3223	82.3	42.0	155	202	67	9	1	0
11	CO725055	3177	82.3	38.0	158	206	62	9	1	4
3	NE73491	3163	80.4	38.8	156	202	66	9	1	2
4	NE73641	3157	81.1	38.4	157	202	63	9	1	0
6	NE73649	3060	79.8	38.8	158	202	63	9	1	0
12	SD7143	2881	77.3	35.8	161	208	61	9	1	13

$LSD_{.05}$ = 459 C.V. = 8.1%

[1] Notes taken on September 9 on border rows which had been standing five weeks after harvest. In nearby tests, Kharkof 22 MC was shattered about 80%.

Lind, Washington
Three replications

Entry No.	C. I. or Sel. No.	Yield	Volume weight	Days to head	Plant height
		kg/ha	kg/hl	from 1/1	cm
7	NE69291	2797	81.3	143	81
13	CO701733	2662	80.2	143	71
8	15075	2600	80.9	144	71
11	CO725055	2547	81.3	143	71
6	NE73649	2524	79.7	140	71
3	NE73491	2464	78.4	140	76
4	NE73641	2429	79.6	141	68
9	NE69442	2427	80.4	145	81
1	1442	2301	78.3	147	81
2	13190	2297	80.4	146	76
5	NE73644	2285	80.0	140	71
10	KS70H210	2273	80.5	142	73
15	MT6715	2099	79.2	146	78
16	ND7121	2053	79.5	148	76
14	SD713-11	2042	80.2	142	71
12	SD7143	1835	76.8	146	71

$LSD_{.05}$ = 326 C.V. = 9.7%

Clovis, New Mexico, (dryland)
Three replications

Entry no.	C. I. or: Sel. No.	Yield[1/]	Volume weight	Days to head	Plant height
		kg/ha	kg/hl	from 1/1	cm.
9	NE69442	2201	80.0	127	57
2	13190	1643	81.3	123	52
1	1442	1631	74.8	133	64
15	MT6715	1546	81.3	124	52
5	NE73644	1393	78.0	121	49
3	NE73491	1385	77.4	120	50
16	ND7121	1381	78.7	132	49
10	KS70H210	1349	80.6	120	55
4	NE73641	1226	78.7	120	47
13	CO701733	1220	80.0	125	47
12	SD7143	1154	75.5	126	53
14	SD713-11	1080	80.0	121	49
7	NE69291	1073	80.0	127	46
11	CO725055	1009	81.3	125	42
6	NE73649	901	--	120	40
8	15075	819	80.5	128	42

$LSD_{.05}$ = 671 C.V. = 30.6%

[1/] Adjusted to 14% moisture

Clovis, New Mexico (irrigated)
Three replications

Entry no.	C. I. or Sel. No.	Yield[1/]	Volume weight	Days to head	Plant height
		kg/ha	kg/hl	from 1/1	cm.
7	NE69291	6043	81.8	125	84
13	CO701733	5886	81.4	126	82
2	13190	5725	80.9	128	87
10	KS70H210	5663	82.3	124	88
6	NE73649	5661	80.5	123	77
9	NE69442	5572	80.2	129	88
8	15075	5489	81.5	126	85
11	CO725055	5480	81.8	126	75
14	SD713-11	5350	82.2	123	87
3	NE73491	5318	79.5	122	84
4	NE73641	5248	79.6	123	80
15	MT6715	5128	80.8	129	91
5	NE73644	5034	79.7	124	76
12	SD7143	4625	78.2	126	77
1	1442	4200	78.2	132	104
16	ND7121	4026	79.8	131	93

$LSD_{.05}$ = 765 C.V. = 8.7%

[1/] Adjusted to 14% moisture

Table 11.--
Seedling reactions of the 1976 Northern Regional Hard Red Winter Wheat Nursery to Puccinia graminis f. sp. tritici.

Entry No.	Variety or Sel. No.	ISOLATES: 72-14-504C	72-25-639C	72-00-53A	74-16-19C	71-21-584B	74-14-479C	72-00-1370C	65-39-2	72-4-1A	71-41-140A	Bugby	75-45-1730A	71-25-305B	Speculative Sr genes
		RACES: 11-32-113						151	15B-2		15		?	?	
		RPQQ	RKQS	RTQQ	RCRS	RHRS	RJCS	QFBS	TLMH	TNMH	TMRT	TMMT	MRCS	GJCJ	
1	Kharkof, CI 1442	S	S	S	S	S	S	S	S	S	S	S	2,S	S	+
2	Warrior, CI 13190	S	S	S	S	S	S	S	S	S	S	S	2	S	+
3	NE 73491	;	23c	;1-N	S,;	2c,S	S	2,;,S	;	;	S	S	;,2-	S,;	Seg 5&6,8,17,+
4	NE 73641	;1-	2c	;1N	2	2c	S	2-	;	;	2	X-	2=1c	S,;	Seg 5, 8, 17,+
5	NE 73644	;	23c	;	;	S	S	;	;	;	;	;	;	;	5, 6, 17, +
6	NE 73649	;	23c	;	;,S	23c	S	;,2	;	;	2	;	;,2=	S,;	Seg 5, 6,8,17,+
7	NE 69291	;	S	;	;	23-c	23	;	;	;	;	;	;	;	5,6,8,9a,17,+
8	Centurk, CI 15075	;	S	;	;	2-c	23	;	;	;	;	;	;	;	5,6,8,9a,17,+
9	NE 69442	;	2-	;	;	2	2-	;	;	;	;	;	;1-	2	6,8,9a,17,+
10	KS 70H210	;	2+	;	S	S	23	2	;	;	S	S	2	2	17, +
11	CO 725055	;	2	;	2	2-c	2-,;1	2=	;	;	23	2	;2=3	2,;	Seg 5, 8,17,+
12	SD 7143	;	S	;	S	S	S,2-	S,;	;	;	S	2	;,S	0	5, 17, +
13	CO 701733	;	2-	;	;	2-	2-	;	;	;	;	;1-	-	2	6,8,9a,17,+
14	SD 713-11	S	S	S	S	S	S	2	S	S	S	S	2-	S	7b, +
15	MT 6715	;1N,;	S,;1-N	;1-N,;	S	S	S	S	;1-N	;1-c	S	S	;1-c	S,;	Seg 5&10&17
16	ND 7121	2	-	S	2	2-	;	;1	X	X	S	S	;	;	+

Table 12.--
Adult plant reaction of the 1976 Northern Regional Hard Red Winter Wheat Performance Nursery to stem rust at St. Paul, MN inoculated nursery.

Entry No.	Variety or Sel. No.	Stem Rust
1	Kharkof	40S
2	Warrior	40S
3	NE 73491	5MS
4	NE 73641	5MS
5	NE 73644	10MS-S
6	NE 73649	5MR-S
7	NE 69291	60S
8	Centurk	40S
9	NE 69442	20MS-S
10	KS 70H210	20MR-S
11	CO 725055	60S
12	SD 7143	30S
13	CO 701733	20MR-S
14	SD 713-11	20MR-S
15	MT 6715	20MS-S
16	ND 7121	0,5MS-S

Table 13.--Seedling rating of the entries in the 1976 Northern Regional Performance Nursery to 4 Hessian fly biotypes.[1/]

Entry no.	C. I. or Sel. No.	Biotype GP[2/]	B	C	D
1	1442	11-4[3/]	3-10	0-13	S[5/]
2	13190	9-7	4-13	0-11	1-18
3	NE73491	10-4	6-14	13-1	1-15
4	NE73641	9-7	7-11	1-14	3-16
5	NE73644	10-2	3-12	0-12	3-12
6	NE73649	2-11	4-13	0-13	2-12
7	NE69291	5-9	1-19	0-20	2-15
8	15075	1-14	4-13	0-18	11-13
9	NE69442	10-3	6-9	0-12	12-4
10	KS70H210	7-8	6-11	14-1	8-9
11	CO725055	R[4/]	7-10	0-16	S
12	SD7143	13-4	3-14	0-14	S
13	CO701733	R	4-12	3-10	7-11
14	SD713-11	8-2	3-11	0-11	1-16
15	MT6715	5-5	2-12	0-11	S
16	ND7121	9-7	1-16	0-12	S

[1/] Data collected by R. L. Gallun, Purdue University.
[2/] Great Plains Biotype.
[3/] 11 plants resistant, 4 plants susceptible.
[4/] All plants resistant.
[5/] All plants susceptible.

Summary of NRPN Yields

Average yields from 20 reporting test sites are summarized in Table 14 together with state average yields and ranks. None of the experimental varieties in the nursery was quite as productive as Warrior on the average, although NE69442 was only slightly less productive. NE73641, NE69291, and NE73644 were next most productive. Only 6 varieties were tested in the NRPN in both 1975 and 1976. On a 2-year basis, NE69442 and Warrior made identical regional average yields (Table 15).

Yield parameters $b_{y.x}$, r, and r^2 for entries in the NRPN in 1976 are reported in Table 16. Parameters based on 2-year performances appear in Table 17. NE73649 responded most strongly to changes in environment ($b_{y.x}$ = 1.13) while Kharkof and ND7121 were least responsive ($b_{y.x}$ = .85). The performance of NE73649 was slightly the most highly correlated with nursery mean performance (r = .92) whereas ND7121 was least correlated (r = .82). NE73649 also had the most predictable performance based on nursery mean yield (r^2 = .84). On a 2-year basis NE69442 and Warrior were most responsive to environmental changes ($b_{y.x}$ = .97) and NE69442 and CO701733 had the highest r and r^2 values.

Summary of Agronomic Data

Agronomic data for NRPN entries in 1976 are summarized in Table 18. CO725055 had the shortest straw and poorest winter survival but highest volume weight of grain. ND7121 survived best on the average.

Table 14. Summary of mean yields (KG/HA) of the 16 lines grown in the 1976 Northern Regional Performance Nursery at 20 sites, with state means and rank.

Entry No.	Pedigree	C. I. or Sel. No.	North Dakota					Minnesota			
			Cassel-ton	Het-tinger	Willis-ton	Mean	Rank	St. Paul	Waseca	Mean	Rank
2	Warrior	13190	3694	2776	2442	2971	2	3105	3767	3436	5
9	See below 1/	NE69442	3397	2650	2623	2890	3	2565	3677	3121	13
4	Buckskin/Homestead	NE73641	2819	2324	2539	2561	12	2859	3311	3085	15
7	Centurk Selection	NE69291	4142	2694	2291	3042	1	2628	4164	3396	7
5	Buckskin/Homestead	NE73644	2674	2313	2323	2437	14	2894	3576	3235	10
13	II21031/Trapper//CO652363	CO701733	3229	2563	2390	2727	10	2616	4110	3363	8
6	Buckskin/Homestead	NE73649	2718	2354	2265	2446	13	2659	3610	3135	12
12	Winoka//Jaral 66/Minter	SD7143	3133	2388	2462	2661	11	2677	4215	3446	4
8	Centurk	15075	3733	2433	2132	2766	8	2800	4121	3461	3
16	NE63265/Hume/3/Yogo/Fta//2*Minter	ND7121	3060	2803	2451	2771	7	2686	4146	3416	6
3	Buckskin/Homestead	NE73491	2494	2354	2271	2373	15	3103	3928	3516	2
1	Kharkof	1442	3459	2672	2524	2885	4	2220	4016	3118	14
15	Yogo*3/Cnn.Sel. 2-3-13-6	MT6715	3520	2451	2492	2821	5	2802	3675	3239	9
10	Ottawa/5*Scout	KS70H210	3487	2395	2500	2794	6	2699	4466	3583	1
11	II21133/CO652643//Lancer/KS62136	CO725055	2701	1864	1351	1972	16	3114	3020	3067	16
14	See below 2/	SD713-11	3049	2627	2559	2745	9	2623	3754	3188	11
	Mean		3207	2479	2351	2679		2753	3847	3300	
	LSD .05		730	575	446	436		664	794	779	
	C.V.		13.6%	13.9%	11.4%	13.3%		14.5%	12.4%	13.3%	

1/ Pnc/3*Cnn/3/Ky58/Nth/2/2*Cnn/Tm/Mi/Hope/4/Scout

2/ SS/12500//RCh/Pn/3/Cnn/4/Kaw/Sk//2*Cnn

Table 14. Continued

Entry No.	C. I. or Sel. No.	Montana				South Dakota				Idaho		Washington		Alberta	
		Mocassin	Sidney	Mean	Rank	Highmore	Presho	Mean	Rank	Tetonia	Rank	Lind	Rank	Lethbridge	Rank
2	13190	3731	3851	3791	2	1221	1621	1421	3	3356	3	2298	10	3637	4
9	NE69442	4067	3417	3742	3	1184	1505	1344	7	3130	8	2428	8	3532	6
4	NE73641	3164	3392	3278	5	1532	1515	1523	1	2937	13	2429	7	3157	14
7	NE69291	1495	2081	1788	15	1226	1337	1282	11	3211	6	2797	1	3853	1
5	NE73644	2776	3813	3295	4	1459	1370	1415	4	2789	16	2286	11	3302	10
13	CO701733	845	2734	1789	14	1508	1433	1471	2	3484	2	2662	2	3692	3
6	NE73649	2572	3036	2804	8	1223	1161	1192	14	3071	11	2524	5	3060	15
12	SD7143	2260	4079	3169	6	1192	1589	1391	5	3076	10	1835	16	2881	16
8	15075	2376	1591	1984	13	1311	1443	1377	6	3309	4	2601	3	3485	7
16	ND7121	3491	4525	4008	1	924	1379	1152	16	3085	9	2054	14	3308	9
3	NE73491	2042	2756	2399	11	1390	1254	1322	8	3199	7	2465	6	3163	13
1	1442	3164	3168	3166	7	1061	1308	1184	15	3300	5	2302	9	3756	2
15	MT6715	1995	3315	2655	9	948	1503	1225	12	3527	1	2100	13	3543	5
10	KS70H210	2016	2091	2053	12	1125	1315	1220	13	2889	14	2273	12	3351	8
11	CO725055	753	2801	1777	16	1062	1563	1313	9	3040	12	2548	4	3177	12
14	SD713-11	1668	3567	2618	10	1271	1347	1309	10	2800	15	2043	15	3223	11
	Mean	2401	3139	2770		1227	1415	1321		3138		2353		3382	
	LSD.05	1363	1559	1350		293	373	346		492		326		459	
	C.V.	34.0%	29.8%	31.7%		14.3%	15.8%	15.2%		9.4%		9.7%		8.1%	

Table 14. Concluded.

Entry No.	C. I. Sel. No.	Wyoming				Nebraska						New Mexico				20 Station Mean
		Sheridan	Archer	Mean	Rank	North Mead	Platte	Sidney	Alliance	Mean	Rank	Clovis Irr.	Clovis Dry	Mean	Rank	
2	13190	2094	809	1452	7	2083	3605	1258	2984	2483	12	5725	1643	3684	2	2777
9	NE69442	2285	787	1536	4	3045	3556	1175	2765	2635	10	5572	2201	3887	1	2772
4	NE73641	2137	764	1450	8	4108	3936	1751	2812	3152	3	5248	1226	3237	10	2694
7	NE69291	2394	991	1693	1	3312	2761	1578	3680	2833	7	6043	1073	3558	3	2689
5	NE73644	2033	637	1335	12	4076	4306	1500	3186	3267	2	5034	1393	3214	12	2680
13	CO701733	2529	674	1602	3	2955	3634	1325	3303	2804	9	5886	1220	3553	4	2640
6	NE73649	1762	688	1225	14	3939	4785	1412	3220	3339	1	5661	901	3281	8	2629
12	SD7143	1838	874	1356	10	3875	3466	1504	3610	3114	5	4625	1154	2889	15	2624
8	15075	2141	807	1475	5	3177	3789	1551	3175	2923	6	5489	819	3154	13	2614
16	ND7121	2108	775	1442	9	2208	3028	1280	3136	2413	13	4026	1381	2703	16	2584
3	NE73491	2013	923	1468	6	3850	3595	1500	2289	2809	8	5319	1385	3352	6	2563
1	1442	1863	782	1323	13	2396	2899	1083	2767	2286	15	4200	1631	2915	14	2525
15	MT6715	1468	962	1215	16	2825	2736	872	2955	2347	14	5128	1546	3337	7	2511
10	KS70H210	1744	692	1218	15	3199	3718	1101	2143	2540	11	5663	1349	3506	5	2507
11	CO725055	2372	836	1604	2	3311	4538	1255	3448	3138	4	5480	1009	3244	9	2464
14	SD713-11	2206	499	1353	11	3000	3047	771	1796	2153	16	5350	1080	3215	11	2408
	Mean	2062	781	1422		3210	3583	1307	2954	2765		5278	1313	3296		2605
	LSD .05	510	205	482		725	1269	300	624	620		765	671	1077		275
	C.V.	14.8%	15.7%	16.4%		13.6%	21.2%	13.8%	12.7%	17.5%		8.7%	30.6%	13.1%		17.1%

Table 15. Summary of mean yields (kg/ha) for six varieties grown at 13 sites in the 1975 and 1976 Northern Regional Performance Nursery with state means, ranks and coefficients of variation.

1976 Entry No.	C. I. or Sel. No.	Pedigree	Nebraska					New Mexico				North Dakota			
			Mead	Sidney	Alliance	Mean	Rank	Clovis (irr.)	Clovis (dry)	Mean	Rank	Casselton	Williston	Mean	Rank
2	13190	Warrior	2364	2710	2494	2523	4	5963	2599	4281	3	2971	2831	2795	1
9	NE69442	Pnc/3*Cnn/3/Ky58/Nth/2/ 2*Cnn/Tm/Mi/Hope/4/Scout	3296	2373	2411	2693	3	6036	2716	4376	1	2719	2791	2687	3
13	CO701733	II21031/Trapper//CO652363	3302	2706	2802	2936	2	6443	2202	4322	2	2884	2700	2719	2
12	SD7143	Winoka//Jaral 66/ Minter	3890	2771	2598	3086	1	5071	1886	3479	5	2626	2662	2571	4
15	MT6715	Yogo*3/Cnn Sel. 2-3-13-6	3091	2060	2406	2519	5	5269	2225	3747	4	2584	2734	2553	6
1	1442	Kharkof	2542	2176	2109	2286	6	4582	2182	3382	6	2632	2702	2564	5
		Mean	3081	2466	2480	2677		5561	2302	3931		2736	2737	2650	
		C.V.	11.4%	11.4%	11.7%	11.6%		8.1%	24.0%	12.8%		13.5%	8.8%	12.5%	

1976 Entry No.	C. I. or Sel. No.	Wyoming				Montana				Minnesota		Alberta		13 station mean
		Archer	Sheridan	Mean	Rank	Moccasin	Sidney	Mean	Rank	Waseca	Rank	Lethbridge	Rank	
2	13190	1314	2015	1664	1	3144	3515	3329	1	3573	3	2821	4	2947
9	NE69442	1057	2007	1532	2	3382	3231	3306	2	3462	4	2328	3	2947
13	CO701733	920	2041	1480	3	2198	2926	2595	6	3655	1	2942	1	2911
12	SD7143	1072	1434	1253	4	2186	3430	2808	5	3613	2	2434	6	2744
15	MT6715	1105	1401	1253	5	2660	3269	2992	3	2695	6	2819	5	2640
1	1442	1101	1668	1385	6	2792	3169	2980	4	2973	5	2858	2	2582
	Mean	1095	1761	1428		2744	3257	3008		3328		2784		2796
	C.V.	21.5%	17.3%	19.1%		16.4%	22.1%	20.2%		14.4%		9.7%		14.6%

Table 16. Mean yield (kg/ha), regression coefficient, correlation coefficient and coefficient of determination from linear regression analysis of variety yield on nursery mean yield for the 16 entries in the 1976 Northern Regional Performance Nursery.

1976 Entry No.	C.I. or Selection No.	Mean yield over 20 locations	Regression coefficient (by·x)	Correlation coefficient r	Coefficient of determination r^2
2	13190	2777	1.02	.89	.80
9	NE69442	2772	.96	.86	.73
4	NE73641	2694	.93	.90	.81
7	NE69291	2689	1.08	.83	.68
5	NE73644	2680	.99	.91	.83
13	CO701733	2640	1.09	.87	.76
6	NE73649	2629	1.13	.92	.84
12	SD7143	2624	.96	.89	.80
8	15075	2614	1.04	.88	.77
16	ND7121	2584	.85	.82	.68
3	NE73491	2564	.96	.86	.75
1	1442	2525	.85	.87	.76
15	MT6715	2511	.98	.88	.78
10	KS70H210	2507	1.09	.91	.83
11	CO725055	2464	1.04	.86	.74
14	SD713-11	2408	1.02	.89	.79

Table 17. Mean yield (kg/ha), regression coefficient, correlation coefficient, and coefficient of determination from linear regression analysis of variety mean on nursery mean yield for 6 entries grown in the 1975 and 1976 Northern Regional Performance Nursery.

1976 Entry No.	C. I. or Sel. Number	Mean yield over 13 locations	Regression coefficient (by·x)	Correlation coefficient (r)	Coefficient of determination, (r^2)
		kg/ha			
2	13190	2947	.97	.90	.82
9	NE69442	2947	.97	.91	.82
13	CO701733	2911	.79	.97	.94
12	SD7143	2744	.90	.93	.86
15	MT6715	2640	.93	.90	.81
1	1442	2582	.79	.89	.80

Table 18. Summary of agronomic and yield data for the 16 varieties included in the 1976 Northern Regional Performance Nursery.

Entry No.	Pedigree	C. I. or Sel. No.	Days to head from 1/1	Days to ripe from 1/1	Plant height cm	Lodging 0-9	Winter survival 0-9	1000-kernel weight gm	Leaf rust Sev. %	Leaf rust Resp.	Av. leaf spot dis. complex[1]	WSMV[2]	Bacterial blight 0-9	Fungal leaf 0-9	Volume weight kg/hl	Yield kg/ha
	Number of trials		14	1	17	3	9	1	2	2	1	1	1	1	18	20
2	Warrior	13190	156	208	77	1	7	39.6	50	S	2	4	6	8	78.1	2777
9	Pnc/3*Cnn/3/Ky58/Nth/2/*Cnn/Tm/Mi/Hope/4/Scout	NE69442	157	205	76	2	7	45.4	35	S	3	2	7	8	78.8	2772
4	Buckskin/Homestead	NE73641	153	202	67	1	8	38.4	24	S	2	1	5	9	78.1	2694
7	Centurk Selection	NE69291	156	205	71	2	7	37.2	23	S	3	2	6	8	78.6	2689
5	Buckskin/Homestead	NE73644	154	202	67	1	7	41.2	35	S	2	3	5	9	78.5	2680
13	II21031/Trapper//CO52363	CO701733	155	205	68	2	7	38.8	8	M	2	3	7	8	78.5	2640
6	Buckskin/Homestead	NE73649	154	202	67	1	7	38.8	28	S	3	2	6	9	78.5	2629
12	Winoka//Jaral 66/Minter	SD7143	156	208	70	0	8	35.8	15	M	5	1	5	7	76.7	2624
8	Centurk	15075	156	205	72	2	6	36.8	38	S	3	3	5	9	78.4	2614
16	NE63265/Hume/3/Yogo/Fta//2*Minter	ND7121	159	205	78	1	9	36.8	38	S	7	2	7	7	78.3	2584
3	Bucskin/Homestead	NE73491	153	202	71	1	7	38.8	45	S	4	2	7	9	77.5	2564
1	Kharkof	1442	159	208	85	2	8	45.2	29	S	2	3	8	7	77.0	2525
15	Yogo*3/Cnn Sel. 2-3-13-6	MT6715	157	205	82	3	7	36.0	33	S	7	2	9	8	77.7	2511
10	Ottawa/5*Scout	KS70H210	154	202	74	3	7	46.4	70	S	4	1	8	8	78.7	2507
11	II21183/CO652643//Lancer/KS62136	CO725055	155	206	64	1	5	38.0	58	S	2	3	8	9	79.5	2464
14	SS/12500/RCh/Pn/3/Cnn/4/Kaw/Sk//2*Cnn	SD713-11	153	202	74	3	7	42.0	40	S	5	1	7	8	78.6	2408

[1] Leaf disease reaction to bacteria and leaf spot fungi on June 14. Diseases include *Pseudomonas syringae*, *Pyrenophora trichostoma* and *Septoria nodorum*.

[2] 0 = free of infection: 5 = 100% infection.

HYBRID WINTER WHEAT REGIONAL NURSERY

This nursery was grown for the first time in 1976 in response to expressions of interest from several cooperators that such a nursery was needed and would provide useful information on the performance of winter wheat hybrids relative to that of varieties. The Hybrid Nursery was comprised of 23 entries of which 15 were hybrids and the remainder parent lines or check varieties. Five hybrids were provided by K. Porter at Bushland, TX; 4 were from Pioneer; and 6 were from DeKalb. Centurk, Sage, and TAM W-101 were included as check varieties. Replicated nurseries were grown at 3 sites each in Texas and Kansas and 2 sites each in Oklahoma, Colorado, and Nebraska. An observation planting at Brookings, South Dakota did not survive the winter. Data from the reporting stations appear in Table 19. Hybrids and varieties included in the nursery are listed.

Entry no.	Variety or Hybrid	C. I. or Sel. No.	Source
1	Centurk	15075	Check
2	Sage	17277	"
3	Pioneer Hybrid	HR908	Pioneer
4	" "	HR915A	"
5	" "	HR940	"
6	" "	HR975	"
7	Texas R-line	--	Texas
8	ms TX65A1626/TX R-line	--	"
9	TX65A1626	--	"
10	ms Sturdy/TX R-line	--	"
11	Sturdy	--	"
12	ms Triumph/TX R-line	--	"
13	Improved Triumph	--	"
14	ms TAM-101/TX R-line	--	"
15	TAM-101	--	Check
16	ms TAM-103/TX R-line	--	Texas
17	TAM-103	--	"
18	DeKalb Hybrid	544	DeKalb
19	" "	571	"
20	" "	581	"
21	" "	583	"
22	" "	585	"
23	" "	589	"

Test Site Information

Texas Stations -- The nursery was grown at Dallas, Chillicothe, and Bushland (irrigated). For information see the SRPN.

Oklahoma Stations -- The nursery was grown at Stillwater and Lahoma. See the SRPN for information.

Kansas Stations -- The nursery was grown at Hays, Garden City, and Colby. Yield data were reported from only 2 replications at Garden City. At Colby, the nursery area was irrigated in August to wet the soil to a depth of 6 feet. Dry surface soil in the fall prevented good development of root systems but stands were good. Some winter injury occurred. The nursery was irrigated on May 17. There were no serious insect or disease problems.

Colorado Stations -- The nursery was grown at Julesburg and Burlington. See the SRPN for information.

Nebraska Stations -- The nursery was grown at Mead and Clay Center. See the SRPN for information.

Table 19.--Yield and other data for varieties evaluated in the Hybrid Winter Wheat Regional Nursery in 1976.

Bushland, Texas (irrigated)
Three replications

Entry no.	C. I. or Sel. No.	Yield	Volume weight	Days to head	Plant height
		kg/ha	kg/hl	from 1/1	cm.
2	17277	5338	78.4	125	104
17	TAM-103	5165	78.7	123	80
9	TX65A1626	5124	79.0	123	85
15	TAM-101	5084	81.0	123	94
5	HR940	4970	79.7	128	107
3	HR908	4799	76.5	127	100
4	HR915A	4689	79.0	126	104
14	ms TAM-101/TX R-line	4600	77.5	122	94
6	HR975	4494	77.0	127	109
11	Sturdy	4454	78.7	124	89
1	15075	4411	81.0	125	98
22	585	4395	80.6	124	107
18	544	4389	80.1	126	107
10	ms Sturdy/TX R-line	4232	78.1	124	101
23	589	4030	80.1	122	98
8	ms TX65A1626/TX R-line	3884	77.4	123	90
19	571	3853	78.3	124	102
13	Improved Triumph	3848	80.1	122	100
20	581	3837	78.4	124	103
21	583	3735	78.1	123	105
16	ms TAM-103/TX R-line	3523	78.3	122	83
7	Texas R-line	3455	75.6	126	93
12	ms Triumph/TX R-line	3354	78.1	122	100

$LSD_{.05}$ = 835 C.V. = 11.7%

Chillicothe, Texas
Three replications

Entry no.	C. I. or Sel. No.	Yield	Volume weight	Days to head	Plant height
		kg/ha	kg/hl	from 1/1	cm.
2	17277	2641	73.9	109	72
1	15075	2540	74.8	105	64
13	Improved Triumph	2430	74.8	102	64
23	589	2356	74.8	100	62
12	ms Triumph/TX R-line	2262	74.4	102	60
5	HR940	2197	75.7	109	72
6	HR975	2170	73.1	109	74
14	ms TAM-101/TX R-line	2155	72.6	101	61
10	ms Sturdy/TX R-line	2130	71.4	102	58
8	ms TX65A1626/TX R-line	2092	71.4	100	57
7	Texas R-line	2076	70.5	106	60
22	585	2056	74.8	104	68
15	TAM-101	2007	73.5	103	55
18	544	1982	73.9	102	64
4	HR915A	1973	75.2	107	72
16	ms TAM-103/TX R-line	1971	71.0	100	54
21	583	1935	74.4	101	65
9	TX65A1626	1928	71.8	100	55
17	TAM-103	1854	72.2	97	48
20	581	1852	73.9	103	63
19	571	1771	74.8	103	60
11	Sturdy	1758	73.1	103	56
3	HR908	1690	75.2	104	63

$LSD_{.05}$ = 274 C.V. = 8.0%

Stillwater, Oklahoma
Three replications

Entry no.	C. I. or Sel. No.	Yield	Volume weight	Days to head	Plant height	Leaf rust Resp.	Leaf rust Sev.
		kg/ha	kg/hl	from 1/1	cm.	0-9	%
1	15075	3453	79.5	109	77	8	25
2	17277	3139	78.1	114	87	8	4
12	ms Triumph/TX R-line	2881	77.1	105	76	8	50
7	Texas R-line	2848	69.5	114	79	8	30
5	HR940	2836	78.9	114	90	8	15
10	ms Sturdy/TX R-line	2791	75.7	103	69	8	20
16	ms TAM-103/TX R-line	2791	76.3	104	64	8	70
8	ms TX65A1626/TX R-line	2724	75.8	104	69	8	15
9	TX65A1626	2679	76.8	104	67	8	8
23	589	2657	78.9	102	73	8	15
4	HR915A	2590	78.6	110	82	8	30
3	HR908	2578	77.2	106	73	8	30
14	ms TAM-101/TX R-line	2578	75.6	107	71	8	13
19	571	2567	77.4	104	72	8	25
13	Improved Triumph	2567	78.5	102	76	8	70
22	585	2567	78.6	108	81	8	10
15	TAM-101	2545	75.8	109	68	8	15
6	HR975	2500	77.2	114	87	8	8
11	Sturdy	2432	77.5	104	61	8	2
20	581	2321	77.2	104	71	8	6
21	583	2242	77.5	103	72	8	20
18	544	2231	78.5	104	80	8	25
17	TAM-103	2186	76.6	101	58	8	80

$LSD_{.05}$ = 336 C.V. = 7.7%

Lahoma, Oklahoma
Three replications

Entry no.	C. I. or Sel. No.	Yield	Volume weight	Plant height
		kg/ha	kg/hl	cm.
2	17277	3980	77.2	58
5	HR940	3958	78.1	61
4	HR915A	3901	78.6	57
15	TAM-101	3811	77.5	47
6	HR975	3733	77.1	63
1	15075	3677	78.5	54
3	HR908	3643	77.2	48
14	ms TAM-101/TX R-line	3588	76.1	50
7	Texas R-line	3576	73.0	53
12	ms Triumph/TX R-line	3374	77.1	52
8	ms TX65A1626/TX R-line	3374	75.3	45
10	ms Sturdy/TX R-line	3374	76.1	46
22	585	3318	78.9	61
16	ms TAM-103/TX R-line	3307	76.2	45
23	589	3296	77.5	48
20	581	3262	76.7	52
18	544	3240	76.8	55
19	571	3184	76.7	53
13	Improved Triumph	3027	77.5	49
21	583	2993	76.6	52
17	TAM-103	2870	75.8	42
11	Sturdy	2679	75.6	42
9	TX65A1626	2634	73.9	41

$LSD_{.05}$ = 415 C.V. = 7.5%

Hays, Kansas
Three replications

Entry no.	C. I. or Sel. No.	Yield	Volume weight	Average Seed weight	Days to head	Plant height	Straw attitude	Shattering	Septoria
		kg/ha	kg/hl	mg.	from 1/1	cm.	1/	1-9	1-9
15	TAM-101	3504	79.5	37.6	137	75	79	3	5
2	17277	3387	80.3	33.2	139	95	75	3	3
1	15075	3149	79.9	27.7	139	92	77	5	5
3	HR908	3049	78.3	32.2	137	84	83	4	5
11	Sturdy	2943	78.1	31.0	135	76	88	4	5
9	TX65A1626	2816	76.8	32.5	134	77	73	3	5
17	TAM-103	2791	78.6	27.0	133	74	73	4	5
4	HR915A	2766	79.3	30.1	140	93	82	3	5
22	585	2753	79.5	31.9	137	95	75	3	5
8	ms TX65A1626/TX R-line	2735	76.5	35.1	136	88	75	6	5
5	HR940	2641	78.2	30.4	141	99	78	2	5
6	HR975	2618	77.0	30.2	142	100	82	4	5
10	ms Sturdy/TX R-line	2585	76.5	34.9	137	81	83	5	5
16	ms TAM-103/TX R-line	2585	77.6	33.2	132	84	78	6	5
19	571	2565	78.1	32.8	136	93	83	6	5
18	544	2491	78.5	37.7	137	99	75	2	4
14	ms TAM-101/TX R-line	2435	76.4	34.5	137	86	78	6	5
21	583	2417	77.7	32.3	134	92	83	4	3
7	Texas R-line	2376	73.8	33.5	143	85	80	4	5
20	581	2365	77.7	30.1	136	96	80	6	5
23	589	2320	78.9	46.1	133	94	73	5	5
13	Improved Triumph	2275	79.1	35.0	134	94	60	4	5
12	ms Triumph/TX R-line	1930	77.7	36.5	134	99	78	8	5

$LSD_{.05}$ = 573 C.V. = 13.0%

1/ Degrees from horizontal

Garden City, Kansas
Two replications

Entry no	C. I. or Sel. No.	Yield	Volume weight	Plant height
		kg/ha	kg/hl	cm.
2	17277	3938	76.1	70
17	TAM-103	3731	76.1	54
14	ms TAM-101/TX R-line	3588	76.1	73
16	ms TAM-103/TX R-line	3552	73.5	66
18	544	3543	73.5	75
10	ms Sturdy/TX R-line	3516	74.8	70
4	HR915A	3462	77.4	84
3	HR908	3256	77.4	74
12	ms Triumph/TX R-line	3130	74.8	74
22	585	3130	77.4	80
15	TAM-101	3085	78.7	65
1	15075	3059	77.4	73
6	HR975	3041	73.5	89
8	ms TX65A1626/TX R-line	2915	68.4	67
11	Sturdy	2825	76.1	62
21	583	2789	77.4	72
20	581	2619	73.5	73
7	Texas R-line	2601	68.4	75
9	TX65A1626	2574	74.8	57
19	571	2565	73.5	73
13	Improved Triumph	2511	76.1	66
5	HR940	2323	72.2	76
23	589	1978	74.8	68

$LSD_{.05}$ = 1884 C.V. = 29.2%

Colby, Kansas
Four replications

Entry no.	C. I. or Sel. No.	Yield	Volume weight	Plant height	Maturity[1]	Winter survival	Lodging	Shattering
		kg/ha	kg/hl	cm.		0-9	0-9	0-9
9	TX65A1626	4842	78.7	86	-3.5	8	0	0
8	ms TX65A1626/TX R-line	4640	75.3	99	-3.0	8	0	0
16	ms TAM-103/TX R-line	4438	75.6	96	-4.5	9	0	0
10	ms Sturdy/TX R-line	4371	75.6	104	-3.5	9	0	0
2	17277	4304	77.4	114	0.0	9	0	0
15	TAM-101	4304	79.5	88	-3.8	9	0	0
14	ms TAM-101/TX R-line	4236	75.9	104	-3.8	9	0	0
17	TAM-103	4236	76.5	81	-5.0	9	0	0
23	589	4102	76.5	111	-3.3	9	0	0
3	HR908	4035	77.4	101	-0.5	8	0	0
4	HR915A	4035	76.0	114	-1.3	9	0	0
7	Texas R-line	4035	71.6	99	+0.5	8	0	0
13	Improved Triumph	4035	78.2	111	-3.8	9	1	0
5	HR940	3833	75.5	111	-1.5	9	0	0
11	Sturdy	3833	77.1	88	-2.0	8	0	0
19	571	3833	76.0	111	-2.0	9	0	0
12	ms Triumph/TX R-line	3631	74.8	109	-3.3	9	0	0
18	544	3631	77.8	111	-1.0	9	0	0
1	15075	3497	75.9	111	-0.5	9	0	0
20	581	3429	75.2	114	-2.8	9	0	0
6	HR975	3228	71.6	121	+1.0	9	0	0
21	583	3228	75.9	109	-3.5	9	0	0
22	585	3228	78.0	116	-1.3	9	0	0

$LSD_{.05}$ = 471 C.V. = 8.8%

[1]/Days earlier (-) or later (+) in heading than Sage

Julesburg, Colorado
Three replications

Entry No.	C. I. or Sel. No.	Yield	Volume weight	Plant height
		kg/ha	kg/hl	cm
17	TAM-103	2125	78.7	59
23	589	2104	79.1	82
16	MS TAM-103/TX R-line	1952	76.8	64
18	544	1945	79.5	85
1	15075	1900	73.3	75
10	MS Sturdy/TX R-line	1845	74.0	71
22	585	1835	79.3	77
12	MS Triumph/TX R-line	1814	74.9	79
15	TAM-101	1807	78.9	60
8	MS TX65A1626/TX R-line	1766	73.3	67
11	Sturdy	1738	73.8	65
13	Improved Triumph	1735	77.4	76
4	HR915A	1731	73.9	78
2	17277	1728	74.8	76
3	HR908	1697	77.8	72
19	571	1690	76.1	81
7	Texas R-line	1669	69.8	71
14	MS TAM-101/TX R-line	1656	75.1	70
9	TX65A1626	1593	76.1	58
21	583	1590	76.1	75
20	581	1569	76.9	78
5	HR940	1510	76.1	75
6	HR975	1490	71.3	78

Burlington, Colorado
Three replications

Entry No.	C. I. or Sel. No.	Yield kg/ha	Volume weight kg/hl
23	589	1914	79.1
16	MS TAM-103/TX R-line	1897	76.4
18	544	1814	79.2
15	TAM-101	1797	79.2
10	MS Sturdy/TX R-line	1786	74.8
3	HR908	1773	77.1
14	MS TAM-101/TX R-line	1690	79.2
2	17277	1676	76.8
22	585	1648	79.5
1	15075	1635	75.3
12	MS Triumph/TX R-line	1631	76.2
20	581	1621	76.2
8	MS TX65A1626/TX R-line	1552	74.6
4	HR915A	1531	76.1
9	TX65A1626	1490	76.9
21	583	1448	78.0
17	TAM-103	1393	76.4
11	Sturdy	1383	76.1
13	Improved Triumph	1366	77.5
5	HR940	1355	77.1
19	571	1345	77.1
6	HR975	1273	73.9
7	Texas R-line	1165	70.9

Mead, Nebraska
Three replications

Entry no.	C. I. or Sel. No.	Yield	Volume weight	Plant height	Days to flowering	Winter survival	Lodging	Leaf rust resp.	Stem rust resp.	Mildew 1/
		kg/ha	kg/hl	cm.	from 1/1	0-9	0-9	0-9	0-9	
2	17277	3729	76.9	110	150	8	3	3	3	4
18	544	3675	77.9	112	146	7	3	7	8	3
1	15075	3594	74.4	107	149	8	3	8	-	3
22	585	3255	77.3	115	148	9	4	7	2	3
21	583	3238	76.2	101	145	9	4	7	8	4
16	ms TAM-103/TX R-line	3224	71.6	88	144	8	2	8	-	5
9	TX65A1626	3204	73.5	83	144	8	2	7	-	6
15	TAM-101	3114	73.9	83	149	7	2	8	-	5
3	HR908	3083	72.5	104	147	8	3	2	8	5
23	589	3016	75.3	99	145	8	4	7	8	2
17	TAM-103	3007	71.5	79	144	8	0	8	-	6
11	Sturdy	2964	72.9	82	147	7	1	2	-	6
4	HR915A	2955	72.2	108	148	8	2	7	8	5
10	ms Sturdy/TX R-line	2881	71.1	91	145	8	4	2	-	6
8	ms TX65A1626/TX R-line	2863	69.9	86	145	8	3	7	-	5
19	571	2827	74.8	103	146	8	3	3	8	5
14	ms TAM-101/TX R-line	2648	70.3	96	146	7	2	8	-	5
20	581	2542	72.6	102	146	8	3	3	8	5
12	ms Triumph/TX R-line	2531	72.5	105	144	8	7	8	-	3
13	Improved Triumph	2486	76.1	106	144	7	3	8	-	2
5	HR940	2372	70.9	111	150	8	2	7	8	3
7	TX R-line	2211	65.3	95	151	7	6	7	-	4
6	HR975	2053	68.8	120	155	7	2	2	2	4

$LSD_{.05}$ = 561 C.V. = 11.6%

1/ Saari method of foliar disease rating.

Clay Center, Nebraska
Three replications

Entry no.	C. I. or Sel. No.	Yield	Volume weight	Plant height	Days to flowering	Winter survival	Lodging
		kg/ha	kg/hl	cm.	from 1/1	0-9	0-9
16	ms TAM-103/TX R-line	4736	74.3	86	147	8	0
8	ms TX65A1626/TX R-line	4442	72.8	87	146	7	0
17	TAM-103	4352	75.5	81	146	9	0
15	TAM-101	4065	76.1	82	149	8	0
10	ms Sturdy/TX R-line	3969	71.7	91	148	7	0
9	TX65A1626	3850	75.5	78	145	7	0
23	589	3805	76.5	100	146	7	0
14	ms TAM-101/TX R-line	3771	72.9	92	147	7	0
2	17277	3699	77.1	107	150	8	0
1	15075	3637	75.1	101	150	8	0
13	Improved Triumph	3634	77.3	98	146	8	1
12	ms Triumph/TX R-line	3632	73.8	100	147	7	0
18	544	3610	77.7	102	148	7	0
4	HR915A	3596	77.0	104	149	9	0
22	585	3581	78.6	106	148	8	0
11	Sturdy	3525	73.1	79	147	7	0
21	583	3334	76.8	97	146	8	0
20	581	3285	73.5	110	147	8	0
19	571	3246	74.2	101	147	8	0
3	HR908	3197	73.4	99	149	8	0
7	Texas R-line	3146	68.6	89	151	5	0
5	HR940	3000	72.6	106	149	8	0
6	HR975	2926	70.7	107	155	5	0

$LSD_{.05}$ = 409 C.V. = 6.8%

Summary of Hybrid Nursery Yields

No hybrid was as productive on the average as the three check varieties Sage, TAM-101, and Centurk (Table 20). Among the hybrids, TAM-103/TX R-line, Sturdy/TX R-line, and TX65A1626/TX R-line were highest yielding on the average. Each was somewhat more productive than its parent varieties.

The yield parameters $b_{y.x}$, r, r^2 appear in Table 21. Strongest responses to changes in environment were recorded for TX65A1626, TAM-103, TAM-101, and Sage. Triumph/TX R-line, Improved Triumph, 581, and 589 were least responsive. The performance of Hybrid 585 and TAM-101 was most highly correlated with nursery mean performance.

Summary of Agronomic Data

Agronomic data for entries in the Hybrid Nursery are summarized in Table 22.

Table 20. Summary of mean yields (kg/ha) of the 23 varieties grown in the 1976 Regional Hybrid Winter Wheat Nursery at 11 sites with state means and rank.

Entry No.	Pedigree	C. I. or Sel. No.	Texas					Kansas				
			Dallas	Chillicothe	Bushland (Irr.)	Mean	Rank	Garden City	Hays	Colby	Mean	Rank
2	Sage	17277	3716	2641	5338	3898	1	3938	3387	4304	3922	1
15	TAM-101	--	3360	2007	5084	3484	4	3085	3504	4304	3751	2
1	Centurk	15075	3546	2540	4411	3499	3	3059	3149	3497	3284	11
16	MS TAM-103/TX R-line	--	3640	1971	3523	3045	17	3552	2585	4438	3558	4
10	MS Sturdy/TX R-line	--	3873	2130	4232	3412	6	3516	2585	4371	3498	6
8	MS TX65A1626/TX R-line	--	3889	2092	3884	3288	14	2915	2735	4640	3531	5
17	TAM-103	--	2909	1854	5165	3309	12	3732	2791	4236	3699	3
9	TX65A1626	--	3907	1928	5124	3653	2	2574	2816	4842	3477	7
3	Pioneer Hybrid	HR908	3907	1690	4789	3465	5	3256	3049	4035	3459	8
4	Pioneer Hybrid	HR915A	3234	1973	4689	3299	13	3462	2766	4035	3455	9
14	MS TAM-101/TX R-line	--	3443	2155	4600	3399	7	3588	2435	4236	3398	10
18	DeKalb Hybrid	544	3568	1982	4389	3313	11	3543	2491	3631	3160	13
23	DeKalb Hybrid	589	3669	2356	4030	3352	9	1978	2320	4102	2917	19
22	DeKalb Hybrid	585	3364	2056	4395	3272	15	3130	2753	3228	3022	17
5	Pioneer Hybrid	HR940	2954	2197	4970	3374	8	2323	2641	3833	3032	16
11	Sturdy	--	3194	1758	4454	3135	16	2825	2943	3833	3237	12
12	MS Triumph/TX R-line	--	3254	2262	3354	2957	20	3130	1930	3631	2877	20
19	DeKalb Hybrid	571	3167	1771	3853	2930	22	2565	2565	3833	3107	14
7	Texas R-line	--	3550	2076	3455	3027	19	2601	2376	4035	3069	15
13	Improved Triumph	--	2557	2430	3848	2945	21	2511	2275	4035	2985	18
6	Pioneer Hybrid	HR975	3308	2170	4494	3324	10	3041	2618	3228	2842	21
21	DeKalb Hybrid	583	3445	1935	3735	3038	18	2789	2417	3228	2790	23
20	DeKalb Hybrid	581	3035	1852	3837	2908	23	2619	2365	3429	2815	22
		Mean	3413	2079	4333	3275		3032	2674	3956	3256	
		LSD .05	562	274	835	677		1834	573	471	643	
		C.V.	10.0%	8.0%	11.7%	11.2%		29.2%	13.0%	8.8%	15.9%	

Table 20. (Concluded)

Entry No.	C. I. or Sel. No.	Oklahoma				Nebraska				Colorado				11-station mean
		Stillwater	Lahoma	Mean	Rank	Mead	Clay Center	Mean	Rank	Julesburg	Burlington	Mean	Rank	
2	17277	3139	3980	3559	2	3729	3699	3714	2	1728	1676	1702	11	3438
15	TAM-101	2545	3811	3178	6	3114	4065	3590	7	1807	1797	1802	5	3222
1	15075	3453	3677	3565	1	3594	3637	3616	6	1900	1635	1767	1	3184
16	MS TAM-103/TX R-line	2791	3307	3049	13	3224	4736	3980	1	1952	1897	1925	2	3131
10	MS Sturdy/TX R-line	2791	3374	3083	11	2881	3969	3425	9	1845	1786	1816	4	3104
8	MS TX65A1626/TX R-line	2724	3374	3049	12	2863	4442	3652	4	1766	1552	1659	13	3086
17	TAM-103	2186	2870	2528	23	3007	4352	3680	3	2125	1393	1759	7	3062
9	TX65A1626	2679	2634	2657	20	3204	3850	3527	8	1593	1490	1542	18	3058
3	HR908	2578	3643	3111	9	3083	3197	3140	16	1697	1773	1735	9	3051
4	HR915A	2590	3901	3246	4	2955	3596	3276	13	1731	1531	1631	14	3036
14	MS TAM-101/TX R-line	2578	3588	3083	10	2648	3771	3210	15	1656	1690	1673	12	3016
18	544	2231	3240	2735	19	3675	3610	3643	5	1945	1814	1880	3	2990
23	589	2657	3296	2977	14	3016	3805	3410	11	2104	1914	2009	1	2968
22	585	2567	3318	2943	15	3255	3581	3418	10	1835	1648	1742	8	2921
5	HR940	2836	3958	3397	3	2372	3000	2686	21	1510	1355	1433	21	2849
11	Sturdy	2432	3679	2556	22	2964	3525	3244	14	1738	1383	1561	16	2808
12	MS Triumph/TX R-line	2881	3374	3128	7	2531	3632	3082	17	1814	1631	1723	10	2778
19	571	2567	3184	2876	16	2827	3246	3037	19	1690	1345	1518	20	2737
7	Texas R-line	2848	3576	3212	5	2211	3146	2678	22	1669	1165	1417	22	2733
13	Improved Triumph	2567	3027	2797	17	2486	3634	3060	18	1735	1366	1550	17	2709
6	HR975	2500	3733	3116	8	2053	2926	2490	23	1490	1273	1381	23	2702
21	583	2242	2993	2618	21	3238	3334	3286	12	1590	1448	1519	19	2692
20	581	2321	3262	2792	18	2542	3285	2914	20	1569	1621	1595	15	2643
	Mean	2639	3383	3011		2934	3654	3294		1760	1573	1667		2953
	LSD .05	336	415	511		561	409	712		335	401	273		279
	C.V.	7.7%	7.5%	7.6%		11.6%	6.8%	9.1%		11.6%	15.5%	13.5%		12.0%

Table 21. Mean yield (kg/ha), regression coefficient, correlation coefficient, and coefficient of determination from linear regression analysis of the 23 lines grown at 11 sites in the 1976 Regional Hybrid Winter Wheat Performance Nursery.

1976 Entry No.	C. I. or Selection Number	Mean yield over 11 locations	Regression coefficient (by·x)	Correlation coefficient (r)	Coefficient of determination (r^2)
2	17277	3438	1.21	.91	.82
15	TAM-101	3222	1.23	.92	.84
1	15075	3184	.94	.90	.81
16	MS TAM-103/TX R-Line	3131	.94	.75	.57
10	MS Sturdy/TX R-Line	3104	1.03	.88	.77
8	MS TX65A1626/TX R-Line	3086	1.10	.84	.70
17	TAM-103	3062	1.24	.83	.69
9	TX65A1626	3058	1.31	.88	.78
3	HR908	3051	1.14	.87	.76
4	HR915A	3036	1.15	.88	.77
14	MS TAM-101/TX R-Line	3016	1.11	.84	.70
18	544	2990	.97	.86	.74
23	589	2968	.89	.75	.56
22	585	2921	.97	.93	.86
5	HR940	2849	1.16	.87	.76
11	Sturdy	2808	1.04	.91	.82
12	MS Triumph/TX R-Line	2778	.77	.81	.66
19	571	2737	.96	.87	.75
7	Texas R-Line	2733	.92	.81	.66
13	Improved Triumph	2709	.86	.82	.67
6	HR975	2702	1.03	.89	.79
21	583	2692	.90	.91	.83
20	581	2643	.89	.89	.80

Table 22. Summary of agronomic and yield data for varieties grown in the 1976 Regional Hybrid Winter Wheat Nursery.

Entry No.	Pedigree	C. I. or Sel. No.	Days to head from 1/1	Plant height cm	Lodging 0-9	Winter survival 0-9	Shattering 1-9	Average seed wt. mg
		Number of trials	5	10	3	2	1	1
2	Sage	17277	121	79	2	8	3	33.2
15	TAM-101	--	117	64	1	8	2	37.6
1	Centurk	15075	119	75	1	8	6	27.7
16	MS TAM-103/TX R-line	--	113	64	1	8	7	33.2
10	MS Sturdy/TX R-line	--	115	68	2	8	4	34.9
8	MS TX65A1626/TX R-line	--	114	66	1	8	5	35.1
17	TAM-103	--	112	58	0	8	4	27.0
9	TX65A1626	--	114	61	1	8	3	32.5
3	Pioneer Hybrid	HR908	117	72	1	8	4	32.2
4	Pioneer Hybrid	HR915A	120	79	1	9	4	30.1
14	MS TAM-101/TX R-line	--	115	70	1	7	6	34.5
18	DeKalb Hybrid	544	116	79	1	7	2	37.7
23	DeKalb Hybrid	589	113	73	2	8	6	46.1
22	DeKalb Hybrid	585	117	80	2	9	4	31.9
5	Pioneer Hybrid	HR940	123	81	1	8	2	30.4
11	Sturdy	--	115	62	0	7	5	31.0
12	MS Triumph/TX R-line	--	114	75	4	8	8	36.5
19	DeKalb Hybrid	571	115	75	1	8	5	32.8
7	Texas R-line	--	121	71	3	6	5	33.5
13	Improved Triumph	--	114	74	3	8	5	35.0
6	Pioneer Hybrid	HR975	122	84	1	6	4	30.2
21	DeKalb Hybrid	583	114	74	2	9	4	32.3
20	DeKalb Hybrid	581	115	76	2	8	5	30.1

Table 22. (Concluded)

Entry No.	C. I. or Sel. No.	Leaf Rust Sev. %	Leaf Rust Resp.	Mildew Sev. %	Mildew Resp.	Septoria 1-9	Volume weight kg/hl	Yield kg/ha
	Number of trials	2	3	1	2	1	11	12
2	17277	16	MS	5	R	3	77.2	3438
15	TAM-101	37	S	35	MR	5	77.1	3222
1	15075	37	S	T	VR	5	77.2	3184
16	MS TAM-103/TX R-line	73	S	20	MR	5	75.0	3131
10	MS Sturdy/TX R-line	27	MS	30	MR	5	74.5	3104
8	MS TX65A1626/TX R-line	30	S	35	MR	5	73.8	3086
17	TAM-103	80	S	25	MR	5	75.8	3062
9	TX65A1626	25	S	30	M	5	75.2	3058
3	HR908	33	MS	15	MR	5	76.5	3051
4	HR915A	47	S	35	MR	5	77.2	3036
14	MS TAM-101/TX R-line	28	S	30	MR	5	74.9	3016
18	544	37	S	20	R	4	77.2	2990
23	589	37	S	25	R	5	77.3	2968
22	585	27	S	10	R	5	78.1	2921
5	HR940	37	S	30	R	5	76.4	2849
11	Sturdy	11	M	35	M	5	75.7	2808
12	MS Triumph/TX R-line	60	S	30	R	5	75.8	2778
19	571	30	MS	25	MR	5	76.3	2737
7	Texas R-line	40	S	25	R	5	71.1	2733
13	Improved Triumph	73	S	10	VR	5	77.5	2709
6	HR975	25	MS	45	MR	5	74.6	2702
21	583	33	S	20	R	3	76.7	2692
20	581	17	MS	25	MR	5	75.9	2643

QUALITY DATA

Composites of 1-lb. samples of each SRPN and NRPN entry from each harvested site are evaluated at the Hard Red Winter Wheat Quality Laboratory in Manhattan, Kansas. Results are reported to cooperators by K. F. Finney.

UNIFORM WINTERHARDINESS NURSERY

The nursery is comprised of Southern and Northern Materials Sections. The Southern Section contained 216 entries and the Northern Section 296 entries in 1976. Survival data were reported from Mead, NE; St. Paul, MN; Brookings, SD; and Casselton, ND (see nursery listings and survival data in tabulations that follow).

SOIL-BORNE MOSAIC NURSERY

Entries in the Soil-borne Mosaic Nursery in 1976 totaled 142. Data were obtained from all sites at which the nursery was grown. Listing of entries and field infection data follow.

Corrected list
(to replace initial list)

1976
Uniform Winterhardiness Nursery
(Southern Materials Section)

Entry No.	Variety or Pedigree	C.I. or Sel. No.	Source
1	Warrior	13190	Check
2	Kharkof	1442	SRPN
3	Sage	17277	"
4	II21183/C0652643//Lancer/KS62136	C0725049	"
5	" "	C0725082	"
6	" "	C0725061	"
7	CIMMYT/Scout	KS73112	"
8	" "	KS73114	"
9	" "	KS73167	"
10	Scout 66	13996	Check
11	CIMMYT/Scout	KS73253	SRPN
12	" "	KS73261	"
13	Centurk Selection	NE69291	"
14	Centurk	15075	"
15	Buckskin/Homestead	NE73491	"
16	" "	NE73641	"
17	" "	NE73644	"
18	" "	NE73649	"
19	Pnc/3*Cnn/3/Ky58/Nth/2/2*Cnn/Tm /Mi/Hope/4/Scout	NE69442	"
20	Tascosa	13023	Check
21	Ottawa/5*Scout	KS70H210	NRPN
22	II21183/C0652643//Lancer/KS62136	C0725055	"
23	Winoka//Jaral 66/Minter	SD7143	"
24	II21031/Trapper//C0652363	C0701733	"
25	SS/12500//RCh/Pn/3/Cnn/4/Kaw/Sk// 2*Cnn	SD713-11	"
26	Yogo*3/Cnn Sel. 2-3-13-6	MT6715	"
27	NE63265/Hume/3/Yogo/Fta//2*Minter	ND7121	"
28	62A2712-7/Centurk	TX71A801	SRPN
29	Short Wheat/Scout	TX69A418-2	"
30	Warrior	13190	Check
31	Short Wheat/Scout	TX69A569-1	SRPN
32	62A2782-8/Centurk	TX73A2694	"
33	Red River 68/Trapper	TX73A2798	"
34	Triumph 64/T_1//Sturdy	OK711092A	"
35	" "	OK711092B	"
36	Tascosa/T_1//Sturdy	OK711252A	"
37	Tascosa/T_1//Parker	OK722721	"
38	" "	OK722692	"
39	Scout/Tascosa	KS73H441	"
40	Scout 66	13996	Check
41	Buckskin/Homestead	NE73481	Nebr.
42	" "	NE73640	"
43	" "	NE73647	"

1976 UWHN (Southern Materials Section) continued

Entry No.	Variety or Pedigree	C.I. or Sel. No.	Source
44	Buckskin/Homestead	NE73656	Nebr.
45	Sentinel/Centurk	NE73510	"
46	Red Coat/5/Pn//Cnn/3/Pn/2/Ky58/ 4/Cnn	NE73564	"
47	Homestead//Gage/Lancer	NE73591	"
48	Pnc/3*Cnn/Il 1-Cns*2/Tt/CTMH/S60/ MM/Ech/Rm/2*(H-T-C)Pnc/2*Cnn	NE73833	"
49	" "	NE73835	"
50	Tascosa	13023	Check
51	Pnc/3*Cnn/Il 1-Cns*2/Tt/CTMH/S60/ MM/Ech/Rm/2*(H-T-C)Pnc/2*Cnn	NE73836	Nebr.
52	" "	NE73843	"
53	NB66403//391-56-D1-8/Tmp	NE74513	"
54	NE66403//391-56-D1-8/Tcs	NE74515	"
55	" "	NE74516	"
56	Centurk/Gage Sel.	NE74531	"
57	391-56-D1-8/Tcs//Sentinel	NE74544	"
58	" "	NE74546	"
59	391-56-D1-8/Tcs/6/Nbr/3/RCh/5/ Ky58/Nth/2/CTMH//Pn/Cnn/4/Lancer	NE74552	"
60	Warrior	13190	Check
61	391-56-D1-8/Tcs/6/Nbr/3/RCh/5/ Ky58/Nth/2/CTMH//Pn/Cnn/4/Lancer	NE74553	Nebr.
62	" "	NE74555	"
63	Homestead/MM/Ech/Rm/2*(HTC)//Pnc/ 2*Cnn	NE74562	"
64	Mara/2*Scout//Homestead	NE74603	"
65	" "	NE74607	"
66	" "	NE74611	"
67	Mara/2*Scout//Sentinel	NE74643	"
68	" "	NE74646	"
69	" "	NE74649	"
70	Scout 66	13996	Check
71	Mara/2*Scout/3/Trader/2/391-56- D1/Tsc	NE74653	Nebr.
72	Pnc/2*Cnn/5/Il 1/2*Cns//Tt/3/ CTMH/4/S60/6/Ctk Sel	NE74662	"
73	MM/Ech/Rm/2*(HTC)/3/Pnc/2*Cnn/ 4/Homestead	NE74667	"
74	Sentinel/HiPlains	NE74716	"
75	" "	NE74726	"
76	Pnc/2*Cnn/5/Il 1/2*Cns//Tt/3/ (CTMH)/4/S60/6/Guide	NE74733	"
77	" "	NE74734	"
78	Pnc/2*Cnn/5/Il 1/2*Cns//Tt/ (CTMH)/4/S60/6/Ctk	NE74736	"
79	Atr/3/Lcr/2/Pnc/Cnn	NE74773	"
80	Tascosa	13023	Check

1976 UWHN (Southern Materials Section) continued

Entry No.	Variety or Pedigree	C.I. or Sel. No.	Source
81	Pnc/2*Cnn/5/Il.1/2*Cns//Tt/3/(CTMH) /4/S60/8/Ftn/6/Cnn/7/Lcr	NE74841	Nebr.
82	" "	NE74848	Nebr.
83	Scout*5/Agent//Centurk	NE74866	Nebr.
84	Pnc/2*Cnn/5/Il.1/2*Cns//Tt/3/(CTMH) /4/S60/6/Homestead	NE74906	Nebr.
85	Tobari 66/Sk/2*Cnn/3/Homestead	NE74925	Nebr.
86	Scout*5/Agent/6/Sut/5/Ky58/Nth/4/ CTMH/3/Pn//Cnn	NE74974	Nebr.
87	Scout*5/Agent//Pn/Cnn	NE74977	Nebr.
88	TX1682/3/Sel.14-53/2/Atlas 66/Cmn	NE75L10014	Nebr.
89	Ctk/3/Aiv/CI13857/2/Sel. 14-15	NE75L10035	Nebr.
90	Warrior	13190	Check
91	NE69633/4/Suwon 85/3/Atl 66/Cmn /2/Hume	NE75L10174	Nebr.
92	NE69633/4/Atl 66/Cmn/2/Wrr/3/ NE69655	NE75L10180	Nebr.
93	Sel. 14-50-3/Centurk	NE75L10309	Nebr.
94	Sel. 14-53/3/Lcr/2/Atl 66/Cmn	NE75L10330	Nebr.
95	Sel. 14-53//Atl 66/Cmn	NE75L10393	Nebr.
96	Ctk/3/Fert. Rest. 3240/2/Tmp/ CI12406	NE75L10470	Nebr.
97	Atlas 66/Cmn//NE69690	NE75L10591	Nebr.
98	Atlas 66/Cmn//NE69655	NE75L10624	Nebr.
99	NE69566/Sel. 14-50-3	NE75L10824	Nebr.
100	Scout 66	13996	Check
101	Atlas 66/Cmn//Centurk	NE75L10831	Nebr.
102	Atlas 66/Cmn//Sel 14-50-3	NE75L10861	Nebr.
103	Parker/TX65A1682	IL71-5838	SRPN
104	Gage/TX65A1682	IL72-2489	SRPN
105	CIMMYT/Scout	KS73112	Kans.
106	" "	KS73114	Kans.
107	" "	KS73118	Kans.
108	" "	KS73138	Kans.
109	" "	KS73141	Kans.
110	Tascosa	13023	Check
111	CIMMYT/Scout	KS73148	Kans.
112	" "	KS73159	Kans.
113	" "	KS73164	Kans.
114	" "	KS73167	Kans.
115	" "	KS73229	Kans.
116	" "	KS73248	Kans.
117	" "	KS73253	Kans.
118	" "	KS73256	Kans.
119	" "	KS73261	Kans.
120	Warrior	13190	Check

1976 UWHN (Southern Materials Section)

Entry No.	Variety or Pedigree	C.I. or Sel. No.	Source
121	CIMMYT/Scout	KS73263	Kans.
122	" "	KS73277	Kans.
123	" "	KS7598	Kans.
124	" "	KS75103	Kans.
125	" "	KS75104	Kans.
126	" "	KS75119	Kans.
127	" "	KS75120	Kans.
128	" "	KS75121	Kans.
129	" "	KS75122	Kans.
130	Scout 66	13996	Check
131	CIMMYT/Scout	KS75127	Kans.
132	" "	KS75129	Kans.
133	" "	KS75133	Kans.
134	" "	KS75146	Kans.
135	" "	KS75148	Kans.
136	" "	KS75170	Kans.
137	" "	KS75172	Kans.
138	" "	KS75177	Kans.
139	" "	KS75178	Kans.
140	Tascosa	13023	Check
141	CIMMYT/Scout	KS75190	Kans.
142	" "	KS75192	Kans.
143	" "	KS75193	Kans.
144	" "	KS75199	Kans.
145	" "	KS75204	Kans.
146	" "	KS75210	Kans.
147	" "	KS75211	Kans.
148	" "	KS75212	Kans.
149	" "	KS75213	Kans.
150	Warrior	13190	Check
151	CIMMYT/Scout	KS75216	Kans.
152	" "	KS75219	Kans.
153	Scout sel, KS65637/Sturdy	KS75234	Kans.
154	" "	KS75236	Kans.
155	Bezostaya/Eagle	KS74H4	Kans.
156	" "	KS74H7	Kans.
157	" "	KS74H12	Kans.
158	" "	KS74H14	Kans.
159	" "	KS74H20	Kans.
160	Scout 66	13996	Check
161	Bezostaya/Eagle	KS74H30	Kans.
162	" "	KS74H37	Kans.
163	" "	KS74H41	Kans.
164	" "	KS74H48	Kans.
165	" "	KS74H54	Kans.
166	F61-70	--	Kans.
167	F172-68	--	Kans.
168	LIH62-10	--	Kans.
169	Lovrin 12	--	Kans.

1976 UWHN (Southern Materials Section) concluded

Entry No.	Variety or Pedigree	C.I. or Sel. No.	Source
170	Tascosa	13023	Check
171	Lovrin 139-4	--	Kans.
172	Sks/Sdy	OK722364	Okla.
173	" "	OK722317	Okla.
174	Tcs/T_1//Pkr	OK722721	Okla.
175	" "	OK722692	Okla.
176	K.R./Scout 66	OK722054	Okla.
177	Sdy/Tmp 64	OK722970	Okla.
178	Sdy/C.I. 13875	OK737160	Okla.
179	Crc/Danne	OK737115	Okla.
180	Warrior	13190	Check
181	Pkr/Sdy	OK737030	Okla.
182	Sdy/Ctk	OK737267	Okla.
183	" "	OK737290	Okla.
184	Crc//Sks/Kaw 61	OK737837	Okla.
185	Tcs/T_1//Tmp 64	OK738124	Okla.
186	Tcs/T_1//Sdy	OK738427	Okla.
187	Sks/Sdy	OK738377	Okla.
188	Kr/Scout 66	OK738354	Okla.
189	Sdy/Ctk	OK741902	Okla.
190	Scout 66	13996	Check
191	Sdy/Ctk	OK741904	Okla.
192	Sdy/Ctk//Sdy/C.I. 13875	OK748077	Okla.
193	" "	OK748079	Okla.
194	" "	OK748084	Okla.
195	" "	OK748094	Okla.
196	" "	OK748099	Okla.
197	Ok627426/Tx62A2607-6	OK747078	Okla.
198	" "	OK747086	Okla.
199	" "	KS747096	Okla.
200	Tascosa	13023	Check
201	Ok627426/Tx62A2607-6	OK747104	Okla.
202	" "	OK747108	Okla.
203	Sdy/Pkr//D145B4	OK747548	Okla.
204	Sdy/Tmp 64//Ctk	OK747679	Okla.
205	" "	OK747707	Okla.
206	K.R./Tam w 101	OK747409	Okla.
207	Sdy/Ok66C3003//Ctk	OK747715	Okla.
208	" "	OK747745	Okla.
209	" "	OK747747	Okla.
210	Warrior	13190	Check
211	Sdy/Ctk//D145B4	OK747797	Okla.
212	Crc/Bhr//Ncm	OK747878	Okla.
213	Tmp/C.I. 12406//Sdy/3/	OK747762	Okla.
214	Bezo//Pkr/Sdy	OK747990	Okla.
215	Ncm/Bezo//Sdy/Fertodi	OK748148	Okla.
216	Scout 66	13996	Check

Survival data for the 1976 Uniform Winterhardiness Nursery
(Southern Materials Section)

Entry	Mead, NE			St. Paul, MN			Brookings, SD[2]			Casselton, ND			Three station[3]
no.	Rep I	Rep II	$\bar{x}$	Rep I	Rep II	$\bar{x}$	Rep I	Rep II	$\bar{x}$	Rep I	Rep II	$\bar{x}$	mean
1	100	100	100	100	100	100	100	70	85	100	80	90	97
2	100	95	98	90	100	95	95	60	78	100	100	100	98
3	100	95	98	100	100	100	80	20	50	100	80	90	96
4	85	80	83	90	80	85	5	0	3	80	80	80	83
5	85	75	80	80	60	70	1	0	1	40	100	70	73
6	85	90	88	100	90	95	10	5	8	60	100	80	88
7	90	90	90	80	85	83	20	5	13	80	80	80	84
8	70	70	70	100	60	80	2	1	2	10	30	20	57
9	80	80	80	90	70	80	10	10	10	50	60	55	72
10	100	100	100	100	100	100	60	50	55	100	100	100	100
11	85	75	80	90	100	95	20	10	15	70	80	75	83
12	90	75	83	80	90	85	10	10	10	80	80	80	83
13	95	100	98	75	100	88	70	60	65	100	100	100	95
14	95	100	98	60	100	80	--	40		100	100	100	93
15	100	100	100	80	100	90	30	60	45	100	100	100	97
16	100	100	100	90	100	95	--	60		100	100	100	98
17	95	100	98	100	100	100	40	80	60	100	100	100	99
18	95	95	95	100	100	100	10	80	45	100	100	100	98
19	95	95	95	100	100	100	50	95	73	100	100	100	98
20	95	85	90	80	70	75	0	1	1	20	30	25	63
21	95	95	95	100	100	100	5	50	28	100	100	100	98
22	95	85	90	75	70	73	1	10	6	80	80	80	81
23	100	90	95	90	100	95	50	90	70	100	100	100	97
24	100	100	100	90	100	95	20	50	35	100	100	100	98
25	[1]	100		100	100	100	30	30	30	60	100	80	92
26	100	100	100	100	100	100	60	50	55	80	100	90	97
27	100	100	100	100	100	100	80	100	90	100	100	100	100
28	90	85	88	100	100	100	5	5	5	50	30	40	76
29	90	95	93	100	100	100	10	2	6	70	70	70	88
30	100	100	100	100	100	100	100	60	80	100	100	100	100
31	100	100	100	100	90	95	60	30	45	90	100	95	97
32	95	100	98	100	90	95	40	20	30	80	70	75	89
33	60	60	60	100	90	95	--	10		60	20	40	65
34	95	95	95	100	90	95	--	30		100	80	90	93
35	100	95	98	100	90	95	--	50		80	80	80	91
36	100	100	100	100	90	95	--	70		70	70	70	88
37	95	95	95	100	90	95	--	80		60	80	70	87
38	95	95	95	100	100	100	--	70		50	90	70	88
39	95	95	95	100	100	100	--	50		60	60	60	85
40	100	100	100	100	100	100	--	--		100	90	95	98
41	100	95	98	100	100	100	--	90		80	80	80	93
42	100	95	98	100	100	100	--	--		100	80	90	96
43	100	95	98	100	100	100	--	80		100	100	100	99
44	100	100	100	100	100	100	--	90		100	100	100	100
45	100	100	100	100	100	100	--	100		100	100	100	100

Survival data 1976 UWHN (Southern Materials Section) continued

Entry no.	Mead, NE			St. Paul, MN			Brookings, SD			Casselton, ND			Three 3/ station mean
	Rep I	Rep II	$\bar{x}$	Rep I	Rep II	$\bar{x}$	Rep I	Rep II	$\bar{x}$	Rep I	Rep II	$\bar{x}$	
46	85	95	90	100	100	100	--	95		100	30	65	85
47	95	95	95	100	100	100	--	95		80	60	70	88
48	90	100	95	90	100	95	--	100		30	70	50	80
49	90	95	93	100	100	100	--	100		20	70	45	79
50	90	80	85	100	80	90	--	80		1	10	5	60
51	100	90	95	100	100	100	--	70		20	100	60	85
52	95	90	93	100	100	100	--	70		40	100	70	88
53	95	100	98	90	100	95	--	100		50	100	75	89
54	95	95	95	100	100	100	--	95		40	100	70	88
55	90	100	95	100	100	100	--	95		100	100	100	98
56	90	100	95	100	100	100	--	--		100	100	100	98
57	100	95	98	100	100	100	--	--		100	100	100	99
58	100	95	98	100	100	100	--	--		100	100	100	99
59	95	95	95	90	100	95	--	--		100	100	100	97
60	100	100	100	100	100	100	--	--		100	100	100	100
61	95	95	95	100	100	100	--	--		100	100	100	98
62	95	95	95	100	100	100	--	--		100	100	100	98
63	95	95	95	100	100	100	--	--		100	100	100	98
64	95	100	98	100	100	100	--	--		100	100	100	99
65	65	75	70	100	100	100	--	--		100	100	100	90
66	90	90	90	100	100	100	--	--		100	100	100	97
67	100	100	100	100	100	100	--	--		70	100	85	95
68	100	100	100	100	100	100	--	--		70	100	85	95
69	95	100	98	100	100	100	--	--		100	100	100	99
70	95	100	98	100	100	100	--	--		100	100	100	99
71	100	95	98	100	100	100	--	--		60	100	80	93
72	95	100	98	100	100	100	--	--		50	100	75	91
73	100	100	100	90	100	95	--	--		100	100	100	98
74	100	100	100	100	100	100	--	--		100	100	100	100
75	100	100	100	100	100	100	--	--		100	100	100	100
76	95	90	93	100	100	100	--	--		40	80	60	84
77	90	95	93	100	100	100	--	--		60	50	55	83
78	90	95	93	100	100	100	--	--		70	60	65	86
79	90	100	95	100	100	100	--	--		90	100	95	97
80	95	85	90	100	80	90	--	--		20	0	10	63
81	95	95	95	100	100	100	--	--		100	100	100	98
82	100	100	100	100	100	100	--	--		100	20	60	87
83	100	100	100	90	100	95	--	--		100	100	100	98
84	95	100	98	100	100	100	--	--		100	100	100	99
85	90	90	90	90	100	95	--	--		100	100	100	95
86	90	95	93	90	100	95	--	--		100	100	100	96
87	90	100	95	90	100	95	--	--		50	100	75	88
88	85	75	80	100	90	95	--	--		5	5	5	60
89	1/	85		100	100	100	--	--		70	80	75	73
90	100	100	100	90	100	95	--	--		100	100	100	98
91	95	80	88	85	90	88	--	--		100	60	80	85
92	85	90	88	90	100	95	--	--		100	70	85	89
93	100	80	90	90	100	95	--	--		60	60	60	82
94	85	90	88	90	100	95	--	--		100	100	100	94
95	85	90	88	100	100	100	--	--		80	80	80	89

Survival data 1976 UWHN (Southern Materials Section) continued

Entry no.	Mead, NE			St. Paul, MN			Brookings, SD			Casselton, ND			Three[3/] station mean
	Rep I	Rep II	$\bar{x}$	Rep I	Rep II	$\bar{x}$	Rep I	Rep II	$\bar{x}$	Rep I	Rep II	$\bar{x}$	
96	85	95	90	100	90	95	--	--		100	100	100	95
97	95	95	95	90	70	80	--	--		60	60	60	78
98	90	90	90	90	70	80	--	--		50	30	40	70
99	90	90	90	100	100	100	--	--		40	10	25	72
100	100	100	100	100	100	100	--	--		100	100	100	100
101	95	95	95	100	100	100	100	--		100	100	100	98
102	95	95	95	100	80	90	100	--		100	100	100	95
103	90	90	90	80	75	78	40	--		60	60	60	76
104	95	95	95	80	75	78	20	--		100	60	80	84
105	80	60	70	70	10	40	20	--		60	80	70	60
106	80	50	65	100	70	85	60	--		10	10	10	53
107	80	60	70	100	90	95	60	--		50	80	65	77
108	60	35	48	80	60	70	10	--		20	40	30	49
109	60	60	60	90	80	85	--	--		20	10	15	53
110	80	90	85	90	80	85	--	--		5	10	8	59
111	25	20	23	50	40	45	--	--		5	5	5	24
112	20	25	23	50	50	50	--	--		5	10	8	27
113	70	70	70	85	90	88	--	--		60	20	40	66
114	75	65	70	100	90	95	--	--		80	80	80	82
115	75	60	68	100	100	100	--	--		100	60	80	83
116	60	40	50	80	85	83	--	--		70	20	45	59
117	65	50	58	90	100	95	--	--		80	50	65	73
118	65	60	63	80	80	80	--	--		70	10	40	61
119	90	60	75	80	90	85	--	--		70	60	65	75
120	100	100	100	100	100	100	--	--		100	100	100	100
121	60	60	60	90	90	90	--	--		90	60	75	75
122	80	50	65	90	100	95	--	--		80	30	55	72
123	85	50	68	90	100	95	--	--		80	30	55	73
124	55	20	38	40	90	65	--	--		60	1	30	44
125	55	25	40	90	85	88	--	--		60	5	33	53
126	70	70	70	100	100	100	--	--		50	20	35	68
127	75	70	73	100	100	100	--	--		100	60	80	84
128	70	60	65	90	70	80	--	--		80	5	43	63
129	60	60	60	100	80	90	--	--		50	5	28	59
130	100	100	100	100	100	100	--	--		100	100	100	100
131	60	30	45	80	80	80	--	--		50	1	25	50
132	50	15	33	80	80	80	--	--		20	0	10	41
133	55	[1/]		80	85	83	--	--		20	1	10	48
134	55	55	55	90	100	95	--	--		50	30	40	63
135	45	30	38	50	60	55	--	--		30	10	20	38
136	70	50	60	40	60	50	--	--		30	20	25	45
137	70	50	60	20	60	40	10	--		5	10	8	36
138	60	50	55	90	100	95	--	--		30	40	35	62
139	55	60	58	70	85	78	50	--		30	70	50	62
140	90	95	93	85	85	85	20	--		10	5	8	62

Survival data 1976 UWHN (Southern Materials Section) continued

Entry no.	Mead, NE			St. Paul, MN			Brookings, SD			Casselton, ND			Three 3/ station mean
	Rep I	Rep II	x̄	Rep I	Rep II	x̄	Rep I	Rep II	x̄	Rep I	Rep II	x̄	
141	20	15	18	40	60	50	20	--		1	1	1	23
142	40	50	45	50	100	75	90	--		20	40	30	50
143	45	60	53	40	70	55	60	--		20	50	35	48
144	15	40	28	10	10	10	10	--		1	5	3	14
145	25	25	25	5	5	5	10	--		1	1	1	10
146	65	55	60	90	70	80	95	--		30	60	45	62
147	50	55	53	70	90	80	85	--		30	40	35	56
148	45	35	40	5	70	38	70	--		5	1	3	27
149	60	60	60	10	60	35	95	--		10	20	15	37
150	95	95	95	90	100	95	95	--		100	100	100	98
151	80	80	80	80	100	90	70	--		50	20	35	68
152	65	65	65	80	100	90	--	--		40	10	25	60
153	1/	55		90	100	95	80	--		80	30	55	59
154	90	65	78	100	100	100	90	--		80	80	80	86
155	85	75	80	90	100	95	90	--		100	100	100	92
156	75	55	65	90	90	90	90	--		40	30	35	63
157	85	85	85	100	100	100	90	--		100	100	100	95
158	85	85	85	90	100	95	80	--		30	80	55	78
159	90	90	90	85	100	93	60	--		20	60	40	74
160	100	100	100	100	100	100	70	90	80	70	100	85	95
161	90	85	88	90	100	95	40	80	60	50	80	65	83
162	75	35	55	90	100	95	70	70	70	60	40	50	67
163	85	85	85	90	100	95	80	80	80	80	50	65	82
164	85	60	73	100	100	100	60	60	60	80	40	60	78
165	90	90	90	100	100	100	90	90	90	90	100	95	95
166	1	1	1	2	20	11	5	5	5	0	0	0	4
167	15	10	13	100	100	100	50	50	50	1	1	1	38
168	30	20	25	100	100	100	20	90	55	5	2	4	43
169	40	30	35	100	100	100	70	70	70	50	20	35	57
170	90	90	90	100	100	100	70	70	70	30	40	35	75
171	10	1	6	100	100	100	30	10	20	1	1	1	36
172	90	85	88	100	100	100	50	60	55	30	10	20	69
173	80	60	70	100	100	100	80	60	70	30	30	30	67
174	100	70	85	100	100	100	100	80	90	60	100	80	88
175	90	80	85	100	100	100	100	70	85	80	100	90	92
176	85	70	78	100	100	100	90	--		100	100	100	93
177	90	55	73	100	80	90	60	10	35	50	30	40	68
178	95	80	88	100	100	100	90	--		40	70	55	81
179	90	90	90	100	100	100	100	30	65	50	100	75	88
180	100	100	100	100	100	100	100	70	85	100	100	100	100
181	90	75	83	90	100	95	90	60	75	100	100	100	93
182	90	75	83	100	90	95	90	60	75	40	80	60	79
183	100	95	98	100	100	100	90	60	75	80	70	75	91
184	85	60	73	100	100	100	10	20	15	10	20	15	63
185	95	95	95	100	90	95	50	90	70	50	70	60	83
186	90	80	85	100	90	95	30	80	55	1	30	15	65
187	90	90	90	100	100	100	5	50	28	1	20	11	67
188	95	95	95	100	100	100	20	40	30	100	80	90	95

Survival data 1976 UWHN (Southern Materials Section) concluded

Entry no.	Mead, NE			St. Paul, MN			Brookings, SD			Casselton, ND			Three[3] station mean
	Rep I	Rep II	$\bar{x}$	Rep I	Rep II	$\bar{x}$	Rep I	Rep II	$\bar{x}$	Rep I	Rep II	$\bar{x}$	
189	95	85	90	100	100	100	20	70	45	80	60	70	87
190	95	75	85	100	90	95	20	80	50	60	100	80	87
191	95	90	93	100	100	100	10	70	40	50	100	75	89
192	90	70	80	100	100	100	--	70		50	100	75	85
193	85	70	78	100	100	100	--	80		40	100	70	83
194	85	80	83	100	100	100	--	90		50	100	75	86
195	90	85	88	100	100	100	--	90		50	100	75	88
196	90	75	83	90	100	95	--	80		20	100	60	79
197	85	75	80	100	100	100	--	95		50	100	75	85
198	75	75	75	90	100	95	--	95		60	100	80	83
199	80	80	80	100	100	100	--	90		50	100	75	85
200	80	75	78	100	100	100	--	80		10	40	25	68
201	90	90	90	100	100	100	--	95		30	60	45	78
202	85	80	83	100	100	100	--	95		30	100	65	83
203	90	90	90	100	100	100	--	90		30	80	55	82
204	95	95	95	100	100	100	--	90		70	100	85	93
205	70	90	80	100	100	100	--	--		90	100	95	92
206	50	60	55	100	100	100	--	60		70	60	65	73
207	95	95	95	100	100	100	--	--		100	70	85	93
208	80	80	80	100	100	100	--	95		90	100	95	92
209	80	75	78	100	100	100	--	95		20	60	40	73
210	95	95	95	100	100	100	--	100		100	100	100	98
211	85	75	80	100	100	100	--	95		50	70	60	80
212	60	70	65	100	100	100	--	80		80	70	75	80
213	70	70	70	90	100	95	--	80		60	70	65	77
214	30	40	35	100	100	100	--	80		60	50	55	63
215	45	60	53	100	100	100	--	80		50	50	50	68
216	95	95	95	100	100	100	--	70		100	100	100	98

[1] Missing plot.
[2] Dashes indicate plots destroyed by ice sheets.
[3] Excludes Brookings, South Dakota.

1976
Uniform Winterhardiness Nursery
(Northern Materials Section)

Entry No.	Variety or Pedigree	C.I. or Sel. No.	Source
1	Froid	14486	Check
2	SS/12500//RCh/Pn/3/Cnn/4/Kaw/Sk//2*Cnn	SD713-2	S. Dak.
3	Norin 10/12500//Hume	SD716-1	S. Dak.
4	Hokuriko/Fortunata//Lcr sel	SD7113-14	S. Dak.
5	" " "	SD7113-16	S. Dak.
6	" " "	SD7114-1	S. Dak.
7	SS/12500//RCh/Pn/3/Cnn/4/Kaw//Sk/2*Cnn	SD7119-1	S. Dak.
8	" " " "	SD7119-6	S. Dak.
9	" " " "	SD7119-7	S. Dak.
10	Winoka	14000	Check
11	SS/12500//RCh/Pn/3/Cnn/4/Kaw//Sk/2*Cnn	SD7119-10	S. Dak.
12	" " " "	SD7119-13	S. Dak.
13	Winoka//Jaral 66/Minter	SD7147-2	S. Dak.
14	" " "	SD7149-1	S. Dak.
15	" " "	SD7149-3	S. Dak.
16	" " "	SD7153-18	S. Dak.
17	" " "	SD7163-6	S. Dak.
18	Composite cross	SD7173	S. Dak.
19	Multiple cross	SD7254-1	S. Dak.
20	Warrior	13190	Check
21	Multiple cross	SD7254-2	S. Dak.
22	" "	SD7254-3	S. Dak.
23	" "	SD7254-4	S. Dak.
24	" "	SD7254-6	S. Dak.
25	" "	SD7254-8	S. Dak.
26	" "	SD7254-9	S. Dak.
27	" "	SD7254-10	S. Dak.
28	" "	SD7254-12	S. Dak.
29	SS/12500//RCh/Pn/3/Cnn/4/Kaw//Sk/2*Cnn	SD7119-14	S. Dak.
30	Froid	14486	Check
31	Multiple cross	SD7255-3	S. Dak.
32	" "	SD7255-4	S. Dak.
33	" "	SD7255-5	S. Dak.
34	" "	SD7255-6	S. Dak.
35	" "	SD7255-7	S. Dak.
36	SS/12500//RCh/Pn/3/Cnn/4/Kaw//Sk/2*Cnn	SD7119-16	S. Dak.
37	Multiple cross	SD7256-4	S. Dak.
38	SS/12500//RCh/Pn/3/Cnn/4/Kaw//Sk/2*Cnn	SD7119-18	S. Dak.
39	Multiple cross	SD7270	S. Dak.
40	Winoka	14000	Check

1976 UWHN (Northern Materials Section) continued

Entry NO.	Variety or Pedigree	CI or Sel. No.	Source
41	SS/D8//Wmt/4/Hume/3/NE63265	SD7279	S. Dak.
42	" "	SD72152-1	S. Dak.
43	" "	SD72152-2	S. Dak.
44	" "	SD72172	S. Dak.
45	SS/D8//Wmt/3/Wrr/III-54-12	SD72213	S. Dak.
46	YTO-117/CIMMTY Semidwarf//SICII160	SD72233-1	S. Dak.
47	" "	SD72233-2	S. Dak.
48	" "	SD72233-3	S. Dak.
49	" "	SD72233-4	S. Dak.
50	Warrior	13190	Check
51	YTO-117/CIMMYT Semidwarf//SICII160	SD72233-6	S. Dak.
52	(See entry #7 for pedigree)	SD7119-20	S. Dak.
53	SD56497//Roque 66/TX65A1304	SD72298	S. Dak.
54	" "	SD72298-4	S. Dak.
55	" "	SD72298-5	S. Dak.
56	" "	SD72299-1	S. Dak.
57	" "	SD72299-2	S. Dak.
58	(See entry #7 for pedigree)	SD7119-21	S. Dak.
59	SD56497//Roque 66/TX65A1304	SD72309	S. Dak.
60	Froid	14486	Check
61	SD56497//Roque 66/TX65A1304	SD72309-1	S. Dak.
62	(See entry #7 for pedigree)	SD7119-22	S. Dak.
63	" " " " "	SD7119-23	S. Dak.
64	SD56497//Roque 66/TX65A1304	SD72310-2	S. Dak.
65	" "	SD72310-3	S. Dak.
66	" "	SD72310-7	S. Dak.
67	Winoka//Roque 66/TX65A1304	SD72311	S. Dak.
68	" "	SD72311-1	S. Dak.
69	" "	SD72311-2	S. Dak.
70	Winoka	14000	Check
71	Winoka//Roque 66/TX65A1304	SD72313	S. Dak.
72	" "	SD72314-1	S. Dak.
73	Roque 66/TX65A1304//Minter/CI11490	SD72339-1	S. Dak.
74	" "	SD72339-2	S. Dak.
75	" "	SD72339-4	S. Dak.
76	" "	SD72339-5	S. Dak.
77	" "	SD72343	S. Dak.
78	" "	SD72346-1	S. Dak.
79	" "	SD72347-1	S. Dak.
80	Warrior	13190	Check
81	SD56497//Roque 66/TX65A1304	SD72351	S. Dak.
82	" "	SD72353	S. Dak.
83	Lcr/NE61919//2*SS/D8//Wmt	SD73109	S. Dak.
84	" "	SD73114	S. Dak.
85	SS/D8//Wmt/3/SD6689	SD73153	S. Dak.
86	" "	SD73154	S. Dak.
87	" "	SD73160	S. Dak.
88	Centurk/NE66490	SD73165	S. Dak.
89	Sut Sel./NE66403	SD73176	S. Dak.
90	Froid	14486	Check

1976 UWHN (Northern Materials Section) continued

Entry No.	Variety or Pedigree	CI or Sel. No.	Source
91	Sut Sel./NE66403	SD73177	S. Dak.
92	Centurk*3/Nap Hal	SD73296	S. Dak.
93	SD66141/2*SS/D8//Wmt	SD74101	S. Dak.
94	" "	SD74104	S. Dak.
95	" "	SD74105	S. Dak.
96	" "	SD74106	S. Dak.
97	Multiple cross	SD74113	S. Dak.
98	" "	SD74114	S. Dak.
99	Winoka//Roque 66/TX65A1304	SD74115	S. Dak.
100	Winoka	14000	Check
101	SS/D8//Wmt/3/CIMMYT semidwarf/ SD66181	SD74132	S. Dak.
102	Hand*2/WS1809	SD74171	S. Dak.
103	Gage/Lancer	NE68427-14	S. Dak.
104	Gage/Lancer	NE68427-46	S. Dak.
105	Pkr/Il.1//2*Cns/Tt/3/CTMH	NE69412-7	S. Dak.
106	TX624793-7/22429//C0653033	C0231007	S. Dak.
107	Bronze	--	S. Dak.
108	Lancer/Cno//Centurk	C0235804	S. Dak.
109	TX624793-7/22429//Scout 66	C0332740	S. Dak.
110	Warrior	13190	Check
111	TX624793-7/22429//Scout 66	C0332742	S. Dak.
112	Lancer/Colano//Centurk	C0333126	S. Dak.
113	C0695552-17	C0555217	S. Dak.
114	Tpr/S64/2/Tzp/Y54/4/Sut	C0692413-7	S. Dak.
115	II21031/Tpr//C0652363	C0701733-3	S. Dak.
116	" "	C0701733-5	S. Dak.
117	II21883/C0652643/2/Lcr/KS62136	C0701888-2	S. Dak.
118	Sn/Tzp//Y54/3/Tpr/4/D43	C0723190	S. Dak.
119	" "	C0723192	S. Dak.
120	Froid	14486	Check
121	Sn/Tzp//Y54/3/Sut/4/2792	C0723339	S. Dak.
122	Pt/Y/T/N//Sut/3/Lcr	C0723441	S. Dak.
123	II18888/652142//Tmp 406	C0725263	S. Dak.
124	Ndd/C0652643	C0725798	S. Dak.
125	C0695713/Centurk	C0738316	S. Dak.
126	C0695713/Centurk	C0744400	S. Dak.
127	YTO-117	--	S. Dak.
128	Hand	--	S. Dak.
129		MT7501	Mont.
130	Winoka	14000	Check
131		MT7502	Mont.
132		MT7503	"
133		MT7504	"
134		MT7505	"
135		MT7506	"
136		MT7507	"
137		MT7508	"

1976 UWHN (Northern Materials Section) continued

Entry No.	Variety or Pedigree	CI or Sel. No.	Source
138		MT7509	Mont.
139		MT7510	"
140	Warrior	13190	Check
141		MT7511	Mont.
142		MT7512	"
143		MT7513	"
144		MT7514	"
145		MT7515	"
146		MT7516	"
147		MT7517	"
148		MT7518	"
149		MT7519	"
150	Froid	14486	Check
151		MT7520	Mont.
152		MT7521	"
153		MT7522	"
154		MT7523	"
155		MT7524	"
156		MT7525	"
157		MT7526	"
158		MT7527	"
159		MT7528	"
160	Winoka	14000	Check
161		MT7529	Mont.
162		MT7530	"
163		MT7531	"
164		MT7532	"
165		MT7533	"
166		MT7534	"
167		MT7535	"
168		MT7536	"
169		MT7537	"
170	Warrior	13190	Check
171		MT7538	Mont.
172		MT7539	"
173		MT7540	"
174		MT7541	"
175		MT7542	"
176		MT7543	"
177		MT7544	"
178		MT7545	"
179		MT7546	"
180	Froid	14486	Check
181		MT7547	Mont.
182		MT7548	"
183		MT7549	"
184		MT7550	"
185		MT7551	"

1976 UWHN (Northern Materials Section) continued

Entry No.	Variety or Pedigree	CI or Sel. No.	Source
186		MT7552	Mont.
187		MT7553	"
188		MT7554	"
189		MT7555	"
190	Winoka	14000	Check
191		MT7556	Mont.
192		MT7557	"
193		MT7558	"
194		MT7559	"
195		MT7560	"
196		MT7561	"
197		MT7562	"
198		MT7563	"
199		MT7564	"
200	Warrior	13190	Check
201		MT7565	Mont.
202		MT7566	"
203		MT7567	"
204		MT7568	"
205		MT7569	"
206		MT7570	"
207		MT7571	"
208		MT7572	"
209		MT7573	"
210	Froid	14486	Check
211		MT7574	Mont.
212		MT7575	"
213		MT7576	"
214		MT7577	"
215		MT7578	"
216		MT7579	"
217		MT7580	"
218		MT7581	"
219		MT7582	"
220	Winoka	14000	Check
221		MT7583	Mont.
222		MT7584	"
223		MT7585	"
224		MT7586	"
225		MT7587	"
226		MT7588	"
227		MT7589	"
228		MT7590	"
229		MT7591	"
230	Warrior	13190	Check
231		MT7592	Mont.
232		MT7593	"
233		MT7594	"
234		MT7595	"
235		MT7596	"

1976 UWHN (Northern Materials Section) continued

Entry No.	Variety or Pedigree	CI or Sel. No.	Source
236		MT7597	Mont.
237		MT7598	"
238		MT7599	"
239		MT75100	"
240	Froid	14486	Check
241		MT75101	Mont.
242		MT75102	"
243		MT75103	"
244		MT75104	"
245		MT75105	"
246		MT75106	"
247		MT75107	"
248		MT75108	"
249		MT75109	"
250	Winoka	14000	Check
251		MT75110	Mont.
252		MT75111	"
253		MT75112	"
254		MT75113	"
255		MT75114	"
256		MT75115	"
257		MT75116	"
258		MT75117	"
259		MT75118	"
260	Warrior	13190	Check
261		MT75119	Mont.
262		MT75120	"
263		MT75121	"
264		MT75122	"
265		MT75123	"
266		MT75124	"
267		MT75125	"
268		MT75126	"
269		MT75127	"
270	Froid	14486	Check
271		MT75128	Mont.
272		MT75129	"
273		MT75130	"
274		MT75131	"
275		MT75132	"
276		MT75133	Mont.
277		MT75134	"
278		MT75135	"
279		MT75136	"
280	Winoka	14000	Check
281		MT75137	Mont.
282		MT75138	"
283		MT75139	"
284		MT75140	"

1976 UWHN (Northern Materials Section) concluded

Entry No.	Variety or Pedigree	CI or Sel. No.	Source
285		MT75141	Mont.
286		MT75142	"
287		MT75143	"
288		MT75144	"
289		MT75145	"
290	Warrior	13190	Check
291		MT75146	Mont.
292		MT75147	"
293		MT75148	"
294		MT75149	"
295		MT75150	"
296	Froid	14486	Check

Survival data for the 1976 Uniform Winterhardiness Nursery (Northern Materials Section)

Entry no.	St. Paul, MN			Brookings, SD[1/]			Casselton, ND			Two[2/] station mean
	Rep I	Rep II	$\bar{x}$	Rep I	Rep II	$\bar{x}$	Rep I	Rep II	$\bar{x}$	
1	100	100	100	--	90		100	100	100	100
2	100	100	100	--	40		100	100	100	100
3	100	98	99	--	80		100	100	100	100
4	100	98	99	--	80		80	100	90	95
5	100	100	100	--	80		90	100	95	98
6	100	100	100	--	90		100	100	100	100
7	100	100	100	--	100		100	100	100	100
8	100	100	100	--	100		90	100	95	98
9	100	100	100	--	100		100	100	100	100
10	100	100	100	--	100		100	100	100	100
11	100	100	100	--	100		100	100	100	100
12	100	98	99	--	100		100	70	85	92
13	100	100	100	--	--		100	100	100	100
14	100	100	100	--	90		100	100	100	100
15	100	100	100	--	90		100	100	100	100
16	100	98	99	--	--		100	100	100	100
17	100	100	100	--	90		100	100	100	100
18	100	100	100	--	--		100	100	100	100
19	90	90	90	--	--		70	70	70	80
20	100	100	100	--	--		100	100	100	100
21	90	100	95	--	--		70	90	80	88
22	100	100	100	--	--		80	100	90	98
23	80	100	90	--	--		70	70	70	80
24	100	95	98	--	--		70	90	80	89
25	100	95	98	--	--		70	100	85	91
26	100	100	100	--	--		80	90	85	93
27	80	95	88	--	--		80	100	90	89
28	80	90	85	--	--		80	90	85	85
29	100	90	95	--	--		100	100	100	98
30	100	100	100	--	--		100	100	100	100
31	90	95	93	--	--		40	100	70	81
32	100	95	98	--	--		30	100	65	81
33	100	100	100	--	--		20	100	60	80
34	100	100	100	--	--		30	90	60	80
35	90	100	95	--	--		70	70	70	83
36	100	100	100	--	--		100	100	100	100
37	90	60	75	--	--		90	80	85	80
38	90	40	65	--	--		100	100	100	83
39	90	40	65	--	--		100	100	100	83
40	100	100	100	--	--		100	100	100	100
41	100	100	100	--	--		100	80	90	95
42	100	100	100	--	--		100	100	100	100
43	100	100	100	--	--		100	100	100	100
44	100	100	100	--	--		100	100	100	100
45	100	100	100	--	--		100	100	100	100

Survival data 1976 UWHN (Northern Materials Section) continued

Entry no.	St. Paul, MN			Brookings, SD			Casselton, ND			Two[2/] station mean
	Rep I	Rep II	$\bar{x}$	Rep I	Rep II	$\bar{x}$	Rep I	Rep II	$\bar{x}$	
46	100	95	98	--	--		70	100	85	91
47	100	95	98	--	--		100	100	100	99
48	100	100	100	--	--		80	100	90	95
49	100	100	100	--	--		80	100	90	95
50	100	100	100	--	--		90	100	95	98
51	100	100	100	--	--		100	100	100	100
52	100	100	100	--	--		100	100	100	100
53	100	100	100	--	--		100	100	100	100
54	100	100	100	--	--		100	100	100	100
55	100	100	100	--	--		100	100	100	100
56	100	100	100	--	--		100	100	100	100
57	100	100	100	--	--		100	100	100	100
58	100	100	100	--	20		100	100	100	100
59	100	100	100	--	40		100	100	100	100
60	100	100	100	--	70		100	100	100	100
61	100	95	98	--	80		100	100	100	100
62	100	100	100	--	80		100	100	100	100
63	100	100	100	--	70		100	100	100	100
64	100	95	98	--	50		100	100	100	99
65	100	90	95	--	50		100	100	100	98
66	100	90	95	--	50		80	100	90	93
67	100	100	100	--	60		100	100	100	100
68	100	100	100	--	90		90	100	95	98
69	100	100	100	--	90		100	100	100	100
70	100	100	100	--	95		100	100	100	100
71	100	100	100	--	100		100	100	100	100
72	100	95	98	--			100	100	100	99
73	100	95	98	--	90		100	100	100	99
74	100	95	98	--	80		80	100	90	94
75	100	95	98	--	90		70	100	85	91
76	100	95	98	--	80		80	100	90	94
77	100	95	98	--	95		100	100	100	99
78	100	100	100	--	90		100	100	100	100
79	100	95	98	--	90		100	100	100	99
80	100	95	98	--	90		100	100	100	99
81	100	90	95	--	90		100	100	100	98
82	100	95	98	--	95		100	100	100	99
83	100	95	98	--	100		100	100	100	99
84	100	95	98	--	95		100	100	100	99
85	100	95	98	--	95		60	100	80	89
86	100	95	98	--	80		60	100	80	89
87	100	95	98	--	80		40	100	70	84
88	100	95	98	--	90		40	100	70	84
89	100	95	98	--	90		30	100	65	81
90	100	95	98	--	90		100	100	100	99
91	100	95	98	40	90	65	30	100	65	81
92	100	100	100	80	90	85	50	100	75	88
93	100	100	100	20	90	55	20	100	60	80
94	100	95	98	30	95	63	20	100	60	79

Survival data 1976 UWHN (Northern Materials Section) continued

Entry no.	St. Paul, MN			Brookings, SD			Casselton, ND			Two[2/] station mean
	Rep I	Rep II	$\bar{x}$	Rep I	Rep II	$\bar{x}$	Rep I	Rep II	$\bar{x}$	
95	100	95	98	40	100	70	60	100	80	89
96	90	95	93	50	95	73	70	100	85	89
97	100	95	98	--	95		80	100	90	94
98	100	95	98	50	95		30	100	65	81
99	100	95	98	--			100	100	100	99
100	100	95	98	60	100	80	100	100	100	99
101	100	95	98	70	90	80	100	100	100	99
102	100	100	100	80	20	50	60	40	50	75
103	100	100	100	90	100	95	100	100	100	100
104	100	100	100	5	95	50	100	100	100	100
105	100	95	98	80	90	85	100	100	100	99
106	90	100	95	90	30	60	70	100	85	90
107	100	95	98	90	80	85	100	100	100	99
108	80	100	90	40	1	20	40	60	50	70
109	90	85	88	70	5	38	60	80	70	79
110	100	85	93	90	70	80	80	100	70	91
111	90	90	90	60	40	50	70	100	85	88
112	90	90	90	90	20	55	50	80	65	78
113	100	95	98	90	40	65	80	100	90	94
114	100	95	98	20	70	45	70	100	85	91
115	100	100	100	5	70	38	100	100	100	100
116	100	100	100	90	70	80	90	100	95	98
117	75	75	75	80	30	55	60	50	55	65
118	80	100	90	80	30	55	40	70	55	73
119	100	100	100	70	60	65	50	100	75	88
120	100	100	100	90	90	90	100	100	100	100
121	100	100	100	30	20	25	10	80	45	73
122	100	90	95	30	50	40	50	100	75	85
123	100	85	93	1	30	15	80	100	90	91
124	85	85	85	--	5		30	70	50	68
125	90	80	85	--	5		70	100	85	85
126	90	85	88	--	--		50	100	75	81
127	100	80	90	--	--		100	100	100	95
128	100	100	100	--	--		90	100	95	98
129	100	100	100	--	--		90	100	95	98
130	100	100	100	--	--		100	100	100	100
131	100	100	100	--	--		70	100	85	93
132	100	100	100	--	--		60	100	80	90
133	100	100	100	--	--		60	100	80	90
134	100	95	98	--	--		30	100	65	81
135	100	100	100	--	--		80	100	90	95
136	100	100	100	--	--		60	100	80	90
137	100	100	100	--	--		100	100	100	100
138	100	100	100	--	--		100	100	100	100
139	100	100	100	--	--		100	100	100	100
140	100	100	100	--	--		100	100	100	100
141	100	100	100	--	--		100	100	100	100
142	100	100	100	--	--		100	100	100	100

Survival data 1976 UWHN (Northern Materials Section) continued

Entry no.	St. Paul, MN			Brookings, SD			Casselton, ND			Two[2/] station mean
	Rep I	Rep II	$\bar{x}$	Rep I	Rep II	$\bar{x}$	Rep I	Rep II	$\bar{x}$	
143	100	100	100	--	--		100	100	100	100
144	100	95	98	--	--		70	100	85	91
145	100	95	98	--	--		100	100	100	99
146	100	95	98	--	--		100	100	100	99
147	100	95	98	--	--		80	60	70	84
148	100	95	98	--	--		100	100	100	99
149	100	100	100	--	--		100	100	100	100
150	100	100	100	--	--		100	100	100	100
151	100	100	100	--	--		100	100	100	100
152	100	100	100	--	--		100	100	100	100
153	100	100	100	--	--		100	100	100	100
154	100	100	100	--	--		100	100	100	100
155	100	100	100	--	--		100	100	100	100
156	100	100	100	--	--		100	100	100	100
157	100	100	100	--	--		100	100	100	100
158	100	100	100	--	--		100	100	100	100
159	100	98	99	--	--		60	80	70	85
160	100	100	100	--	--		100	100	100	100
161	100	100	100	--	--		100	100	100	100
162	100	100	100	--	--		70	20	45	73
163	100	100	100	--	--		100	100	100	100
164	100	100	100	--	--		60	70	65	83
165	100	100	100	--	--		100	100	100	100
166	100	98	99	--	--		100	100	100	100
167	100	100	100	50	--		100	100	100	100
168	100	100	100	30	--		70	100	85	93
169	100	100	100	90	--		100	100	100	100
170	100	100	100	70	--		100	100	100	100
171	100	100	100	70	--		100	100	100	100
172	100	100	100	70	--		100	100	100	100
173	100	100	100	50	--		100	100	100	100
174	100	100	100		--		100	100	100	100
175	100	100	100	50	--		100	100	100	100
176	100	100	100	5	--		100	100	100	100
177	100	100	100	--			100	100	100	100
178	100	100	100	1	40	20	100	100	100	100
179	100	100	100	--	80		100	100	100	100
180	100	100	100	--	80		100	100	100	100
181	100	85	93	--	10		40	60	50	71
182	100	100	100	--	50		100	100	100	100
183	100	100	100	--	40		100	100	100	100
184	100	100	100	--	50		100	100	100	100
185	100	100	100	50	80	65	100	100	100	100
186	100	100	100	70	50	60	100	100	100	100
187	100	100	100	70	30	50	100	100	100	100
188	100	100	100	70	50	60	100	100	100	100
189	100	100	100	70	50	60	100	100	100	100
190	100	100	100	70	70	70	100	100	100	100
191	100	100	100	90	70	80	100	100	100	100

Survival data 1976 UWHN (Northern Materials Section) continued

Entry no.	St. Paul, MN			Brookings, SD			Casselton, ND			Two[2/] station mean
	Rep I	Rep II	$\bar{x}$	Rep I	Rep II	$\bar{x}$	Rep I	Rep II	$\bar{x}$	
192	100	95	98	80	70	75	100	100	100	99
193	100	95	98	70	80	75	100	100	100	99
194	100	100	100	10	60	35	100	100	100	100
195	100	100	100	40	95	68	100	100	100	100
196	90	100	95	10	10	10	20	80	50	73
197	100	100	100	50	50	50	100	100	100	100
198	100	100	100	50	70	60	100	100	100	100
199	100	100	100	50	90	70	100	100	100	100
200	100	95	98	60	95	78	100	100	100	
201	100	100	100	30	90	60	100	100	100	100
202	100	100	100	80	100	90	100	100	100	100
203	100	100	100	50	100	75	100	100	100	100
204	100	100	100	--	100		100	100	100	100
205	100	100	100	--	90		100	100	100	100
206	100	95	98	--	60		100	100	100	99
207	100	95	98	--	60		100	100	100	99
208	100	100	100	--	10		100	100	100	100
209	100	100	100	--	50		100	100	100	100
210	100	100	100	--	70		100	100	100	100
211	95	100	98	--	50		70	100	85	91
212	100	100	100	--	70		100	100	100	100
213	100	95	98	--	60		100	100	100	99
214	100	100	100	--	50		100	100	100	100
215	100	100	100	--	50		100	100	100	100
216	100	100	100	--	60		100	100	100	100
217	100	100	100	--	95		100	100	100	100
218	100	100	100	--	50		100	100	100	100
219	100	100	100	--	40		100	100	100	100
220	100	100	100	--	40		100	100	100	100
221	100	100	100	--	5		40	80	60	100
222	100	100	100	--	10		100	100	100	100
223	100	100	100	--	20		100	100	100	100
224	100	100	100	--	30		100	100	100	100
225	100	100	100	--	90		100	100	100	100
226	100	100	100	--	95		100	100	100	100
227	100	100	100	--	95		100	100	100	100
228	100	100	100	--	95		100	100	100	100
229	100	100	100	--	90		100	100	100	100
230	100	100	100	--	100		100	100	100	100
231	100	100	100	--	95		100	100	100	100
232	100	100	100	--	100		100	100	100	100
233	100	100	100	--	100		100	100	100	100
234	100	100	100	40	95	68	100	100	100	100
235	100	100	100	70	90	80	100	100	100	100
236	100	100	100	60	100	80	100	100	100	100
237	100	100	100	70	100	85	60	70	65	83
238	100	100	100	70	100	85	100	100	100	100
239	100	100	100	80	100	90	100	100	100	100
240	100	90	95	100	100	100	100	100	100	98

Survival data 1976 UWHN (Northern Materials Section) continued

Entry no.	St. Paul, MN			Brookings, SD			Casselton, ND			Two[2/] station mean
	Rep I	Rep II	$\bar{x}$	Rep I	Rep II	$\bar{x}$	Rep I	Rep II	$\bar{x}$	
241	100	100	100	90	100	95	100	100	100	100
242	100	85	93	60	90	75	100	100	100	96
243	100	90	95	60	95	78	100	100	100	98
244	100	100	100	95	95	95	100	100	100	100
245	100	100	100	95	100	98	100	100	100	100
246	100	100	100	100	1	50	100	100	100	100
247	50	70	60	30	10	20	0	10	5	33
248	100	100	100	70	10	40	30	40	35	68
249	100	100	100	90	80	85	20	10	15	58
250	100	100	100	80	10	45	100	100	100	100
251	100	100	100	20	1	10	5	10	8	54
252	100	100	100	70	5	38	30	10	20	60
253	60	40	50	5	20	13	0	0	0	25
254	90	100	95	80	0	40	40	20	30	63
255	40	50	45	1	5	3	0	0	0	24
256	90	60	75	10	0	5	50	10	30	53
257	100	100	100	30	0	15	100	100	100	100
258	90	70	80	0	5	3	20	20	20	50
259	100	100	100	20	5	13	100	100	100	100
260	100	100	100	--	10		100	100	100	100
261	100	100	100	30	10	20	70	80	75	88
262	100	100	100	--	50		60	70	65	83
263	100	100	100	--	10		100	100	100	100
264	100	100	100	--	20		70	70	70	85
265	100	100	100	--	40		100	100	100	100
266	100	100	100	--	5		100	80	90	95
267	100	100	100	--	60		50	60	55	78
268	100	100	100	--	20		100	90	95	98
269	100	100	100	--	90		100	100	100	100
270	100	85	93	--	30		100	100	100	96
271	100	90	95	--	20		80	100	90	93
272	100	100	100	--	10		70	80	75	88
273	100	90	95	--	30		30	40	35	65
274	100	100	100	--	80		100	100	100	100
275	90	90	90	--	80		100	60	80	85
276	85	70	78	--	50		40	100	70	74
277	90	100	95	--	80		100	100	100	98
278	100	100	100	--	70		100	100	100	100
279	100	90	95	--	95		100	100	100	98
280	100	100	100	--	90		100	100	100	100
281	100	100	100	--	95		100	100	100	100
282	100	100	100	--	100		100	100	100	100
283	100	100	100	--	100		70	100	85	93
284	100	100	100	--	100		100	100	100	100
285	100	100	100	--	--		100	100	100	100
286	100	100	100	--	100		70	100	85	93
287	100	100	100	--	95		100	100	100	100
288	100	100	100	--	100		100	100	100	100
289	100	100	100	--	100		100	100	100	100
290	100	100	100	--	100		100	100	100	100
291	100	80	90	--	70		100	100	100	95

Survival data 1976 UWHN (Northern Materials Section) concluded

Entry no.	St. Paul, MN			Brookings, SD			Casselton, ND			Two-station mean[2/]
	Rep I	Rep II	$\bar{x}$	Rep I	Rep II	$\bar{x}$	Rep I	Rep II	$\bar{x}$	
292	100	100	100	--	50		100	80	90	95
293	100	100	100	--	100		100	80	90	95
294	100	100	100	--	100		100	60	80	90
295	100	100	100	--	--		100	80	90	95
296	100	100	100	--	100		100	100	100	100

[1/] Dashes indicate plots destroyed by ice sheets.
[2/] Excludes Brookings, South Dakota.

1976
HRWW Soil-borne Mosaic Nursery

Entry No.	Variety or Pedigree	C.I. or Sel. No.	Source
1	Pawnee	11669	Check
2	62A2712-7/Centurk	TX71A801	Texas
3	Short Wheat/Scout	TX69A418-2	"
4	" "	TX69A569-1	"
5	62A2782-8/Centurk	TX73A2694	"
6	Red River 68/Trapper	TX73A2798	"
7	CIMMYT/Scout	KS73112	Kans.
8	" "	KS73114	"
9	" "	KS73118	"
10	Concho	12517	Check
11	CIMMYT/Scout	KS73138	Kans.
12	" "	KS73141	"
13	" "	KS73148	"
14	" "	KS73159	"
15	" "	KS73164	"
16	" "	KS73167	"
17	" "	KS73229	"
18	" "	KS73248	"
19	" "	KS73253	"
20	Bison	12518	Check
21	CIMMYT/Scout	KS73256	Kans.
22	" "	KS73261	"
23	" "	KS73263	"
24	" "	KS73277	"
25	" "	KS7598	"
26	" "	KS75103	"
27	" "	KS75104	"
28	" "	KS75119	"
29	" "	KS75120	"
30	Pawnee	11669	Check
31	CIMMYT/Scout	KS75121	Kans.
32	" "	KS75122	"
33	" "	KS75127	"
34	" "	KS75129	"
35	" "	KS75133	"
36	" "	KS75146	"
37	" "	KS75148	"
38	" "	KS75170	"
39	" "	KS75172	"
40	Concho	12517	Check
41	CIMMYT/Scout	KS75177	Kans.
42	" "	KS75178	"
43	" "	KS75190	"
44	" "	KS75192	"
45	" "	KS75193	"
46	" "	KS75199	"
47	" "	KS75204	"
48	" "	KS75210	"
49	" "	KS75211	"

1976 HRWW Soil-borne Mosaic Nursery (continued)

Entry No.	Variety or Pedigree	C.I. or Sel. No.	Source
50	Bison	12518	Check
51	CIMMYT/Scout	KS75212	Kans.
52	" "	KS75213	"
53	" "	KS75216	"
54	" "	KS75219	"
55	Sut/4/Qv/2/Tm/3/Mql/Oro/5/ Homestead	NE73481	Nebr.
56	" " "	NE73640	"
57	" " "	NE73641	"
58	" " "	NE73644	"
59	" " "	NE73647	"
60	Pawnee	11669	Check
61	Sut/4/Qv/2/Tm/3/Mql/Oro/5/ Homestead	NE73649	Nebr.
62	" " "	NE73656	"
63	Red Coat/5/Pn//Cnn/3/Pn/2/Ky58/ 4/Cnn	NE73564	"
64	Homestead//Gage/Lancer	NE73591	"
65	Pnc/3*Cnn/3/Ky58/Nth/2/2*(CTMH)/ 4/Sut	NE69442	"
66	Pnc/2*Cnn/Il 1-Cns*2/Tt/CTMH/ S60/MM/Ech/Rm/2*(H-Tk-C)/Pnc/ 2*Cnn	NE73833	Nebr.
67	" " " "	NE73835	"
68	" " " "	NE73836	"
69	" " " "	NE73843	"
70	Concho	12517	Check
71	NE66403//391-56-D1-8/Tcs	NE74515	Nebr.
72	" " "	NE74516	"
73	Centurk/Gage Sel.	NE74531	"
74	391-56-D1-8/Tcs//Sentinel	NE74544	"
75	" " "	NE74546	"
76	391-56-D1-8/Tcs/6/Nbr/3/RCh/5/ Ky58/Nth/2/CTMH//Pn/Cnn/4/Lcr	NE74552	"
77	" " "	NE74553	"
78	" " "	NE74555	"
79	Homestead//MM/Ech/Rm/2*(Hope-Tk-Cnn//Pnc/2*Cnn	NE74562	"
80	Bison	12518	Check
81	Mara/2*Scout//Homestead	NE74603	Nebr.
82	" " "	NE74607	"
83	" " "	NE74611	"
84	Mara/2*Scout/3/Trader/2/391-56-D1/Tcs	NE74653	"
85	Pnc/2*Cnn/5/Il1/2*Cns//Tt/3/ CTMH/4/S60/6/Ctk Stl.	NE74662	"
86	MM/Ech/Rm/2*(Hope-Tk-Cnn)/3/ Pnc/2*Cnn/4/Homestead	NE74667	"
87	Sentinel/HiPlains	NE74716	"
88	" "	NE74726	"

1976 HRWW Soil-borne Mosaic Nursery (continued)

Entry No.	Variety or Pedigree	C.I. or Sel. No.	Source
89	Pnc/2*Cnn/5/Il 1/2*Cns//Tt/3/ (CTMH)/4/S60/6/Centurk	NE74736	Nebr.
90	Pawnee	11669	Check
91	Atr/3/Lcr/2/Pnc/Cnn	NE74773	Nebr.
92	Scout*5/Agent//Centurk	NE74866	"
93	Pnc/2*Cnn/5/Il 1/2*Cns//Tt/3/ CTMH/4/S60/6/Homestead	NE74906	"
94	Tobari 66//Sk/2*Cnn/3/Homestead	NE74925	"
95	TX1682/3/Sel 14-53/2/Atlas 66/Cmn	NE75L10014	"
96	Ctk/3/Aiv/CI13857/2/Sel 14-15	NE75L10035	"
97	NE69633/4/Suwon 85/3/Atl 66/ Cmn/2/Hume	NE75L10174	"
98	NE69633/4/Atl 66/Cmn/2/Wrr/3/ NE69655	NE75L10180	"
99	Sel 14-50-3/Centurk	NE75L10309	"
100	Concho	12517	Check
101	Sel 14-53/3/Lcr/2/Atl 66/Cmn	NE75L10330	Nebr.
102	Sel 14-53//Atl 66/Cmn	NE75L10393	"
103	Ctk/3/Fert Rest. 3240/2/Tmp/12406	NE75L10470	"
104	Atlas 66/Cmn//NE69690	NE75L10591	"
105	Atlas 66/Cmn//NE69655	NE75L10624	"
106	NE69566/Sel 14-50-3	NE75L10824	"
107	Atlas 66/Cmn//Centurk	NE75L10831	"
108	Pawnee	11669	Check
109	Tcs/T_1//Sdy	OK711248-1	Okla.
110	Bison	12518	Check
111	Tcs/T_1//Sdy	OK711248-2	Okla.
112	" "	OK711248-41	"
113	" "	OK711248-43	"
114	" "	OK711248-45	"
115	" "	OK711248-47	"
116	" "	OK711248-85	"
117	" "	OK711248-148	"
118	" "	OK711248-158	"
119	" "	OK711248-176	"
120	Pawnee	11669	Check
121	K. R./Scout 66	OK722054	Okla.
122	Tcs/T_1//Tmp64	OK738124	"
123	Ok627426/Tx62A2607-6	OK747086	"
124	Ok627426/Tx62A2607-6	OK747095	"
125	Ctk/Bezostaya	OK747149	"
126	" "	OK747154	"
127	" "	OK747171	"
128	" "	OK747177	"
129	Ok66C2012/Tam W 101	OK747289	"
130	Concho	12517	Check
131	Ok66C2012/Tam W 101	OK747292	Okla.
132	Tcs/T_1//Sdy	OK711248-4	"
133	" "	OK711248-24	"

1976 HRWW Soil-borne Mosaic Nursery (concluded)

Entry No.	Variety or Pedigree	C.I. or Sel. No.	Source
134	Tcs/T_1//Sdy	OK711248-30	Okla.
135	" "	OK711248-35	"
136	" "	OK711248-82	"
137	" "	OK711248-146	"
138	" "	OK711248-156	"
139	" "	OK711248-161	"
140	Bison	12518	Check
141	Tcs/T_1//Sdy	OK711248-162	Okla.
142	" "	OK711248-175	"

Field Infection Data
1976 Hard Red Winter Wheat Regional Soil-Borne Mosaic Nursery

Entry number	Urbana, Illinois[1]				Kansas		
	Rep I		Rep II		Newton[4]	Ashland[5]	Powhattan[6]
	Incidence[2]	Response	Incidence	Response	Response	Response	Response
1	100	S	100	S	MS	MS	6
2	100	VS	100	VS	S	S	8-9
3	100	VS	100	VS	S	S	8-9
4	100	VS	100	VS	S	MS	5
5	100	S	100	S	S	S	6
6	100	MR	100	MR	R	R	2(R)
7	100	MR-MS	100	MR-MS	R	R	4(R)
8	100	S	100	S	R	SEG.	8-9
9	0		0		R	R	6
10	100	VR	100	VR	R	R	2(R)
11	100	MR	100	MR-MS	R	SEG.	6
12	100	MR	100	MR-MS	R	SEG.	6(SEG.)
13	100	R	100	R	R	R	7
14	100	VR	100	VR	R	R	8-9
15	100	MR	100	MR-MS	R	SEG.	7
16	100	MR	100	MR	R	R	8
17	100	MR	100	MR	R	R	2(R)
18	100	MS	100	MS	R	SEG.	6(SEG.)
19	100	MS	100	MS	R	R	5
20	50	MS[3]	60	MS[3]	MS	MS	4
21	100	MR	100	R-MR	R	R	7
22	100	MS	100	MS-MR	R	R	4(R)
23	100	MS	100	MS	R	R	5
24	100	MS	100	MS	R	R	3(R)
25	100	S-MS	100	S-MS	R	SEG.	9
26	100	MR	100	MR	R	R	8-9
27	100	MR	100	MR	R	R	8-9
28	100	MR-R	100	R	R	R	5
29	100	MS	100	MS-MR	R	R	1(R)
30	100	VS	100	VS	MS	MS	6
31	100	MR-MS	100	MR-MS	R	R	8-9
32	100	MS	100	MS	R	R	7
33	100	R-MR	100	R-MR	R	R	5
34	100	MR-MS	100	R-MR	R	R	8-9
35	100	MR-MS	100	MR-MS	R	R	5(R)
36	100	MR-MS	100	MR-MS	R	R	9
37	100	MR-MS	100	MR-MS	R	R	8
38	100	R-MR	100	MR-MS	R	R	9
39	100	MS-S	100	MS-S	R	R	7
40	100	R	100	R	R	R	1(R)
41	100	R-MR	100	R	R	R	8-9
42	100	MR	100	MR	R	R	9
43	100	R	100	R	R	R	7(R)
44	100	R	100	R	R	R	9
45	100	R	100	R	R	R	8

Field Infection Data (continued)
1976 Hard Red Winter Wheat Regional Soil-Borne Mosaic Nursery

Entry number	Urbana, Illinois[1]				Kansas		
	Rep I		Rep II		Newton[4]	Ashland[5]	Powhattan[6]
	Incidence[2]	Response	Incidence	Response	Response	Response	Response
46	100	R	100	R	R	R	9
47	100	MR-R	100	R	R	R	9
48	100	R-MR	100	MR-MS	R	R	7
49	100	MS	100	MR-MS	MR	R	8-9
50	100	MS[3]	100	MS[3]	S	MS	3(S)
51	100	R	100	R	R	R	8-9
52	100	R-MR	50	R-MR	MR	SEG.	8
53	100	R	100	R	R	R	5
54	100	R-MR	100	R	R	R	7
55	100	MS	100	MS	R	SEG.	3(SEG.)
56	100	MS	100	MR	R	R	1(R)
57	100	S	100	S	MS	MS	2(MR)
58	100	VS	100	VS-S	SEG.	SEG.	2(MR)
59	100	VS	100	VS	S	S	7
60	100	VS	100	VS	MS	MS	6
61	100	MS-MR	100	MS-MR	R	R	1(R)
62	100	S	100	S	MS	MS	3
63	100	MS	100	MS	MS	MS	4
64	100	MS	100	S	R	R	1(R)
65	100	MS	100	MR-MS	S	S	2(S)
66	100	MS	100	MS	SEG.	SEG.	1(SEG.)
67	100	MS	100	MS	SEG.	SEG.	2(SEG.)
68	100	S	100	S	SEG.	MS	3
69	100	MR	100	MR	R	R	1(R)
70	100	R	100	R-MR	R	R	1(R)
71	100	VS	100	VS	S	MS	5(S)
72	100	VS	100	VS	S	MS	4
73	0		0		R	R	2(R)
74	100	VS	100	VS	S	S	8
75	100	VS	100	VS	S	S	6
76	100	VS	100	VS	S	S	6
77	100	VS	100	VS	S	S	7
78	100	S	100	VS	S	S	5(S)
79	100	MS-MR	100	MS	R	R	1(R)
80	100	MS[3]	100	MS[3]	S	MS	5
81	100	MS	100	MS-MR	SEG.	SEG.	1(MR)
82	100	MS	100	MS	SEG.	SEG.	3(R)
83	100	MR	100	MR	SEG.	SEG.	2(SEG.)
84	100	S	100	MS-S	S	S	5(S)
85	100	MS	100	MS	S	S	6
86	100	S	100	S-MS	SEG.	SEG.	2(SEG.)
87	100	S	100	S	MS	MS	6(S)
88	100	S	100	S	MS	MS	6(S)
89	100	MR-MS	100	MR-MS	MS	SEG.	5(SEG.)
90	100	S	100	S-VS	MS	MS	5(S)

Field Infection Data (continued)
1976 Hard Red Winter Wheat Regional Soil-Borne Mosaic Nursery

Entry number	Urbana, Illinois[1]				Kansas		
	Rep I		Rep II		Newton[4]	Ashland[5]	Powhattan[6]
	Incidence[2]	Response	Incidence	Response	Response	Response	Response
91	100	MR-MS	100	MR-MS	R	R	1(R)
92	100	S	100	S	S	S	7
93	100	MS	100	MS	SEG.	SEG.	3(SEG.)
94	100	MR	100	MR	R	R	2(R)
95	100	R-MR	100	R-MR	R	R	3(R)
96	0		0		R	R	3(R)
97	100	S	100	S	S	S	6
98	100	R-MR	100	R-MR	MS	SEG.	3(SEG.)
99	100	R-MR	100	R-MR	R	R	5(R)
100	100	R-MR	100	R-MR	R	R	2(R)
101	100	MR	100	MR	R	R	1(R)
102	100	R-MR	100	R-MR	R	R	2(R)
103	100	S	100	S	S	S	6
104	100	S	100	S	S	S	6(S)
105	100	MR	100	MR	R	R	5(R)
106	100	S	100	S	S	S	9
107	100	MR-MS	100	MR-MS	MS	S	5(S)
108	100	VS	100	VS	MS	S	6(S)
109	100	VS	100	VS	MS	S	9
110	100	MS[3]	100	MS[3]	MS	S	6(S)
111	100	S	100	VS	MS	S	9
112	100	S	100	VS	S	S	9
113	100	S	100	S	MS	S	9
114	100	S	100	S	S	S	9
115	100	S	100	S	S	S	8-9
116	100	S	100	S	S	S	8-9
117	100	S	100	VS	S	S	8-9
118	100	S	100	VS	S	S	8-9
119	100	S	100	S	S	S	7
120	100	S	100	VS	S	S	6(S)
121	100	R-MR	100	R-MR	MS	MS	8-9
122	0		0		R	R	1(R)
123	100	S	100	MS	S	S	4(S)
124	100	S	100	S	S	S	8
125	100	R-MR	100	R-MR	S	S	8-9
126	100	MR	100	MR	S	S	8
127	100	MS	100	R-MS	S	S	8-9
128	100	MR	100	R-MR	S	S	9
129	100	R	100	R	R	R	5(R)
130	100	R	100	R	R	R	2(R)
131	100	S	100	S	S	S	2(S)
132	100	S	100	S	S	S	6
133	100	S	100	S	S	S	9
134	100	S	100	S	S	S	9
135	100	S	100	S	S	S	6(S)

Field Infection Data (concluded)
1976 Hard Red Winter Wheat Regional Soil-Borne Mosaic Nursery

Entry number	Urbana, Illinois[1]				Kansas		
	Rep I		Rep II		Newton[4]	Ashland[5]	Powhattan[6]
	Incidence[2]	Response	Incidence	Response	Response	Response	Response
136	100	S	100	S	S	S	9
137	100	S	100	S	S	S	8-9
138	100	S	100	VS	S	S	8-9
139	100	S	100	S	S	S	9
140	100	MS[3]	100	MS[3]	S	S	8
141	100	S	100	S	S	S	8-9
142	100	S	100	VS	S	S	9

[1]Notes taken April 8, 1976.
[2]Incidence = % infected plants.
[3]Rosetting.
[4]Notes taken March 18, 1976. Leaves frost damaged about 10 days earlier which obscured, to some extent, response to virus. Previously, many MR and MS readings found to be segregating and, where symptoms less intense, many MS readings were actually S. Consequently, most readings are either R or S.
[5]Notes taken March 31, 1976. Good infection, fairly uniform, some winterkilling.
[6]Notes taken April 5, 1976. Heavy winterkilling. Surviving plants recovered well. Early Fall seeding and consequent excessive growth probable causes of winterkilling. All plants chlorotic, probably due to lack of N. Only winterkilling read and occasionally SBMV when certain. (Complete winterkill = 9; complete survival = 0.)