UNITED STATES DEPARTMENT OF AGRICULTURE
SCIENCE AND EDUCATION ADMINISTRATION
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 1977

V. A. Johnson
Research Agronomist
and
Technical Advisor, Hard Winter Wheat

Lincoln, Nebraska
1978

UNITED STATES DEPARTMENT OF AGRICULTURE
SCIENCE AND EDUCATION ADMINISTRATION
NORTH CENTRAL REGION

COMPARISON OF WINTER WHEAT VARIETIES GROWN IN COOPERATIVE NURSERY EXPERIMENTS IN THE HARD RED WINTER WHEAT REGION IN 1977

By

V. A. Johnson[1]

CONTENTS

[1]The writer expresses appreciation to Katie Meierhenry, Mary Davidson, Regina Hogendorn, Connie Pelan, Sandra Schulz, Irene Zimmerman, and David Worrall for their assistance in preparing this report.

COOPERATING AGENCIES, STATIONS, AND PERSONNEL
(The asterisk denotes U.S.D.A. employees)

AGRICULTURAL RESEARCH SERVICE, U.S.D.A.:	
Hard Red Winter Wheat	V. A. Johnson*
Uniform and International Rust Nurseries	R. A. Kilpatrick*
Hard Red Winter Wheat Quality	K. F. Finney*
Uniform Hessian Fly Nursery	R. L. Gallun*
Leaf Rust Investigations	L. E. Browder*
Stem Rust Investigations	D. V. McVey*
TEXAS AGRICULTURAL EXPERIMENT STATION:	
College Station — Texas A & M University	
Soil and Crop Sciences	E. C. Gilmore
Dallas	
TAMU Research and Extension Center	J. H. Gardenhire
Chillicothe	
TAMU Agricultural Research Station	E. C. Gilmore
Bushland	
U.S.D.A. Southwestern Great Plains Research Center	K. B. Porter N. E. Daniels
NEW MEXICO AGRICULTURAL EXPERIMENT STATION:	
Clovis	
Plains Branch Station	R. E. Finkner C. H. Hsi
OKLAHOMA AGRICULTURAL EXPERIMENT STATION:	
Stillwater — Oklahoma State University	
Agronomy	E. L. Smith E. E. Sebesta* O. G. Merkle* B. B. Tucker
Botany and Plant Pathology	H. C. Young, Jr. F. J. Gough*
Biochemistry	D. C. Abbott
Lahoma	
North Central Research Station	D. C. Hane
Goodwell	
Panhandle Experiment Station	R. A. Peck
Altus	
Irrigation Experiment Station	P. D. Kruska
IOWA AGRICULTURAL EXPERIMENT STATION:	
Ames — Iowa State University	
Agronomy	R. E. Atkins

WASHINGTON AGRICULTURAL EXPERIMENT STATION:		
Lind		
Dry Land Research Unit		E. Donaldson
KANSAS AGRICULTURAL EXPERIMENT STATION:		
Manhattan	Kansas State University	
Agronomy		E. G. Heyne
		T. L. Walter
Plant Pathology		E. D. Hansing
		C. L. Niblett
		L. E. Browder*
Entomology		J. Hatchett*
Grain Science and Industry		A. B. Ward
Hays		
Ft. Hays Experiment Station		R. W. Livers
Garden City		
Garden City Experiment Station		M. D. Witt
Colby		
Colby Experiment Station		J. R. Lawless
Hutchinson		
South Central Experiment Field		W. Moore
COLORADO AGRICULTURAL EXPERIMENT STATION:		
Ft. Collins	Colorado State University	
Agronomy		J. R. Welsh
Akron		
Central Great Plains Research Center		J. R. Welsh
Springfield		
Southeastern Colorado Research Center		H. O. Mann
Nunn		J. R. Welsh
NEBRASKA AGRICULTURAL EXPERIMENT STATION:		
Lincoln	University of Nebraska	
Agronomy		V. A. Johnson*
		J. W. Schmidt
		M. R. Morris
		P. J. Mattern
North Platte		
North Platte Station		P. T. Nordquist
Alliance		
Northwest Agricultural Laboratory		C. R. Fenster
Sidney		
High Plains Agricultural Laboratory		C. R. Fenster
Clay Center		
South Central Station		J. W. Schmidt
WYOMING AGRICULTURAL EXPERIMENT STATION:		
Laramie	University of Wyoming	
Division of Plant Science		
(Crops Section)		B. J. Kolp
Cheyenne		
Archer Substation		M. R. Dally
Sheridan		
Sheridan Substation		G. L. Costel

SOUTH DAKOTA AGRICULTURAL EXPERIMENT STATION:

Brookings	South Dakota State University	
Plant Science		D. G. Wells
		H. Sandhu
		G. W. Buchenau
Highmore		D. G. Wells
Presho		D. G. Wells

NORTH DAKOTA AGRICULTURAL EXPERIMENT STATION:

Fargo	North Dakota State University	
Agronomy		J. R. Erickson
Williston		
Williston Substation		N. R. Riveland
Hettinger		
Hettinger Substation		T. C. Faller

MONTANA AGRICULTURAL EXPERIMENT STATION:

Bozeman	Montana State University	
Plant and Soil Science		G. A. Taylor
Moccasin		
Central Agricultural Research Center		Greg Kushnak
Havre		
Northern Agricultural Research Center		R. T. Harada
Sidney		
Eastern Agricultural Research Center		J. W. Bergman

IDAHO AGRICULTURAL EXPERIMENT STATION:

Aberdeen	
Aberdeen Branch Station	D. W. Sunderman*
Tetonia	
Tetonia Branch Station	D. W. Sunderman*

MINNESOTA AGRICULTURAL EXPERIMENT STATION:

St. Paul	Institute of Agriculture	
Agronomy and Plant Genetics		R. E. Heiner*
Waseca		
Southern Experiment Station		R. E. Heiner*

ILLINOIS AGRICULTURAL EXPERIMENT STATION:

Urbana	University of Illinois	
Agronomy		C. M. Brown
Plant Pathology		Richard Ford
		H. Jedlinski

MISSOURI AGRICULTURAL EXPERIMENT STATION:

Columbia	University of Missouri	
Field Crops		D. T. Sechler

CANADA DEPARTMENT OF AGRICULTURE:

Lethbridge	
Canada Agricultural Research Station	M. N. Grant

REGIONAL NOTES

Dr. E. C. Gilmore was transferred from College Station, Texas to Vernon, Texas where he will continue small grains research activities.

Dr. R. E. Heiner resigned as Research Agronomist, USDA, St. Paul, Minnesota to become director of small grains research at North American Plant Breeders. He will be located at Berthoud, Colorado.

Greg Kushnak was named superintendent of the Montana Agricultural Experiment Station's new research center to be located near Conrad, Montana. He has served as agronomist at the Central Agricultural Research Center at Moccasin since 1974.

NEW VARIETIES

The New Mexico Agricultural Experiment Station initiated foundation seed increase of NE66403 in 1977 with intention to name and release when ample seed is available. NE66403 is a selection from Pn/Cnn/3/Pn//Ky58/4/Nth made at Lincoln, Nebraska. It was tested in the SRPN during the 1969-1971 period and has shown excellent adaptation in eastern New Mexico.

'Payne' hard red winter wheat (CI17717) was released jointly by the Oklahoma Agricultural Experiment Station and the USDA in 1977. Payne was tested regionally under the number OK711092A. It was selected in Oklahoma from the cross Triumph 64/Teewon Sib//Sturdy. The Teewon Sib is an alien translocation line involving an Agropyron elongatum chromosome which carries the LR24 source of leaf rust resistance. Payne has relatively short straw, good lodging resistance, and leaf rust resistance.

OK66V2629, a selection from Scout, also was released by Oklahoma and the USDA in 1977 under the name "Ral1". Ral1 (CI17578) has a useful level of tolerance to wheat streak mosaic and above-average drought tolerance. It is similar to Scout in reaction to leaf rust, stem rust and powdery mildew but it may have somewhat weaker straw than Scout.

The Kansas, Oklahoma, and Texas Agricultural Experiment Stations and the USDA jointly released KS73112 in 1977 under the name 'Newton' (CI17715). It was developed cooperatively by Kansas and the USDA. Newton is a single plant selection made from an F_3 bulk of the cross Pitic 62/Chris Sib/2*Sonora 64/3/Klein Rendidor/4/Scout. It combines effective resistance to soilborne mosaic with high productivity and short stiff straw. Newton lacks winterhardiness for safe production north of Kansas.

'Bennett' hard red winter wheat (CI17723) will be released jointly by the Nebraska Agricultural Experiment Station and the USDA in 1978. It is an F_2 plant selection from Scout/3/Quivira/Tenmarq//Marquillo/Oro/4/Homestead tested in state and regional trials as NE73644. Bennett usually is slightly earlier than Scout 66 and about 10 cm shorter with much superior straw strength to Scout. It has better stem rust and soil-borne mosaic resistance than Scout 66 and is similar to Scout 66 in leaf rust, mildew and Septoria leaf blotch reaction. It has a low level of Hessian fly resistance.

Centurk Selection, NE69291, also will be released jointly by Nebraska, New Mexico, and the USDA in 1978 under the name 'Centurk 78'. It is an increase of 5 heads selected from Centurk. Centurk 78 is similar to Centurk in appearance but has been consistently somewhat superior to Centurk in grain yield in state and regional trials.

Seed of a translocation line immune to wheat streak mosaic was released as germplasm by the South Dakota Agricultural Experiment Station in 1977. The release carries the pedigree Carsten V/ Agropyron intermedium, (octoploid sel. TA25)//Lathrop, (disomic substitution line CI15092)/3/Triticum speltoides/4/Fletcher/5/5*Centurk.

THE 1977 CROP YEAR

Throughout the hard red winter wheat region, germination and fall stands suffered from inadequate soil moisture and subnormal temperatures. This situation persisted throughout the fall, leaving the wheat poorly conditioned for the open winter which followed. Snow cover remained light to nonexistent in all areas save the northernmost portion of the region. In late February, high winds eroded exposed fields in eastern Colorado and western Kansas. Timely rains beginning in early April alleviated the severe moisture deficit in most areas other than the Pacific Northwest. Insects and diseases were not yield determining factors.

Average state winter wheat yields in the 10 states comprising the hard red winter wheat region ranged from 1345 kg/ha in Wyoming on 105 thousand harvested hectares to 2354 kg/ha on nearly 1.2 million harvested hectares in Nebraska. Abandonment of seeded areas ranged from 41% in South Dakota to 8% in Kansas and Montana.

Winter wheat production statistics for cooperating states in the hard red winter wheat region for 1977:

State	Hectares seeded	Hectares harvested	Abandonment	Yield per harvested hectare	Production (metric tons)
	1,000	1,000	%	kg.	1,000
New Mexico	223	170	24	1412	240
Texas	2,550	1,902	25	1681	3,197
Oklahoma	3,157	2,631	17	1816	4,778
Colorado	1,214	1,032	15	1480	1,527
Kansas	5,342	4,897	8	1917	9,388
Nebraska	1,335	1,194	11	2354	2,811
Wyoming	132	105	20	1345	141
South Dakota	469	275	41	1681	462
North Dakota	65	42	35	1547	65
Montana	1,234	1,133	8	1950	2,209

Source: Crop Production, 1977 Annual Summary, Crop Reporting Board, ESCS, USDA, Washington, D. C.

SOUTHERN REGIONAL PERFORMANCE NURSERY

The SRPN consisted of 40 entries, 20 of which were new in 1977. Thirty-two replicated nurseries were seeded at 29 sites and there were two observation nurseries. Yield data are reported from 26 nurseries in 10 states. Nurseries were abandoned at Highmore, SD; Presho, SD; and Clay Center, NE due to poor fall stand establishment. The nursery at Akron, CO was not harvested. Yield data from Ames, IA and Julesburg, CO were reported but not included in regional summaries due to poor fall stand establishment and hail damage respectively.

Entry no.	Variety or Pedigree	C. I. or Sel. No.	Source
1	Kharkof	1442	Check
2	Scout 66	13996	"
3	Sage	17277	"
4	II 21183/CO652643//Lancer/KS62136	CO725061	Colorado
5*	CO695708/CO673410	CO533147	"
6*	CO695552/Centurk	CO534727	"
7*	CO695427/Centurk	CO535926	"
8	CIMMYT/Scout	KS73112	Kansas
9	"	KS73167	"
10	"	KS73253	"
11	"	KS73261	"
12	Centurk	15075	Nebraska
13	Centurk Selection	NE69291	"
14	Buckskin/Homestead	NE73491	"
15	"	NE73641	"
16	"	NE73644	"
17	"	NE73649	"
18*	Tascosa/T_1//Sturdy	OK711248-1	Oklahoma
19*	"	OK711248-176	"
20	Tascosa/T_1//Parker	OK722721	"
21	Triumph 64/T_1//Sturdy	OK711092A	"
22	Short Wheat/Scout	TX69A569-1	Texas
23	62A2782-8/Centurk	TX73A2694	"
24*	Sdy Sib/Tcs, TX62A2642//Ctk	TX71A937	"
25*	" "	TX71A946	"
26*	TAM W-101/Centurk	TX71A30	"
27*	" "	TX71A106-5	"
28*	" "	TX71A58-3	"
29*	Palo Duro/Centurk	TX71A407-6	"
30*	Sdy Sib/Tmp, TX62A4615-7//Ctk	TX71A562-6	"
31*	Sdy Sib/Kaw, TX65A1503//Ctk	TX71A687-5	"
32*	Buckskin/Homestead	NE73640	Nebraska
33*	Centurk/Sturdy	NK75V465	N-K
34*	Sturdy/Bison	NK75V520	"
35	Parker/TX65A1682	IL71-5838	Illinois

Entry no.	Variety or Pedigree	C. I. or Sel. No.	Source
36	Gage/TX65A1682	IL72-2489	Illinois
37*	NAPB 1307-76	---	NAPB
38*	" 1286-76	---	"
39*	" 1291-76	---	"
40*	" 1289-76	---	"

* New entry in 1977

Test Site Information

Clovis, NM --- Irrigated and dryland nurseries were grown. Harvest dates were June 20 for the dryland test and June 28 for the irrigated test.

Farmington, NM -- An irrigated nursery was grown. The test was seeded on September 16, fertilized with N at a rate of 150 lb/A and harvested on July 8. Grain moisture at harvest was $\leq$ 12.5%.

Dallas, TX --- Information not provided.

Chillicothe, TX --- The nursery was planted October 20 on land fallowed the previous crop season. Fertilizer was applied at the rate of 40-50-0 (N-P-K) pounds per acre and disked in prior to planting. The test was top-dressed with 40 pounds of N per acre prior to jointing on March 4. Greenbugs were controlled by spraying with methyl parathion on March 22 and they caused no significant damage. Leaf rust developed late but caused no significant damage. Only a trace of stem rust was found. Moderate levels of Septoria nodorum developed shortly before maturity. The Scout derivatives appeared most susceptible. The low temperature was 1°F. The season may be characterized as having a very dry winter and early spring and a very wet late spring. Moisture reserves were excellent at planting and 4 inches of precipitation were received in October but only 2.8 inches were received from November 1 through April 13. Fourteen inches were received from April 14 through May 31.

Bushland, TX -- Irrigated and dryland tests were grown. Planting dates were October 6 for the dryland test and October 11 for the irrigated test. Rainfall was sufficient to establish stands in both nurseries. Precipitation was below normal but the dryland trial was planted on 2-year fallow and timely showers and near normal maximum temperatures in May facilitated high dryland yields. Low winter temperatures restricted growth and subsoil moisture was conserved for spring growth. The dryland trial was sprayed with 1/3 lb. of 2,4-D amine in early March to control mustard. The wheat was dormant at this time due to drouth and was undamaged

by the herbicide application. The irrigated trial was fertilized with 100 lbs. N per acre in December and irrigated 4 times (4-5 inch applications) between March 1 and June 1. No preplant or fall irrigations were made. Hail caused 0-15% damage to the dryland test and less damage to the irrigated test. Shattering in the irrigated test was caused by wind prior to harvest. Insects and diseases were no problem.

Oklahoma Locations -- Information not provided.

Hutchinson, KS -- The nursery was seeded October 7 on land which had been given a preplant fertilizer application of 32-40-0 (N-P-K) lbs/A. Emergence was good but minimal fall growth followed. Spring growth was slow until late April. Excessively rapid growth occurred in May causing moisture stress for some lines. Diseases observed included leaf rust, stem rust, mildew, Septoria and leaf spot but none did significant damage.

Hays, KS -- Information not provided.

Garden City, KS -- Information not provided.

Colby, KS -- Subsoil moisture was deficient in the fall but surface moisture was adequate at planting time. Cool October weather limited top growth and secondary root development. Moisture was below normal during the winter months but adequate to sustain early spring growth in March. Little winter killing occurred. Moisture from April through harvest was above normal and no moisture stress was noted. No serious insect or disease problems were observed although some leaf rust developed in June.

Fort Collins, CO -- A very dry winter caused plant damage and reduced stands. The nursery was not irrigated but subsoil moisture was adequate for spring growth. Stem rust was artificially applied but very low infection rates resulted due to lack of moisture.

Akron, CO -- Nursery was not harvested.

Julesburg, CO -- Good moisture conditions prevailed throughout the year. Hail damage, estimated at 35%, caused differential damage.

Burlington, CO -- A hard rain following seeding caused some crusting. Severe winter winds without snow cover were responsible for some plant damage.

Springfield, CO -- The nursery may be characterized as having good fall moisture, wind stress during the winter and some rodent damage in the first rep during the spring.

Mead, NE -- The nursery was seeded on fallow land September 30 in good moisture. Fertilizer was applied at a rate of 45 lb. N/acre. Plant establishment in the fall was poor because of the cold weather early in October. Poor plant establishment coupled with an open winter led to winter damage in the less winterhardy lines. Spring rainfall was minimal but timely and temperatures were moderate. Diseases or insects were not a yield deterrent factor.

Clay Center, NE -- The nursery was seeded on October 12. The cold weather in October delayed good plant establishment in the fall and heavy winter killing occurred during the open winter. The nursery was abandoned.

North Platte, NE -- 1977 was an excellent year at North Platte. Good stands were obtained on fallowed land from a September 21 seeding. Ample snow cover prevented winter damage. Ample spring rainfall, moderate temperatures and absence of disease led to high yields.

Sidney, NE -- The nursery was seeded on fallowed land at the optimum time in mid-September. Neither moisture nor temperature stress were factors affecting variety performance. Diseases were not a factor.

Alliance, NE -- The nursery at Alliance was one of the best in years. Seeding on September 14 was at the optimal date. Winter survival was good and spring rainfall was timely. Seeded after fallow.

Columbia, MO -- Stands were very erratic. Seed rotted in the soil on some entries and never emerged.

Ames, IA -- Because of dry conditions in the fall, the nursery was planted late (October 6) with barely enough moisture for germination and emergence. Stands were irregular and growth proceeded only to the 2-leaf stage before winter. Plants were subjected to blowing soil during the fall. Most entries survived the winter but few had a full stand. Not many had stands sufficient for a representative yield of the variety. A heavy infection of barley yellow dwarf virus developed at heading time. Survival and yield probably do not represent a true evaluation of the lines in many instances, but rather a combination of winter survival capabilities plus an intangible ability to survive all the adversities that were encountered.

Urbana, IL -- All entries emerged to a good stand but fall top growth was minimal due to limited moisture. Temperatures were above normal and rainfall below normal during spring and early summer. The wheat matured about one week earlier than expected. Diseases caused no significant damage.

Brookings, SD -- Information not provided.

Presho, SD -- Nursery failed.

Aberdeen, ID -- Information not provided.

Tetonia, ID — Information not provided.

Lind, WA -- The test was seeded September 16 and harvested July 28. Moisture conditions, both soil and rainfall, were poor throughout the growing season. No diseases were observed.

Table 1. Yield and agronomic data for the 40 varieties and lines evaluated in the Southern Regional Performance Nursery in 1977.

Clovis, New Mexico
(Dryland)
Three Replications

C. I. or Sel. No.	Entry No.	Yield	Volume weight	Days to heading	Plant height	Bird damage
		kg/ha	kg/hl	from 1/1	cm	%
TX71A562-6	30	2207	77.4	125	57	5
C0725061	4	2202	80.0	124	55	2
17277	3	2189	78.7	121	65	5
TX73A2694	23	2031	77.4	127	55	0
NAPB 1291-76	39	2020	78.7	124	59	2
C0533147	5	1994	80.0	127	59	0
OK711092A	21	1985	77.4	124	56	3
OK711248-1	18	1958	78.7	128	56	0
15075	12	1942	78.7	127	57	3
NE73491	14	1897	77.4	119	64	17
1442	1	1867	74.8	132	76	0
13996	2	1828	77.4	125	57	0
NE73640	32	1815	77.4	122	55	8
TX71A407-6	29	1802	78.7	123	48	3
NAPB 1307-76	37	1798	78.7	125	54	0
NE69291	13	1779	78.7	127	56	3
OK711248-176	19	1778	78.7	127	54	0
TX71A106-5	27	1718	78.7	123	51	17
NK75V465	33	1702	77.4	129	56	0
NE73641	15	1643	77.4	122	50	8
TX71A58-3	28	1635	78.7	127	53	3
C0535926	7	1632	80.0	120	60	8
TX71A687-5	31	1564	77.4	128	48	3
TX69A569-1	22	1539	78.7	123	47	5
NAPB 1289-76	40	1525	77.4	130	53	0
IL72-2489	36	1494	77.4	124	53	7
TX71A946	25	1451	78.7	120	49	18
NK75V520	34	1407	77.4	125	53	0
NE73644	16	1403	77.4	125	46	3
TX71A937	24	1323	78.7	120	51	33
NE73649	17	1321	77.4	126	44	2
IL71-5838	35	1288	78.7	124	49	2
C0534727	6	1279	74.4	124	53	8
NAPB 1286-76	38	1278	77.4	128	53	0
OK722721	20	1207	77.4	126	49	0
KS73112	8	996	74.4	120	53	35
KS73167	9	939	80.0	121	54	45
TX71A30	26	828	77.4	120	47	28
KS73261	11	534	78.7	121	47	27
KS73253	10	420	78.7	120	51	57

$LSD_{.05}$ = 497; C.V. = 19.3%

Clovis, New Mexico (Irrigated)
Three replications

C. I. or Sel. No.	Entry No.	Yield kg/ha	Volume weight kg/hl	Days to heading from 1/1	Plant height cm.
TX71A562-6	30	8159	76.6	126	89
TX71A407-6	29	7514	75.1	123	87
15075	12	7417	77.0	125	102
NE69291	13	7224	76.9	126	96
TX71A58-3	28	7200	76.9	124	91
CO534727	6	7164	74.6	123	99
NAPB 1289-76	40	7128	76.5	126	104
CO535926	7	6965	75.2	123	101
TX71A106-5	27	6905	74.7	123	82
13996	2	6871	75.7	122	104
NK75V465	33	6833	78.7	125	90
KS73261	11	6737	77.0	122	86
NE73640	32	6661	75.3	122	93
TX73A2694	23	6648	78.0	126	95
KS73167	9	6632	76.9	122	90
NAPB 1291-76	39	6632	75.1	126	106
TX71A946	25	6613	74.8	122	85
TX69A569-1	22	6571	76.2	123	86
NE73491	14	6544	73.3	122	98
TX71A937	24	6534	75.2	121	85
KS73112	8	6504	76.2	122	94
OK722721	20	6485	75.7	126	93
TX71A687-5	31	6403	75.3	125	77
CO533147	5	6373	77.9	125	106
NE73644	16	6354	74.3	123	89
IL72-2489	36	6287	75.1	123	80
NAPB 1307-76	37	6253	77.4	125	95
NAPB 1286-76	38	6197	76.9	124	103
CO725061	4	6187	77.8	124	89
KS73253	10	6130	75.3	121	90
IL71-5838	35	6118	77.1	121	92
OK711248-1	18	6079	77.0	127	86
NE73649	17	6031	74.2	123	90
NE73641	15	6028	74.2	123	89
OK711248-176	19	5922	78.8	127	90
17277	3	5917	75.2	124	97
TX71A30	26	5891	74.4	121	87
OK711092A	21	5492	74.4	128	91
NK75V520	34	5377	77.0	125	85
1442	1	5336	74.6	132	120

$LSD_{.05}$ = 973 C.V. = 9.2%

Farmington, New Mexico
Three replications
(irrigated)

C. I. or Sel. No.	Entry No.	Yield	Volume weight	Days to heading	Plant height	Lodging
		kg/ha	kg/hl	from 1/1	cm.	0-9
TX71A106-5	27	6198	74.4	146	94	0
TX69A569-1	22	6077	78.3	145	101	0
TX71A937	24	6032	79.6	145	96	0
CO534727	6	5928	77.4	148	108	0
TX71A946	25	5911	79.1	140	93	0
CO725061	4	5753	75.7	148	103	0
NAPB 1307-76	37	5728	77.8	143	103	0
TX71A407-6	29	5692	76.5	146	88	0
KS73112	8	5519	80.0	144	95	0
TX71A562-6	30	5510	76.5	152	106	0
TX71A58-3	28	5335	75.3	148	100	0
17277	3	5205	77.0	149	108	2
OK711248-176	19	5144	76.1	149	108	0
NAPB 1289-76	40	5073	77.4	156	114	1
IL72-2489	36	5004	77.0	144	85	0
NE73641	15	4941	75.7	149	98	0
TX71A687-5	31	4935	77.4	147	88	0
KS73253	10	4934	78.3	145	95	0
KS73261	11	4933	80.4	135	88	0
13996	2	4847	79.6	147	102	1
KS73167	9	4838	78.7	145	95	0
OK711092A	21	4768	78.3	148	108	0
IL71-5838	35	4699	79.1	142	96	0
NE73649	17	4681	78.3	148	99	0
NE73644	16	4672	77.0	147	94	0
NE69291	13	4656	79.1	151	105	0
15075	12	4613	77.4	150	101	1
OK722721	20	4612	80.4	148	101	0
TX73A2694	23	4568	77.4	147	102	0
NAPB 1291-76	39	4524	76.5	147	101	0
OK711248-1	18	4516	77.4	148	105	0
NE73640	32	4350	78.3	145	91	0
NE73491	14	4298	75.3	140	91	0
NAPB 1286-76	38	4264	74.0	150	94	0
TX71A30	26	4209	78.7	135	92	0
CO533147	5	4081	79.1	151	105	2
NK75V465	33	4045	76.5	148	99	0
CO535926	7	3940	76.5	147	99	1
1442	1	3905	73.1	155	118	4
NK75V520	34	3418	73.6	145	86	0

$LSD_{.05}$ = 1350 C.V. = 16.9%

Dallas, Texas
Three replications

C.I. or Sel. No.	Entry no.	Yield	Volume weight	Days to heading	Plant height	Mildew Resp.	Mildew Sev.	BYDV[1]	Sept.[1]	Phyto.[2]	% Protein[3]
		kg/ha	kg/hl	from 1/1	cm	0-9	%	0-9	0-9	0-9	
C0534727	6	4699	77.4	107	97	7	10	2	9	0.5	14.19
NE69291	13	4454	80.6	111	102	3	15	1	8	Tr	13.88
TX71A30	26	4190	82.6	102	99	9	55	Tr	6	Tr	13.12
15075	12	4089	80.6	110	99	7	10	Tr	7	0.5	15.02
NAPB 1307-76	37	4064	80.6	102	86	9	60	Tr	9	1.0	13.80
NAPB 1291-76	39	3849	78.7	109	112	2	10	1	7	Tr	14.23
TX71A946	25	3730	74.8	110	89	9	60	2	9	2.0	14.37
TX71A562-6	30	3694	72.9	112	94	7	20	1	9	Tr	14.90
IL71-5838	35	3687	82.6	106	107	8	45	2	8	Tr	13.43
KS73253	10	3681	75.5	109	91	8	30	3	8	3.0	14.14
TX71A106-5	27	3658	78.7	105	84	9	55	2	6	Tr	13.75
C0725061	4	3578	81.3	106	89	8	15	2	8	2.5	13.36
NAPB 1289-76	40	3576	79.3	112	107	2	5	2	7	1.0	14.38
NAPB 1286-76	38	3544	79.3	102	109	2	10	3	7	1.5	14.85
NE73640	32	3508	78.7	114	97	7	15	2	4	1.5	14.06
NK75V520	34	3484	80.0	102	79	9	55	Tr	9	Tr	15.80
NK75V465	33	3466	75.5	110	89	8	30	2	7	1.0	14.27
TX71A937	24	3450	74.2	110	89	9	60	2	9	2.0	14.70
OK711092A	21	3445	75.5	106	91	9	70	3	7	1.0	14.61
TX71A407-6	29	3418	78.7	106	86	8	30	2	9	Tr	14.24
NE73644	16	3342	78.0	116	97	3	10	4	8	2.5	14.33
OK722721	20	3289	81.9	112	97	9	60	2	5	3.0	14.01
TX73A2694	23	3278	76.1	111	91	7	20	3	6	1.0	14.38
17277	3	3232	77.4	117	99	8	30	2	5	3.0	16.39
NE73641	15	3226	77.4	114	91	7	10	3	7	1.0	14.50
KS73261	11	3197	76.1	110	91	8	30	3	8	3.5	13.76
NE73649	17	3174	78.7	115	97	8	30	2	9	1.0	14.27
KS73167	9	3147	76.8	113	94	9	40	2	9	3.0	13.60
NE73491	14	3062	77.4	115	97	3	10	5	7	3.5	15.29
TX69A569-1	22	3056	72.2	111	89	9	50	3	5	2.0	14.26
OK711248-176	19	3020	77.4	118	94	8	35	1	4	Tr	14.36
13996	2	2851	78.0	115	102	7	15	3	7	3.0	14.68
C0533147	5	2813	78.0	112	102	9	15	2	9	1.0	13.22
TX71A687-5	31	2798	72.2	116	84	7	20	Tr	9	1.0	15.34
TX71A58-3	28	2670	75.5	116	89	8	35	2	8	1.0	13.74
KS73112	8	2616	71.6	114	89	8	30	4	8	4.0	14.72
C0535926	7	2542	74.8	116	109	8	25	2	7	2.0	16.03
OK711248-1	18	2463	75.5	117	94	9	45	1	4	Tr	15.56
IL72-2489	36	2024	68.4	115	79	9	55	2	9	1.0	14.56
1442	1	1555	76.1	[4]	109	8	20	3	5	2.0	14.83

$LSD_{.05}$ = 527 C.V. = 9.8%

[1] 0=none, 9=severe
[2] Phytotoxicity = Plants sprayed with Diazanon causing differential leaf burn. 0=none, 9=severe.
[3] Protein analysis done on InfraAnalyzer.
[4] Data not provided.

Chillicothe, Texas
Three Replications

C. I. or Sel. No.	Entry No.	Yield kg/ha	Volume weight kg/hl	Days to heading from 1/1	Plant height cm	Lodging 0-9	Leaf Rust sev. %	Leaf Rust resp. 0-9
TX71A407-6	29	4024	78.7	103	66	1	40	8
OK722721	20	3950	80.2	104	72	0	15	7
15075	12	3942	80.2	105	76	1	50	7
TX71A937	24	3926	80.0	103	72	0	20	8
CO534727	6	3899	76.4	103	73	0	20	8
TX71A946	25	3847	79.2	103	73	0	20	8
TX71A562-6	30	3771	76.4	105	71	1	5	2
NE73640	32	3751	79.8	107	71	1	40	8
IL72-2489	36	3724	79.1	106	70	0	50	8
OK711248-1	18	3664	81.4	109	79	0	10	3
NAPB 1289-76	40	3659	80.9	107	85	0	60	8
TX69A569-1	22	3643	78.8	104	69	0	15	7
NE69291	13	3592	78.9	105	73	1	50	7
NE73491	14	3592	77.0	105	75	0	40	8
CO535926	7	3562	81.3	106	91	2	20	8
NE73649	17	3551	78.8	107	72	0	50	8
13996	2	3536	79.2	106	90	3	50	8
OK711248-176	19	3515	81.5	113	79	0	5	3
17277	3	3504	77.3	107	90	4	30	7
KS73112	8	3460	80.4	106	72	0	30	8
CO725061	4	3439	80.4	104	65	0	50	8
NAPB 1307-76	37	3432	80.2	102	60	0	0	3
TX71A58-3	28	3376	80.1	106	74	0	50	8
NE73641	15	3368	77.9	107	75	0	50	8
KS73167	9	3358	81.8	104	69	0	40	8
TX71A106-5	27	3358	78.0	103	65	0	60	8
TX71A30	26	3354	76.6	99	64	0	50	8
KS73253	10	3352	79.4	103	62	0	20	8
CO533147	5	3289	82.0	107	83	1	60	8
NE73644	16	3289	78.2	107	74	0	50	8
NAPB 1286-76	38	3246	79.8	104	86	1	30	7
TX71A687-5	31	3206	80.9	107	69	0	0	2
KS73261	11	3193	80.6	103	63	0	30	8
OK711092A	21	3145	78.0	104	69	0	0	2
NK75V465	33	3083	80.0	106	67	0	0	5
NAPB 1291-76	39	3013	78.2	105	85	2	5	2
IL71-5838	35	2939	78.5	100	64	0	30	8
NK75V520	34	2852	76.6	101	59	0	5	3
TX73A2694	23	2744	80.5	105	73	0	0	2
1442	1	2065	75.5	117	106	9	30	8

$LSD_{.05}$ = 420; C.V. = 7.5%

Bushland, Texas (Dryland)
Three replications

C. I. or Sel. No.	Entry no.	Yield	Volume weight	Days to heading	Plant height	Shattering
		kg/ha	kg/hl	from 1/1	cm	0-9
CO533147	5	2511	80.1	125	63	1
TX71A407-6	29	2493	79.9	122	53	1
TX69A569-1	22	2485	78.4	122	56	1
TX71A58-3	28	2464	79.9	126	49	2
TX71A562-6	30	2456	77.2	124	52	1
NAPB 1291-76	39	2446	80.1	126	58	Tr
NE73649	17	2402	80.1	122	55	1
17277	3	2396	79.0	124	57	Tr
NE69291	13	2394	80.2	127	56	1
OK722721	20	2378	80.6	124	57	1
13996	2	2366	79.9	122	61	1
NK75V465	33	2332	79.3	126	52	1
TX73A2694	23	2322	80.1	125	53	Tr
CO535926	7	2309	80.2	121	67	1
TX71A106-5	27	2309	80.2	123	52	2
CO725061	4	2302	80.6	126	52	2
NAPB 1307-76	37	2301	80.6	123	50	1
KS73112	8	2295	81.0	122	53	2
TX71A946	25	2266	80.1	122	56	2
15075	12	2265	80.2	127	54	1
NE73491	14	2242	78.0	122	54	1
NAPB 1289-76	40	2230	80.5	127	55	1
OK711248-1	18	2222	80.8	127	57	Tr
NAPB 1286-76	38	2218	79.2	124	53	2
OK711248-176	19	2216	81.0	128	54	Tr
KS73167	9	2186	81.4	121	56	2
NE73644	16	2176	78.3	122	54	1
NE73641	15	2166	78.4	123	52	1
CO534727	6	2162	78.8	122	59	1
TX71A937	24	2154	80.1	121	52	2
NE73640	32	2148	79.2	122	57	1
KS73261	11	2147	80.8	121	47	1
TX71A30	26	2125	80.6	120	58	1
OK711092A	21	2114	78.3	125	51	Tr
IL72-2489	36	2044	78.3	125	47	2
TX71A687-5	31	2007	79.7	126	44	1
KS73253	10	1921	80.2	120	55	2
1442	1	1895	79.9	132	75	Tr
IL71-5838	35	1891	81.4	120	57	1
NK75V520	34	1826	78.3	122	54	1

$LSD_{.05}$ = 293 C.V. = 8.1%

Bushland, Texas
(Irrigated)
Three Replications

C. I. or Sel. No.	Entry No.	Yield	Volume weight	Days to heading	Plant height	Lodging	Shattering
		kg/ha	kg/hl	from 1/1	cm	0-9	0-9
TX71A937	24	5197	75.4	124	74	0	0
TX71A562-6	30	5133	73.7	130	79	Tr	Tr
TX71A946	25	5023	75.0	124	75	0	Tr
OK722721	20	4975	77.2	127	86	Tr	Tr
NAPB 1307-76	37	4889	77.0	126	85	0	Tr
KS73261	11	4873	77.7	123	75	0	Tr
TX71A687-5	31	4795	73.7	130	74	0	0
KS73167	9	4793	77.2	125	76	0	Tr
TX71A30	26	4752	77.2	122	77	Tr	Tr
TX71A407-6	29	4750	73.5	125	71	0	0
TX71A106-5	27	4729	76.2	124	73	0	Tr
TX73A2694	23	4670	77.9	128	83	0	Tr
TX69A569-1	22	4632	75.2	126	75	0	Tr
IL71-5838	35	4600	78.4	122	79	0	Tr
NK75V520	34	4533	74.5	124	74	0	Tr
17277	3	4469	75.0	127	87	Tr	Tr
13996	2	4452	76.1	124	89	Tr	Tr
NK75V465	33	4447	74.1	130	72	0	Tr
OK711092A	21	4415	72.1	128	84	0	Tr
CO535926	7	4414	75.7	126	89	Tr	Tr
TX71A58-3	28	4364	74.7	129	78	0	0
IL72-2489	36	4308	72.0	128	76	0	Tr
NE73640	32	4281	76.1	126	79	Tr	Tr
NAPB 1286-76	38	4246	74.4	126	88	0	Tr
KS73112	8	4211	74.1	125	79	0	1
NE73644	16	4192	75.4	125	81	Tr	Tr
NE73649	17	4185	76.1	126	84	0	Tr
NE73641	15	4152	75.4	126	79	0	Tr
OK711248-1	18	4117	73.5	130	85	Tr	0
CO533147	5	4110	75.4	129	92	Tr	Tr
NAPB 1291-76	39	4051	74.7	129	96	Tr	Tr
KS73253	10	4034	76.1	123	74	Tr	1
NE69291	13	3989	75.9	129	87	Tr	Tr
NE73491	14	3941	75.2	124	82	Tr	Tr
CO725061	4	3893	76.1	127	79	Tr	Tr
CO534727	6	3866	75.0	125	79	Tr	Tr
OK711248-176	19	3833	74.8	122	85	Tr	0
NAPB 1289-76	40	3831	75.2	130	90	Tr	Tr
15075	12	3829	75.2	129	88	Tr	Tr
1442	1	1995	72.6	138	101	1	2

$LSD_{.05}$ = 562; C.V. = 7.9%

Stillwater, Oklahoma
Three Replications

C. I. or Sel. No.	Entry No.	Yield	Volume weight	Days to heading	Plant height	Lodging	Leaf Rust sev.	Leaf Rust resp.
		kg/ha	kg/hl	from 1/1	cm	0-9	%	0-9
TX71A937	24	4209	79.3	112	87	1	2	8
NAPB 1307-76	37	4203	80.3	107	86	2	3	8
TX71A946	25	4174	79.4	110	87	1	3	8
KS73253	10	4108	80.6	109	83	1	6	8
CO725061	4	4103	81.4	108	78	2	18	8
TX69A569-1	22	4102	77.5	112	88	1	1	8
TX71A562-6	30	4056	76.8	113	84	1	0	-
NK75V465	33	4038	79.2	112	80	1	0	-
TX71A407-6	29	4022	77.7	108	81	1	4	8
TX73A2694	23	4016	80.2	111	87	0	1	8
KS73261	11	3932	81.2	109	78	1	4	8
TX71A30	26	3871	79.7	105	81	1	4	8
NE69291	13	3854	80.8	110	98	3	5	8
15075	12	3809	79.9	112	96	4	4	8
TX71A106-5	27	3806	78.9	107	76	0	32	8
CO534727	6	3789	79.2	108	93	2	3	8
OK722721	20	3788	79.8	111	92	2	1	8
NAPB 1286-76	38	3783	79.3	109	89	2	2	8
KS73112	8	3764	78.9	112	88	2	2	8
TX71A58-3	28	3764	79.5	114	80	1	3	8
KS73167	9	3735	80.8	110	80	0	3	8
OK711248-176	19	3693	80.8	118	82	0	0	8
NAPB 1291-76	39	3679	78.6	112	97	3	1	8
NE73649	17	3616	79.0	113	94	2	2	8
NAPB 1289-76	40	3599	79.9	114	101	4	12	8
OK711248-1	18	3559	80.2	118	86	0	0	8
TX71A687-5	31	3551	79.9	114	72	0	0	8
17277	3	3488	79.4	113	100	6	2	8
IL71-5838	35	3483	80.2	107	86	1	5	8
OK711092A	21	3420	78.1	108	87	2	0	-
CO535926	7	3411	78.9	113	94	3	5	8
CO533147	5	3396	81.1	112	91	2	4	8
NK75V520	34	3392	78.6	106	77	0	1	8
NE73491	14	3267	77.6	111	91	3	3	8
NE73644	16	3245	78.3	113	90	2	4	8
NE73641	15	3187	78.0	113	85	2	7	8
NE73640	32	3177	79.7	113	91	2	3	8
IL72-2489	36	3097	77.2	113	78	1	4	8
13996	2	2793	79.2	112	101	5	5	8
1442	1	2667	78.1	120	99	3	1	8

$LSD_{.05}$ = 384; C.V. = 6.4%

Lahoma, Oklahoma
Three replications

C. I. or Sel. No.	Entry no.	Yield kg/ha	Volume weight kg/hl
KS73112	8	3000	73.5
KS73261	11	2911	75.3
KS73253	10	2852	74.9
NAPB 1289-76	40	2811	74.5
KS73167	9	2805	75.8
17277	3	2764	77.1
NAPB 1307-76	37	2745	76.2
CO533147	5	2718	75.7
NE73640	32	2717	72.7
CO725061	4	2692	76.1
NE73491	14	2669	72.3
NAPB 1291-76	39	2662	71.3
NE73641	15	2638	71.7
IL71-5838	35	2634	76.1
TX71A562-6	30	2617	69.3
NE69291	13	2613	74.0
OK711092A	21	2603	72.6
NE73649	17	2600	72.7
NAPB 1286-76	38	2563	73.4
15075	12	2559	74.0
TX71A30	26	2555	74.7
TX71A106-5	27	2550	74.7
OK722721	20	2546	74.0
TX71A58-3	28	2541	72.2
TX71A937	24	2530	72.1
NK75V465	33	2505	71.6
NE73644	16	2503	72.1
TX69A596-1	22	2502	72.5
CO535926	7	2476	71.1
13996	2	2453	74.3
TX73A2694	23	2440	74.1
NK75V520	34	2432	72.5
IL72-2489	36	2410	70.5
TX71A946	25	2401	71.6
CO534727	6	2348	70.2
TX71A407-6	29	2271	70.2
TX71A687-5	31	2260	69.1
OK711248-1	18	2220	71.3
OK711248-176	19	2129	73.2
1442	1	1894	70.5

$LSD_{.05}$ = 289 C.V. = 7.0%

Altus, Oklahoma
Three Replications

C. I. or Sel. No.	Entry No.	Yield	Volume weight	Plant height	Lodging
		kg/ha	kg/hl	cm	0-9
TX71A407-6	29	3496	77.4	75	7
TX69A569-1	22	3330	78.3	85	2
17277	3	3240	78.5	97	8
TX71A562-6	30	3195	75.6	80	1
OK711248-176	19	3128	80.7	83	1
TX71A946	25	3106	78.6	80	0
NE73491	14	3106	76.3	85	4
CO725061	4	3083	79.0	81	4
TX71A687-5	31	3072	78.0	75	0
NE73640	32	3016	76.8	83	0
NAPB 1307-76	37	3005	78.4	81	0
CO535926	7	2994	79.0	96	4
OK711248-1	18	2994	79.7	81	0
NAPB 1289-76	40	2994	78.9	90	0
TX71A937	24	2983	78.4	79	1
TX71A106-5	27	2983	77.9	75	1
NAPB 1291-76	39	2983	77.5	90	1
TX71A58-3	28	2960	79.0	79	1
NE73649	17	2949	77.2	82	0
KS73112	8	2915	78.9	80	4
TX73A2694	23	2859	78.9	83	1
OK722721	20	2848	79.7	83	1
NE73644	16	2837	77.1	78	0
KS73167	9	2825	79.7	81	4
13996	2	2814	77.7	95	8
NE73641	15	2814	76.7	83	4
IL72-2489	36	2814	77.4	77	2
NE69291	13	2792	78.4	85	4
NK75V465	33	2725	78.1	80	0
CO533147	5	2691	80.1	89	4
KS73261	11	2691	79.3	78	4
KS73253	10	2657	77.4	78	4
1442	1	2646	75.6	100	4
TX71A30	26	2601	76.5	74	2
15075	12	2534	78.4	79	4
NAPB 1286-76	38	2534	78.4	84	2
OK711092A	21	2512	75.4	80	2
CO534727	6	2500	75.7	83	4
IL71-5838	35	2444	77.5	75	0
NK75V520	34	2164	74.9	74	0

$LSD_{.05}$ = 315; C.V. = 6.7%

Goodwell, Oklahoma
Three replications
(irrigated)

C. I. or Sel. No.	Entry No.	Yield kg/ha	Volume weight kg/hl	Days to heading from 1/1	Plant height cm.
TX71A946	25	5019	74.5	128	96
TX71A30	26	4994	76.8	126	96
TX71A937	24	4877	74.7	128	100
NK75V465	33	4743	73.2	134	91
NAPB 1307-76	37	4698	77.1	127	99
TX69A569-1	22	4649	72.7	131	85
TX71A106-5	27	4613	75.2	128	83
KS73167	9	4575	75.3	131	90
TX71A562-6	30	4465	69.8	135	90
CO725061	4	4458	76.8	130	95
NK75V520	34	4422	73.6	126	81
OK722721	20	4400	77.4	131	92
NE69291	13	4379	75.9	134	103
KS73261	11	4270	75.3	134	95
TX71A407-6	29	4260	72.1	129	90
IL71-5838	35	4232	78.1	127	94
NE73649	17	4222	76.6	134	97
NE73640	32	4209	75.8	132	104
NE73641	15	4162	74.9	135	97
TX73A2694	23	4137	75.8	135	91
KS73253	10	4027	74.4	128	92
OK711092A	21	3996	72.5	132	87
NE73491	14	3985	74.9	131	102
17277	3	3958	74.7	133	99
CO534727	6	3906	74.5	131	99
KS73112	8	3839	71.1	131	96
15075	12	3796	75.8	135	103
NAPB 1289-76	40	3796	75.8	134	111
NE73644	16	3779	75.7	135	100
13996	2	3651	75.3	132	110
TX71A58-3	28	3532	72.1	136	93
CO535926	7	3496	72.2	135	109
NAPB 1286-76	38	3451	73.9	133	112
TX71A687-5	31	3323	70.8	136	82
OK711248-1	18	3316	71.8	126	88
OK711248-176	19	3316	75.6	128	95
IL72-2489	36	3072	68.1	134	88
NAPB 1291-76	39	3003	72.2	134	119
CO533147	5	2725	75.0	136	102
1442	1	2092	72.9	140	116

$LSD_{.05}$ = 548 C.V. = 8.4%

Hutchinson, Kansas
Three replications

C. I. or Sel. No.	Entry no.	Yield	Volume weight	Days to heading	Plant height	Lodging
		kg/ha	kg/hl	from 1/1	cm	0-9
KS73261	11	3887	57.5	124	102	1
TX71A30	26	3818	57.1	120	108	4
TX69A569-1	22	3667	54.5	124	90	1
KS73167	9	3648	56.3	125	94	1
TX73A2694	23	3623	56.8	126	96	4
CO725061	4	3540	56.8	122	99	4
NAPB 1286-76	38	3493	56.8	124	114	3
IL71-5838	35	3464	58.2	121	106	3
IL72-2489	36	3451	54.1	126	84	1
NAPB 1307-76	37	3409	57.7	121	96	5
OK711248-1	18	3378	56.9	128	89	4
NAPB 1291-76	39	3367	55.9	127	120	2
KS73253	10	3314	56.5	123	96	1
NE73640	32	3308	57.0	124	112	2
TX71A946	25	3277	52.5	125	92	1
TX71A106-5	27	3275	53.9	122	81	2
NE73649	17	3259	56.9	126	111	3
NE73641	15	3233	56.5	126	108	2
NE69291	13	3224	56.5	125	110	3
NAPB 1289-76	40	3216	58.0	127	119	3
OK722721	20	3187	57.8	124	108	4
NE73644	16	3182	57.5	126	108	1
TX71A937	24	3165	51.7	126	92	2
15075	12	3151	56.6	126	114	4
KS73112	8	3079	55.7	125	97	1
17277	3	3010	57.2	126	108	3
NE73491	14	3002	56.7	125	117	3
OK711092A	21	3000	54.6	123	93	1
CO533147	5	2969	57.6	127	117	3
NK75V465	33	2913	53.4	125	93	5
TX71A687-5	31	2851	53.2	127	80	2
TX71A562-6	30	2813	49.9	126	93	5
NK75V520	34	2801	56.7	121	84	1
CO535926	7	2797	55.6	127	121	4
TX71A58-3	28	2761	53.5	128	94	1
OK711248-176	19	2719	57.9	127	92	1
CO534727	6	2698	54.6	123	108	4
1442	1	2435	55.2	131	123	7
TX71A407-6	29	2327	48.8	123	89	7
13996	2	2186	56.4	125	122	6

$LSD_{.05}$ = 665 C.V. = 13.0%

Hays, Kansas
Three replications

C. I. or Sel. No.	Entry no.	Yield	Volume weight	Average grain weight	Days to heading	Plant height	Lodging[1]	Coleoptile length[2]
		kg/ha	kg/hl	mg	from 1/1	cm		mm
KS73167	9	3921	79.6	29.1	128	81	77	86
TX71A562-6	30	3896	73.2	29.4	130	79	73	72
CO725061	4	3808	78.9	27.2	128	80	78	71
17277	3	3795	79.5	34.6	129	91	73	111
TX69A569-1	22	3793	77.7	30.1	126	80	77	85
NE73491	14	3786	78.4	31.8	127	88	77	103
KS73261	11	3784	79.5	30.1	128	77	77	90
NE73640	32	3777	78.9	32.5	127	82	78	99
NE73641	15	3755	77.6	31.4	128	84	78	112
KS73253	10	3755	78.3	30.6	127	77	80	86
KS73112	8	3748	77.5	30.3	129	81	82	82
TX71A106-5	27	3748	77.8	32.2	127	76	77	69
IL72-2489	36	3744	77.0	27.7	130	73	88	65
NAPB 1307-76	37	3744	79.7	27.5	127	79	73	76
NE69291	13	3717	78.7	27.0	130	89	72	104
TX71A58-3	28	3712	76.2	28.6	130	79	77	73
CO533147	5	3689	79.6	27.5	131	95	68	94
NAPB 1291-76	39	3676	78.7	31.8	132	96	72	104
CO535926	7	3656	78.3	29.4	129	98	65	85
13996	2	3654	79.5	33.8	128	96	68	112
IL71-5838	35	3643	80.8	29.2	125	86	78	98
NE73649	17	3629	79.5	33.0	128	82	72	100
NE73644	16	3571	78.2	33.8	127	86	82	107
NK75V465	33	3557	75.8	26.8	130	77	77	80
15075	12	3531	78.2	27.8	131	85	70	104
OK722721	20	3454	78.4	29.5	130	83	73	96
OK711092A	21	3445	76.8	28.7	129	77	82	81
CO534727	6	3430	78.2	31.5	127	88	70	95
TX71A937	24	3396	76.9	27.6	126	77	75	85
TX71A407-6	29	3387	72.9	24.3	127	76	70	79
TX71A30	26	3354	79.7	31.6	126	82	73	95
NK75V520	34	3338	77.3	29.9	126	73	87	96
TX73A2694	23	3338	78.6	28.6	129	80	80	79
NAPB 1289-76	40	3338	78.4	26.7	131	93	72	104
TX71A946	25	3325	77.2	27.9	126	76	73	87
NAPB 1286-76	38	3318	77.3	25.9	129	82	75	79
1442	1	3040	77.9	27.5	138	99	68	105
OK711248-1	18	2896	78.4	34.3	132	75	87	89
OK711248-176	19	2858	79.1	30.8	132	74	90	87
TX71A687-5	31	2829	75.3	26.2	132	64	90	74

$LSD_{.05}$ = 486 C.V. = 8.4%

[1] Degrees from horizontal

[2] Grown in dark growth chamber at 65°F

Garden City, Kansas
Three replications

C. I. or Sel. No.	Entry no.	Yield	Volume weight	Plant height
		kg/ha	kg/hl	cm
OK711092A	21	2266	77.0	68
OK722721	20	1995	76.1	73
NE73649	17	1993	77.8	77
CO533147	5	1959	76.5	80
NE73644	16	1959	75.7	75
NE73641	15	1946	75.7	73
CO725061	4	1861	77.4	63
NAPB 1286-76	38	1856	75.2	87
NAPB 1307-76	37	1849	78.7	63
TX69A569-1	22	1834	73.5	68
KS73112	8	1825	74.0	72
17277	3	1818	75.7	80
TX73A2694	23	1800	75.7	72
IL72-2489	36	1776	75.2	70
NE69291	13	1775	74.8	77
NE73491	14	1771	75.7	77
OK711248-1	18	1762	75.7	77
TX71A687-5	31	1751	72.7	63
NE73640	32	1744	75.7	73
NAPB 1289-76	40	1715	75.7	85
13996	2	1708	75.2	83
OK711248-176	19	1699	78.3	75
NK75V465	33	1682	73.1	70
TX71A58-3	28	1677	73.5	73
TX71A562-6	30	1675	70.5	67
CO535926	7	1643	72.2	78
TX71A30	26	1634	73.1	72
IL71-5838	35	1614	77.4	73
NAPB 1291-76	39	1603	72.2	93
CO534727	6	1569	71.8	70
NK75V520	34	1533	75.2	60
15075	12	1527	74.4	77
KS73261	11	1468	75.7	63
TX71A937	24	1459	71.0	63
KS73167	9	1415	73.9	67
TX71A946	25	1412	69.7	63
1442	1	1347	72.7	100
KS73253	10	1302	73.9	62
TX71A106-5	27	1280	71.8	60
TX71A407-6	29	1143	68.0	60

$LSD_{.05}$ = 240 C.V. = 8.7%

Colby, Kansas
Three replications

C. I. or Sel. No.	Entry no.	Yield	Volume weight	Days to heading	Plant height	Lodging
		kg/ha	kg/hl	from 1/1	cm	1-10
KS73112	8	3071	78.7	140	71	0
TX71A562-6	30	2942	73.9	142	65	0
NAPB 1307-76	37	2931	80.3	138	71	0
KS73261	11	2894	79.1	138	69	1
NK75V465	33	2879	77.1	141	71	0
IL72-2489	36	2872	77.1	144	72	0
NAPB 1289-76	40	2843	78.4	143	84	0
CO533147	5	2839	80.0	143	84	0
OK711092A	21	2802	78.0	141	73	0
15075	12	2779	78.0	143	83	1
KS73253	10	2760	78.0	137	67	0
IL71-5838	35	2745	80.3	137	73	0
KS73167	9	2729	78.7	140	71	1
OK722721	20	2709	77.8	141	75	1
NAPB 1286-76	38	2709	78.0	138	78	0
NE69291	13	2665	78.4	143	80	3
TX71A30	26	2596	77.3	139	74	1
TX71A58-3	28	2581	75.8	144	74	0
TX69A569-1	22	2564	76.1	138	64	0
TX73A2694	23	2563	79.1	142	75	0
17277	3	2499	75.8	138	64	0
CO535926	7	2489	76.7	142	85	1
TX71A937	24	2489	75.2	137	63	0
NE73640	32	2489	77.1	143	75	2
13996	2	2472	78.0	140	82	1
NE73644	16	2468	75.2	143	75	1
TX71A687-5	31	2432	76.1	144	67	0
TX71A407-6	29	2404	69.6	139	62	0
CO725061	4	2377	79.1	142	69	0
NE73491	14	2322	77.1	142	81	1
NK75V520	34	2321	76.7	138	61	0
OK711248-176	19	2312	79.1	147	74	0
TX71A946	25	2297	76.1	138	63	0
CO534727	6	2273	74.2	139	72	0
NE73641	15	2225	77.1	143	76	1
NE73649	17	2217	77.8	145	77	1
OK711248-1	18	2195	78.0	145	75	1
NAPB 1291-76	39	2160	76.1	146	98	4
TX71A106-5	27	2006	74.2	140	62	0
1442	1	1597	77.3	148	110	7

$LSD_{.05}$ = 406 C.V. = 9.8%

Ft. Collins, Colorado
Three Replications

C. I. or Sel. No.	Entry No.	Yield	Volume weight	Days to heading	Plant height	Lodging	Stem Rust Sev.
		kg/ha	kg/hl	from 1/1	cm	0-9	%
TX71A562-6	30	5777	77.9	147	79	0	0
KS73112	8	5395	80.6	146	83	0	0
17277	3	5337	80.2	147	106	0	0
NAPB 1291-76	39	5274	80.2	151	99	1	0
NE69291	13	5229	80.4	149	98	1	1
13996	2	5162	80.9	144	107	1	0
NE73640	32	5099	78.4	145	92	1	0
CO725061	4	5068	80.6	148	75	0	0
CO535926	7	5032	80.2	147	89	0	0
TX69A569-1	22	5001	80.9	143	79	0	1
NE73491	14	4978	77.7	144	95	1	0
KS73253	10	4938	79.5	143	87	0	0
KS73261	11	4920	82.3	145	79	0	1
TX71A407-6	29	4906	79.7	146	72	0	0
IL72-2489	36	4888	77.5	146	75	0	3
15075	12	4866	80.1	150	93	1	0
NE73649	17	4839	78.4	145	90	0	0
NAPB 1289-76	40	4696	80.0	149	83	0	0
TX73A2694	23	4651	79.5	147	82	0	3
NE73644	16	4637	78.2	146	85	0	0
NE73641	15	4633	78.6	145	84	0	0
1442	1	4619	78.3	151	119	4	5
TX71A30	26	4552	78.7	143	92	0	0
CO533147	5	4521	80.9	147	101	0	0
OK722721	20	4507	80.4	146	78	0	0
NAPB 1286-76	38	4431	79.0	148	89	0	0
OK711092A	21	4413	75.6	147	82	0	0
KS73167	9	4377	81.3	145	77	0	0
NK75V465	33	4292	78.3	147	79	0	0
CO534727	6	4252	79.9	145	81	0	1
NAPB 1307-76	37	4180	80.5	146	75	1	0
TX71A946	25	4131	80.2	143	80	0	0
OK711248-176	19	4045	80.0	149	74	0	0
TX71A937	24	4027	79.7	144	74	0	0
TX71A58-3	28	4018	79.2	148	74	0	0
TX71A106-5	27	3852	78.6	146	60	0	1
OK711248-1	18	3651	80.1	147	74	0	0
IL71-5838	35	3426	80.2	144	72	0	0
NK75V520	34	2951	77.9	145	63	0	3
TX71A687-5	31	2628	75.2	148	61	0	0

$LSD_{.05}$ = 1076; C.V. = 14.5%

Julesburg, Colorado
Three replications

C. I. or Sel. No.	Entry no.	Yield	Volume weight	Plant height	Shattering
		kg/ha	kg/hl	cm	1-9
TX71A562-6	30	3338	71.9	69	3
TX69A569-1	22	3076	74.3	74	1
TX71A106-5	27	2987	74.3	64	3
TX71A407-6	29	2860	71.5	69	1
TX71A937	24	2852	72.8	74	2
TX73A2694	23	2793	76.1	79	1
TX71A946	25	2740	73.0	69	2
15075	12	2733	74.6	84	5
KS73112	8	2733	73.9	79	2
IL72-2489	36	2733	72.1	71	4
OK711248-176	19	2688	77.7	79	2
13996	2	2658	74.0	89	3
OK711248-1	18	2643	75.2	76	2
CO534727	6	2643	73.4	84	5
CO725061	4	2628	74.0	69	3
NE73644	16	2613	73.7	71	2
KS73167	9	2591	76.1	74	2
TX71A58-3	28	2583	73.0	71	2
NE69291	13	2553	74.0	81	5
NE73491	14	2551	73.7	79	2
NK75V465	33	2538	73.3	71	2
NE73649	17	2516	71.9	74	2
OK722721	20	2509	74.3	79	2
NE73640	32	2501	73.7	76	4
NAPB 1289-76	40	2464	73.0	89	3
KS73253	10	2442	73.7	71	3
OK711092A	21	2434	71.2	76	3
NAPB 1286-76	38	2434	72.8	91	6
CO533147	5	2412	74.6	84	4
TX71A687-5	31	2397	73.0	64	3
TX71A30	26	2330	74.0	81	4
IL71-5838	35	2307	76.5	79	5
NAPB 1291-76	39	2292	73.3	91	4
KS73261	11	2270	76.5	71	4
NE73641	15	2240	72.8	71	3
NK75V520	34	2240	73.3	69	3
NAPB 1307-76	37	2210	74.0	71	4
17277	3	2203	72.8	89	4
CO535926	7	2076	74.9	89	6
1442	1	1366	75.9	104	7

$LSD_{.05}$ = 359 C.V. = 8.7%

Burlington, Colorado
Three replications

C. I. or Sel. No.	Entry no.	Yield	Volume weight
		kg/ha	kg/hl
TX71A562-6	30	4629	75.9
TX69A569-1	22	4562	77.7
IL71-5833	35	4331	81.4
TX71A937	24	4323	77.7
IL72-2489	36	4271	77.4
TX73A2694	23	4211	81.4
NE73640	32	4174	80.2
OK711092A	21	4144	79.9
NK75V520	34	4099	78.7
CO725061	4	3987	77.4
TX71A687-5	31	3972	77.1
OK711248-176	19	3943	80.8
17277	3	3883	78.3
CO535926	7	3793	76.1
OK722721	20	3737	77.7
KS73253	10	3726	75.6
TX71A106-5	27	3718	76.1
NE73644	16	3700	77.4
NK75V465	33	3681	78.7
KS73261	11	3472	76.1
NE73649	17	3427	78.3
OK711248-1	18	3412	79.6
CO533147	5	3368	78.7
NAPB 1291-76	39	3323	75.2
NE73491	14	3304	74.9
NAPB 1307-76	37	3304	79.9
15075	12	3281	74.3
TX71A58-3	28	3263	76.5
NAPB 1286-76	38	3170	78.0
TX71A946	25	3076	75.9
NAPB 1289-76	40	3001	71.9
TX71A30	26	2875	78.0
KS73167	9	2856	77.7
NE73641	15	2778	78.0
KS73112	8	2681	74.9
TX71A407-6	29	2610	74.0
CO534727	6	2606	76.8
13996	2	2451	75.6
NE69291	13	2229	74.9
1442	1	1725	69.9

$LSD_{.05}$ = 934 C.V. = 18.5%

Springfield, Colorado
Three replications

C. I. or Sel. No.	Entry no.	Yield	Volume weight
		kg/ha	kg/hl
NAPB 1307-76	37	3699	74.6
IL71-5838	35	3696	76.2
TX71A562-6	30	3681	73.3
OK711248-176	19	3659	73.3
NAPB 1289-76	40	3558	73.3
TX71A58-3	28	3532	73.3
TX71A687-5	31	3517	73.0
OK722721	20	3405	73.0
TX71A30	26	3353	73.3
NE73640	32	3352	73.7
KS73261	11	3308	73.7
NAPB 1291-76	39	3233	73.9
15075	12	3229	74.8
CO725061	4	3222	76.5
NE73641	15	3211	72.8
TX71A407-6	29	3188	73.3
OK711092A	21	3181	73.0
NAPB 1286-76	38	3170	74.3
NE69291	13	3166	74.0
CO533147	5	3162	74.8
OK711248-1	18	3162	71.5
KS73167	9	3143	74.6
TX73A2694	23	3084	74.8
NE73491	14	3073	72.1
TX71A106-5	27	3046	73.0
KS73253	10	3024	73.3
KS73112	8	3002	73.7
TX69A569-1	22	2990	74.6
NK75V520	34	2986	73.3
IL72-2489	36	2983	73.0
CO535926	7	2942	73.7
17277	3	2897	74.6
NE73644	16	2860	72.8
NK75V465	33	2841	74.6
13996	2	2834	74.6
CO534727	6	2766	71.2
NE73649	17	2763	72.8
TX71A937	24	2322	69.4
TX71A946	25	2143	72.8
1442	1	2049	73.3

$LSD_{.05}$ = 934 C.V. = 18.5%

Mead, Nebraska
Three replications

C. I. or Sel. No.	Entry no.	Yield kg/ha	Volume weight kg/hl	Days to heading from 1/1	Plant height cm	Winter survival 0-9	% protein[1/]
TX71A562-6	30	4081	76.0	141	80	8	12.80
NAPB 1307-76	37	4030	80.2	139	80	8	13.25
17277	3	3906	79.5	142	101	8	14.70
TX69A569-1	22	3759	77.1	140	83	8	12.95
NAPB 1289-76	40	3675	79.9	142	96	9	13.95
KS73112	8	3622	77.3	142	88	7	14.45
15075	12	3621	78.9	141	90	9	13.90
OK711092A	21	3612	78.6	140	80	8	14.60
13996	2	3608	78.9	141	100	8	14.55
NE73640	32	3590	79.1	142	90	8	15.15
TX71A937	24	3534	77.8	141	81	6	13.55
TX71A946	25	3498	76.8	141	81	6	13.45
TX71A58-3	28	3467	77.4	145	82	8	13.35
CO725061	4	3460	79.7	139	79	7	13.10
IL72-2489	36	3453	76.5	143	80	8	14.40
KS73167	9	3440	79.6	142	83	6	14.40
TX71A30	26	3415	79.3	141	89	7	14.00
NE73644	16	3411	78.9	141	88	8	14.65
NAPB 1286-76	38	3371	77.1	140	100	8	14.50
CO533147	5	3339	79.1	142	94	9	14.90
NE73649	17	3328	79.3	142	87	9	14.95
NE69291	13	3285	79.1	141	90	8	13.70
KS73261	11	3247	79.3	142	84	6	14.75
NK75V465	33	3245	76.9	142	79	8	13.30
TX73A2694	23	3242	79.2	141	84	7	13.70
IL71-5838	35	3229	81.8	139	84	8	14.45
KS73253	10	3216	78.0	142	82	5	14.50
OK711248-176	19	3213	79.1	145	86	8	14.90
TX71A407-6	29	3189	74.3	140	78	7	13.05
NE73491	14	3184	78.8	141	91	8	15.30
NE73641	15	3184	79.3	142	87	8	15.15
NK75V520	34	3151	77.1	139	70	7	15.30
TX71A106-5	27	3146	76.2	141	71	7	13.20
CO535926	7	3030	78.7	143	98	8	15.15
CO534727	6	3018	78.0	140	89	8	13.95
OK711248-1	18	2987	79.2	146	82	7	14.70
OK722721	20	2976	79.5	141	87	7	13.30
TX71A687-5	31	2877	77.5	146	75	8	14.80
1442	1	2552	75.5	147	108	9	16.40
NAPB 1291-76	39	2303	77.9	145	108	6	14.20

$LSD_{.05}$ = 530 C.V. = 9.8%

[1/] Kjeldahl protein on 14% moisture basis.

North Platte, Nebraska
Three replications

C. I. or Sel. No.	Entry no.	Yield	Volume weight	Days to heading	Plant height	% Protein[1/]
		kg/ha	kg/hl	from 1/1	cm	
TX71A562-6	30	4413	78.2	143	81	12.25
15075	12	4366	81.4	145	91	12.80
NAPB 1291-76	39	4341	79.7	145	112	12.95
CO535926	7	4321	81.0	142	99	13.80
CO725061	4	4299	81.7	143	87	12.30
OK722721	20	4261	81.4	144	90	12.85
OK711248-176	19	4260	83.1	146	88	13.60
CO533147	5	4193	80.8	145	94	13.80
NK75V465	33	4171	80.2	144	79	13.20
TX71A687-5	31	4000	78.4	145	75	12.55
TX71A58-3	28	3949	78.8	145	77	12.30
17277	3	3947	79.9	144	95	14.00
NE69291	13	3942	80.8	144	92	12.35
KS73112	8	3926	81.3	143	84	13.35
NE73640	32	3913	79.1	143	88	14.50
NAPB 1289-76	40	3873	80.6	143	96	13.20
NAPB 1286-76	38	3859	80.1	145	100	13.65
OK711092A	21	3855	79.9	144	84	14.30
CO534727	6	3812	80.0	142	89	13.45
KS73261	11	3801	81.4	144	77	14.75
OK711248-1	18	3801	80.8	146	85	13.60
KS73167	9	3783	81.7	143	81	14.00
TX71A937	24	3767	81.3	143	76	13.10
TX71A407-6	29	3740	78.7	143	75	12.40
IL72-2489	36	3716	78.6	145	79	12.85
TX69A569-1	22	3707	80.4	143	80	13.05
NE73649	17	3704	79.5	144	88	14.65
TX73A2694	23	3680	80.2	144	88	13.45
KS73253	10	3630	80.2	142	78	14.15
TX71A106-5	27	3624	78.2	142	73	12.90
13996	2	3552	80.1	143	95	14.05
TX71A30	26	3543	79.6	144	86	13.60
NAPB 1307-76	37	3482	81.7	144	80	13.05
NE73491	14	3397	78.9	143	88	15.10
NE73644	16	3377	78.9	142	85	14.30
NE73641	15	3350	79.1	143	83	14.50
IL71-5838	35	3341	82.2	143	81	14.00
TX71A946	25	3312	79.1	144	71	13.25
NK75V520	34	3153	78.8	142	79	15.75
1442	1	3092	78.3	149	102	13.30

$LSD_{.05}$ = 544 C.V. = 8.8%

[1/] Kjeldahl protein on 14% moisture basis.

Sidney, Nebraska
Three replications

C. I. or Sel. No.	Entry no.	Yield	Volume weight	Days to heading	Plant height	% Protein[1/]
		kg/ha	kg/hl	from 1/1	cm	
TX71A562-6	30	5007	78.4	151	78	9.75
OK722721	20	4922	80.8	150	88	11.15
TX71A58-3	28	4803	81.3	152	76	11.60
CO725061	4	4740	81.3	150	80	11.70
15075	12	4698	80.6	151	90	10.00
TX71A937	24	4660	80.6	147	75	12.30
OK711092A	21	4653	80.0	152	82	11.95
TX69A569-1	22	4615	80.6	147	75	11.90
NAPB 1289-76	40	4597	81.1	151	94	11.00
KS73112	8	4563	80.6	150	79	9.90
NK75V465	33	4559	80.5	151	76	10.65
NAPB 1307-76	37	4498	81.7	149	81	12.15
IL72-2489	36	4483	79.9	151	74	10.95
CO535926	7	4480	81.3	151	91	11.65
KS73167	9	4411	82.0	151	79	10.45
NAPB 1291-76	39	4404	80.2	153	100	10.90
CO534727	6	4370	80.1	149	85	12.05
OK711248-176	19	4368	80.6	155	75	12.05
TX71A407-6	29	4308	77.9	151	74	10.90
NAPB 1286-76	38	4292	80.8	150	91	11.20
NE69291	13	4254	80.1	151	90	9.80
NE73491	14	4245	78.9	150	87	11.45
KS73253	10	4231	80.4	150	74	11.55
TX71A687-5	31	4191	80.1	153	69	10.90
NE73641	15	4167	80.0	150	78	11.95
NE73644	16	4160	80.0	150	83	11.90
OK711248-1	18	4149	81.0	152	84	11.10
TX71A946	25	4146	80.1	149	70	12.20
KS73261	11	4117	81.7	150	77	11.50
NE73640	32	4097	79.9	150	82	11.60
13996	2	4095	80.6	150	95	12.10
TX73A2694	23	4061	81.7	152	84	11.60
CO533147	5	4059	81.7	150	94	11.50
TX71A30	26	4032	80.2	149	85	12.30
TX71A106-5	27	4005	81.0	151	73	11.65
NE73649	17	3962	80.0	150	81	11.80
17277	3	3960	79.9	150	89	10.85
IL71-5838	35	3931	81.9	148	84	11.15
1442	1	3861	80.6	155	101	12.15
NK75V520	34	3828	80.1	148	75	11.40

$LSD_{.05}$ = 548 C.V. = 7.8%

[1/]Kjeldahl protein on 14% moisture basis.

Alliance, Nebraska
Three replications

C. I. or Sel. No.	Entry no.	Yield	Volume weight	Plant height	Protein[1/]
		kg/ha	kg/hl	cm	%
15075	12	4305	-	80	11.70
KS73112	8	4200	-	69	11.65
OK722721	20	4128	81.3	83	12.00
NAPB 1289-76	40	4104	79.2	83	12.10
NAPB 1291-76	39	4090	78.3	88	11.20
TX71A58-3	28	3944	-	67	11.60
CO725061	4	3917	-	70	11.40
NK75V465	33	3911	78.7	69	11.25
NAPB 1286-76	38	3902	77.8	81	12.35
NE73491	14	3857	78.6	79	13.20
TX71A937	24	3853	-	60	12.20
NE69291	13	3835	79.7	79	11.05
IL71-5838	35	3803	81.9	75	12.60
TX69A569-1	22	3794	-	67	11.60
13996	2	3769	-	80	12.35
TX71A562-6	30	3729	75.1	65	9.95
KS73167	9	3709	80.6	69	12.50
NE73641	15	3702	-	70	13.45
IL72-2489	36	3702	78.3	65	11.90
NE73649	17	3617	78.9	74	12.90
17277	3	3588	79.9	81	13.05
KS73261	11	3581	80.8	71	12.70
NAPB 1307-76	37	3572	79.2	70	12.05
CO534727	6	3431	77.1	71	12.95
OK711248-1	18	3422	80.2	69	12.40
TX73A2694	23	3417	80.5	69	12.60
TX71A30	26	3388	78.7	73	13.25
KS73253	10	3377	79.6	69	12.60
CO533147	5	3368	78.4	81	13.35
NE73644	16	3357	-	71	12.65
OK711092A	21	3205	-	71	12.95
TX71A106-5	27	3198	78.0	61	12.10
TX71A687-5	31	3175	75.5	57	11.55
CO535926	7	3151	-	83	11.80
NE73640	32	3146	78.0	72	11.30
TX71A407-6	29	3110	74.8	62	10.80
TX71A946	25	3054	79.2	61	12.25
NK75V520	34	2971	77.7	58	14.20
1442	1	2962	78.7	87	13.25
OK711248-176	19	2740	-	70	13.30

$LSD_{.05}$ = 694 C.V. = 11.9%

[1/] Kjeldahl protein on 14% moisture basis.

Columbia, Missouri
Three replications

C. I. or Sel. No.	Entry no.	Yield	Volume weight	Pearled off	Days to heading	Plant height	Lodging	Septoria tritici	Septoria nodorum
		kg/ha	kg/hl	%	from 1/1	cm.	0-9	%	%
KS73112	8	4145	71.0	29	139	94	0	35	12
17277	3	4091	76.1	36	139	109	1	30	7
KS73253	10	4026	72.9	31	138	93	0	35	9
NAPB 1291-76	39	3918	74.8	34	141	116	0	20	18
OK711092A	21	3853	72.9	28	136	84	0	38	16
KS73261	11	3791	75.5	30	137	93	0	32	10
NAPB 1286-76	38	3774	76.1	27	137	110	1	32	13
NAPB 1307-76	37	3686	76.1	29	133	87	0	33	12
CO535926	7	3646	73.5	31	139	109	0	35	10
TX71A58-3	28	3629	72.9	29	142	93	0	27	18
KS73167	9	3417	74.8	29	138	94	0	33	12
OK711248-1	18	3380	74.8	31	143	89	0	32	18
NAPB 1289-76	40	3343	76.1	25	140	98	0	25	12
CO725061	4	3331	75.5	28	135	88	1	32	7
NK75V465	33	3275	72.9	28	136	85	0	37	19
TX71A562-6	30	3232	68.4	31	139	88	1	42	19
CO533147	5	3093	75.5	32	139	101	0	38	12
NE73491	14	3068	74.8	32	142	108	0	18	11
NE73641	15	3045	75.5	32	142	102	0	20	13
IL71-5838	35	2997	76.1	31	135	93	1	40	14
NE73649	17	2983	76.1	31	140	101	0	18	17
CO534727	6	2949	71.0	34	136	90	2	38	17
NK75V520	34	2935	71.6	31	133	70	0	43	23
15075	12	2824	73.5	29	137	102	1	27	12
OK711248-176	19	2793	69.7	25	145	88	0	22	12
NE69291	13	2784	74.2	26	139	101	1	30	14
13996	2	2767	74.8	34	140	109	0	23	9
TX71A106-5	27	2736	71.6	28	137	81	0	33	11
TX69A569-1	22	2489	72.2	34	139	90	0	33	10
IL72-2489	36	2376	71.0	31	144	87	1	35	28
TX71A30	26	2345	72.9	36	137	93	0	27	9
TX71A407-6	29	2280	65.8	31	137	83	1	50	25
NE73640	32	2260	74.8	33	142	97	0	22	12
TX71A687-5	31	2237	67.7	28	144	78	1	47	33
TX73A2694	23	2212	72.2	33	139	86	1	35	18
TX71A937	24	2121	71.6	34	140	85	0	45	13
NE73644	16	2084	74.8	33	141	94	0	20	7
TX71A946	25	2007	71.6	29	140	82	0	33	11
1442	1	1821	74.8	32	147	118	0	22	6
OK722721	20	1196	72.2	32	140	85	0	28	11

$LSD_{.05}$ = 1096 C.V. = 18.2%

Ames, Iowa
Three replications

C.I. or Sel. No.	Entry no.	Yield	Volume weight	Days to heading	Days to ripening	Plant height	Winter survival	Lodging
		kg/ha	kg/hl	from 1/1	from 1/1	cm.	0-9	%
1442	1	2127	74.6	147	181	88	6	2
NAPB 1289-76	40	2007	78.0	148	183	69	4	3
NE69291	13	1895	76.5	147	182	56	6	3
TX71A562-6	30	1877	72.0	147	182	58	6	3
NE73491	14	1808	74.3	147	182	71	5	2
NE73649	17	1677	75.1	148	182	68	6	3
13996	2	1536	75.1	146	180	79	7	3
15075	12	1366	74.8	149	183	55	3	1
C0533147	5	1304	75.9	148	183	69	2	0
17277	3	1285	73.3	147	180	71	7	3
NE73644	16	1265	73.8	148	182	65	3	2
NE73640	32	1247	75.3	149	182	63	4	3
IL71-5838	35	1235	76.1	147	183	60	3	1
NAPB 1286-76	38	1220	75.3	147	184	70	4	3
NE73641	15	1209	74.7	149	183	60	4	0
OK711092A	21	1117	74.8	147	182	56	2	2
TX69A569-1	22	1031	72.1	145	179	59	8	14
TX71A30	26	993	74.6	148	184	61	4	2
TX71A937	24	935	72.8	149	182	57	3	1
TX71A58-3	28	929	73.0	150	184	59	4	2
NK75V465	33	924	72.8	148	183	56	3	2
IL72-2489	36	901	--	153	185	59	2	0
KS73261	11	884	72.2	149	185	56	1	0
TX71A106-5	27	870	—	148	185	53	2	7
TX71A407-6	29	854	72.0	149	183	53	3	2
C0534727	6	827	--	147	184	59	3	1
C0535926	7	724	--	149	184	72	1	0
KS73253	10	720	--	148	185	56	1	0
TX71A946	25	693	—	149	183	55	2	2
OK722721	20	673	—	148	183	58	3	3
NAPB 1307-76	37	664	--	147	186	51	2	2
TX73A2694	23	641	--	149	184	55	2	3
C0725061	4	617	--	148	186	55	2	0
OK711248-176	19	607	--	153	189	55	0	0
KS73112	8	484	--	152	185	57	1	0
NAPB 1291-76	39	453	--	157	190	63	1	0
KS73167	9	444	—	150	185	55	1	0
NK75V520	34	435	—	148	187	49	0	0
OK711248-1	18	419	—	155	189	54	1	1
TX71A687-5	31	352	--	157	188	47	7	1

$LSD_{.05}$ = 527 C.V. = 31.6%

Urbana, Illinois
Three replications

C. I. or Sel. No.	Entry no.	Yield	Volume weight	Days to heading	Plant height	Lodging
		kg/ha	kg/hl	from 1/1	cm	0-9
TX71A106-5	27	5596	73.9	137	91	0
CO725061	4	5470	75.9	137	97	1
NAPB 1307-76	37	5434	75.2	135	99	0
TX71A58-3	28	5369	68.2	140	91	0
KS73253	10	5329	73.6	137	100	0
TX69A569-1	22	5280	70.7	138	97	0
IL72-2489	36	5230	70.5	139	84	0
NK75V520	34	5186	75.0	135	85	0
TX71A30	26	5134	73.8	135	99	1
OK722721	20	5074	73.0	138	105	1
KS73167	9	5035	73.9	138	98	0
NK75V465	33	5004	71.9	138	95	0
KS73261	11	4924	73.7	136	98	1
CO534727	6	4883	72.5	137	94	1
TX71A937	24	4856	67.5	137	96	0
KS73112	8	4832	74.3	138	100	0
OK711248-1	18	4812	73.9	140	97	0
TX71A946	25	4780	67.4	137	94	0
NAPB 1286-76	38	4659	73.3	137	109	0
TX71A562-6	30	4626	65.1	139	94	1
TX73A2694	23	4617	73.7	138	97	0
NE69291	13	4534	73.9	138	104	3
TX71A407-6	29	4475	65.8	137	88	0
NE73491	14	4442	73.8	138	107	2
NAPB 1291-76	39	4417	73.5	142	110	0
17277	3	4406	75.6	139	112	4
IL71-5838	35	4393	75.2	135	101	0
NE73644	16	4377	70.5	138	103	3
TX71A687-5	31	4335	69.5	141	84	0
NE73640	32	4330	72.5	138	102	4
CO535926	7	4321	72.5	139	113	1
NE73641	15	4301	73.5	139	102	3
NE73649	17	4296	73.7	138	104	3
OK711248-176	19	4272	73.9	141	96	0
OK711092A	21	4218	72.6	137	102	1
CO533147	5	4095	74.5	139	111	3
NAPB 1289-76	40	4050	73.7	138	106	2
1442	1	3963	74.2	142	116	1
15075	12	3895	71.8	139	108	4
13996	2	3761	71.9	138	112	4

$LSD_{.05}$ = 754 C.V. = 9.9%

Brookings, South Dakota
Observation Plot

C. I. or Sel. No.	Yield	Volume weight	Days to heading	Plant height	Winter survival
	kg/ha	kg/hl	from 1/1	cm.	1-10
1442	2062	77.1	153	96	8
13996	2783	78.0	146	82	7
17277	2406	77.2	147	78	7
CO725061	2918	79.1	148	63	6
CO533147	2547	79.4	147	76	7
CO534727	2621	76.3	145	67	5
CO535926	2978	79.0	147	80	3
KS73112	2304	76.3	148	66	5
KS73167	1274	74.9	148	65	1
KS73253	1840	74.6	146	63	2
KS73261	2176	76.7	147	60	3
15075	3302	78.7	148	76	7
NE69291	2668	77.2	149	75	7
NE73491	2277	76.3	146	75	7
NE73641	1543	74.9	146	67	8
NE73644	3005	76.4	147	70	7
NE73649	2594	77.3	146	70	8
OK711248-1	2190	76.8	148	70	1
OK711248-176	2581	80.0	150	77	7
OK722721	3133	78.6	146	70	7
OK711092A	2352	75.4	146	68	8
TX69A569-1	3059	76.8	144	60	9
TX73A2694	2601	79.9	147	73	6
TX71A937	2385	77.8	146	57	4
TX71A946	2197	77.8	146	58	5
TX71A30	2554	76.2	147	69	5
TX71A106-5	2958	78.1	148	63	6
TX71A58-3	3234	77.8	149	69	8
TX71A407-6	2318	76.8	148	57	6
TX71A562-6	3349	76.5	148	68	7
TX71A687-5	2581	75.5	150	60	4
NE73640	2567	77.1	146	69	8
NK75V465	3073	76.4	148	67	6
NK75V520	748	72.7	147	56	1
IL71-5838	2277	79.0	145	68	4
IL72-2489	3288	76.9	148	69	7
NAPB 1307-76	1914	77.8	145	62	7
NAPB 1286-76	2918	76.2	146	82	8
NAPB 1291-76	--	--	---	78	1
NAPB 1289-76	2547	78.1	147	79	8

Aberdeen, Idaho
Observation Plot

C. I. or Sel. No.	Yield	Volume weight	Days to heading	Plant height
	kg/ha	kg/hl	from 1/1	cm.
1442	4903	80.4	158	112
13996	4217	81.1	154	94
17277	4627	80.7	154	94
CO725061	5885	82.6	155	81
CO533147	5421	82.0	155	97
CO534727	4258	79.4	154	89
CO535926	5448	82.2	153	97
KS73112	4251	81.3	155	81
KS73167	3235	81.1	155	74
KS73253	2240	79.2	154	71
KS73261	2226	81.3	154	69
15075	5340	81.6	155	91
NE69291	5912	80.7	156	97
NE73491	4923	80.3	154	89
NE73641	5038	80.3	154	81
NE73644	4675	80.7	156	79
NE73649	5085	80.4	156	84
OK711248-1	5852	81.3	157	81
OK711248-176	6242	81.1	157	81
OK722721	5535	82.4	155	84
OK711092A	4836	78.7	157	81
TX69A569-1	4042	81.1	154	74
TX73A2694	5159	82.0	156	81
TX71A937	4365	81.3	154	76
TX71A946	4527	81.2	154	79
TX71A30	5219	81.0	154	84
TX71A106-5	5495	80.1	156	79
TX71A58-3	6760	80.3	158	84
TX71A407-6	5509	81.9	156	79
TX71A562-6	6148	81.1	156	81
TX71A687-5	5589	80.4	157	71
NE73640	4163	80.7	154	79
NK75V465	4688	79.4	156	81
NK75V520	4029	79.0	156	84
IL71-5838	4305	82.4	155	84
IL72-2489	5556	80.7	157	76
NAPB 1307-76	5805	81.9	157	89
NAPB 1286-76	5811	81.0	156	94
NAPB 1291-76	5771	79.8	161	102
NAPB 1289-76	5926	81.3	157	91

Tetonia, Idaho
Two replications

C. I. or Sel. No.	Entry no.	Yield	Volume weight	Days to heading
		kg/ha	kg/hl	from 1/1
TX71A106-5	27	4335	76.7	172
IL72-2489	36	4164	74.1	174
TX73A2694	23	4056	78.4	176
TX71A562-6	30	4006	72.3	174
TX71A58-3	28	3888	79.2	176
NK75V465	33	3888	75.0	175
NAPB 1307-76	37	3861	76.1	174
OK711092A	21	3828	73.1	174
NE69291	13	3763	77.0	175
15075	12	3693	75.3	174
NAPB 1289-76	40	3693	77.1	176
KS73167	9	3659	77.3	175
OK722721	20	3605	77.2	174
TX69A569-1	22	3602	76.3	173
KS73112	8	3599	75.4	175
CO725061	4	3595	77.1	172
OK711248-1	18	3595	77.5	173
TX71A687-5	31	3569	75.0	176
CO534727	6	3552	76.6	176
NE73641	15	3552	75.4	173
OK711248-176	19	3511	78.0	173
NAPB 1286-76	38	3494	75.4	174
TX71A946	25	3461	77.3	171
KS73261	11	3451	77.3	174
IL71-5838	35	3444	78.0	171
17277	3	3413	77.0	174
CO533147	5	3387	77.6	178
NE73649	17	3353	75.7	172
NE73640	32	3350	75.7	171
NE73644	16	3323	76.6	172
CO535926	7	3309	76.3	174
TX71A30	26	3303	78.2	171
TX71A937	24	3289	77.6	171
13996	2	3272	77.6	176
NAPB 1291-76	39	3272	75.7	171
NK75V520	34	3209	75.7	171
NE73491	14	3155	74.0	171
TX71A407-6	29	3101	72.6	174
1442	1	3081	75.9	178
KS73253	10	3017	75.4	174

$LSD_{.05}$ = 567 C.V. = 7.9%

Lind, Washington
Three replications

C. I. or Sel. No.	Entry no.	Yield	Volume weight	Days to heading	Plant height
		kg/ha	kg/hl	from 1/1	cm.
NAPB 1289-76	40	1551	79.3	146	61
TX73A2694	23	1494	79.1	145	58
NAPB 1291-76	39	1479	78.2	147	66
CO533147	5	1475	78.8	145	58
CO725061	4	1415	78.6	145	53
TX71A58-3	28	1413	79.7	146	58
NE69291	13	1393	78.6	145	61
15075	12	1387	78.9	146	61
NAPB 1307-76	37	1362	78.6	145	61
1442	1	1331	77.3	149	71
NE73649	17	1322	77.3	142	51
17277	3	1269	78.0	145	56
TX71A937	24	1237	78.8	144	53
TX71A562-6	30	1234	78.4	145	56
NE73640	32	1234	77.4	142	53
TX71A407-6	29	1231	76.6	144	48
OK711248-176	19	1226	79.9	149	61
NE73491	14	1216	76.5	142	53
NE73644	16	1199	77.5	142	53
OK711092A	21	1181	75.2	146	58
NK75V520	34	1171	75.3	143	56
OK711248-1	18	1170	78.8	146	58
NE73641	15	1169	77.1	142	53
CO535926	7	1166	78.2	145	66
IL72-2489	36	1158	75.3	145	53
OK722721	20	1151	78.4	145	53
13996	2	1149	78.2	142	58
TX69A569-1	22	1148	76.9	142	56
NAPB 1286-76	38	1115	78.3	145	64
TX71A946	25	1086	78.0	144	56
TX71A106-5	27	1079	78.9	146	56
TX71A30	26	1041	78.7	144	51
IL71-5838	35	1022	78.6	142	53
CO534727	6	1005	77.3	145	53
KS73112	8	1002	77.1	143	48
NK75V465	33	922	77.1	145	56
TX71A687-5	31	909	79.2	146	51
KS73261	11	824	77.4	142	51
KS73167	9	811	77.7	142	51
KS73253	10	728	76.4	142	51

$LSD_{.05}$ = 216 C.V. = 11.2%

Table 2. Seedling reaction of the 1977 Southern Regional Performance Nursery to isolates of Puccinia graminis f. sp. tritici.[1/]

Entry no.	C.I. or Sel. No.	Isolates: 72-4-1A	74-21-1409A	72-00-53A	71-21-584B	72-18-630B	75-14-504C	72-44-703C	72-00-1370C	59-14-19	75-45-1662A	Speculative SR genes
		Race: 15-B2		11-32-113				151		56	?	
		TNMH	TNMK	RTQQ	RHRS	RSHS	RPQQ	QSHS	QFBS	MBCT	DKCS	
1	1442	S	S	S	S	S	S	S	S	S	S	
2	13996	;1cN	S	;1cN	S	S	;	S	S	S	S	17
3	17277	;	2	;	2	2	;	2	2	2BN	2-	17, 24
4	CO725061	;	S	;	;1	S	;	S	;	;1c	;1c	11, 17
5	CO533147	;	;	S	S	S	;	S	;	;	0	5, 6
6	CO534727	;	S	;	S	S	;	S	S	S	0	5, 17
7	CO535926	;	;	2	S	S	;	S	;	;	0	5, 6, +
8	KS73112	S	S	S	S	S	S	S	S	S	2-c	+
9	KS73167	S	S	S	2=	2	S	S	S	2-	2-c	+
10	KS73253	S	S	2	2=	2	S	2	2	2	2-c	+
11	KS73261	S	S	2	2=	2	S	2	S	2	S	+
12	15075	;	;	;	23c	32	;	32	;	;	;	5, 6, 8, 9a, 17
13	NE69291	;	;	;	23c	23	;	23	;	;	;	6, 17, 9a
14	NE73491	;1cN	S,;	;	S	23	;	23	S,;	;	;	Seg 6, 17, 9a
15	NE73641	;1cN	S	;1cN	23	23	;	23	2c	S	23,;	17, 9a
16	NE73644	;	;	;1cN	23c	23	;	23	;	;	;	6, 17, 9a
17	NE73649	;	;	;	23c	23	;	23	;,2c	;,S	;	6, 17, 9a
18	OK711248-1	2	2	;	2-	2	;1c	2-	;1c	2-c	2=	24, T
19	OK711248-176	2	2	2=	2-	2	;1c	2-	12-c	2-c	2=	24, T
20	OK722721	2	2	2	2-	2	2	2-	2	2-c	2=	24, T
21	OK711092A	2	2	2-	2-	2	;1c	2-	2=	2-	2=	24
22	TX69A569-1	S	S	S	S	S	S	S	S	S	S	-
23	TX73A2694	;	;	;	S	S	;	S	;	;	;	6, 17
24	TX71A937	;	S,;	;	S	S	;	S	;	;,S	;	Seg 6, 17
25	TX71A946	;	;,S	;1cN	S	S	;	S	;,S	;,S	;1-c	Seg 6, 17
26	TX71A30	S	S	-	2	S	;,S	23	S	S	23,S	
27	TX71A106-5	;	S	;	23c	S	;	23	2	S	23	17, +
28	TX71A58-3	;	;	;	S	S	;	S	;	;	;	6, 17
29	TX71A407-6	;	;	;	S	S	;	23	;	;	;	6, 17
30	TX71A562-6	;	;	;	S	S	;	23	;	;	;	6, 17
31	TX71A687-5	;	;	;	S	S	;	S	;	S	0	5
32	NE73640	1cN	S,;	;	S	S	;	S	;,2c	S,;	;	Seg 6, 17, +
33	NK75V465	;	S	;,S	S,;1	23	;,S	S	S	;,S	23,;	Seg 17, +
34	NK75V520	S	S	S	S	S	S	S	S	1c	;1c	9d
35	IL71-5838	S	S	2	23	S	S	2	2	S	23	+
36	IL72-2489	S	S	2	2	2	S	2-	2-	S	2=	
37	NAPB 1307-76	;	S	;	;1c	2	;	2	2	S,1c	;1c	11, 17, +
38	NAPB 1286-76	;	;	;	S	S	;	S	;	;	;	6, 17
39	NAPB 1291-76	;	;	;	S	S	;	S	;	;	;	6, 17
40	NAPB 1289-76	;	;	;	S	S	;	S	;	;	0	5, 6, 17

[1/] Data submitted by D. V. McVey, Cereal Rust Lab., St. Paul, Minnesota.

Table 3. Seedling reaction to Puccinia recondita tritici of the 40 lines in the 1977 Southern Regional Performance Nursery.[1/]

C. I. or Sel. No.	Entry no.	U N Race 1	[2	2	2(AG)[2/]	3(TF)	5	6	9	[13	13][3/]
1442	1	S	S	S	S	S	S	S	S	S	S
13996	2	S	S	S	S	X	X	S	1	X	S
17277	3	0;	0;	0;	S	0;	0;	0;	0;	0;	0;
C0725061	4	S	S	S	S	X	S	S	1	2-4	2-4
C0533147	5	S	S	S	S	S	S	S	S	S	S
C0534727	6	0	0	0;	0	0;	S	S	S	0	2-4
C0535926	7	0;	0	0	0	0;	S	S	S	0	S
KS73112	8	0	0	0	0	0;	S	S	0;	0	0;
KS73167	9	0	0	0	0	0;	S	S	1	0	0;
KS73253	10	0	0	0	0	0;	S	2-4	0;	0	0;
KS73261	11	0;	0	0	0	0;	S	S	0;	0	0;
15075	12	0;	1	S	X	2	2-4	2	1	0	S
NE69291	13	0;	2	S	X	2	2-4	X	2	0	2
NE73491	14	Seg	2	Seg	S	X	S	S	0;	X	2-4
NE73641	15	0;	S	0;	S	1	S	S	0;	X	S
NE73644	16	0;	S	0;	S	X	S	S	0;	X	S
NE73649	17	0;	S	0;	S	X	S	S	0;	S	S
OK711248-1	18	0;	0	0;	S	0;	0;	0;	0;	0	0;
OK711248-176	19	0;	0	0;	S	0;	0;	0;	0;	0	0;
OK722721	20	0	0	0;	S	0;	0;	0;	0;	0	0;
OK711092A	21	0;	0	0;	S	0;	0;	0;	0;	0;	0;
TX69A569-1	22	-	-	-	-	-	-	-	-	-	-
TX73A2694	23	0;	0;	S	X	2-4	X	S	0;	0;	2
TX71A937	24	0;	0;	S	S	2-4	S	S	1	0	2-4
TX71A946	25	0;	0;	S	S	2-4	S	S	0;	0	S
TX71A30	26	0;	0;	S	2-4	1	2-4	S	0;	0	S
TX71A106-5	27	0;	0;	S	S	0;	S	S	S	0	S
TX71A58-3	28	X	0;	S	S	Seg	S	S	0;	0	S
TX71A407-6	29	0;	0;	S	2-4	S	2-4	S	1	0	2-4
TX71A562-6	30	X	S	S	S	1	S	S	S	0;	2
TX71A687-5	31	0;	0;	S	S	S	S	S	2	X	2-4
NE73640	32	0;	S	0;	S	X	S	S	0;	S	S
NK75V465	33	Seg	S	S	S	2-4	S	S	S	2-4	2-4
NK75V520	34	S	S	S	S	2-4	S	S	S	X	X
IL71-5838	35	0;	1	S	S	0;	S	S	0;	0	X
IL72-2489	36	S	S	X	S	X	S	S	0;	0;	X
NAPB 1307-76	37	S	S	S	S	X	S	S	1	S	2
NAPB 1286-76	38	0;	0;	1	Seg	1	2-4	2-4	0;	0;	0;
NAPB 1291-76	39	0;	0;	1	0	1	2-4	S	1	0;	0;
NAPB 1289-76	40	0;	0;	S	S	X	S	S	0;	0;	S

[1/]Data submitted by H. C. Young, Oklahoma State University
[2/]Isolates of unified race 2
[3/]Isolates of unified race 13

Table 4. Adult plant reaction of the 1977 Southern Regional Performance Nursery to stem rust at St. Paul, Minnesota inoculated nursery.[1/]

Entry no.	C. I. or Sel. No.	Stem Rust
1	1442	60S
2	13996	40S
3	17277	TR
4	CO725061	80S
5	CO533147	80S
6	CO534727	80S
7	CO535926	60S
8	KS73112	60S
9	KS73167	60S
10	KS73253	60S
11	KS73261	60S
12	15075	40S
13	NE69291	40S
14	NE73491	20R-TS
15	NE73641	5R-TS
16	NE73644	TR
17	NE73649	5R-MR
18	OK711248-1	60MS
19	OK711248-176	60MS
20	OK722721	60MS
21	OK711092A	60S
22	TX69A569-1	90S
23	TX73A2694	60S
24	TX71A937	60S
25	TX71A946	60S
26	TX71A30	80S
27	TX71A106-5	90S
28	TX71A58-3	60S
29	TX71A407-6	40MS-S
30	TX71A562-6	20R-MR
31	TX71A687-5	60S
32	NE73640	40MS-S
33	NK75V465	60S
34	NK75V520	60S
35	IL71-5838	60S
36	IL72-2489	60S
37	NAPB 1307-76	60S
38	NAPB 1286-76	40S
39	NAPB 1291-76	20S
40	NAPB 1289-76	20S

[1/] Data submitted by D. V. McVey, Cereal Rust Lab., St. Paul, Minnesota.

Summary of SRPN Yields

Table 5 summarizes 1977 SRPN yields and lists varieties according to their 26-station mean. TX71A562-6, TX69A569-1, NAPB 1307-76 and CO725061, in that order, were the most productive varieties with mean yields in excess of 3600 kg/ha. These yields compared with only 2596 kg/ha made by the Kharkof check variety, the least productive entry in 1977.

Yields of the 20 varieties tested in both 1976 and 1977 are reported in table 6. TX69A569-1 and CO725061 were the most productive over the 2-year period with TX69A569-1 ranking either first or second in six of the nine states reporting 2-year data.

Stability parameters appear in table 7 for 1977 and table 8 for 1976/1977. TX71A562-6, CO534727 and TX71A407-6 exhibited strongest yield responses to changes in production environment in 1977, while the performances of CO534727 and NE73644 were most highly correlated with nursery mean performance and were most predictable. In the 2-year analysis, KS73167 and KS73261 showed the greatest yield response to changes in environment and were among the highest in terms of predictability and correlation with nursery mean performance.

Summary of Agronomic Data

Agronomic data for the 1977 SRPN are summarized in table 9. TX71A562-6, TX69A569-1, NAPB 1307-76 and CO725061, the 4 most productive varieties, were also among the earliest and shortest in the test. Diseases generally were not a yield limiting factor in the region during the 1977 growing season.

Table 5. Summary of mean yields (kg/ha) of the 40 lines in the 1977 Southern Regional Performance Nursery at 26 sites, with state means and rank.

Variety or Pedigree	C. I. or Selection Number	Entry no.	Colorado					Texas						Illinois	
			Fort Collins	Burlington	Springfield	Mean	Rank	Dallas	Chillicothe	Bushland (Irrigated)	Bushland (Dryland)	Mean	Rank	Urbana	Rank
Sdy Sib/Tmp, TX62A4615-7//Ctk	TX71A562-6	30	5777	4629	3681	4696	1	3694	3771	5133	2456	3764	1	4626	20
Short Wheat/Scout	TX69A569-1	22	5001	4562	2990	4184	3	3056	3643	4632	2485	3454	12	5280	6
NAPB 1307-76	---	37	4180	3304	3699	3728	20	4064	3432	4889	2301	3672	4,5	5434	3
II 21183/C0652643//Lancer/KS62136	C0725061	4	5068	3987	3222	4092	4	3578	3439	3893	2302	3303	22	5470	2
TAM W-101/Centurk	TX71A58-3	28	4018	3263	3532	3604	25	2670	3376	4364	2464	3219	30	5369	4
Sdy Sib/Tcs,TX62A2642//Ctk	TX71A937	24	4027	4323	2322	3558	29	3450	3926	5197	2154	3682	3	4856	15
Centurk	15075	12	4866	3281	3229	3792	16	4089	3942	3829	2265	3531	10	3895	39
Sage	17277	3	5337	3883	2897	4039	6	3232	3504	4469	2396	3401	14	4406	26
Centurk Selection	NE69291	13	5229	2229	3166	3541	30	4454	3592	3989	2394	3607	8	4534	22
CIMMYT/Scout	KS73112	8	5395	2681	3002	3693	21	2616	3460	4211	2295	3145	37	4832	16
Tascosa/T_1//Parker	OK722721	20	4507	3737	3405	3883	13	3289	3950	4975	2378	3648	7	5074	10
NAPB 1289-76	---	40	4696	3001	3558	3752	18	3576	3659	3831	2230	3324	20	4050	37
TAM W-101/Centurk	TX71A106-5	27	3852	3718	3046	3539	32	3658	3358	4729	2309	3514	11	5596	1
CIMMYT/Scout	KS73261	11	4920	3472	3308	3900	11	3197	3193	4873	2147	3352	16	4924	13
Centurk/Sturdy	NK75V465	33	4292	3681	2841	3605	24	3466	3083	4447	2332	3332	18	5004	12
CIMMYT/Scout	KS73167	9	4377	2856	3143	3459	34	3147	3358	4793	2186	3371	15	5035	11
62A2782-8/Centurk	TX73A2694	23	4651	4211	3084	3982	7	3278	2744	4670	2322	3254	26	4617	21
Buckskin Sib/Homestead	NE73640	32	5099	4174	3352	4208	2	3508	3751	4281	2148	3422	13	4330	30
Palo Duro/Centurk	TX71A407-6	29	4906	2610	3188	3568	28	3418	4024	4750	2493	3672	4,5	4475	23
NAPB 1291-76	---	39	5274	3323	3233	3943	8	3849	3013	4051	2446	3340	17	4417	25
Triumph 64/T_1//Sturdy	OK711092A	21	4413	4144	3181	3913	10	3445	3145	4415	2114	3280	24,25	4218	35
Sdy Sib/Tcs, TX62A2642//Ctk	TX71A946	25	4131	3076	2143	3117	39	3730	3847	5023	2266	3717	2	4780	18
Gage/TX65A1682	IL72-2489	36	4888	4271	2983	4047	5	2024	3724	4308	2044	3025	39	5230	7
CIMMYT/Scout	KS73253	10	4938	3726	3024	3896	12	3681	3352	4034	1921	3247	28	5329	5
C0695552/Centurk	C0534727	6	4252	2606	2766	3208	38	4699	3899	3866	2162	3657	6	4883	14
TAM W-101/Centurk	TX71A30	26	4552	2875	3353	3593	26	4190	3354	4752	2125	3605	9	5134	9
NAPB 1286-76	---	38	4431	3170	3170	3590	27	3544	3246	4246	2218	3314	21	4659	19
Buckskin Sib/Homestead	NE73491	14	4978	3304	3073	3785	17	3062	3592	3941	2242	3209	31	4442	24
Buckskin Sib/Homestead	NE73649	17	4839	3427	2763	3676	23	3174	3551	4185	2402	3328	19	4296	33
C0695427/Centurk	C0535926	7	5032	3793	2942	3922	9	2542	3562	4414	2309	3207	32	4321	31
Parker/TX65A1682	IL71-5838	35	3426	4331	3696	3818	15	3687	2939	4600	1891	3280	24,25	4393	27
Buckskin Sib/Homestead	NE73641	15	4633	2778	3211	3540	31	3226	3368	4152	2166	3228	29	4301	32
C0695708/C0673410	C0533147	5	4521	3368	3162	3683	22	2813	3289	4110	2511	3181	34	4095	36
Buckskin Sib/Homestead	NE73644	16	4637	3700	2860	3732	19	3342	3289	4192	2176	3250	27	4377	28
Tascosa/T_1//Sturdy	OK711248-176	19	4045	3943	3659	3882	14	3020	3515	3833	2216	3146	36	4272	34
Scout 66	13996	2	5162	2451	2834	3482	33	2851	3536	4452	2366	3301	23	3761	40
Tascosa/T_1//Sturdy	OK711248-1	18	3651	3412	3162	3408	35	2463	3664	4117	2222	3116	38	4812	17
Sdy Sib/Kaw, TX65A1503//Ctk	TX71A687-5	31	2628	3972	3517	3372	36	2798	3206	4795	2007	3201	33	4335	29
Sturdy/Bison	NK75V520	34	2951	4099	2986	3345	37	3484	2852	4533	1826	3174	35	5186	8
Kharkof	1442	1	4619	1725	2049	2798	40	1555	2065	1995	1895	1878	40	3963	38
Mean			4555	3477	3111	3714		3316	3430	4349	2240	3334		4675	
$LSD_{.05}$			1076	1337	934	946		527	420	562	293	552		754	
C.V.			14.5%	23.7%	18.5%	18.7%		9.8%	7.5%	7.9%	8.1%	8.5%		9.9%	

Table 5 (continued)

C. I. or Sel. No.	Entry no.	Oklahoma						Missouri		Washington		Nebraska					
		Stillwater	Lahoma	Altus	Goodwell	Mean	Rank	Columbia	Rank	Lind	Rank	Mead	N.Platte	Sidney	Alliance	Mean	Rank
TX71A562-6	30	4056	2617	3195	4465	3583	6	3232	16	1234	14	4081	4413	5007	3729	4308	1
TX69A569-1	22	4102	2502	3330	4649	3646	4	2489	29	1148	28	3759	3707	4615	3794	3969	9
NAPB 1307-76	37	4203	2745	3005	4698	3663	2	3686	8	1362	9	4030	3482	4498	3572	3896	11
CO725061	4	4103	2692	3083	4458	3584	5	3331	14	1415	5	3460	4299	4740	3917	4104	3
TX71A58-3	28	3764	2541	2960	3532	3199	24	3629	10	1413	6	3467	3949	4803	3944	4041	7
TX71A937	24	4209	2530	2983	4877	3650	3	2121	36	1237	13	3534	3767	4660	3853	3953	10
15075	12	3809	2559	2534	3796	3175	26	2824	24	1387	8	3621	4366	4698	4305	4248	2
17277	3	3488	2764	3240	3958	3363	17,18	4091	2	1269	12	3906	3947	3960	3588	3850	13
NE69291	13	3854	2613	2792	4379	3410	14	2784	26	1393	7	3285	3942	4254	3835	3829	17
KS73112	8	3764	3000	2915	3839	3380	16	4145	1	1002	35	3622	3926	4563	4200	4078	4
OK722721	20	3788	2546	2848	4400	3395	15	1196	40	1151	26	2976	4261	4922	4128	4072	5
NAPB 1289-76	40	3599	2811	2994	3796	3300	20	3343	13	1551	1	3675	3873	4597	4104	4062	6
TX71A106-5	27	3806	2550	2983	4613	3488	10	2736	28	1079	31	3146	3624	4005	3198	3493	38
KS73261	11	3932	2911	2691	4270	3451	12	3791	6	824	38	3247	3801	4117	3581	3687	22,23
NK75V465	33	4038	2505	2725	4743	3503	9	3275	15	922	36	3245	4171	4559	3911	3971	8
KS73167	9	3735	2805	2825	4575	3485	11	3417	11	811	39	3440	3783	4411	3709	3836	15
TX73A2694	23	4016	2440	2859	4137	3363	17,18	2212	35	1494	2	3242	3680	4061	3417	3600	30
NE73640	32	3177	2717	3016	4209	3280	21	2260	33	1234	15	3590	3913	4097	3146	3687	22,23
TX71A407-6	29	4022	2271	3496	4260	3512	7	2280	32	1231	16	3189	3740	4308	3110	3587	33
NAPB 1291-76	39	3679	2661	2983	3003	3081	33	3918	4	1479	3	2303	4341	4404	4090	3785	18
OK711092A	21	3420	2603	2512	3996	3133	28	3853	5	1181	20	3612	3855	4653	3205	3831	16
TX71A946	25	4174	2401	3106	5019	3675	1	2007	38	1086	30	3498	3312	4146	3054	3503	37
IL72-2489	36	3097	2410	2814	3072	2848	39	2376	30	1158	25	3453	3716	4483	3702	3838	14
KS73253	10	4108	2852	2657	4027	3411	13	4026	3	728	40	3216	3630	4231	3377	3614	28
CO534727	6	3789	2348	2500	3906	3136	27	2949	22	1005	34	3018	3812	4370	3431	3658	25
TX71A30	26	3871	2555	2601	4994	3505	8	2345	31	1041	32	3415	3543	4032	3388	3595	31
NAPB 1286-76	38	3783	2563	2534	3451	3083	32	3774	7	1115	29	3371	3859	4292	3902	3856	12
NE73491	14	3267	2669	3106	3985	3257	22	3068	18	1216	18	3184	3397	4245	3857	3671	24
NE73649	17	3616	2600	2949	4222	3347	19	2983	21	1322	11	3328	3704	3962	3617	3653	26
CO535926	7	3411	2476	2994	3496	3094	30	3646	9	1166	24	3030	4321	4480	3151	3746	20
IL71-5838	35	3483	2634	2444	4232	3198	25	2997	20	1022	33	3229	3341	3931	3803	3576	34,35
NE73641	15	3187	2638	2814	4162	3200	23	3045	19	1169	23	3184	3350	4167	3702	3601	29
CO533147	5	3396	2718	2691	2725	2883	38	3093	17	1475	4	3339	4193	4059	3368	3740	21
NE73644	16	3245	2503	2837	3779	3091	31	2084	37	1199	19	3411	3377	4160	3357	3576	34,35
OK711248-176	19	3693	2129	3128	3316	3067	34	2793	25	1226	17	3213	4260	4368	2740	3646	27
13996	2	2793	2453	2814	3651	2928	37	2767	27	1149	27	3608	3552	4095	3769	3756	19
OK711248-1	18	3559	2210	2994	3316	3020	36	3380	12	1170	22	2987	3801	4149	3422	3590	32
TX71A687-5	31	3551	2260	3072	3323	3052	35	2237	34	909	37	2877	4000	4191	3175	3561	36
NK75V520	34	3392	2432	2164	4422	3103	29	2935	23	1171	21	3151	3153	3828	2971	3276	39
1442	1	2667	1894	2646	2092	2325	40	1821	39	1331	10	2552	3092	3861	2962	3117	40
Mean		3666	2553	2871	3996	3272		2979		1185		3337	3806	4325	3577	3761	
$LSD_{.05}$		384	289	315	548	487		1096		216		530	544	548	694	392	
C.V.		6.4%	7.0%	6.7%	8.4%	7.5%		18.2%		11.2%		9.8%	8.8%	7.8%	11.9%	9.5%	

Table 5 (concluded)

C. I. or Sel. No.	Entry no.	New Mexico					Kansas						Idaho		26-Station Mean
		Clovis (Irrigated)	Clovis (Dryland)	Farmington	Mean	Rank	Hutchinson	Hays	Garden City	Colby	Mean	Rank	Tetonia	Rank	
TX71A562-6	30	8159	2207	5510	5292	1	2813	3896	1675	2942	2831	15,16	4006	4	3892
TX69A569-1	22	6571	1539	6077	4729	5	3667	3793	1834	2564	2964	3	3602	14	3701
NAPB 1307-76	37	6253	1798	5728	4593	11	3409	3744	1849	2931	2983	2	3861	7	3696
CO725061	4	6187	2202	5753	4714	7	3540	3808	1861	2377	2897	7	3595	16	3690
TX71A58-3	28	7200	1635	5335	4724	6	2761	3712	1677	2581	2683	28	3888	5,6	3555
TX71A937	24	6534	1323	6032	4630	10	3165	3396	1459	2489	2628	30	3289	33	3549
15075	12	7417	1942	4613	4657	9	3151	3531	1527	2779	2747	25	3693	10	3544
17277	3	5917	2189	5205	4437	15	3010	3795	1818	2499	2781	21	3413	26	3540
NE69291	13	7224	1779	4656	4553	13	3224	3717	1775	2665	2845	12	3763	9	3527
KS73112	8	6504	996	5519	4339	18	3079	3748	1825	3071	2931	5	3599	15	3522
OK722721	20	6485	1207	4612	4101	31	3187	3454	1995	2709	2836	14	3605	13	3519
NAPB 1289-76	40	7128	1525	5073	4575	12	3216	3338	1715	2843	2778	22	3693	11	3518
TX71A106-5	27	6905	1718	6198	4940	3	3275	3748	1280	2006	2577	32	4335	1	3518
KS73261	11	6737	534	4933	4068	33	3887	3784	1468	2894	3008	1	3451	24	3492
NK75V465	33	6833	1702	4045	4193	25	2913	3557	1682	2879	2758	24	3888	5,6	3487
KS73167	9	6632	939	4838	4137	30	3648	3921	1415	2729	2928	6	3659	12	3467
TX73A2694	23	6648	2031	4568	4415	16	3623	3338	1800	2563	2831	15,16	4056	3	3461
NE73640	32	6661	1815	4350	4275	21	3308	3777	1744	2489	2829	17	3350	29	3459
TX71A407-6	29	7514	1802	5692	5003	2	2327	3387	1143	2404	2315	39	3101	38	3448
NAPB 1291-76	39	6632	2020	4524	4392	17	3367	3676	1603	2160	2701	27	3272	35	3447
OK711092A	21	5492	1985	4768	4082	32	3000	3445	2266	2802	2878	8	3828	8	3434
TX71A946	25	6613	1451	5911	4658	8	3277	3325	1412	2297	2578	31	3461	23	3423
IL72-2489	36	6287	1494	5004	4262	22	3451	3744	1776	2872	2961	4	4164	2	3409
KS73253	10	6130	420	4934	3828	37	3314	3755	1302	2760	2783	20	3017	40	3400
CO534727	6	7164	1279	5928	4790	4	2698	3430	1569	2273	2493	36	3552	19	3394
TX71A30	26	5891	828	4209	3643	39	3818	3354	1634	2596	2850	11	3303	32	3390
NAPB 1286-76	38	6197	1278	4264	3913	36	3493	3318	1856	2709	2844	13	3494	22	3376
NE73491	14	6544	1897	4298	4246	23	3002	3786	1771	2322	2720	26	3155	37	3368
NE73649	17	6031	1321	4681	4011	35	3259	3629	1993	2217	2774	23	3353	28	3368
CO535926	7	6965	1632	3940	4179	27	2797	3656	1643	2489	2647	29	3309	31	3363
IL71-5838	35	6118	1288	4699	4035	34	3464	3643	1614	2745	2866	9	3444	25	3353
NE73641	15	6028	1643	4941	4204	24	3233	3755	1946	2225	2790	19	3552	20	3331
CO533147	5	6373	1994	4081	4149	28	2969	3689	1959	2839	2864	10	3387	27	3318
NE73644	16	6354	1403	4672	4143	29	3182	3571	1959	2468	2795	18	3323	30	3302
OK711248-176	19	5922	1778	5144	4281	20	2719	2858	1699	2312	2397	38	3511	21	3285
13996	2	6871	1828	4847	4515	14	2186	3654	1708	2472	2505	34	3272	34	3272
OK711248-1	18	6079	1958	4516	4184	26	3378	2896	1762	2195	2558	33	3595	17	3258
TX71A687-5	31	6403	1564	4935	4300	19	2851	2829	1751	2432	2466	37	3569	18	3207
NK75V520	34	5377	1407	3418	3401	40	2801	3338	1533	2321	2498	35	3209	36	3114
1442	1	5336	1867	3905	3703	38	2435	3040	1347	1597	2105	40	3081	39	2596
	Mean	6508	1580	4909	4332		3147	3546	1691	2538	2731		3541		3425
	$LSD_{.05}$	973	497	1350	836		665	486	240	406	369		567		220
	C.V.	9.2%	19.3%	16.9%	14.2%		13.0%	8.4%	8.7%	9.8%	10.7%		7.9%		12.3%

Table 6. Summary of mean yields (kg/ha) of 20 lines grown in the Southern Regional Performance Nursery at 23 sites in 1976 and 1977 with state means and rank.

Variety or Pedigree	C. I. or Sel. No.	1977 Entry no.	Nebraska						Missouri		Illinois	
			Mead	North Platte	Sidney	Alliance	Mean	Rank	Columbia	Rank	Urbana	Rank
Short Wheat/Scout	TX69A569-1	22	3562	3735	3154	3724	3544	3	3494	8	4471	1
II 21183/CO652643//Lancer/KS62136	CO725061	4	3244	4306	3018	3732	3575	2	3826	2	4461	2
CIMMYT/Scout	KS73112	8	3664	3619	2961	3877	3530	5	3945	1	3863	6
Centurk Selection	NE69291	13	3450	3599	3027	3859	3484	6	3730	4	3656	10
Tascosa/T_1//Parker	OK722721	20	3181	3990	3414	3838	3605	1	2269	19	3554	12
CIMMYT/Scout	KS73167	9	3368	3723	2968	3593	3413	8	3551	6	3795	7
Sage	17277	3	3646	3568	2666	3700	3395	10	3541	7	3664	9
TX62A2782-8/Centurk	TX73A2694	23	3183	3629	3028	3404	3311	14,15	2986	14	3929	5
Centurk	15075	12	3274	3693	3196	4002	3541	4	3455	9	3235	17
CIMMYT/Scout	KS73261	11	2903	3517	2886	3488	3198	18,19	3419	10	3295	16
Gage/TX65A1682	IL72-2489	36	3111	3787	3080	3769	3437	7	2536	18	4045	3
Buckskin sib/Homestead	NE73649	17	3494	3529	2775	3439	3309	16	3177	12	3571	11
" "	NE73491	14	3448	3492	2974	3538	3363	11	3190	11	3666	8
" "	NE73644	16	3624	3561	3028	3387	3400	9	2690	17	3516	13
Triumph 64/T_1//Sturdy	OK711092A	21	3341	3650	3161	3205	3339	12	3638	5	3334	15
CIMMYT/Scout	KS73253	10	3229	3729	2954	3356	3317	13	3766	3	3996	4
Scout 66	13996	2	3429	3077	2654	3634	3198	18,19	3147	13	3192	19
Buckskin sib/Homestead	NE73641	15	3359	3537	2694	3654	3311	14,15	2946	16	3503	14
Parker/TX65A1682	IL71-5838	35	3185	3290	2825	3602	3226	17	2960	15	3223	18
Kharkof	1442	1	2260	2600	2701	2956	2629	20	2134	20	3039	20
	Mean		3298	3581	2958	3588	3356		3217		3650	
	$LSD_{.05}$		630	720	540	397	396		1094		859	
	C.V.		11.3%	10.0%	11.9%	10.0%	10.7%		13.2%		10.2%	

Table 6 (continued)

C. I. or Sel. No.	1977 Entry no.	Texas					Kansas					New Mexico				
		Dallas	Chilli-cothe	Bushland (Irr.)	Mean	Rank	Hays	Colby	Hutch-inson	Mean	Rank	Clovis (Irr.)	Clovis (Dry.)	Farm-ington	Mean	Rank
TX69A569-1	22	3592	3456	5036	4028	1	3701	3286	4170	3719	1	6185	1619	6010	4605	2
CO725061	4	3455	2989	4396	3613	14	3517	3047	4032	3532	6	6016	1723	6156	4632	1
KS73112	8	3470	3101	4773	3781	8	3585	3385	3645	3539	4	6383	1159	5558	4367	3
NE69291	13	4347	3169	4453	3989	3	3405	3133	3888	3475	10	6633	1426	4941	4334	5
OK722721	20	3856	3393	4790	4013	2	3220	3230	3741	3397	12	6017	1374	5018	4137	9
KS73167	9	3618	2869	5115	3867	6	3531	3345	3672	3516	8	6010	969	4959	3979	12
17277	3	3450	3167	4692	3769	9	3595	3115	3965	3558	3	5874	1599	5389	4287	6
TX73A2694	23	3782	2716	4770	3756	10	3368	3000	3809	3392	13	6136	1467	5120	4241	7
15075	12	4041	3295	4288	3874	5	3282	3125	3559	3322	16	6453	1381	4883	4239	8
KS73261	11	3857	2781	5006	3881	4	3619	3127	4039	3595	2	6005	689	5056	3917	16
IL72-2489	36	2384	3179	4655	3406	18	3446	3250	3750	3482	9	5987	1226	5881	4364	4
NE73649	17	3523	3149	4340	3670	13	3459	3017	4130	3535	5	5846	1111	4818	3925	15
NE73491	14	3452	3157	4162	3590	16	3440	3079	3498	3339	15	5931	1641	4381	3984	11
NE73644	16	3535	2898	4655	3696	12	3544	3099	3922	3522	7	5694	1398	4716	3936	14
OK711092A	21	3538	2777	4833	3716	11	3382	2933	3550	3288	17	5639	1253	4961	3951	13
KS73253	10	4221	2861	4312	3798	7	3299	3062	3442	3268	18	5751	442	4723	3639	19
13996	2	3171	3160	4494	3608	15	3314	3164	2931	3136	19	6234	1482	4482	4066	10
NE73641	15	3176	2959	4302	3479	17	3563	2853	3637	3351	14	5638	1435	4542	3871	17
IL71-5838	35	3479	2423	4235	3379	19	3274	3137	3824	3412	11	5369	1031	5148	3849	18
1442	1	1737	2004	3012	2251	20	2457	2064	2803	2441	20	4768	1749	4245	3587	20
Mean		3484	2975	4516	3658		3400	3072	3700	3391		5928	1309	5049	4095	
$LSD_{.05}$		865	454	858	624		444	555	733	425		809	816	897	604	
C.V.		9.3%	8.0%	8.6%	8.8%		7.5%	8.6%	11.3%	9.5%		9.5%	28.4%	15.8%	14.7%	

Table 6 (concluded)

C. I. or Sel. No.	1977 Entry no.	Oklahoma						Colorado					Washington		23-Station Mean
		Stillwater	Lahoma	Goodwell	Altus	Mean	Rank	Fort Collins	Springfield	Burlington	Mean	Rank	Lind	Rank	
TX69A569-1	22	3441	3196	4597	3515	3687	1	5624	2903	3399	3975	1	1551	17	3805
CO725061	4	3369	3033	4464	3195	3515	5	5954	2866	2941	3920	3	1954	4	3725
KS73112	8	3154	3748	4229	3066	3549	2	5848	3015	2225	3696	11	1829	8	3655
NE69291	13	3250	3167	4704	2893	3504	6	5745	2997	1842	3528	19	2008	2	3622
OK722721	20	3200	3375	4302	3207	3521	4	5332	3286	2693	3770	6	1957	3	3585
KS73167	9	3280	3381	4617	2859	3534	3	5954	3110	2304	3789	5	1693	12	3578
17277	3	2983	3367	4245	3050	3411	8	5326	2815	2811	3650	14	1715	11	3563
TX73A2694	23	3247	3098	4414	2926	3421	7	5819	2994	2985	3933	2	1922	5	3558
15075	12	3289	3068	4393	2702	3363	12	5626	3108	2431	3722	8	2027	1	3557
KS73261	11	3255	3473	4336	2506	3393	9	5579	3075	2495	3716	9	1365	20	3469
IL72-2489	36	2641	3061	3125	3156	2996	18	5687	2927	2994	3869	4	1848	7	3464
NE73649	17	2969	3060	4425	3027	3370	11	5384	2658	2641	3561	18	1889	6	3455
NE73491	14	2800	3167	4314	3240	3380	10	5400	2781	2721	3634	15	1743	10	3446
NE73644	16	2805	3096	4143	2960	3251	15	5566	2575	2871	3671	13	1687	13	3439
OK711092A	21	3010	3263	4478	2483	3309	14	5225	2868	2931	3675	12	1629	14	3437
KS73253	10	3327	3298	4149	2624	3349	13	5696	2669	2725	3697	10	1457	19	3436
13996	2	2630	3076	3998	2949	3163	16	5420	2900	2412	3723	7	1543	18	3340
NE73641	15	2821	3051	3847	2909	3157	17	5393	2940	2361	3565	17	1586	15	3338
IL71-5838	35	2739	3021	3427	2551	2935	19	4626	3183	2895	3568	16	1558	16	3263
1442	1	2163	2819	2441	2674	2524	20	4281	2180	1749	2795	20	1780	9	2646
Mean		3019	3191	4132	2925	3317		5474	2892	2632	3675		1737		3469
$LSD_{.05}$		462	434	929	403	472		1243	475	1215	760		443		208
C.V.		8.1%	8.3%	10.7%	6.9%	9.1%		12.9%	16.8%	23.3%	16.5%		12.9%		12.1%

Table 7. Mean yield, regression coefficient, correlation coefficient and coefficient of determination from linear regression analysis of variety yield on nursery mean yield for the 40 entries in the 1977 Southern Regional Performance Nursery.

Entry no.	C. I. or Sel. No.	Mean yield over 26 locations (kg/ha)	Regression coefficient ($b_{y.x}$)	Correlation coefficient (r)	Coefficient of determination (r^2)
30	TX71A562-6	3892	1.03	.74	.55
22	TX69A569-1	3701	.96	.76	.58
37	NAPB 1307-76	3696	.81	.70	.49
4	CO725061	3690	.83	.70	.49
28	TX71A58-3	3555	.93	.73	.54
24	TX71A937	3549	.96	.71	.51
12	15075	3544	.84	.70	.49
3	17277	3540	.74	.69	.47
13	NE69291	3527	.89	.74	.55
8	KS73112	3522	.93	.74	.54
20	OK722721	3519	.94	.74	.55
40	NAPB 1289-76	3518	.82	.73	.53
27	TX71A106-5	3518	.97	.73	.53
11	KS73261	3492	.96	.74	.55
33	NK75V465	3487	.88	.75	.56
9	KS73167	3467	.93	.74	.54
23	TX73A2694	3461	.81	.74	.54
32	NE73640	3459	.81	.69	.48
29	TX71A407-6	3448	1.00	.74	.54
39	NAPB 1291-76	3447	.79	.69	.48
21	OK711092A	3434	.70	.72	.52
25	TX71A946	3423	.96	.71	.51
36	IL72-2489	3409	.86	.69	.48
10	KS73253	3400	.91	.72	.51
6	CO534727	3394	1.01	.77	.59
26	TX71A30	3390	.84	.69	.48
38	NAPB 1286-76	3376	.79	.74	.55
14	NE73491	3368	.80	.74	.55
17	NE73649	3368	.81	.78	.60
7	CO535926	3363	.87	.73	.53
35	IL71-5838	3353	.75	.69	.48
15	NE73641	3331	.80	.76	.58
5	CO533147	3318	.71	.74	.54
16	NE73644	3302	.84	.78	.61
19	OK711248-176	3285	.76	.70	.49
2	13996	3272	.89	.75	.56
18	OK711248-1	3258	.75	.73	.52
31	TX71A687-5	3207	.82	.72	.52
34	NK75V520	3114	.67	.63	.39
1	1442	2596	.67	.65	.42

Table 8. Mean yield, regression coefficient, correlation coefficient and coefficient of determination from linear regression analysis of variety yield on nursery mean yield for 20 entries in the Southern Regional Performance Nursery in 1976 and 1977.

C. I. or Sel. No.	1977 Entry no.	Mean yield over 23 locations (kg/ha)	Regression coefficient ($b_{y.x}$)	Correlation coefficient (r)	Coefficient of determination (r^2)
TX69A569-1	22	3805	1.05	.92	.85
CO725061	4	3725	1.07	.92	.84
KS73112	8	3655	1.08	.91	.83
NE69291	13	3622	1.04	.92	.84
OK722721	20	3585	1.01	.88	.77
KS73167	9	3578	1.11	.93	.87
17277	3	3563	.95	.90	.81
TX73A2694	23	3558	1.02	.93	.87
15075	12	3557	1.02	.91	.83
KS73261	11	3469	1.11	.91	.84
IL72-2489	36	3464	1.06	.88	.78
NE73649	17	3455	.96	.93	.86
NE73491	14	3446	.89	.91	.83
NE73644	16	3439	.96	.93	.86
OK711092A	21	3437	.97	.89	.80
KS73253	10	3436	1.05	.91	.83
13996	2	3340	.95	.89	.80
NE73641	15	3338	.91	.90	.81
IL71-5838	35	3263	.93	.89	.79
1442	1	2646	.70	.78	.60

Table 9. Summary of agronomic and yield data for the 40 lines grown in the 1977 Southern Regional Performance Nursery.

Pedigree	C. I. or Sel. No.	Entry No.	Days to head from 1/1	Plant height cm	Lodging 0-9	Shattering 0-9	Winter survival 0-9	Coleoptile length mm	Leaf rust sev. %	Leaf rust resp.	Stem rust sev. %
Number of trials			20	22	8	2	1	1	2	2	1
SdySib/Tmp,TX62A4615-7//Ctk	TX71A562-6	30	134	78	1	1	8	72	1	R	0
Short Wheat/Scout	TX69A569-1	22	132	77	0	1	8	85	5	S	1
NAPB 1307-76	---	37	131	79	1	1	8	76	2	MS	0
II21183/CO652643//Lancer/ KS62136	CO725061	4	132	79	1	1	7	71	26	S	0
TAM W-101/Centurk	TX71A58-3	28	136	78	0	1	8	73	15	S	0
Sdy Sib/Tcs, TX62A2642//Ctk	TX71A937	24	131	76	0	1	6	85	6	S	0
Centurk	15075	12	135	88	2	1	9	104	15	S	0
Sage	17277	3	134	90	3	1	8	111	9	S	0
Centurk Selection	NE69291	13	135	87	2	1	8	104	17	S	1
CIMMYT/Scout	KS73112	8	133	80	1	1	7	82	9	S	0
Tascosa/T_1//Parker	OK722721	20	134	83	1	1	7	96	5	S	0
NAPB 1289-76	---	40	136	91	1	1	9	104	24	S	0
TAM W-101/Centurk	TX71A106-5	27	132	72	0	1	7	69	39	S	1
CIMMYT/Scout	KS73261	11	131	76	1	1	6	90	11	S	1
Centurk/Sturdy	NK75V465	33	134	77	1	1	8	80	0	M	0
CIMMYT/Scout.	KS73167	9	132	79	0	1	6	86	12	S	0
62A2782-8/Centurk	TX73A2694	23	134	81	0	Tr	7	79	1	M	3
Buckskin Sib/Homestead	NE73640	32	133	83	1	1	8	99	12	S	0
Palo Duro/Centurk	TX71A407-6	29	132	73	2	1	7	79	13	S	0
NAPB 1291-76	---	39	135	97	1	Tr	6	104	2	MS	0
Triumph 64/T_1//Sturdy	OK711092A	21	133	80	1	Tr	8	81	0	R	0
Sdy Sib/Tcs, TX62A2642//Ctk	TX71A946	25	131	75	0	1	6	87	7	S	0
Gage/TX65A1682	IL72-2489	36	134	74	0	1	8	65	16	S	3
CIMMYT/Scout	KS73253	10	131	77	0	1	5	86	9	S	0
CO695552/Centurk	CO534727	6	132	83	1	1	8	95	7	S	1
TAM W-101/Centurk	TX71A30	26	129	81	1	1	7	95	16	S	0
NAPB 1286-76	---	38	133	89	1	1	8	79	9	S	0
Buckskin Sib/Homestead	NE73491	14	132	87	1	1	8	103	12	S	0
Buckskin Sib/Homestead	NE73649	17	134	83	1	1	9	100	14	S	0
CO695427/Centurk	CO535926	7	134	93	2	1	8	85	9	S	0
Parker/TX65A1682	IL71-5838	35	130	81	1	1	8	98	11	S	0
Buckskin Sib/Homestead	NE73641	15	134	82	1	1	8	112	18	S	0
CO695708/CO673410	CO533147	5	135	91	2	1	9	94	18	S	0
Buckskin Sib/Homestead	NE73644	16	134	82	1	1	8	107	16	S	0
Tascosa/T_1//Sturdy	OK711248-176	19	136	81	0	Tr	8	87	2	M	0
Scout 66	13996	2	133	93	3	1	8	112	16	S	0
Tascosa/T_1//Sturdy	OK711248-1	18	136	80	1	Tr	7	89	3	M	0
Sdy Sib/Kaw,TX65A1503//Ctk.	TX71A687-5	31	136	70	0	1	8	74	0	M	0
Sturdy/Bison	NK75V520	34	131	71	0	1	7	96	2	M	3
Kharkof	1442	1	141	104	4	1	9	105	9	S	5

Table 9. Concluded.

C. I. or Sel. No.	Entry no.	Septoria tritici sev. %	Septoria tritici resp.	Septoria nodorum sev. %	BYDV 0-9	Mildew sev. %	Mildew resp.	Phyto 0-9 [1]	Protein %	Pearled off %	Average grain weight mg	Volume weight kg/hl	Yield kg/ha
No. of trials		1	1	1	1	1	1	1	5	1	1	25	26
TX71A562-6	30	42	VS	19	1.0	20	MS	Tr	11.93	31	29.4	72.9	3892
TX69A569-1	22	33	M	10	3.0	50	VS	2.0	12.75	34	30.1	75.4	3701
---	37	33	VS	12	Tr	60	VS	1.0	12.86	29	27.5	77.8	3696
CO725061	4	32	S	7	1.5	15	S	2.5	12.37	28	27.2	77.5	3690
TX71A58-3	28	27	S	18	2.0	35	S	1.0	12.52	29	28.6	75.0	3555
TX71A937	24	45	VS	13	2.0	60	VS	2.0	13.17	34	27.6	75.0	3549
15075	12	27	MS	12	Tr	10	MS	0.5	12.68	29	27.8	76.3	3544
17277	3	30	M	7	2.0	30	S	3.0	13.80	36	34.6	76.7	3540
NE69291	13	30	S	14	0.5	15	MR	Tr	12.16	26	27.0	76.8	3527
KS73112	8	35	S	12	4.0	30	S	4.0	12.81	29	30.3	75.9	3522
OK722721	20	28	M	11	2.0	60	VS	3.0	12.66	32	29.5	77.1	3519
---	40	25	MS	12	1.5	5	R	1.0	12.93	25	26.7	76.7	3518
TX71A106-5	27	33	M	11	1.5	55	VS	Tr	12.72	28	32.2	75.3	3518
KS73261	11	32	S	10	2.5	30	S	3.5	13.49	30	30.1	77.3	3492
NK75V465	33	37	MS	19	1.5	30	S	1.0	12.53	28	26.8	75.3	3487
KS73167	9	33	VS	12	1.5	40	VS	3.0	12.99	29	29.1	77.1	3467
TX73A2694	23	35	M	18	3.0	20	MS	1.0	13.15	33	28.6	76.9	3461
NE73640	32	22	M	12	2.0	15	MS	1.5	13.32	33	32.5	76.4	3459
TX71A407-6	29	50	VS	25	1.5	30	S	Tr	12.28	31	24.3	72.8	3448
---	39	20	MS	18	1.0	10	R	Tr	12.70	34	31.8	75.6	3447
OK711092A	21	38	MS	16	2.5	70	VS	1.0	13.68	28	28.7	75.4	3434
TX71A946	25	33	VS	11	2.0	60	VS	2.0	13.10	29	27.9	74.8	3423
IL72-2489	36	35	VS	28	2.0	55	VS	1.0	12.93	31	27.7	74.5	3409
KS73253	10	35	S	9	2.5	30	S	3.0	13.39	31	30.6	76.1	3400
CO534727	6	38	VS	17	2.0	10	MS	0.5	13.32	34	31.5	75.1	3394
TX71A30	26	27	M	9	Tr	55	VS	Tr	13.25	36	31.6	76.5	3390
---	38	32	MS	13	3.0	10	R	1.5	13.31	27	25.9	75.9	3376
NE73491	14	18	MS	11	4.5	10	MR	3.5	14.07	32	31.8	75.4	3368
NE73649	17	18	VS	17	2.0	30	S	1.0	13.71	31	33.0	76.7	3368
CO535926	7	35	MS	10	2.0	25	S	2.0	13.69	31	29.4	75.7	3363
IL71-5838	35	40	S	14	1.5	45	S	Tr	13.13	31	29.2	78.2	3353
NE73641	15	20	MS	13	3.0	10	MS	1.0	13.91	32	31.4	75.7	3331
CO533147	5	38	VS	12	1.5	15	VS	1.0	13.35	32	27.5	77.6	3318
NE73644	16	20	S	7	3.5	10	MR	2.5	13.57	33	33.8	75.7	3302
OK711248-176	19	22	M	12	1.0	35	S	Tr	13.64	25	30.8	77.2	3285
13996	2	23	MS	9	2.5	15	MS	3.0	13.55	34	33.8	76.6	3272
OK711248-1	18	32	M	18	1.0	45	VS	Tr	13.47	31	34.3	76.5	3258
TX71A687-5	31	47	VS	33	Tr	20	MS	1.0	13.03	28	26.2	74.4	3207
NK75V520	34	43	VS	23	Tr	55	VS	Tr	14.49	31	29.9	75.4	3114
1442	1	22	M	6	2.5	20	S	2.0	13.99	32	27.5	74.6	2596

[1] Phytotoxicity = plants sprayed with Diazanon causing differential leaf burn.

NORTHERN REGIONAL PERFORMANCE NURSERY

The 22 varieties and lines in the 1977 NRPN were seeded in 22 trials at 21 sites in 9 states and at Lethbridge, Alberta. Observation nurseries were grown at Brookings, SD and Aberdeen, ID. Seven nurseries were abandoned due to environmental vagaries. Nurseries at Sheridan, WY and Waseca, MN were not used in calculations of regional means due to hail and poor survival respectively.

Varieties and lines tested in the 1977 NRPN are listed below. Individual location data appear in table 10. Adult plant and seedling reactions to stem rust may be found in tables 11 and 12 respectively.

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	15075	"
8	Centurk Selection	NE69291	"
9*	Winalta/Alabaskaja	AT7759-19	Lethbridge
10*	Buckskin/Homestead	NE73640	Nebraska
11	II 21031/Trapper//CO652363	CO701733	South Dakota
12	SS/12500//RCh/Pn/3/Cnn/4/Kaw/Sk//2*Cnn	SD713-11	" "
13*	Hokuriko/Fortunato//Lancer	SD7113-16	" "
14*	Norin 10/12500//Hume	SD716-1	" "
15*	Sentinel Selection 8	SD76175	" "
16	Roughrider	ND7121	North Dakota
17*	Eklund	---	C. Eklund
18**	Marias (Yogo*3/Cnn Sel 2-3-13-6)	MT6715	Montana
19	NE69457/Ctk//Gage	NE75424	Nebraska
20*	Pkr*4/Agent//Beloterkovskaya 198/Lcr	NE75586	"
21*	Yg/Cnn Sel 11-5-5//YgSS 4662, 20-4-1-1	MT7216	Montana
22*	Lcr/MT6319, 110-4-1-1	MT7252	"

* New entry in 1977
** New seed provided

Test Site Information

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

Brookings, SD -- The nursery was harvested July 24. Further information not provided.

Highmore and Presho, SD -- Nursery was abandoned.

St. Paul, MN -- The nursery was planted September 21. Further information not provided.

Waseca, MN -- Winter survival was very poor, probably due to late planting. Nursery was abandoned for yield purposes.

Casselton, ND -- Very dry soil conditions in the fall caused poor emergence. The nursery was abandoned.

Williston, ND -- The winter was mild with snow cover only until late January. Spring was early with the wheat breaking dormancy in late March. Warm, dry conditions prevailed throughout the spring. Very dry conditions in April and early May reduced yield potential.

Hettinger, ND -- The nursery had adequate moisture for good emergence. Winter was moderately severe resulting in some good differential survival. The early growing season was hot and dry resulting in poor yield potential, early heading and short height. Adequate moisture occurred late allowing good test weight. Diseases were minimal.

Archer, WY -- Fall emergence was poor due to soil crusting so the nursery was disked in the spring.

Sheridan, WY -- Hail and drought significantly reduced yields.

Moccasin, MT -- Some drought stress occurred in the fall and spring but showers in July ameliorated the drought effects. No winterkilling or diseases were observed.

Sidney, MT -- Extremely dry soil at seeding time and the lack of precipitation during the fall resulted in no fall emergence. Spring emergence was less than 5% so the nursery was abandoned in late May.

Aberdeen and Tetonia, ID — An observation nursery was planted at Aberdeen. Further information not provided.

Lethbridge, Alberta -- Good stands were obtained in the fall and there was no winterkilling. Serious drought conditions prevailed throughout the summer with precipitation running at less than half the long-term average. Yields were good probably due to cool nights, cloud cover and the absence of any hot days.

Lind, WA -- The nursery was seeded September 16 and harvested July 28. Moisture conditions were very poor. Only 50% of the normal precipitation was received.

Clovis, NM -- Dryland and irrigated tests were planted. See information for the SRPN.

Table 10. Yield and agronomic data for the 22 varieties and lines evaluated in the Northern Regional Performance Nursery in 1977.

Mead, Nebraska
Three replications

Entry no.	C. I. or sel. no.	Yield	Volume weight	Days to head	Plant height	Winter survival	Protein[1]/
		kg/ha	kg/hl	from 1/1	cm.	0-9	%
11	C0701733	3832	78.4	142	89	8	13.95
7	15075	3768	78.7	142	98	9	13.60
12	SD713-11	3767	80.0	140	104	9	14.20
4	NE73641	3610	77.8	143	91	9	14.95
19	NE75424	3584	77.8	141	99	9	15.20
13	SD7113-16	3581	81.1	138	90	8	14.05
6	NE73649	3565	79.6	142	91	8	14.80
20	NE75586	3467	77.9	144	100	9	16.25
10	NE73640	3415	78.4	142	93	9	15.15
15	SD76175	3400	78.2	142	87	9	14.80
8	NE69291	3391	77.8	142	99	9	14.10
3	NE73491	3357	77.9	141	98	9	14.95
16	ND7121	3348	78.7	147	112	9	16.25
5	NE73644	3265	78.0	141	94	9	14.95
22	MT7252	3258	77.8	145	109	9	15.55
2	13190	3153	77.1	144	104	9	14.75
18	MT6715	3081	77.8	145	112	9	15.20
21	MT7216	2998	77.3	147	105	9	16.05
9	AT7759-19	2550	76.6	148	121	9	15.35
1	1442	2448	74.3	147	109	9	16.35
17	Eklund	2126	73.0	148	119	9	16.75
14	SD716-1	1298	82.6	137	88	9	14.00

$LSD_{.05}$ = 520 C.V. = 9.9%

1/ Kjeldahl protein on 14% moisture basis.

North Platte, Nebraska
Three replications

Entry no.	C. I. or sel. no.	Yield	Volume weight	Days to head	Plant height	Protein 1/
		kg/ha	kg/hl	from 1/1	cm.	%
11	C0701733	4388	81.3	144	87	12.70
19	NE75424	4290	82.8	143	94	13.20
20	NE75586	4187	80.4	146	98	13.90
7	15075	4167	80.8	143	95	12.95
14	SD716-1	3781	81.8	142	90	13.35
22	MT7252	3740	79.7	146	107	13.40
18	MT6715	3704	80.4	144	104	13.25
2	13190	3664	79.7	146	104	12.30
8	NE69291	3651	81.1	145	87	13.05
13	SD7113-16	3624	81.0	143	92	14.10
10	NE73640	3505	78.8	143	85	14.45
12	SD713-11	3474	80.8	143	94	14.25
3	NE73491	3456	77.0	143	86	14.40
6	NE73649	3417	77.9	144	83	14.40
16	ND7121	3415	80.6	146	107	14.30
15	SD76175	3317	79.1	144	86	15.10
5	NE73644	3307	78.2	142	87	14.30
1	1442	3270	78.9	149	110	13.45
9	AT7759-19	3269	77.8	154	106	11.80
21	MT7216	3146	76.8	149	87	13.75
4	NE73641	3108	78.4	143	84	14.10
17	Eklund	2994	77.8	152	132	13.65

$LSD_{.05}$ = 564 C.V. = 9.5%

1/ Kjeldahl protein on 14% moisture basis

Sidney, Nebraska
Three replications

Entry no.	C. I. or sel. no.	Yield	Volume weight	Days to head	Plant height	Protein[1]/
		kg/ha	kg/hl	from 1/1	cm.	%
20	NE75586	4028	78.9	154	84	13.15
8	NE69291	4023	80.4	154	80	12.20
2	13190	3902	78.7	154	87	13.55
7	15075	3897	80.1	153	85	11.85
19	NE75424	3693	81.3	153	80	12.95
18	MT6715	3664	80.4	154	90	12.35
12	SD713-11	3660	79.9	150	88	13.70
6	NE73649	3646	78.9	151	79	13.65
16	ND7121	3599	80.5	155	87	12.90
11	C0701733	3583	80.4	153	78	12.15
10	NE73640	3534	77.9	151	79	13.40
3	NE73491	3507	77.7	151	81	13.70
9	AT7759-19	3496	80.2	159	89	13.30
5	NE73644	3444	77.8	151	78	13.65
22	MT7252	3420	79.6	155	85	14.30
21	MT7216	3355	79.9	155	85	13.95
14	SD716-1	3326	79.2	150	78	13.00
15	SD76175	3321	78.7	151	70	14.05
4	NE73641	3312	78.2	152	74	13.80
13	SD7113-16	2938	79.1	151	80	14.30
1	1442	2825	77.4	155	92	14.20
17	Eklund	2810	78.2	158	100	12.60

$LSD_{.05}$ = 430 C.V. = 7.5%

[1]/ Kjeldahl protein on 14% moisture basis

Alliance, Nebraska
Three replications

Entry no.	C. I. or sel. no.	Yield	Volume weight	Plant height	Protein[1]/
		kg/ha	kg/hl	cm.	%
8	NE69291	3655	77.8	78	9.65
7	15075	3563	78.3	77	9.55
2	13190	3474	79.2	87	10.55
11	CO701733	3469	78.8	69	12.15
4	NE73641	3308	78.4	73	11.65
20	NE75586	3263	77.9	78	13.25
22	MT7252	3247	79.1	78	13.20
14	SD716-1	3236	78.7	77	13.15
3	NE73491	3234	77.9	79	11.35
19	NE75424	3151	78.7	72	13.40
18	MT6715	3115	78.0	79	13.25
12	SD713-11	3110	79.7	78	13.10
1	1442	3025	77.3	90	11.05
9	AT7759-19	3023	79.9	81	11.00
10	NE73640	3003	77.4	70	13.00
5	NE73644	2991	78.4	71	11.25
6	NE73649	2933	77.7	76	11.20
16	ND7121	2895	78.0	78	13.45
15	SD76175	2720	76.8	67	14.15
13	SD7113-16	2718	79.3	76	13.70
21	MT7216	2669	78.7	69	14.15
17	Eklund	2550	76.8	91	13.70

$LSD_{.05}$ = 571 C.V. = 11.2%

[1]/ Kjeldahl Protein on 14% moisture basis

Brookings, South Dakota
Three replications

C. I. or Sel. No.	Entry no.	Yield	Volume weight	Days to heading	Plant height	Winter survival	Leaf Rust Sev.	Leaf Rust Resp.
		kg/ha	kg/hl	from 1/1	cm.	0-10	%	0-9
NE75586	20	3046	76.7	148	80	7	0	2
MT6715	18	2850	77.6	149	88	8	99	8
AT7759-19	9	2837	76.7	150	95	9	45	8
NE73491	3	2826	75.8	146	77	8	99	8
MT7216	21	2756	75.6	150	84	9	99	8
SD76175	15	2740	74.4	148	72	6	25	5
NE73649	6	2715	76.5	147	74	7	99	8
SD716-1	14	2650	74.9	144	71	9	10	4
1442	1	2644	75.8	-	97	8	99	8
13190	2	2626	74.0	149	90	9	99	8
SD7113-16	13	2624	76.0	147	75	6	99	8
NE69291	8	2592	77.1	149	78	8	65	-
MT7252	22	2556	76.4	150	86	9	99	8
CO701733	11	2536	76.5	148	73	5	10	3
NE73644	5	2509	75.6	147	67	8	99	8
SD713-11	12	2448	75.3	147	83	7	65	8
NE73640	10	2437	76.4	148	72	7	65	8
ND7121	16	2334	75.5	151	92	10	99	8
15075	7	2327	73.2	148	76	8	65	-
NE75424	19	2284	76.4	148	71	7	40	8
NE73641	4	2125	75.0	148	73	7	99	8
Eklund	17	1979	74.8	153	100	9	99	8

$LSD_{.05}$ = 632 C.V. = 14.9%

St. Paul, Minnesota
Three replications

C.I. or Sel. No.	Entry no.	Yield	Volume weight	Days to heading	Plant height	Winter survival	Lodging	Leaf Rust Sev.	Leaf Rust Resp.	Stem Rust Sev.	Stem Rust Resp.
		kg/ha	kg/hl	from 1/1	cm	0-9	1-9	%	0-9	%	0-9
NE75586	20	4555	77.7	145	88	8	5	0	8	0	-
NE73640	10	4376	77.1	144	81	8	9	30	8	0	-
SD713-11	12	4192	76.6	143	89	8	8	60	8	0	-
NE73649	6	4140	78.3	145	80	6	4	20	8	0	-
SD716-1	14	4118	78.3	144	80	8	7	10	8	5	8
15075	7	4080	75.7	146	86	9	7	20	8	0	-
C0701733	11	4044	74.9	144	76	7	6	40	8	0	-
NE73641	4	4031	77.4	145	82	7	6	20	8	0	-
SD76175	15	3932	74.6	145	80	8	9	10	8	0	-
MT7252	22	3811	75.1	147	92	8	9	60	8	30	8
NE75424	19	3755	78.0	144	78	8	5	60	8	0	-
NE69291	8	3746	77.4	145	80	8	6	30	8	0	-
NE73644	5	3654	78.4	145	82	7	6	20	8	0	-
NE73491	3	3631	76.1	145	86	7	7	10	8	0	-
ND7121	16	3555	77.4	148	93	9	8	20	8	0	-
MT7216	21	3511	77.1	147	93	9	1	40	8	30	8
SD7113-16	13	3329	75.5	146	82	8	4	40	8	0	8
MT6715	18	3174	74.2	145	96	9	8	60	8	0	-
13190	2	2923	77.4	145	95	8	9	0	8	0	8
1442	1	2811	72.2	150	95	9	7	40	8	40	8
Eklund	17	2777	72.1	151	109	9	8	60	8	0	8
AT7759-19	9	2067	72.1	151	107	9	4	10	8	40	8

$LSD_{.05}$ = 1133 C.V. = 18.9%

Waseca, Minnesota
Three replications

C. I. or Sel. No.	Entry no.	Yield	Volume weight	Days to ripening	Plant height	Winter survival
		kg/ha	kg/hl	from 1/1	cm.	0-9
1442	1	2882 2/	77.5	256	107	7
13190	2	--	--	256	95	4
NE73491	3	--	--	259	84	3
NE73641	4	--	--	257	86	3
NE73644	5	--	--	256	87	3
NE73649	6	4015 1/	79.6	257	80	5
15075	7	3907 1/	76.8	256	84	6
NE69291	8	--	--	257	78	5
AT7759-19	9	3255 3/	77.4	258	104	9
NE73640	10	--	--	257	80	4
CO701733	11	--	--	258	74	3
SD713-11	12	--	--	255	85	3
SD7113-16	13	3974 1/	78.3	256	79	5
SD716-1	14	2056 3/	77.8	255	71	8
SD76175	15	--	--	255	87	5
ND7121	16	4262 3/	79.3	256	93	6
Eklund	17	2103 3/	77.3	259	104	9
MT6715	18	3544 2/	78.9	256	95	7
NE75424	19	2604 2/	79.2	255	78	8
NE75586	20	3289 1/	79.1	257	83	6
MT7216	21	2455 2/	76.1	255	89	7
MT7252	22	3437 2/	78.6	256	94	7

1/ 1 rep only
2/ Mean of 2 reps
3/ Mean of 3 reps

Williston, 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
9	AT7759-19	2271	77.9	154	72	9
21	MT7216	2189	80.0	151	57	8
22	MT7252	2053	78.7	152	59	8
16	ND7121	1902	78.2	150	62	9
2	13190	1866	79.1	150	66	6
17	Eklund	1851	76.2	154	75	9
1	1442	1842	78.3	152	72	6
18	MT6715	1711	79.5	149	65	4
8	NE69291	1600	78.7	150	56	6
7	15075	1399	78.1	150	61	5
11	C0701733	1376	78.8	149	56	3
4	NE73641	1344	77.4	147	53	5
19	NE75424	1340	80.4	147	54	6
5	NE73644	1338	77.1	149	57	6
20	NE75586	1294	78.4	149	59	4
15	SD76175	1243	77.8	147	51	6
3	NE73491	1224	76.6	147	57	5
14	SD716-1	1180	79.3	145	50	9
10	NE73640	1177	77.9	148	54	5
12	SD713-11	1148	79.6	147	58	5
6	NE73649	1125	77.7	149	56	4
13	SD7113-16	955	78.2	147	54	2

$LSD_{.05}$ = 260 C.V. = 10.4%

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
9	AT7759-19	1984	78.7	150	57	9
2	13190	1872	78.5	145	59	8
21	MT7216	1839	77.6	146	56	9
1	1442	1766	76.1	148	68	7
11	C0701733	1620	79.1	145	53	6
16	ND7121	1592	79.3	148	59	9
22	MT7252	1587	78.5	146	56	9
8	NE69291	1564	79.3	145	55	8
18	MT6715	1530	78.3	145	63	7
5	NE73644	1525	77.8	144	51	7
17	Eklund	1407	77.0	152	70	9
20	NE75586	1368	77.6	146	52	7
10	NE73640	1262	76.5	145	52	5
13	SD7113-16	1233	78.9	144	55	4
6	NE73649	1194	76.1	144	51	6
7	15075	1166	78.7	146	55	6
3	NE73491	1132	75.9	144	56	6
12	SD713-11	1104	78.2	144	55	4
19	NE75424	1043	80.2	144	48	7
4	NE73641	970	76.1	145	47	6
14	SD716-1	936	77.6	144	50	9
15	SD76175	903	76.1	145	46	7

$LSD_{.05}$ = 476 C.V. = 20.8%

Sheridan, Wyoming
Three replications

C.I. or Sel.No.	Entry no.	Yield	Days to heading	Plant height	Hail damage
		kg/ha	from 1/1	cm.	%
CO701733	11	932	154	49	2
MT7216	21	895	155	57	10
NE69291	8	836	156	57	13
NE75424	19	834	152	48	5
NE75586	20	805	153	55	5
MT7252	22	785	153	55	13
15075	7	756	156	57	9
MT6715	18	670	153	56	13
NE73641	4	608	149	50	5
SD716-1	14	576	151	44	5
SD76175	15	563	151	49	6
ND7121	16	545	157	60	15
SD7113-16	13	529	151	52	8
NE73640	10	504	150	43	10
NE73644	5	500	147	48	5
NE73649	6	496	147	43	6
AT7759-19	9	486	159	67	23
13190	2	477	166	61	15
NE73491	3	449	147	43	8
SD713-11	12	448	151	50	15
1442	1	289	165	67	25
Eklund	17	153	159	68	30

$LSD_{.05}$ = 198 C.V. = 20.1%

Moccasin, Montana
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.
11	C0701733	3274	80.1	156	66
8	NE69291	3218	80.2	157	64
2	13190	3123	80.8	156	76
1	1442	3085	79.9	160	76
12	SD713-11	3063	80.5	156	79
9	AT7759-19	3063	81.0	163	76
7	15075	3002	79.6	157	64
18	MT6715	2893	80.2	157	71
16	ND7121	2818	80.9	160	76
17	Eklund	2774	79.9	163	91
5	NE73644	2720	79.5	153	66
14	SD716-1	2628	80.1	155	69
10	NE73640	2626	79.3	156	66
3	NE73491	2619	78.2	152	69
21	MT7216	2597	80.9	158	64
6	NE73649	2577	78.8	153	66
22	MT7252	2557	79.9	159	61
20	NE75586	2505	79.5	157	61
4	NE73641	2422	78.8	153	66
15	SD76175	2368	78.6	156	64
13	SD7113-16	2229	78.4	155	74
19	NE75424	2016	79.5	156	66

$LSD_{.05}$ = 455 C.V. = 10.1%

Aberdeen, Idaho
Observation Plot

C. I. or Sel. No.	Yield	Volume weight	Days to heading	Plant height
	kg/ha	kg/hl	from 1/1	cm.
1442	4291	80.1	158	102
13190	4049	80.1	155	97
NE73491	3881	79.9	154	86
NE73641	3881	80.1	156	71
NE73644	4056	80.1	155	69
NE73649	3894	81.0	154	66
15075	5132	80.4	157	76
NE69291	5394	81.3	156	76
AT7759-19	5421	81.1	162	97
NE73640	3921	80.3	154	69
CO701733	4513	82.6	155	61
SD713-11	5320	82.0	154	89
SD7113-16	4560	81.2	154	86
SD716-1	5045	82.9	154	86
SD76175	4513	80.4	154	76
ND7121	5556	81.3	159	91
Eklund	4197	80.1	161	112
MT6715	5031	81.3	155	84
NE75424	4648	82.6	155	81
NE75586	4903	80.4	156	86
MT6216	5764	80.4	159	94
MT7252	5213	80.1	158	97

Tetonia, Idaho
Three replications

Entry no.	C. I. or Sel. No.	Yield	Volume weight	Days to head
		kg/ha	kg/hl	from 1/1
11	C0701733	4392	78.0	177
8	NE69291	3930	77.1	177
7	15075	3805	76.7	175
21	MT7216	3800	78.6	176
4	NE73641	3670	76.2	172
5	NE73644	3666	77.3	175
18	MT6715	3639	76.8	176
19	NE75424	3592	79.5	177
14	SD716-1	3545	76.7	175
2	13190	3459	74.5	175
6	NE73649	3437	77.0	176
9	AT7759-19	3437	78.9	176
3	NE73491	3401	74.8	176
20	NE75586	3316	76.1	175
1	1442	3257	75.8	175
16	ND7121	3253	78.1	173
13	SD7113-16	3209	76.3	175
10	NE73640	3170	76.1	177
15	SD76175	3154	76.2	174
12	SD713-11	3139	77.6	176
22	MT7252	3134	77.7	178
17	Eklund	2605	75.7	178

$LSD_{.05}$ = 398 C.V. = 7.0%

Lethbridge, Alberta
Three replications

C. I. or Sel. No.	Entry: no.	Yield	Volume: weight	1000 kernel: weight	Days to : heading	Days to : ripe	Plant : height	Shattering
		kg/ha	kg/hl	gm	from 1/1	from 1/1	cm	%
NE69291	8	3661	83.9	26.8	155	186	76	-
CO701733	11	3644	82.6	26.4	151	186	73	-
MT6715	18	3405	83.9	30.4	153	188	81	-
MT7216	21	3382	83.9	31.6	155	193	74	-
15075	7	3374	82.6	27.2	152	186	78	-
NE75586	20	3307	82.6	26.8	153	187	75	-
NE73641	4	3114	83.9	31.2	151	186	72	-
NE73644	5	3087	82.6	32.0	151	186	71	-
NE73491	3	3057	83.2	30.4	151	186	75	-
NE73640	10	3043	82.6	31.2	152	186	70	-
AT7759-19	9	3003	80.0	26.4	159	191	83	-
NE73649	6	2995	83.9	30.0	151	186	75	-
1442	1	2980	81.9	28.8	158	190	87	-
13190	2	2913	81.3	29.6	157	190	87	5
SD713-11	12	2865	83.9	32.0	150	186	76	-
Eklund	17	2838	80.0	24.4	158	193	88	17
MT7252	22	2825	82.6	31.2	154	188	75	-
NE75424	19	2769	85.1	31.2	151	186	71	-
SD7113-16	13	2767	82.6	31.6	150	186	78	-
ND7121	16	2659	81.3	28.8	157	192	75	3
SD716-1	14	2615	84.5	36.8	150	186	72	-
SD76175	15	2599	82.6	30.4	152	186	70	-

$LSD_{.05}$ = 534 C.V. = 10.7%

Lind, Washington
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.
21	MT7216	1642	79.2	149	66
8	NE69291	1542	79.3	145	58
9	AT7759-19	1527	77.7	156	74
3	NE73491	1513	76.6	141	56
16	ND7121	1437	77.5	150	64
22	MT7252	1407	77.9	149	64
18	MT6715	1365	79.1	145	61
7	15075	1360	79.2	145	58
1	1442	1329	77.4	149	74
2	13190	1276	77.8	148	64
20	NE75586	1260	77.3	146	64
10	NE73640	1255	77.4	142	53
11	C0701733	1238	78.4	145	58
6	NE73649	1236	77.5	142	51
17	Eklund	1221	76.0	154	81
4	NE73641	1178	77.1	142	51
12	SD713-11	1147	78.8	142	61
5	NE73644	1132	77.5	142	53
13	SD7113-16	1081	77.7	142	56
19	NE75424	997	79.5	145	56
15	SD76175	875	77.7	144	48
14	SD716-1	839	77.7	144	56

$LSD_{.05}$ = 216 C.V. = 10.4%

Clovis, New Mexico (Dryland)
Three replications

Entry no.	C. I. or sel. no.	Yield	Volume weight	Days to head from 1/1	Plant height	Bird damage
		kg/ha	kg/hl		cm.	%
2	13190	2487	77.4	128	59	0
9	AT7759-19	2318	77.4	134	64	0
18	MT6715	2148	78.7	125	64	2
11	C0701733	2083	80.0	125	59	2
12	SD713-11	1983	77.4	124	56	0
16	ND7121	1969	77.4	127	60	0
7	15075	1942	78.7	127	57	3
14	SD716-1	1924	78.7	123	55	2
3	NE73491	1897	77.4	119	64	17
22	MT7252	1870	77.4	130	61	0
1	1442	1867	74.8	132	76	0
10	NE73640	1815	77.4	122	55	8
8	NE69291	1779	78.7	127	56	3
20	NE75586	1773	77.4	128	56	0
4	NE73641	1643	77.4	122	50	8
17	Eklund	1452	77.4	134	68	0
5	NE73644	1403	77.4	125	46	3
19	NE75424	1349	80.0	125	47	2
6	NE73649	1321	77.4	126	44	2
15	SD76175	1272	77.4	122	47	22
13	SD7113-16	1249	77.4	125	54	13
21	MT7216	1132	77.4	133	57	0

$LSD_{.05}$ = 587 C.V. = 20.2%

Clovis, New Mexico (irrigated)

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.
7	15075	7417	77.0	125	102
12	SD713-11	7226	76.2	123	105
8	NE69291	7224	76.9	126	96
11	C0701733	6961	75.7	126	95
10	NE73640	6661	75.3	122	93
20	NE75586	6574	75.8	127	108
3	NE73491	6544	73.3	122	98
5	NE73644	6354	74.3	123	89
2	13190	6331	75.3	126	107
14	SD716-1	6313	75.5	123	93
6	NE73649	6031	74.2	123	90
4	NE73641	6028	74.2	123	89
13	SD7113-16	5936	74.7	122	99
19	NE75424	5910	76.6	123	93
18	MT6715	5736	76.4	128	110
16	ND7121	5583	76.9	129	104
21	MT7216	5559	78.2	130	98
15	SD76175	5527	74.8	123	84
9	AT7759-19	5412	75.2	134	116
1	1442	5336	74.6	132	120
22	MT7252	5215	73.8	129	103
17	Eklund	4449	74.3	135	117

$LSD_{.05}$ = 882 C.V. = 8.8%

Table 11. Seedling reactions of the 1977 Northern Regional Performance Nursery to Puccinia graminia f. sp. tritici.[1/]

Entry no.	C. I. or Sel. No.	Isolates: 72-4-1A	74-21-1409A	72-00-53A	71-21-584B	72-18-630B	75-14-504C	72-44-703C	72-00-1370C	59-14-19	75-45-1662A	Speculative Sr genes
		Races: 15B-2		11-32-113				151		56	?	
		TNMH	TNMK	RTQQ	RHRS	RSHS	RPQQ	QSHS	QFBS	MBCT	DKCS	
1	1442	S	S	S	S	S	S	S	S	S	S	
2	13190	S	S	S	S	S	S	2	S	S	S	
3	NE73491	;1cN	S,;	;1cN	S	S	;	S	;1cN	S,;	;1cN	Seg 6, 17
4	NE73641	;1cN	S	;	2c	2c	;	23	;,S	S	;,S	17, 9a
5	NE73644	;	;	;1cN	23cN	23	;	23	;	;	;	6, 17, 9a
6	NE73649	;	;	;	23cN	23	;	23	;,S	S,;	;,S	6, 17, 9a
7	15075	;	;	;	23c	32	;	32	;	;	;	5, 6, 8, 9a, 17
8	NE69291	;	;	;	23c	23	;	23	;	;	;	6, 17, 9a
9	AT7759-19	S	S	S	S	S	S	2	S	S	S	?
10	NE73640	;1cN	;,S	;1cN	S,2c	S	;	S	;,S	S,;	;,S	Seg 6, 17, +
11	CO701733	;	;	S	;1,S	S	;	2-	;1	;	;1	6, Seg 11, +
12	SD713-11	S	S	S	S	S	S	S	S	S	S	—
13	SD7113-16	;1cN	S	;1cN	2c	2	;	2	2c	S	S,;	7b, 17
14	SD716-1	S	S	S	S	S	S	2	2	;1c	;1c	7b, 9d
15	SD76175	;	;	;	21cN	S	;	S	;	;	;	6, 17, +
16	17439	;1cN	S	;	2c	;	;,S	;	;	;	;	8, 17, Tt-1, +
17	Eklund	;1cN	S	S,;	S	S	S,;	S	S	S	S	Seg 17
18	MT6715	;1cN	S	;,S	S	S	;	S	;1cN	S,1c	;,S	Seg 17, +
19	NE75424	;	;	;	2c	2	;	2	;	;	;1	6, 7b, 8, 9a, 17
20	NE75586	;	;	2	2c	2	;	2	;	;	;	6, 8, 9a
21	MT7216	S	S	S	S	S	S	S	S	S	;	5
22	MT7252	S	S	S	S	S	S	S	S	S	;	5

[1/]Data submitted by D. V. McVey, Cereal Rust Lab., St. Paul, Minnesota.

Table 12. Adult plant reaction of the 1977 Northern Regional Performance Nursery to stem rust at St. Paul, MN inoculated nursery.[1/]

Entry no.	C.I. or Sel. No.	Stem Rust
1	1442	60S
2	13190	60S
3	NE73491	10MS-S
4	NE73641	10MS-S
5	NE73644	TR
6	NE73649	10MM-S
7	15075	60S
8	NE69291	60S
9	AT7759-19	60S
10	NE73640	TR, 60S
11	CO701733	40MS
12	SD713-11	60S
13	SD7113-16	60S
14	SD716-1	80S
15	SD76175	TR
16	17439	0
17	Eklund	60S
18	MT6715	40S
19	NE75424	30MS
20	NE75586	30MS
21	MT7216	60S
22	MT7252	60S

[1/] Data submitted by D. V. McVey, Cereal Rust Lab, St. Paul, Minnesota.

Summary of NRPN Yields

Mean yields from 14 reporting sites are summarized in table 13. CO701733 and NE69291 were the most productive experimentals in 1977 with yields in excess of 3250 kg/ha. Centurk (CI15075), the most productive variety, yielded 3233 kg/ha.

Twelve lines were tested in 1976 and 1977 (table 14). Of these, CO701733 and NE69291 were most productive. Yield relationships of these two experimentals, in comparison to the check varieties, Centurk and Warrior (CI13190), were quite similar in both one- and two-year analyses.

Stability parameters for the 1977 nursery appear in table 15. Centurk (CI15075) and SD713-11 were most responsive to changes in production environment ($b_{y.x}$ = 1.22 and 1.19 respectively) while Eklund and Norstar (AT7759-19) were least responsive. Yields of NE75586, NE73644 and NE73649 were most highly correlated with nursery mean yields (r = .95). NE75586 also had the most predictable performance in 1977. Of the twelve entries appearing in 1976 and 1977 (table 16), Centurk, CO701733 and SD713-11 were highly responsive to changes in production environment while Kharkof (CI1442) was least responsive. Performances of Centurk and NE73644 were most highly correlated with nursery mean performance and were most predictable.

Summary of Agronomic Data

Agronomic data for the 1977 NRPN are summarized in table 17. The highest yielding lines were generally characterized by being early and short with moderate levels of winter survival. NE73644 was the shortest variety, SD716-1 and NE73491 were the earliest to head and NE75424 had the highest volume weight.

Table 13. Summary of mean yields (kg/ha) of the 22 lines grown in the 1977 Northern Regional Performance Nursery at 14 locations with state means and rank.

Pedigree	C.I. or Sel. No.	Entry	Nebraska					
			Mead	N. Platte	Sidney	Alliance	Mean	Rank
II 21031/Trapper//CO652363	CO701733	11	3832	4388	3583	3469	3818	2
Centurk Selection	NE69291	8	3391	3651	4023	3655	3680	4
Centurk	15075	7	3768	4167	3897	3563	3849	1
Pkr*4/Agent//Beloterkovskaya 198/Lcr	NE75586	20	3467	4187	4028	3263	3736	3
Warrior	13190	2	3153	3664	3902	3474	3548	6
SS/12500//RCh/Pn/3/Cnn/4/Kaw/Sk//2*Cnn	SD713-11	12	3767	3474	3660	3110	3503	7
Marias (Yogo*3/Cnn Sel 2-3-13-6)	MT6715	18	3081	3704	3664	3115	3391	9,10
Buckskin sib/Homestead	NE73491	3	3357	3456	3507	3234	3388	11
Buckskin sib/Homestead	NE73640	10	3415	3505	3534	3003	3364	12
Lcr/MT6319, 110-4-1-1	MT7252	22	3258	3740	3420	3247	3416	8
Yg/Cnn Sel 11-5-5//YgSS 4662, 20-4-1-1	MT7216	21	2998	3146	3355	2669	3042	19
Buckskin sib/Homestead	NE73644	5	3265	3307	3444	2991	3252	15
Roughrider	ND7121	16	3348	3415	3599	2895	3314	14
Buckskin sib/Homestead	NE73649	6	3565	3417	3646	2933	3391	9,10
Winalta/Alabaskaja	AT7759-19	9	2550	3269	3496	3023	3084	18
Buckskin sib/Homestead	NE73641	4	3610	3108	3312	3308	3335	13
NE69457/Ctk//Gage	NE75424	19	3584	4290	3693	3151	3679	5
Kharkof	1442	1	2448	3270	2825	3025	2892	21
Norin 10/12500//Hume	SD716-1	14	1298	3781	3326	3236	2910	20
Hokuriko/Fortunato//Lancer	SD7113-16	13	3581	3624	2938	2718	3215	16
Sentinel Selection 8	SD76175	15	3400	3317	3321	2720	3189	17
Eklund	---	17	2126	2994	2810	2550	2620	22
Mean			3194	3585	3499	3107	3346	
$LSD_{.05}$			520	564	430	571	463	
C.V.			9.9%	9.5%	7.5%	11.2%	9.5%	

Table 13 (continued)

C. I. or Sel.No.	Entry no.	New Mexico Clovis (Irrigated)	New Mexico Clovis (Dryland)	New Mexico Mean	New Mexico Rank	Washington Lind	Washington Rank	North Dakota Williston	North Dakota Hettinger	North Dakota Mean	North Dakota Rank
CO701733	11	6961	2083	4522	3	1238	13	1376	1620	1498	10
NE69291	8	7224	1779	4502	4	1542	2	1600	1564	1582	9
15075	7	7417	1942	4680	1	1360	8	1399	1166	1283	13
NE75586	20	6574	1773	4174	8	1260	11	1294	1368	1331	12
13190	2	6331	2487	4409	5	1276	10	1866	1872	1869	3
SD713-11	12	7226	1983	4605	2	1147	17	1148	1104	1126	19
MT6715	18	5736	2148	3942	10	1365	7	1711	1530	1621	8
NE73491	3	6544	1897	4220	7	1513	4	1224	1132	1178	16
NE73640	10	6661	1815	4238	6	1255	12	1177	1262	1219	14
MT7252	22	5215	1870	3543	19	1407	6	2053	1587	1820	4
MT7216	21	5559	1132	3345	21	1642	1	2189	1839	2014	2
NE73644	5	6354	1403	3879	11	1132	18	1338	1525	1432	11
ND7121	16	5583	1969	3776	14	1437	5	1902	1592	1747	6
NE73649	6	6031	1321	3676	15	1236	14	1125	1194	1160	17
AT7759-19	9	5412	2318	3865	12	1527	3	2271	1984	2128	1
NE73641	4	6028	1643	3836	13	1178	16	1344	970	1157	18
NE75424	19	5910	1349	3629	16	997	20	1340	1043	1191	15
1442	1	5336	1867	3602	17	1329	9	1842	1766	1804	5
SD716-1	14	6313	1924	4119	9	839	22	1180	936	1058	22
SD7113-16	13	5936	1249	3593	18	1081	19	955	1233	1094	20
SD76175	15	5527	1272	3400	20	875	21	1243	903	1073	21
Eklund	17	4449	1452	2951	22	1221	15	1851	1407	1629	7
Mean		6106	1758	3932		1266		1519	1391	1455	
$LSD_{.05}$		882	587	1079		216		260	476	329	
C.V.		8.8%	20.2%	11.6%		10.4%		10.4%	20.8%	16.0%	

Table 13 (concluded).

C. I. or Sel. No.	Entry no.	Minnesota St.Paul	Rank	South Dakota Brookings	Rank	Montana Moccasin	Rank	Idaho Tetonia	Rank	Alberta Lethbridge	Rank	14-Station Mean
CO701733	11	4044	7	2536	14	3274	1	4392	1	3644	2	3317
NE69291	8	3746	12	2592	12	3218	2	3930	2	3661	1	3255
15075	7	4080	6	2327	19	3002	7	3805	3	3374	5	3233
NE75586	20	4555	1	3046	1	2505	18	3316	14	3307	6	3139
13190	2	2923	19	2626	10	3123	3	3459	10	2913	14	3076
SD713-11	12	4192	3	2448	16	3063	5	3139	20	2865	15	3023
MT6715	18	3174	18	2850	2	2893	8	3639	7	3405	3	3001
NE73491	3	3631	14	2826	4	2619	14	3401	13	3057	9	2957
NE73640	10	4376	2	2437	17	2626	13	3170	18	3043	10	2949
MT7252	22	3811	10	2556	13	2557	17	3134	21	2825	17	2906
MT7216	21	3511	16	2756	5	2597	15	3800	4	3382	4	2898
NE73644	5	3654	13	2509	15	2720	11	3666	6	3087	8	2886
ND7121	16	3555	15	2334	18	2818	9	3253	16	2659	20	2883
NE73649	6	4140	4	2715	7	2577	16	3437	11,12	2995	12	2881
AT7759-19	9	2067	22	2837	3	3063	6	3437	11,12	3003	11	2875
NE73641	4	4031	8	2125	21	2422	19	3670	5	3114	7	2847
NE75424	19	3755	11	2284	20	2016	22	3592	8	2769	18	2841
1442	1	2811	20	2644	9	3085	4	3257	15	2980	13	2749
SD716-1	14	4118	5	2650	8	2628	12	3545	9	2615	21	2742
SD7113-16	13	3329	17	2624	11	2229	21	3209	17	2767	19	2677
SD76175	15	3932	9	2740	6	2368	20	3154	19	2599	22	2669
Eklund	17	2777	21	1979	22	2774	10	2605	22	2838	16	2417
Mean		3646		2565		2735		3455		3041		2919
$LSD_{.05}$		1133		632		455		398		534		280
C.V.		18.9%		14.9%		10.1%		7.0%		10.7%		12.3%

Table 14. Summary of mean yields (kg/ha) for 12 lines grown in the Northern Regional Performance Nursery at 13 sites in 1976 and 1977 with state means and rank.

Variety or Pedigree	C. I. or Sel. No.	1977 Entry no.	Nebraska						New Mexico				Minnesota	
			Mead	North Platte	Sidney	Alliance	Mean	Rank	Clovis (Dry.)	Clovis (Irr.)	Mean	Rank	St. Paul	Rank
II 21031/Trapper//C0652363	C0701733	11	3394	4011	2454	3386	3311	3	1651	6424	4038	2	3330	6
Centurk Selection	NE69291	8	3351	3206	2800	3668	3256	5	1426	6633	4030	3	3187	8
Centurk	15075	7	3473	3978	2724	3369	3386	1	1381	6453	3917	4	3440	2
Warrior	13190	2	2618	3635	2580	3229	3015	8	2065	6028	4047	1	3014	9
Buckskin sib/Homestead	NE73641	4	3859	3522	2532	3060	3243	6	1435	5638	3536	9	3445	1
" " "	NE73649	6	3752	4101	2529	3076	3365	2	1111	5846	3478	10	3400	4
" " "	NE73644	5	3671	3807	2472	3089	3260	4	1398	5694	3546	8	3274	7
" " "	NE73491	3	3603	3526	2504	2761	3098	7	1641	5931	3786	6	3367	5
Marias (Yogo*3/Cnn Sel 2-3-13-6)	MT6715	18	2953	3220	2268	3035	2869	9	1847	5432	3640	7	2988	10
SS/12500//RCh/Pn/3/Cnn/4/Kaw/Sk//2*Cnn	SD713-11	12	3384	3260	2215	2453	2828	11	1532	6288	3910	5	3407	3
Roughrider	ND7121	16	2778	3222	2440	3016	2864	10	1675	4804	3240	12	2686	11
Kharkof	1442	1	2422	3084	1954	2973	2593	12	1749	4768	3259	11	2515	12
		Mean	3271	3548	2456	3095	3092		1576	5828	3702		3192	
		$LSD_{.05}$	1041	1189	628	756	721		483	767	1150		788	
		C.V.	10.6%	14.4%	7.8%	11.9%	12.0%		25.9%	8.7%	12.4%		18.3%	

Table 14 (concluded).

C. I. or Sel. No.	1977 Entry no.	North Dakota				Montana		Idaho		Alberta		Washington		13-Station Mean
		Williston	Hettinger	Mean	Rank	Moccasin	Rank	Tetonia	Rank	Lethbridge	Rank	Lind	Rank	
CO701733	11	1883	2092	1987	6	2060	12	3938	1	3668	2	2052	4	3090
NE69291	8	1945	2129	2037	5	2357	10	3570	3	3757	1	2259	1	3088
15075	7	1766	1799	1782	9	2689	6	3557	4	3430	4	2069	2	3074
13190	2	2154	2324	2239	1	3427	1	3408	5	3275	6	1860	8	3032
NE73641	4	1941	1647	1794	8	2793	4	3304	6	3136	8	1893	6	2925
NE73649	6	1695	1774	1735	12	2574	7	3254	9	3028	11	1972	5	2920
NE73644	5	1831	1919	1875	7	2748	5	3227	10	3194	7	1791	9	2918
NE73491	3	1748	1743	1745	11	2331	11	3300	7	3110	9	2057	3	2883
MT6715	18	2102	1991	2046	4	2444	8	3583	2	3474	3	1785	11	2842
SD713-11	12	1853	1866	1860	10	2366	9	2970	12	3044	10	1659	12	2778
ND7121	16	2177	2198	2187	3	3155	2	3169	11	2983	12	1790	10	2767
1442	1	2183	2219	2201	2	3125	3	3279	8	3368	5	1885	7	2719
	Mean	1940	1975	1957		2672		3380		3289		1923		2920
	$LSD_{.05}$	422	342	349		1571		508		428		375		382
	C.V.	11.6%	17.3%	14.8%		25.0%		7.5%		9.4%		10.5%		13.7%

Table 15. Mean yield, regression coefficient, correlation coefficient and coefficient of determination from linear regression analysis of variety yield on nursery mean yield for the 22 entries in the 1977 Northern Regional Performance Nursery.

Entry no.	C. I. or Sel. No.	Mean yield over 14 locations (kg/ha)	Regression coefficient ($b_{y.x}$)	Correlation coefficient (r)	Coefficient of Determination (r^2)
11	CO701733	3317	1.13	.91	.82
8	NE69291	3255	1.12	.94	.88
7	15075	3233	1.22	.93	.86
20	NE75586	3139	1.13	.95	.91
2	13190	3076	.88	.91	.82
12	SD713-11	3023	1.19	.94	.88
18	MT6715	3001	.86	.94	.89
3	NE73491	2957	1.05	.94	.88
10	NE73640	2949	1.10	.93	.86
22	MT7252	2906	.76	.92	.85
21	MT7216	2898	.80	.88	.77
5	NE73644	2886	1.03	.95	.89
16	ND7121	2883	.79	.90	.81
6	NE73649	2881	1.05	.95	.89
9	AT7759-19	2875	.65	.82	.67
4	NE73641	2847	1.01	.92	.84
19	NE75424	2841	1.06	.91	.82
1	1442	2749	.72	.90	.81
14	SD716-1	2742	1.09	.90	.82
13	SD7113-16	2677	1.02	.92	.85
15	SD76175	2669	1.00	.92	.85
17	Eklund	2417	.60	.88	.78

Table 16. Mean yield, regression coefficient, correlation coefficient, and coefficient of determination from linear regression analysis of variety yield on nursery mean yield for 12 entries in the Northern Regional Performance Nursery in 1976 and 1977.

C. I. or Sel. No.	1977 Entry no.	Mean yield over 13 locations (kg/ha)	Regression coefficient ($b_{y.x}$)	Correlation coefficient (r)	Coefficient of determination (r^2)
CO701733	11	3090	1.19	.91	.84
NE69291	8	3088	1.16	.92	.84
15075	7	3074	1.21	.95	.90
13190	2	3032	.94	.91	.83
NE73641	4	2925	1.01	.93	.86
NE73649	6	2920	1.12	.94	.88
NE73644	5	2918	1.03	.95	.90
NE73491	3	2883	1.05	.92	.84
MT6715	18	2842	.92	.90	.80
SD713-11	12	2778	1.18	.92	.85
ND7121	16	2767	.76	.88	.77
1442	1	2719	.72	.86	.74

Table 17. Summary of agronomic and yield data for the 22 lines in the 1977 Northern Regional Performance Nursery.

Variety or Pedigree	C. I. or Sel.No.	Entry no.	Days to head from 1/1	Days to ripe from 1/1	Plant height	Winter survival	Leaf rust sev.	Leaf rust resp.	Stem rust sev.	Thousand kernel weight	Volume weight	Yield
					cm	0-9	%		%	gm.	kg/hl	kg/ha
Number of trials			14	1	13	5	1	1	1	1	14	14
II 21031/Trapper//CO652363	CO701733	11	145	186	73	6	25	M	0	26.4	78.8	3317
Centurk Selection	NE69291	8	146	186	75	8	48	S	0	26.8	79.0	3255
Centurk	15075	7	145	186	78	7	43	S	0	27.2	78.4	3233
Pkr*4/Agent//Beloterkovskaya 198/Lcr	NE75586	20	146	187	78	7	0	M	0	26.8	78.1	3139
Warrior	13190	2	147	190	85	8	50	S	0	29.6	78.0	3076
SS/12500//RCh/Pn/3/Cnn/4/Kaw/SK//2*Cnn	SD713-11	12	144	186	80	6	63	S	0	32.0	78.8	3023
Marias (Yogo*3/Cnn Sel 2-3-13-6)	MT6715	18	146	188	85	7	80	S	0	30.4	78.6	3001
Buckskin sib/Homestead	NE73491	3	143	186	77	7	55	S	0	30.4	76.9	2957
" " "	NE73640	10	144	186	72	7	48	S	0	31.2	77.6	2949
Lcr/MT6319, 110-4-1-1	MT7252	22	148	188	81	9	80	S	30	31.2	78.2	2906
Yg/Cnn Sel 11-5-5//Yg SS 4662, 20-4-1-1	MT7216	21	148	193	77	9	70	S	30	31.6	78.5	2898
Buckskin sib/Homestead	NE73644	5	144	186	71	7	60	S	0	32.0	77.8	2886
Roughrider	ND7121	16	148	192	83	9	60	S	0	28.8	78.7	2883
Buckskin sib/Homestead	NE73649	6	144	186	72	6	60	S	0	30.0	77.7	2881
Winalta/Alabaskaja	AT7759-19	9	152	191	89	9	28	S	40	26.4	78.0	2875
Buckskin sib/Homestead	NE73641	4	144	186	70	7	60	S	0	31.2	77.4	2847
NE69457/Ctk//Gage	NE75424	19	144	186	72	8	50	S	0	31.2	79.8	2841
Kharkof	1442	1	149	190	91	8	70	S	40	28.8	76.7	2749
Norin 10/12500//Hume	SD716-1	14	143	186	72	9	10	M	5	36.8	78.8	2742
Hokuriko/Fortunato//Lancer	SD7113-16	13	144	186	75	6	70	S	0	31.6	78.4	2677
Sentinel Selection 8	SD76175	15	144	186	68	8	18	MS	0	30.4	77.2	2669
Eklund	---	17	152	193	96	9	80	S	0	24.4	76.4	2417

HYBRID WINTER WHEAT REGIONAL NURSERY

This was the second year for the Regional Hybrid Nursery. It was comprised of 16 hybrids entered by Texas, DeKalb and Pioneer together with the check varieties Centurk, Sage and TAM W-101 and parental lines of the Texas hybrids.

The nursery was grown at 14 sites in Texas, Oklahoma, Kansas, Colorado, and Nebraska. Data were received from all sites except Clay Center, Nebraska where the nursery was abandoned due to poor spring stands. Data from individual nursery sites appear in table 18. Hybrids and varieties in the 1977 nursery are listed below.

Entry no.	Variety or Hybrid	C. I. or Sel. No.	Source
1	Centurk	15075	Check
2	Sage	17277	"
3	TAM W-101	15324	"
4	Texas R-line	---	Texas
5	Knox	12798	"
6	ms Knox/TX R-line	---	"
7	Homestead	17264	"
8	ms Homestead/TX R-line	---	"
9	Sturdy	13684	"
10	ms Sturdy/TX R-line	---	"
11	ms Centurk/TX R-line	---	"
12	Lindon	17440	Check
13	ms NE66497/TX R-line	---	Texas
14	TAM W-103	17336	"
15	ms TAM W-103/TX R-line	---	"
16	Improved Triumph	13667	"
17	ms Triumph/TX R-line	---	"
18	Gage	13532	"
19	ms Gage/TX R-line	---	"
20	Pioneer Hybrid	HR915A	Pioneer
21	"	HR940	"
22	"	HR915	"
23	"	HR940A	"
24	DeKalb Hybrid	544	DeKalb
25	"	585	"
26	"	589	"
27	"	577	"

Test Site Information

Texas Stations -- The nursery was grown at Dallas, Chillicothe and under irrigation at Bushland. For further information see SRPN.

Oklahoma Stations -- Nurseries were grown at Stillwater and Lahoma. See SRPN for further information.

Hutchinson, KS (Pioneer Hi-Breds) — The nursery was planted October 6 and harvested July 1. An inconsistent infestation of soil-borne mosaic was observed.

Colby, KS — The nursery was seeded October 2 and harvested June 30 and July 1. For further information see SRPN.

Wichita, KS (DeKalb Hybrids) — Lines with medium maturity, lodging resistance and soil-borne mosaic resistance were favored in this test. SBM was present in the nursery but did not affect all plots; however, unless a genotype had some SBM resistance, it had a poor chance of doing well.

Other Kansas Stations — Nurseries were also grown at Hays and Garden City. See SRPN for further information.

Colorado Stations — Nurseries were grown at Julesburg and Burlington. Harvest dates were July 8 and June 28 respectively. For further information see SRPN.

Nebraska Stations — The nursery was grown at Mead and Clay Center. Due to poor stands, Clay Center was abandoned. For further information see SRPN.

Table 18. Yield and agronomic data for the varieties and lines grown in the Regional Hybrid Winter Wheat Nursery in 1977.

Bushland, Texas

Three replications

Entry no.	C. I. or selection no.	Yield	Volume weight	Days to heading	Plant height	Lodging	Shattering
		kg/ha	kg/hl	from 1/1	cm	0-9	0-9
14	17336	5647	77.9	123	68	0	0
3	TAM W-101	5050	79.6	124	74	0	0
12	17440	4832	78.0	129	86	1	0
7	17264	4813	77.0	125	88	0	1
9	13684	4731	75.4	125	79	0	0
21	HR940	4572	76.6	129	92	0	0
2	17277	4565	76.6	128	95	0	0
15	ms TAM W-103/TX R-line	4525	76.5	122	82	0	1
27	577	4438	78.7	123	90	0	2
16	13667	4414	78.4	123	95	3	1
24	544	4370	78.4	126	94	2	0
1	15075	4348	78.3	130	94	1	1
22	HR915	4308	77.5	128	94	0	1
23	HR940A	4222	76.6	129	94	0	0
25	585	4131	78.4	127	93	0	0
10	ms Sturdy/TX R-line	4131	75.2	123	83	0	1
4	Texas R-line	4074	73.5	126	84	0	2
20	HR915A	3992	77.0	128	93	0	1
26	589	3949	77.9	123	94	1	1
13	ms NE66497/TX R-line	3821	75.4	126	91	0	2
8	ms Homestead/TX R-line	3758	75.0	127	92	1	2
11	ms Centurk/TX R-line	3641	74.8	126	93	0	2
17	ms Triumph/TX R-line	3566	76.2	123	90	3	2
18	13532	3523	74.1	129	95	2	1
19	ms Gage/TX R-line	3064	73.7	127	92	2	3
5	12793	2781	76.5	126	99	1	3
6	ms Knox/TX R-line	2459	75.4	124	96	1	4

$LSD_{.05}$ = 629 C.V. = 9.3%

Dallas, Texas
3 Replications

C. I. or Sel. No.	Entry no.	Yield	Volume weight	Days to heading	Plant height	Mildew sev.	Mildew resp.	Phyto.[1]	BYDV[2]	Septoria[2]	Protein[3]
		kg/ha	kg/hl	from 1/1	cm	%	0-9		0-9	0-9	%
589	26	4145	81.3	103	107	50	9	Tr	1.5	8	13.50
15075	1	4004	80.0	110	104	15	7	Tr	Tr	5	15.05
544	24	3827	81.9	107	107	40	8	Tr	Tr	7	14.39
17336	14	3811	81.3	99	76	65	9	0	2.0	7	13.17
ms Sturdy/TX R-line	10	3793	78.7	103	94	55	9	Tr	Tr	7	14.82
12798	5	3629	82.6	106	107	35	8	Tr	1.5	8	14.78
577	27	3618	80.6	101	107	65	9	Tr	1.5	8	13.84
17440	12	3486	79.3	106	89	40	8	Tr	1.5	5	14.08
ms TAM W-103/TX R-line	15	3257	77.4	101	94	65	9	Tr	1.0	8	13.71
13667	16	3145	81.3	104	99	50	9	0	Tr	7	14.57
ms Centurk/TX R-line	11	3098	74.8	112	109	35	8	Tr	0	5	14.45
HR915	22	2973	78.7	112	109	60	9	0.5	1.5	6	14.67
HR915A	20	2901	78.7	112	109	70	9	Tr	1.0	5	14.31
17277	2	2889	77.4	118	107	35	8	4.0	4.0	5	15.21
585	25	2844	78.7	110	109	60	9	Tr	1.5	6	15.23
ms Knox/TX R-line	6	2721	80.0	108	99	25	8	1.0	1.0	9	15.88
13684	9	2674	77.4	102	84	60	9	1.0	0.5	8	14.60
ms Homestead/TX R-line	8	2594	72.2	111	99	45	9	1.0	Tr	7	15.35
HR940	21	2567	76.1	118	107	80	9	Tr	3.0	5	15.42
TAM W-101	3	2567	74.8	111	86	70	9	2.0	2.0	6	13.46
ms Triumph/TX R-line	17	2542	75.5	108	104	55	9	Tr	1.5	7	14.72
17264	7	2531	74.8	114	97	40	9	3.0	3.0	7	14.81
13532	18	2504	74.8	114	107	25	7	2.5	3.0	6	16.27
ms NE66497/TX R-line	13	2501	72.2	112	104	45	9	Tr	Tr	6	14.74
HR940A	23	2437	75.5	116	107	60	9	1.0	2.0	7	16.60
ms Gage/TX R-line	19	2349	74.8	112	107	25	8	Tr	1.0	7	16.47
Texas R-line	4	1820	63.2	116	97	50	9	2.5	1.0	7	16.73

$LSD_{.05}$ = 499 C.V. = 10.1%

[1] Phytotoxicity = plants sprayed with Diazanon causing differential leaf burn.
[2] 0 = none, 9 = severe.
[3] InfraAlyzer protein.

Chillicothe, Texas

3 replications

C. I. or Selection Number	Entry	Yield	Volume weight	Days to heading	Plant height	Lodging	Leaf rust	
							Sev.	Resp.
		kg/ha	kg/hl	from 1/1	cm	0-9	%	0-9
577	27	3753	78.3	100	76	2	40	8
589	26	3625	76.7	101	71	1	30	7
ms Centurk/TX R-line	11	3623	76.4	104	83	5	40	8
544	24	3596	77.3	102	71	3	40	8
HR940	21	3545	80.5	106	92	2	40	8
17440	12	3531	78.5	104	64	3	30	8
15075	1	3529	78.0	106	80	5	40	7
HR940A	23	3484	79.6	106	90	3	30	8
TAM W-101	3	3428	75.3	103	71	3	40	7
ms NE66497/TX R-line	13	3406	77.3	106	85	5	50	8
HR915A	20	3388	79.8	106	91	4	40	8
585	25	3361	80.0	105	88	3	40	7
HR915	22	3334	79.8	105	91	2	40	7
12798	5	3323	76.4	102	84	3	20	4
17277	2	3320	77.1	107	101	6	20	7
13532	18	3309	76.5	107	91	8	30	7
13667	16	3251	76.5	101	73	6	40	8
ms TAM W-103/TX R-line	15	3244	76.2	100	64	4	40	8
ms Triumph/TX R-line	17	3218	75.3	101	71	5	40	8
17264	7	3208	75.2	107	79	3	40	7
ms Sturdy/TX R-line	10	3175	74.4	101	69	1	20	4
ms Gage/TX R-line	19	3134	75.8	106	96	7	30	7
TAM W-103	14	3056	76.7	100	56	1	50	8
Texas R-line	4	3045	72.2	106	79	7	20	6
ms Homestead/TX R-line	8	2989	73.9	107	84	7	40	7
13684	9	2834	74.8	102	63	0	10	3
ms Knox/TX R-line	6	2251	75.8	102	81	2	40	7

$LSD_{.05}$ = 412 C.V. = 7.6%

Stillwater, Oklahoma
Three replications

Entry no.	C. I. or Sel. no.	Yield	Volume weight	Days to head	Plant height	Lodging	Leaf rust	
							Sev.	Resp.
		kg/ha	kg/hl	from 1/1	cm	0-9	%	0-9
27	577	4060	80.1	105	85	3	4	8
11	ms Centurk/TX R-line	3971	78.8	110	94	3	1	5
26	589	3883	79.2	106	92	3	1	8
23	HR940A	3855	80.6	114	95	1	2	8
17	ms Triumph/TX R-line	3820	78.3	107	91	3	8	8
15	ms TAM W-103/TX R-line	3778	78.1	104	73	1	2	3
12	17440	3695	80.7	108	84	2	3	8
25	585	3690	80.7	109	92	3	2	8
22	HR915	3642	80.7	111	91	2	2	8
1	15075	3597	80.2	111	88	3	2	8
21	HR940	3532	80.8	114	94	1	0	3
13	ms NE66497/TX R-line	3521	78.4	111	95	4	8	8
16	13667	3514	79.8	106	85	3	7	8
6	ms Knox/TX R-line	3504	77.5	107	91	3	4	8
24	544	3485	79.9	107	91	3	2	8
14	17336	3477	78.5	105	65	0	7	8
20	HR915A	3472	80.6	111	96	1	3	8
5	12798	3427	78.8	108	95	3	2	8
18	13532	3417	79.3	113	99	5	1	5
3	TAM W-101	3414	80.2	109	75	2	1	5
10	ms Sturdy/TX R-line	3390	76.2	107	86	2	2	8
8	ms Homestead/TX R-line	3386	76.6	113	95	4	2	5
19	ms Gage/TX R-line	3305	78.1	112	99	4	1	5
9	13684	3259	77.7	107	82	0	0	3
7	17264	3249	77.9	113	88	3	2	8
2	17277	3248	78.6	113	103	5	0	3
4	Texas R-line	3245	75.2	112	84	5	3	8

$LSD_{.05}$ = 530 C.V. = 9.1%

Lahoma, Oklahoma

3 Replications

Entry no.	C. I. or Sel. no.	Yield	Volume weight
		kg/ha	kg/hl
13	ms NE66497/TX R-line	3081	72.1
3	TAM W-101	3021	74.3
24	544	2945	74.7
15	ms TAM W-103/TX R-line	2911	73.5
11	ms Centurk/TX R-line	2875	72.0
20	HR915A	2834	75.9
25	585	2833	75.7
22	HR915	2818	75.2
8	ms Homestead/TX R-line	2763	70.2
10	ms Sturdy/TX R-line	2717	71.4
14	17336	2692	75.6
21	HR940	2677	74.8
1	15075	2649	74.1
2	17277	2578	73.0
17	ms Triumph/TX R-line	2572	72.9
18	13532	2564	72.9
12	17440	2563	75.4
23	HR940A	2546	73.8
26	589	2528	74.7
27	577	2438	75.6
7	17264	2395	71.2
5	12798	2329	72.1
19	ms Gage/TX R-line	2274	69.6
9	13684	2259	72.2
6	mx Knox/TX R-line	2219	71.3
4	Texas R-line	2109	65.4
16	13667	2102	75.2

$LSD_{.05}$ = 320 C.V. = 7.5%

Hutchinson, Kansas (Pioneer)
Three replications

C. I. or Sel. No.	Entry no.	Yield	Volume weight	Days to heading	Plant height	Lodging
		kg/ha	kg/hl	from 1/1	cm.	0-9
TAM W-101	3	3618	74.2	126	79	1
ms Sturdy/TX R-line	10	3094	71.0	124	86	4
HR915A	20	3069	76.8	125	102	3
HR915	22	3020	76.1	126	102	1
ms Centurk/TX R-line	11	2970	71.0	125	104	6
HR940	21	2944	76.1	127	104	3
HR940A	23	2845	76.1	127	107	2
ms NE66497/TX R-line	13	2845	72.2	126	99	5
ms Homestead/TX R-line	8	2697	70.3	126	99	6
13532	18	2694	74.2	128	104	5
ms Knox/TX R-line	6	2668	71.0	123	102	8
12798	5	2645	71.6	123	107	7
17277	2	2547	73.5	127	99	3
ms TAM W-103/TX R-line	15	2547	69.7	123	81	5
17440	12	2545	73.5	125	89	5
577	27	2497	75.5	121	99	7
13684	9	2495	71.0	125	76	0
ms Gage/TX R-line	19	2495	72.2	130	102	5
589	26	2495	73.5	121	99	8
544	24	2470	74.2	123	104	8
585	25	2470	76.1	126	104	7
13667	16	2448	72.9	121	94	8
Texas R-line	4	2396	67.1	128	84	2
17264	7	2394	72.2	125	94	5
15075	1	2322	72.9	127	102	6
ms Triumph/TX R-line	17	2219	72.2	122	97	7
17336	14	2121	71.0	123	71	6

$LSD_{.05}$ = 674 C.V. = 15.5%

Colby, Kansas

3 Replications

Entry no.	C.I. or sel. no.	Yield	Volume weight	Days to heading	Plant height	Lodging
		kg/ha	kg/hl	from 1/1	cm	0-9
11	ms Centurk/TX R-line	4463	77.4	137	84	0
10	ms Sturdy/TX R-line	4309	77.0	133	78	0
4	Texas R-line	4238	73.8	138	78	0
15	ms TAM W-103/TX R-line	4153	77.0	133	73	0
23	HR940A	4061	80.9	138	88	0
22	HR915	4035	80.6	136	86	0
19	ms Gage/TX R-line	4002	77.8	137	90	0
1	15075	3993	80.0	139	81	0
17	ms Triumph/TX R-line	3984	76.7	134	82	1
21	HR940	3972	80.6	137	87	0
27	577	3955	80.2	133	79	0
2	17277	3918	78.7	138	89	1
3	TAM W-101	3873	80.0	135	71	0
18	13532	3835	78.0	140	93	1
13	ms NE66497/TX R-line	3830	77.4	135	80	0
20	HR915A	3809	81.0	136	85	0
25	585	3786	80.3	135	87	0
14	17336	3733	77.6	132	64	0
9	13684	3729	77.8	133	70	0
7	17264	3726	79.1	139	80	0
24	544	3716	78.9	134	82	0
8	ms Homestead/TX R-line	3713	77.6	136	81	0
12	17440	3569	80.9	138	76	0
16	13667	3568	78.3	134	80	4
6	ms Knox/TX R-line	3500	75.8	134	84	1
26	589	3450	79.1	134	84	1
5	12798	3264	77.1	135	84	1

$LSD_{.05}$ = 495 C.V. = 7.8%

Garden City, Kansas

Three replications

Entry no.	C.I. or Sel. no.	Yield	Volume weight	Days to ripening	Plant height	Lodging
		kg/ha	kg/hl	from 1/1	cm	0-9
2	17277	3578	79.1	177	87	0
8	ms Homestead/TX R-line	3329	75.7	177	83	0
4	Texas R-line	3284	72.2	176	78	0
10	ms Sturdy/TX R-line	3282	74.4	175	75	0
15	ms TAM W-103/TX R-line	3257	73.9	175	71	0
13	ms NE66497/TX R-line	3232	75.2	176	82	0
11	ms Century/TX R-line	3150	75.7	177	85	0
3	TAM W-101	3085	77.8	177	71	0
23	HR940A	3071	77.0	180	89	0
12	17440	2999	79.6	175	72	0
27	577	2986	77.8	176	77	0
21	HR940	2984	77.4	177	87	0
26	589	2966	77.4	175	75	0
25	585	2950	79.1	177	87	0
7	17264	2773	76.5	177	79	0
18	13532	2706	76.5	178	87	0
1	15075	2699	76.5	177	83	0
22	HR915	2647	77.8	179	89	0
9	13684	2645	75.2	176	68	0
20	HR915A	2614	77.0	177	87	0
24	544	2560	77.0	176	85	0
17	ms Triumph/TX R-line	2515	76.1	175	75	1
19	ms Gage/TX R-line	2461	75.2	177	88	0
14	17336	2441	74.4	175	60	0
5	12798	2435	75.2	175	85	0
16	13667	2376	77.8	175	66	2
6	ms Knox/TX R-line	2134	75.2	175	85	0

$LSD_{.05}$ = 563 C.V. = 12.0%

Hays, Kansas

3 Replications

Entry no.	C. I. or Sel. no.	Yield	Volume weight	Days to heading	Plant height	Lodging 1/
		kg/ha	kg/hl	from 1/1	cm	
3	TAM W-101	4223	79.6	127	79	80
13	ms NE66497/TX R-line	4127	76.1	128	95	67
12	17440	4104	78.8	129	83	75
7	17264	4066	77.9	128	88	73
2	17277	4039	79.1	129	98	67
21	HR940	3905	78.9	131	95	73
8	ms Homestead/TX R-line	3878	75.9	130	92	70
15	ms TAM W-103/TX R-line	3876	76.3	125	85	72
20	HR915A	3844	78.7	129	93	75
19	ms Gage/TX R-line	3820	76.5	131	97	70
11	ms Centurk/TX R-line	3806	76.4	128	95	70
10	ms Sturdy/TX R-line	3804	75.6	127	85	80
27	577	3804	79.0	125	94	55
18	13532	3773	78.3	130	95	65
1	15075	3762	77.6	130	94	67
25	585	3739	78.9	129	98	62
4	Texas R-line	3715	73.0	132	86	73
14	17336	3665	77.0	124	73	67
26	589	3627	78.8	125	95	60
23	HR940A	3589	79.3	131	94	73
24	544	3557	79.2	128	101	67
22	HR915	3551	78.9	130	93	73
9	13684	3396	76.3	127	77	87
16	13667	3232	80.3	123	97	47
6	ms Knox/TX R-line	3066	75.6	127	98	68
17	ms Triumph/TX R-line	3040	77.5	127	93	58
5	12798	3022	77.4	128	97	63

$LSD_{.05}$ = 532 C.V. = 8.8%

1/ Degrees from horizontal

Wichita, Kansas
Three replications

C. I. or Sel. No.	Entry no.	Yield	Days to heading	Lodging	Soil-borne mosaic
		kg/ha	from 1/1	1-9	1-5
HR915A	20	5158	119	3	3
HR915	22	5024	121	3	2
HR940	21	4936	122	3	1
ms NE66497/TX R-line	13	4936	120	8	2
585	25	4923	119	5	2
ms Homestead/TX R-line	8	4916	123	7	1
577	27	4869	115	5	1
HR940A	23	4855	123	3	1
15075	1	4640	120	7	3
ms Centurk/TX R-line	11	4593	120	5	4
544	24	4586	118	5	1
ms Knox/TX R-line	6	4512	119	7	1
13532	18	4506	124	4	3
17264	7	4398	120	8	1
TAM W-101	3	4243	121	3	5
ms Sturdy/TX R-line	10	4196	119	3	5
12798	5	4176	118	4	1
17440	12	3995	119	3	5
17277	2	3974	121	5	5
17336	14	3800	116	5	5
ms Gage/TX R-line	19	3786	125	4	4
ms TAM W-103/TX R-line	15	3679	116	5	5
589	26	3510	116	8	5
ms Triumph/TX R-line	17	3497	118	8	5
13667	16	3430	116	8	5
Texas R-line	4	3336	128	2	5
13684	9	3262	119	2	5

$LSD_{.05}$ = 655 C.V. = 10.9%

Burlington, Colorado
Three replications

Entry no.	C. I. or Selection No.	Yield	Volume weight
		kg/ha	kg/hl
16	13667	3659	80.2
9	13684	3543	78.7
22	HR915	3411	79.9
23	HR940A	3408	80.2
20	HR915A	3385	79.9
17	ms Triumph/TX R-line	3382	77.1
15	ms TAM W-103/TX R-line	3360	79.9
18	13532	3213	81.1
19	ms Gage/TX R-line	3126	82.0
10	ms Sturdy/TX R-line	3039	77.4
27	577	2952	77.4
21	HR940	2946	78.7
12	17440	2897	76.1
25	585	2870	80.5
6	ms Knox/TX R-line	2830	76.1
26	589	2812	78.7
8	ms Homestead/TX R-line	2770	76.8
13	Ms NE66497/TX R-line	2748	77.0
14	17336	2703	78.7
11	ms Centurk/TX R-line	2669	76.5
24	544	2584	77.1
3	TAM W-101	2356	75.9
4	Texas R-line	2326	74.0
1	15075	2315	73.7
7	17264	2307	64.8
5	12798	2178	75.2
2	17277	2038	75.6

$LSD_{.05}$ = 1272 C.V. = 26.9%

Julesburg, Colorado

3 Replications

Entry no.	C. I. or Sel. no.	Yield kg/ha	Volume weight kg/hl	Shattering 1-9
23	HR940A	2621	75.9	2
1	15075	2539	72.5	4
14	17336	2516	71.7	4
7	17264	2509	72.1	3
3	TAM W-101	2501	70.4	6
21	HR940	2389	75.6	3
8	ms Homestead/TX R-line	2330	72.4	4
9	13684	2300	74.6	2
27	577	2292	76.2	2
13	ms NE66497/TX R-line	2263	72.5	5
2	17277	2248	73.4	5
12	17440	2210	77.1	5
20	HR915A	2173	73.3	4
15	ms TAM W-103/TX R-line	2150	71.7	6
16	13667	2150	73.4	4
17	ms Triumph/TX R-line	2128	71.5	4
18	13532	2120	73.0	4
25	585	2098	74.6	3
10	ms Sturdy/TX R-line	2083	72.1	4
4	Texas R-line	2083	68.4	5
26	589	2076	74.9	3
22	HR915	2031	74.6	2
11	ms Centurk/TX R-line	2016	73.0	6
19	ms Gage/TX R-line	1941	71.5	5
24	544	1904	74.0	2
5	12798	1613	72.1	8
6	ms Knox/TX R-line	1314	71.9	8

$LSD_{.05}$ = 318 C.V. = 8.9%

Mead, Nebraska
Three replications

C. I. or Sel. no	Entry no.	Yield kg/ha	Volume weight kg/hl	Days to heading from 1/1	Plant height cm.	Winter survival 0-9
ms NE66497/TX R-line	13	3904	77.8	141	99	9
ms Centurk/TX R-line	11	3897	78.7	141	96	7
17277	2	3834	80.8	142	101	9
TAM W-101	3	3704	79.6	141	75	8
589	26	3628	80.4	138	91	8
577	27	3601	80.0	139	91	8
ms TAM W-103/TX R-line	15	3597	77.9	139	78	8
ms Homestead/TX R-line	8	3581	78.0	142	96	9
HR915	22	3548	80.8	140	97	9
585	25	3512	80.5	140	100	9
ms Sturdy/TX R-line	10	3447	77.8	140	80	7
HR940	21	3411	79.9	143	99	9
544	24	3406	79.5	139	100	8
13532	18	3382	80.0	144	103	9
HR915A	20	3337	80.1	140	92	8
15075	1	3308	79.9	141	93	9
17440	12	3269	81.9	140	78	9
ms Triumph/TX R-line	17	3168	78.2	140	92	7
17264	7	3139	79.1	143	86	8
17336	14	3126	77.5	137	69	9
ms Gage/TX R-line	19	3068	78.3	145	102	8
HR940A	23	3061	79.9	142	101	9
12798	5	3034	79.3	139	100	8
13684	9	3012	78.7	139	69	8
13667	16	2832	80.6	138	89	7
ms Knox/TX R-line	6	2769	77.9	140	100	8
Texas R-line	4	2734	73.4	145	90	6

$LSD_{.05}$ = 493 C.V. = 9.0%

Summary of Hybrid Nursery Yields

TAM W-101 was the most productive entry over 12 locations (table 19). Texas hybrid ms TAM W-103/TX R-line was the highest yielding hybrid on the average followed by DeKalb hybrid 577. The Texas hybrids generally were more productive than their parents. A 2-year summary of yields appears in table 20 and the yield parameters $b_{y.x}$, r, and r^2 are given in tables 21 and 22.

Summary of Agronomic Data

Agronomic data for entries in the Hybrid Nursery are summarized in table 23.

Table 19. Summary of mean yields (kg/ha) of the 27 varieties and hybrids grown in the 1977 Regional Hybrid Winter Wheat Nursery at 12 locations with state means and rank.

Variety or Hybrid	C.I. or Sel. no.	Entry no.	Texas					Kansas					
			Dallas	Bushland	Chillicothe	Mean	Rank	Hutchinson	Hays	Garden City	Colby	Mean	Rank
TAM W-101	---	3	2567	5050	3428	3682	8	3618	4223	3085	3873	3700	1
ms TAM W-103/TX R-line	---	15	3257	4525	3244	3676	9	2547	3876	3257	4153	3458	6
DeKalb Hybrid	577	27	3618	4438	3753	3936	4	2497	3804	2986	3955	3311	13
ms Sturdy/TX R-line	---	10	3793	4131	3175	3699	7	3094	3804	3282	4309	3622	2
ms Centurk/TX R-line	---	11	3098	3641	3623	3454	15	2970	3806	3150	4463	3597	3
Lindon	17440	12	3486	4832	3531	3950	3	2545	4104	2999	3569	3304	14
Pioneer Hybrid	HR940	21	2567	4572	3545	3561	12	2944	3905	2984	3972	3451	7
Pioneer Hybrid	HR915	22	2973	4308	3334	3538	13	3020	3551	2647	4035	3313	12
ms NE66497/TX R-line	---	13	2501	3821	3406	3243	21	2845	4127	3232	3830	3509	5
Pioneer Hybrid	HR940A	23	2437	4222	3484	3381	19	2845	3589	3071	4061	3392	10
DeKalb Hybrid	589	26	4145	3949	3625	3907	6	2495	3627	2966	3450	3135	20
Centurk	15075	1	4004	4348	3529	3960	2	2322	3762	2699	3993	3194	19
TAM W-103	17336	14	3811	5647	3056	4171	1	2121	3665	2441	3733	2990	23
Pioneer Hybrid	HR915A	20	2901	3992	3388	3427	17	3069	3844	2614	3809	3334	11
Sage	17277	2	2889	4565	3320	3592	11	2547	4039	3578	3918	3520	4
DeKalb Hybrid	544	24	3827	4370	3596	3931	5	2470	3557	2560	3716	3076	21
DeKalb Hybrid	585	25	2844	4131	3361	3446	16	2470	3739	2950	3786	3236	17
ms Homestead/TX R-line	---	8	2594	3758	2989	3113	22	2697	3878	3329	3713	3404	9
Homestead	17264	7	2531	4813	3208	3517	14	2394	4066	2773	3726	3240	16
Cage	13532	18	2504	3523	3309	3112	23	2694	3773	2706	3835	3252	15
Sturdy	13684	9	2674	4731	2834	3413	18	2495	3396	2645	3729	3066	22
Improved Triumph	13667	16	3145	4414	3251	3603	10	2448	3232	2376	3568	2906	25
ms Triumph/TX R-line	---	17	2542	3566	3218	3109	24	2219	3040	2515	3984	2940	24
Texas R-line	---	4	1820	4074	3045	2980	25	2396	3715	3284	4238	3408	8
ms Cage/TX R-line	---	19	2349	3064	3134	2849	26	2495	3820	2461	4002	3195	18
Knox	12798	5	3629	2781	3323	3244	20	2645	3022	2435	3264	2842	26,27
ms Knox/TX R-line	---	6	2721	2459	2251	2477	27	2668	3066	2134	3500	2842	26,27
Mean			3008	4138	3295	3480		2651	3705	2858	3859	3268	
$LSD_{.05}$			499	629	412	794		674	532	563	495	347	
C.V.			10.1%	9.3%	7.6%	9.1%		15.5%	8.8%	12.0%	7.8%	10.6%	

Table 19 (concluded).

Variety or Hybrid	C.I. or Sel. No.	Entry no.	Oklahoma				Colorado				Nebraska		12-Station Mean
			Stillwater	Lahoma	Mean	Rank	Burlington	Julesburg	Mean	Rank	Mead	Rank	
TAM W-101	---	3	3414	3021	3218	7	2356	2501	2429	19	3704	4	3403
ms TAM W-103/TX R-line	---	15	3778	2911	3345	2	3360	2150	2755	5,6	3597	7	3388
DeKalb Hybrid	577	27	4060	2438	3249	5	2552	2292	2622	10	3601	6	3366
ms Sturdy/TX R-line	---	10	3390	2717	3054	18	3039	2083	2561	12	3447	11	3355
ms Centurk/TX R-line	---	11	3971	2875	3423	1	2669	2016	2343	22	3897	2	3348
Lindon	17440	12	3695	2563	3129	13	2897	2210	2554	13	3269	17	3308
Pioneer Hybrid	HR940	21	3532	2677	3105	15	2946	2389	2668	8	3411	12	3287
Pioneer Hybrid	HR915	22	3642	2818	3230	6	3411	2031	2721	7	3548	9	3277
ms NE66497/TX R-line	---	13	3521	3081	3301	3	2748	2263	2505	16	3904	1	3273
Pioneer Hybrid	HR940A	23	3855	2546	3201	10	3408	2621	3015	1	3061	22	3267
DeKalb Hybrid	589	26	3883	2528	3206	9	2812	2076	2444	18	3628	5	3265
Centurk	15075	1	3597	2649	3123	14	2315	2539	2427	20	3308	16	3255
TAM W-103	17336	14	3477	2692	3085	16	2703	2516	2610	11	3126	20	3249
Pioneer Hybrid	HR915A	20	3472	2834	3153	12	3385	2173	2779	4	3337	15	3235
Sage	17277	2	3248	2578	2913	20	2038	2248	2143	25	3834	3	3234
DeKalb Hybrid	544	24	3485	2945	3215	8	2584	1904	2244	23	3406	13	3202
DeKalb Hybrid	585	25	3690	2833	3262	4	2870	2098	2484	17	3512	10	3190
ms Homestead/TX R-line	---	8	3386	2763	3074	17	2770	2330	2550	14	3581	8	3149
Homestead	17264	7	3249	2395	2822	23	2307	2509	2408	21	3139	19	3092
Gage	13532	18	3417	2564	2990	19	3213	2120	2667	9	3382	14	3087
Sturdy	13684	9	3259	2259	2759	26	3543	2300	2921	2	3012	24	3073
Improved Triumph	13667	16	3514	2102	2808	24	3659	2150	2905	3	2832	25	3058
ms Triumph/TX R-line	---	17	3820	2572	3196	11	3382	2128	2755	5,6	3168	18	3013
Texas R-line	---	4	3245	2109	2677	27	2326	2083	2204	24	2734	27	2922
ms Gage/TX R-line	---	19	3305	2274	2790	25	3126	1941	2534	15	3068	21	2920
Knox	12798	5	3427	2329	2878	21	2178	1613	1895	27	3034	23	2807
ms Knox/TX R-line	---	6	3504	2219	2861	22	2830	1314	2072	26	2769	26	2620
Mean			3549	2603	3076		2882	2170	2526		3345		3172
$LSD_{.05}$			530	320	447		1272	318	765		493		288
C.V.			9.1%	7.5%	8.7%		26.9%	8.9%	22.4%		9.0%		11.7%

Table 20. Summary of mean yields (kg/ha) for 15 lines grown in the Regional Hybrid Winter Wheat Performance Nursery at 11 sites in 1976 and 1977 with state means and rank.

Variety or Hybrid	C. I. or Sel. No.	1977 Entry No.	Colorado Julesburg	Colorado Burlington	Colorado Mean	Colorado Rank	Kansas Hays	Kansas Colby	Kansas Garden City	Kansas Mean	Kansas Rank
Sage	17277	2	1988	1857	1922	14	3713	4183	3722	3881	1
TAM W-101	---	3	2154	2076	2115	9	3864	4158	3085	3738	2
Centurk	15075	1	2219	1975	2097	11	3456	3781	2843	3390	8
ms TAM W-103/TX R-line	---	15	2051	2629	2340	1	3230	4344	3375	3666	3
ms Sturdy/TX R-line	---	10	1964	2413	2189	7	3194	4355	3375	3657	4
TAM W-103	17336	14	2320	2048	2184	8	3228	4159	2957	3477	5
Pioneer Hybrid	HR915A	20	1952	2458	2205	6	3305	3974	2953	3438	6
DeKalb Hybrid	589	26	2090	2363	2226	5	2974	3795	2571	3145	13
" "	544	24	1925	2199	2062	12	3024	3645	2953	3222	12
Pioneer Hybrid	HR940	21	1950	2150	2050	13	3273	3934	2719	3343	9
DeKalb Hybrid	585	25	1967	2259	2113	10	3246	3502	3022	3271	10
Sturdy	13684	9	2019	2463	2241	2	3170	3767	2717	3247	11
ms Triumph/TX R-line	---	17	1971	2507	2239	3	2485	3820	2761	3037	14
Improved Triumph	13667	16	1943	2512	2227	4	2754	3789	2430	3024	15
Texas R-line	---	4	1876	1746	1811	15	3046	4156	3011	3427	7
	Mean		2026	2244	2135		3197	3957	2966	3398	
	$LSD_{.05}$		382	872	571		425	653	925	464	
	C.V.		9.3%	26.4%	20.6%		10.7%	9.7%	19.9%	12.9%	

Table 20(concluded)

Variety or Hybrid	C. I. or Sel. No.	1977 Entry No.	Texas					Nebraska		Oklahoma				11-Station Mean
			Bushland (Irr.)	Chillicothe	Dallas	Mean	Rank	Mead	Rank	Stillwater	Lahoma	Mean	Rank	
Sage	17277	2	4951	2981	3303	3745	1	3782	1	3193	3279	3236	3	3354
TAM W-101	---	3	5067	2717	2963	3583	6	3409	5	2979	3416	3198	5	3265
Centurk	15075	1	4380	3035	3775	3730	3	3451	3	3525	3163	3344	1	3242
ms TAM W-103/TX R-line	---	15	4024	2608	3449	3360	10	3410	4	3285	3109	3197	6	3226
ms Sturdy/TX R-line	---	10	4181	2652	3833	3556	7	3164	8	3091	3046	3068	10	3204
TAM W-103	17336	14	5406	2455	3360	3740	2	3067	10	2832	2781	2806	13	3149
Pioneer Hybrid	HR915A	20	4341	2681	3068	3363	9	3146	9	3031	3368	3199	4	3118
DeKalb Hybrid	589	26	3990	2991	3907	3629	4	3322	7	3270	2912	3091	9	3116
" "	544	24	4380	2789	3698	3622	5	3541	2	2858	3093	2975	11	3102
Pioneer Hybrid	HR940	21	4771	2871	2761	3467	8	2892	12	3184	3317	3251	2	3080
DeKalb Hybrid	585	25	4263	2709	3104	3359	11	3384	6	3129	3076	3102	8	3061
Sturdy	13684	9	4593	2296	2934	3274	12,13	2988	11	2846	2469	2658	15	2936
ms Triumph/TX R-line	---	17	3460	2740	2898	3033	14	2850	13	3350	2973	3162	7	2894
Improved Triumph	13667	16	4131	2840	2851	3274	12,13	2659	14	3041	2565	2803	14	2872
Texas R-line	---	4	3765	2560	2685	3003	15	2472	15	3046	2843	2945	12	2834
	Mean		4380	2728	3239	3449		3169		3111	3027	3069		3097
	$LSD_{.05}$		743	384	1038	682		538		564	608	642		429
	C.V.		10.3%	7.7%	9.7%	9.9%		9.1%		10.0%	7.9%	9.0%		12.1%

Table 21. Mean yield, regression coefficient, correlation coefficient and coefficient of determination from linear regression analysis of variety yield on nursery mean yield for the 27 entries in the 1977 Regional Hybrid Winter Wheat Performance Nursery.

Entry no.	Variety or Hybrid	Mean yield over 12 locations kg/ha	Regression coefficient $b_{(y.x)}$	Correlation coefficient (r)	Coefficient of determination (r^2)
3	TAM W-101	3403	1.17	.76	.58
15	ms TAM W-103/TX R-line	3388	.91	.71	.50
27	577	3366	.96	.72	.51
10	ms Sturdy/TX R-line	3355	.90	.69	.47
11	ms Centurk/TX R-line	3348	.95	.70	.50
12	17440	3308	1.01	.75	.56
21	HR940	3287	1.01	.75	.57
22	HR915	3277	.97	.79	.63
13	ms NE66497/TX R-line	3273	.79	.62	.39
23	HR940A	3267	.81	.70	.48
26	589	3265	.74	.55	.30
1	15075	3255	.83	.59	.35
14	17336	3249	1.05	.61	.37
20	HR915A	3235	.84	.75	.56
2	17277	3234	1.02	.70	.49
24	544	3202	.91	.64	.41
25	585	3190	.86	.66	.44
8	ms Homestead/TX R-line	3149	.70	.63	.40
7	17264	3092	1.06	.72	.52
18	13532	3087	.78	.57	.33
9	13684	3073	.92	.69	.47
16	13667	3058	.87	.59	.35
17	ms Triumph/TX R-line	3013	.69	.48	.23
4	Texas R-line	2922	1.08	.70	.49
19	ms Gage/TX R-line	2920	.81	.59	.34
5	12798	2807	.65	.53	.29
6	ms Knox/TX R-line	2620	.74	.61	.37

Table 22. Mean yield, regression coefficient, correlation coefficient and coefficient of determination from linear regression analysis of variety yield on nursery mean yield for 15 lines in the Regional Hybrid Winter Wheat Performance Nursery in 1976 and 1977.

C. I. or Sel. No.	1977 Entry no.	Mean yield over 11 locations (kg/ha)	Regression coefficient ($b_{y.x}$)	Correlation coefficient (r)	Coefficient of Determination (r^2)
17277	2	3354	1.13	.86	.74
TAM W-101	3	3265	1.16	.87	.76
15075	1	3242	.89	.83	.69
ms TAM W-103/ TX R-line	15	3226	.96	.85	.73
ms Sturdy/TX R-line	10	3204	1.01	.87	.75
17336	14	3149	1.22	.84	.71
HR915A	20	3118	1.06	.88	.77
589	26	3116	.87	.75	.56
544	24	3102	.97	.82	.68
HR940	21	3080	1.16	.88	.77
585	25	3061	.93	.86	.74
13684	9	2936	1.02	.88	.77
ms Triumph/ TX R-line	17	2894	.78	.73	.54
13667	16	2872	.92	.79	.62
Texas R-line	4	2834	1.01	.82	.68

Table 23. Summary of agronomic and yield data for the 27 varieties and hybrids in the 1977 Regional Hybrid Winter Wheat Performance Nursery.

Variety or Hybrid	C. I. or Sel. No.	Entry no.	Days to Head from 1/1	Days to Ripe	Plant height cm	Winter survival 0-9	Lodging 0-9	Shattering 0-9	Leaf rust sev. %	Leaf rust resp.
Number of trials			8	1	9	1	6	1	2	2
TAM W-101	---	3	123	177	74	8	1	0	11	M
ms TAM W-103/TX R-line	---	15	120	175	76	8	1	1	11	M
DeKalb Hybrid	577	27	120	176	86	8	1	2	13	S
ms Sturdy/TX R-line	---	10	121	175	80	7	1	1	6	MS
ms Centurk/TX R-line	---	11	124	177	91	7	2	2	11	M
Lindon	17440	12	124	175	78	9	1	0	10	S
Pioneer Hybrid	HR940	21	126	177	94	9	1	0	10	M
" "	HR915	22	124	179	93	9	1	1	11	S
ms NE66497/TX R-line	---	13	124	176	91	9	2	2	19	S
Pioneer Hybrid	HR940A	23	126	180	94	9	1	0	9	S
DeKalb Hybrid	589	26	120	175	87	8	1	1	9	S
Centurk	15075	1	125	177	89	9	2	1	11	S
TAM W-103	17336	14	119	175	66	9	1	0	18	S
Pioneer Hybrid	HR915A	20	124	177	92	8	1	1	12	S
Sage	17277	2	126	177	97	9	2	0	5	M
DeKalb Hybrid	544	24	122	176	90	8	2	0	11	S
" "	585	25	124	177	94	9	2	0	11	S
ms Homestead/TX R-line	---	8	125	177	90	9	3	2	12	M
Homestead	17264	7	125	177	85	8	1	1	12	S
Gage	13532	18	127	178	96	9	3	1	8	M
Sturdy	13684	9	121	176	73	8	0	0	3	MR
Improved Triumph	13667	16	120	175	85	7	4	1	15	S
ms Triumph/TX R-line	---	17	121	175	86	7	3	2	16	S
Texas R-line	---	4	126	176	83	6	2	2	7	S
ms Gage/TX R-line	---	19	126	177	96	8	3	3	8	M
Knox	12798	5	122	175	93	8	2	3	6	MS
ms Knox/TX R-line	---	6	122	175	92	8	2	4	13	S

Table 23. Concluded.

C. I. or Sel. No.	Entry no.	Soil-borne mosaic 1-5	BYDV 0-9	Septoria 0-9	Mildew sev. %	Mildew resp.	Phyto.[1] 0-9	Protein %	Volume weight kg/hl	Yield kg/ha
Number of trials		1	1	1	1	1	1	1	12	12
---	3	5	2.0	6	70	VS	2.0	13.46	77.3	3403
---	15	5	1.0	8	65	VS	Tr	13.71	75.5	3383
577	27	1	1.5	8	65	VS	Tr	13.84	78.3	3366
---	10	5	Tr	7	55	VS	Tr	14.82	75.1	3355
---	11	4	0	5	35	S	Tr	14.42	75.6	3348
17440	12	5	1.5	5	40	S	Tr	14.08	78.5	3308
HR940	21	1	3.0	5	80	VS	Tr	15.42	78.0	3287
HR915	22	2	1.5	6	60	VS	0.5	14.67	78.4	3277
---	13	2	Tr	6	45	VS	Tr	14.74	75.4	3273
HR940A	23	1	2.0	7	60	VS	1.0	16.60	78.0	3267
589	26	5	1.5	8	50	VS	Tr	13.50	77.8	3265
15075	1	3	Tr	5	15	MS	Tr	15.05	77.0	3255
17336	14	5	2.0	7	65	VS	0	13.17	76.2	3249
HR915A	20	3	1.0	5	70	VS	Tr	14.31	78.1	3235
17277	2	5	4.0	5	35	S	4.0	15.21	77.5	3234
544	24	1	Tr	7	40	S	Tr	14.39	77.8	3202
585	25	2	1.5	6	60	VS	Tr	15.23	78.7	3190
---	8	1	Tr	7	45	VS	1.0	15.35	74.9	3149
17264	7	1	3.0	7	40	VS	3.0	14.81	75.4	3092
13532	18	3	3.0	6	25	MS	2.5	16.27	76.7	3087
13684	9	5	0.5	8	60	VS	1.0	14.60	75.8	3073
13667	16	5	Tr	7	50	VS	0	14.57	78.2	3058
---	17	5	1.5	7	55	VS	Tr	14.72	75.9	3013
---	4	5	1.0	7	50	VS	2.5	16.73	71.4	2922
---	19	4	1.0	7	25	S	Tr	16.47	75.6	2920
12798	5	1	1.5	8	35	S	Tr	14.78	76.2	2807
---	6	1	1.0	9	25	S	1.0	15.88	75.3	2620

[1] Phytotoxicity = plants sprayed with Diazanon causing differential leaf burn.

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 245 entries and the Northern Section 124 entries. Survival data were reported from Williston, ND; Brookings and Watertown, SD; Mead, NE; and St. Paul, MN. Nursery lists and data are reported in the tabulations that follow.

SOIL-BORNE MOSAIC NURSERY

There were 170 entries in the 1977 Soil-Borne Mosaic Nursery grown at Urbana, IL and Manhattan and Newton, KS. Data were reported from all sites and are reproduced in this report. SBMN entries were seeded in hill plots (3 reps) at Urbana, IL for Barley Yellow Dwarf Virus evaluation. A moderately virulent but vector-nonspecific BYDV isolate was used. Rep 1 was inoculated in the fall (November) and Reps 2 and 3 in the spring (April). Response was based on visual evaluation using a scale of 0 = fully tolerant to 9 = intolerant. The data, although variable, should be useful. Ratings of 4 or lower in all replications probably indicate good tolerance to BYD. The data are included in this report.

1977

Uniform Winterhardiness Nursery

(Southern Materials Section)

Entry no.	Variety or Pedigree	C. I. or Sel. No.	Source
1	Warrior	13190	Check
2	CIMMYT/Scout	KS73112	Kansas
3		73141	
4		73167	
5		73167W	
6		73167R	
7		73229	
8		73253	
9		73253W	
10	Scout 66	13996	Check
11	CIMMYT/Scout	KS73253R	Kansas
12		73256	
13		73261	
14		73263	
15		73277	
16		75104	
17		75120	
18		75121	
19		75122	
20	Tascosa	13023	Check
21	CIMMYT/Scout	KS75146	Kansas
22		75170	
23		75172	
24		75178	
25		75193	
26		75210	
27		75211	
28		75216	
29		75219	
30	Warrior	13190	Check
31	KS65637/Sturdy	KS75236	Kansas
32	Sturdy/Parker	75290	
33		75294	
34		75300	
35		75311	
36		75313	
37		75316	
38	Nrn 10/2*Pn//Ot/3/Swn	76144	
39		76151	
40	Scout 66	13996	Check
41	Arthur/Sturdy	KS76153	Kansas
42	Sturdy/KS65637	76157	
43	Scout/Mexico 120	76162	
44	Caprock/Centurk	76165	
45	Caprock/Eagle	76186	

1977 UWHN (Southern Section) continued

Entry no.	Variety or Pedigree	C. I. or Sel. No.	Source
46	Caprock/KS65637	KS76191	Kansas
47	Caprock/Cloud	76202	
48		76204	
49		76205	
50	Tascosa	13023	Check
51	CO695708/CO673410	CO533144	Colorado
52		533146	
53		533305	
54		533306	
55	CO695552/Centurk	534726	
56	CO695427/Centurk	535927	
57		535929	
58	Lcr/CNO//Centurk	755323	
59		755328	
60	Warrior	13190	Check
61	Lcr/CNO//Centurk	CO755484	Colorado
62	CO695552-2	741230	
63	CO595552-7	741232	
64	CO595552-14	741239	
65	Buckskin Sib/Homestead	NE73481	Nebraska
66		73491	
67		73640	
68		73641	
69		73644	
70	Scout 66	13996	Check
71	Buckskin Sib/Homestead	NE73647	Nebraska
72		73649	
73		73656	
74	Sentinel/Centurk	73510	
75	Centurk	15075	
76	Centurk Selection	NE69291	
77	NB66403//391-56-D1-8/Tsc	74515	
78	Mara/2*Scout//Homestead	74611	
79	Mara/2*Scout//Sentinel	74646	
80	Tascosa	13023	Check
81	Mara/2*Scout//Sentinel	NE74649	Nebraska
82	NE68457/Ctk Sel.	74662	
83	Sentinel/HiPlains	74716	
84		74726	
85	NE68457/Guide	74733	
86	Scout*5/Agent//Centurk	74866	
87	NE68457/Homestead	74906	
88	Tobari 66/Sk/2*Cnn//Homestead	74925	
89	Sut*5/Agent//Sut//Ky58/Nth//CTMH//Pn/Cnn	74974	
90	Warrior	13190	Check
91	Sut*5/Agent//Pn//Cnn	NE74977	Nebraska
92	Ctk/Aiv/CI13857//Sel. 14-53	75L10035	
93	Ctk/Bez/Argelato//NE68457//NE68463	75401	
94	Buckskin/Homestead	75408	

1977 UWHN (Southern Section) continued

Entry no.	Variety or Pedigree	C. I. or Sel. No.	Source
95	NE68723/NE68719//Gage Sel.	NE75414	Nebraska
96	NE69457//Ctk/Gage Sel.	75423	
97	↓	75424	
98	ID0035/NE66497	75434	
99	NE66403/Riebesel//Trader Sel.	↓ 75437	↓
100	Scout 66	13996	Check
101	Sentinel/HiPlains//NE68457/Ctk	NE75439	Nebraska
102	↓	75446	
103	Sentinel/HiPlains//NE68457/Sut Sel.	75449	
104	Trader*3/Polk//NE68457/Guide	75465	
105	Arthur/Lcr/Pnc/Cnn//CO652217/NE69457	75466	
106	Arthur/Homestead//Pnc/3*Cnn/Sk/2*Cnn	75472	
107	At66/Wi/Pkr/Lcr//NE68457/Gage Sel.	75547	
108	At66/Wi/Pkr/Lcr//NE68463	75553	
109	Arthur/Centurk Sel.	↓ 75575	↓
110	Tascosa	13023	Check
111	Pkr*4/Agent//Beloterkovskaya 198/Lcr	NE75586	Nebraska
112	Tpr/Bsn/Cns*2/AE/Pn/Kiowa//391-56-01-8/ Tsc//NE68403	75594	
113	Odessa/2*Centurk Sel.	75635	
114	Mara/2*Scout//Homestead	75706	
115	↓	75718	
116	Mara/2*Scout//Sentinel	75731	
117	Sentinel/HiPlains	75739	
118	NB63418//Ky58/Nth/2*(C-T-M-H)NB61983// NB61983//Pnc/2*Cnn	75742	
119	↓	↓ 75743	↓
120	Warrior	13190	Check
121	NB63418//Ky58/Nth/2*(C-T-M-H)NB61983// NB61983//Pnc/2*Cnn	NE75744	Nebraska
122	NE68457/Sentinel	75762	
123	Sentinel//SS/12500/RCh/Pn//Ky58/Nth/ 2*(C-T-M-H)	75798	
124	Ftn/Mi/Hope//Pn/2*Cnn//Pnc/3*Cnn//NE68457	75809	
125	|	75813	
126	↓	75814	
127	At66/Cmn//Nbr/RCh//Homestead	↓ 75854	
128	Lancota	17389	
129	HiPlains/Homestead	NE75859	↓
130	Scout 66	13996	Check
131	NE68457/Homestead	NE75862	Nebraska
132	|	75864	
133	|	75865	
134	|	75866	
135	↓	75867	
136	Scout/CI12995//Homestead	75878	
137	↓	↓ 75881	
138	Lindon	17440	
139	Roughrider	ND7121	↓

1977 UWHN (Southern Section) continued

Entry no.	Variety or Pedigree	C. I. or Sel. No.	Source
140	Tascosa	13023	Check
141	Wrr/Scout//Pkr*4/Agent	NE75595	Nebraska
142	Tx391-56-D1-8/Tsc//At66/Cmn/Nbr/RCh	75695	↓
143	Mara/2*Scout//Homestead	75696	↓
144	W335	--	Funks
145	W332	--	↓
146	Bezostaya/Eagle	KS74H4	Kansas
147	↓	74H12	↓
148	↓	74H14	↓
149	↓	74H20	↓
150	Warrior	13190	Check
151	Bezostaya/Eagle	KS74H30	Kansas
152	↓	74H48	↓
153	Kaw/Atlas 50//*2Eagle	74H109	↓
154	↓	74H112	↓
155	↓	74H118	↓
156	↓	74H123	↓
157	↓	74H126	↓
158	Olsen's Dwf/Eagle^2	75H3719	↓
159	Scout/Tascosa	73H441	↓
160	Scout 66	13996	Check
161	Triumph 64	--	Kansas
162	Kirwin/Eagle	KS76H1326	↓
163	↓	76H1330	↓
164	↓	76H1344	↓
165	↓	76H1348	↓
166	↓	76H1349	↓
167	↓	76H1359	↓
168	Olsen's Dwf/Eagle^2	75H3653	↓
169	↓	75H3655	↓
170	Tascosa	13023	Check
171	Olsen's Dwf/Eagle^2	KS75H3663	Kansas
172	↓	75H3670	↓
173	↓	75H3677	↓
174	↓	75H3678	↓
175	↓	75H3682	↓
176	↓	75H3683	↓
177	↓	75H3684	↓
178	↓	75H3685	↓
179	↓	75H3686	↓
180	Warrior	13190	Check
181	Olsen's Dwf/Eagle^2	KS75H3687	Kansas
182	↓	75H3688	↓
183	↓	75H3689	↓
184	↓	75H3691	↓
185	↓	75H3692	↓

1977 UWHN (Southern Section) continued

Entry no.	Variety or Pedigree	C. I. or Sel. No.	Source
186	Olsen's Dwf/Eagle^2	KS75H3694	Kansas
187	↓	75H3697	↓
188	↓	75H3698	↓
189	↓	75H3699	↓
190	Scout 66	13996	Check
191	Tcs/T_1//Sdy	OK711248-2	Oklahoma
192	↓	711248-43	↓
193	Tcs/T_1//Tmp 64	738124	↓
194	Tcs/T_1//Sdy	738427	↓
195	Sdy/Ctk	741902	↓
196	↓	741904	↓
197	Sdy/Ctk//Sdy/Ncm Sib	748077	↓
198	↓	748084	↓
199	↓	748099	↓
200	Tascosa	13023	Check
201	Sdy/Ctk//Sdy/Ncm Sib	OK748105	Oklahoma
202	OK627426/TX62A2607-6	747078	↓
203	↓	747104	↓
204	↓	747108	↓
205	Ctk/Bezostaya	747154	↓
206	Sdy/Ctk//D145B4	747798	↓
207	II21183/CO652643//Lancer/KS62136	CO725061	SRPN
208	CO695708/CO673410	533147	↓
209	CO695552/Centurk	534727	↓
210	Warrior	13190	Check
211	CO695427/Centurk	CO535926	SRPN
212	Tascosa/T_1//Sturdy	OK711248-1	↓
213	↓	711248-176	↓
214	Tascosa/T_1//Parker	722721	↓
215	Triumph 64/T_1//Sturdy	711092A	↓
216	Short Wheat/Scout	TX69A569-1	↓
217	62A2782-8/Centurk	73A2694	↓
218	Sdy Sib/Tcs, TX62A2642//Ctk	71A937	↓
219	↓	71A946	↓
220	Scout 66	13996	Check
221	TAM W-101/Centurk	TX71A30	SRPN
222	↓	71A106-5	↓
223	↓	71A58-3	↓
224	Palo Duro/Centurk	71A407-6	↓
225	Sdy Sib/Tmp, TX62A4615-7//Ctk	71A562-6	↓
226	Sdy Sib/Kaw, TX65A1503//Ctk	71A687-5	↓
227	Centurk/Sturdy	NK75V465	↓
228	Sturdy/Bison	75V520	↓
229	Parker/TX65A1682	IL71-5838	↓
230	Tascosa	13023	Check
231	Gage/TX65A1682	IL72-2489	SRPN

1977 UWHN (Southern Section) concluded

Entry no.	Variety or Pedigree	C. I. or Sel. No.	Source
232	NHRW 1307-76	---	NAPB
233	1289-76	---	↓
234	1291-76	---	
235	1293-76	---	
236	1286-76	---	
237	1282-76	---	
238	1241-76	---	
239	1220-76	---	
240	1243-76	---	
241	1153-76	---	
242	1165-76	---	
243	1166-76	---	
244	Warrior	13190	Check
245	Scout 66	13996	↓

WINTER SURVIVAL DATA
1977 UNIFORM WINTERHARDINESS NURSERY
(Southern Materials Section)

Entry No.	Williston, North Dakota			Brookings, South Dakota 1/			Watertown, South Dakota 1/			Mead, Nebraska			St. Paul, Minnesota			5-Station
	Rep I	Rep II	$\bar{x}$	Rep I	Rep II	$\bar{x}$	Rep I	Rep II	$\bar{x}$	Rep I	Rep II	$\bar{x}$	Rep I	Rep II	$\bar{x}$	$\bar{x}$ survival
1	30	80	55	20	60	40	60	20	40	100	100	100	85	100	93	67
2	70	10	40	05	05	05	00	00	00	80	60	70	60	95	78	39
3	80	05	43	05	00	03	00	00	00	35	35	35	05	75	40	24
4	20	00	10	00	10	05	05	00	03	40	40	40	10	95	53	22
5	40	00	20	00	00	00	00	00	00	40	25	33	10	80	45	20
6	40	00	20	05	00	03	00	00	00	70	60	65	10	60	35	25
7	60	05	33	00	00	00	00	00	00	90	75	83	90	90	90	41
8	30	00	15	00	05	03	00	00	00	50	35	43	90	95	93	31
9	10	00	05	00	10	05	00	00	00	40	35	38	75	95	85	27
10	10	70	40	10	40	25	00	00	00	100	100	100	90	100	95	52
11	40	01	20	05	00	03	00	00	00	75	40	58	80	85	83	33
12	20	00	10	00	00	00	00	00	00	50	10	30	90	95	93	27
13	30	05	18	00	10	05	00	00	00	60	25	43	70	80	75	28
14	10	01	05	00	00	00	00	00	00	40	20	30	85	70	78	23
15	90	00	45	00	00	00	00	00	00	75	60	68	85	80	83	39
16	05	00	03	00	00	00	00	00	00	30	20	25	65	100	83	22
17	10	01	05	00	20	10	00	00	00	75	75	75	65	90	78	34
18	60	00	30	05	20	13	00	00	00	45	55	50	95	90	93	37
19	50	01	25	05	00	03	00	00	00	35	35	35	75	85	80	29
20	01	10	05	00	05	03	00	00	00	10	25	18	80	85	83	22
21	30	01	15	00	05	03	00	00	00	35	10	23	90	75	83	25
22	05	05	05	00	05	03	00	00	00	50	15	33	75	75	75	23
23	10	05	08	00	05	03	00	00	00	65	55	60	60	85	73	29
24	01	05	03	00	00	00	00	00	00	35	25	30	90	90	90	25
25	10	10	10	00	05	03	00	00	00	65	50	58	100	85	93	33
26	20	01	10	00	05	03	00	00	00	75	55	65	80	85	83	32
27	10	05	08	05	00	03	00	00	00	60	55	58	85	90	88	31
28	01	20	10	05	05	05	00	00	00	60	45	53	80	95	88	31
29	10	10	10	00	05	03	00	00	00	40	30	35	75	90	83	26
30	10	80	45	05	20	13	00	05	03	100	100	100	95	100	98	52

Winter Survival Data (Southern Materials Section) Continued.

Entry No.	Williston, North Dakota			Brookings, South Dakota 1/			Watertown, South Dakota 1/			Mead, Nebraska			St. Paul, Minnesota			5-Station
	Rep I	Rep II	$\bar{x}$	Rep I	Rep II	$\bar{x}$	Rep I	Rep II	$\bar{x}$	Rep I	Rep II	$\bar{x}$	Rep I	Rep II	$\bar{x}$	$\bar{x}$ survival
31	40	50	45	10	80	45	00	00	00	90	90	90	90	95	93	55
32	50	50	50	05	10	08	00	00	00	80	40	60	45	95	70	38
33	01	40	20	00	05	03	00	05	03	80	40	60	60	100	80	33
34	00	50	25	00	00	00	05	05	05	80	40	60	40	85	63	31
35	20	70	45	05	30	18	20	60	40	75	85	80	100	90	95	57
36	10	20	15	05	30	18	30	30	30	60	45	53	65	70	68	37
37	10	40	25	00	05	03	05	00	03	60	35	48	65	80	73	30
38	30	40	35	10	00	05	10	10	10	80	85	83	75	85	80	41
39	20	30	25	20	20	20	20	10	15	80	85	83	80	95	88	46
40	10	50	30	10	40	25	20	20	20	95	85	90	90	90	90	51
41	30	50	40	00	30	15	05	20	13	90	95	93	80	85	83	49
42	30	30	30	05	05	05	05	05	05	90	85	88	80	80	80	42
43	01	05	03	00	20	10	00	05	03	80	65	73	50	65	58	29
44	01	10	05	00	10	05	00	10	05	75	60	68	75	95	85	34
45	05	20	13	00	05	03	00	05	03	95	85	90	65	90	78	37
46	01	10	05	05	05	05	00	20	10	90	80	85	75	80	78	37
47	10	30	20	00	20	10	10	00	05	90	95	93	80	80	80	42
48	01	40	20	00	70	35	30	05	18	80	85	83	90	90	90	49
49	00	70	35	10	70	40	20	60	40	80	85	83	90	90	90	58
50	00	00	00	00	05	03	05	20	13	30	30	30	90	85	88	27
51	10	80	45	00	40	20	20	20	20	95	95	95	70	100	85	53
52	05	80	43	00	30	15	10	20	15	95	95	95	80	95	88	51
53	05	90	48	00	10	05	10	50	30	95	100	98	90	100	95	56
54	20	60	40	10	00	05	00	30	15	100	100	100	50	85	68	46
55	10	60	35	--	20	10	05	05	05	90	90	90	30	95	63	41
56	50	20	35	--	20	10	00	00	00	80	70	75	05	65	35	31
57	10	20	15	05	20	13	00	00	00	60	40	50	05	70	38	23
58	00	20	10	--	10	05	10	05	08	60	75	68	90	65	78	34
59	05	30	18	--	30	15	40	10	25	80	75	78	70	100	85	44
60	20	30	25	05	70	38	30	30	30	95	85	90	90	100	95	56
61	00	00	00	00	10	05	10	20	15	50	45	48	30	70	50	24
62	10	10	10	10	05	08	30	40	35	85	85	85	90	95	93	46
63	40	10	25	20	30	25	20	10	15	90	90	90	90	90	90	49

Winter Survival Data (Southern Materials Section) Continued.

Entry No.	Williston, North Dakota			Brookings, South Dakota 1/			Watertown, South Dakota 1/			Mead, Nebraska			St. Paul, Minnesota			5-Station
	Rep I	Rep II	$\bar{x}$	Rep I	Rep II	$\bar{x}$	Rep I	Rep II	$\bar{x}$	Rep I	Rep II	$\bar{x}$	Rep I	Rep II	$\bar{x}$	$\bar{x}$ survival
64	20	20	20	30	05	18	30	20	25	85	70	78	90	85	88	46
65	30	20	25	30	20	25	30	10	20	90	85	88	25	90	58	43
66	95	20	58	30	20	35	30	30	30	90	95	93	45	100	73	56
67	70	30	50	00	50	25	05	40	23	90	95	93	30	100	65	51
68	80	30	55	00	30	15	00	30	15	85	85	85	40	95	68	48
69	90	40	65	30	20	25	10	20	15	95	90	93	90	80	85	57
70	40	40	40	30	05	18	10	20	15	100	95	98	95	85	90	52
71	40	40	40	30	10	20	05	50	28	100	95	98	85	90	88	55
72	20	30	35	00	20	10	05	60	33	95	70	83	90	95	93	49
73	20	50	35	20	50	35	00	40	20	95	80	88	85	95	90	54
74	30	50	40	20	30	35	05	30	18	100	100	100	95	100	98	56
75	30	30	30	10	30	20	00	50	25	100	100	100	95	90	93	56
76	20	20	20	00	50	25	05	50	28	100	95	98	100	95	98	54
77	10	20	15	10	20	15	05	50	28	65	70	68	80	95	88	43
78	05	20	13	30	00	15	30	20	25	80	85	83	70	100	85	44
79	01	30	16	30	40	35	05	80	43	85	100	93	80	90	85	54
80	20	10	15	00	20	10	05	20	13	40	25	33	75	80	78	30
81	05	80	43	10	50	30	00	50	25	100	100	100	90	100	95	59
82	20	60	40	20	100	60	00	40	20	95	100	98	85	75	80	60
83	30	40	35	10	30	20	00	20	10	100	100	100	100	85	93	52
84	30	20	25	00	80	40	00	20	10	100	100	100	90	95	93	54
85	10	20	15	10	80	45	05	10	08	95	85	90	80	100	90	50
86	40	50	45	10	70	40	00	10	05	95	95	95	80	90	85	54
87	01	40	20	00	100	50	00	10	05	95	100	98	85	95	90	53
88	00	30	15	10	60	35	00	20	10	95	80	88	75	90	83	46
89	01	20	10	20	40	30	00	05	03	95	85	90	95	90	93	45
90	60	10	35	50	60	55	00	05	03	90	100	95	85	100	93	56
91	30	10	20	20	20	20	00	05	03	85	100	93	85	95	90	45
92	30	20	25	00	20	10	00	00	00	85	70	78	80	100	90	41
93	40	30	35	20	60	40	00	00	00	95	95	95	95	95	95	53
94	30	20	35	40	70	55	00	00	00	95	95	95	85	100	93	54
95	10	20	15	40	20	30	00	00	00	100	100	100	90	100	95	48
96	10	70	40	80	60	70	00	00	00	100	100	100	90	85	88	60

Winter Survival Data (Southern Materials Section) Continued.

Entry No.	Williston, North Dakota			Brookings, South Dakota 1/			Watertown, South Dakota 1/			Mead, Nebraska			St. Paul, Minnesota			5-Station
	Rep I	Rep II	$\bar{x}$	Rep I	Rep II	$\bar{x}$	Rep I	Rep II	$\bar{x}$	Rep I	Rep II	$\bar{x}$	Rep I	Rep II	$\bar{x}$	$\bar{x}$ survival
97	05	80	43	10	70	40	00	00	00	100	100	100	100	75	88	54
98	01	50	25	30	20	25	00	00	00	80	80	80	75	75	75	41
99	10	60	35	10	00	05	00	00	00	95	100	98	85	95	90	46
100	30	40	35	00	10	05	00	00	00	95	90	93	85	85	85	44
101	10	50	30	90	50	70	00	00	00	100	100	100	85	95	90	58
102	05	20	13	20	50	35	00	00	00	100	95	98	85	100	93	48
103	30	20	35	20	30	25	00	00	00	100	100	100	80	95	88	48
104	01	30	15	10	30	20	00	00	00	90	100	95	80	85	83	43
105	10	10	10	00	50	25	00	05	03	70	100	85	80	80	80	41
106	20	10	15	05	80	43	00	05	03	60	85	73	70	95	83	43
107	50	05	28	10	00	05	00	00	00	60	100	80	90	95	93	41
108	60	05	33	20	20	20	00	00	00	70	75	73	95	85	90	43
109	80	10	45	10	80	45	10	00	05	80	95	88	80	80	80	53
110	30	10	20	00	20	10	00	00	00	35	40	38	85	90	88	31
111	01	50	25	10	20	15	05	00	03	100	100	100	90	95	93	47
112	60	60	60	10	20	15	05	00	03	95	95	95	75	95	85	52
113	05	10	12	00	10	05	00	00	00	85	100	93	70	95	83	39
114	01	60	30	05	30	18	00	00	00	95	100	98	85	95	90	47
115	40	30	35	30	00	15	00	00	00	90	100	95	85	80	83	46
116	80	30	55	20	10	15	00	00	00	90	85	88	20	90	55	43
117	30	60	45	00	30	15	10	00	05	100	100	100	20	95	58	45
118	10	70	40	50	80	65	10	00	05	90	100	95	20	90	55	52
119	40	50	45	20	30	35	05	05	05	90	100	95	30	95	63	47
120	70	95	83	20	50	35	10	05	08	100	100	100	95	95	95	64
121	80	50	65	00	40	20	50	10	30	90	100	95	90	95	93	61
122	90	30	60	00	05	03	05	05	05	100	100	100	95	85	90	52
123	95	40	68	30	00	15	10	10	10	100	100	100	90	85	88	56
124	60	80	70	30	10	20	10	05	08	95	100	98	85	90	88	57
125	60	60	60	05	05	05	00	00	00	75	100	88	75	85	80	47
126	60	50	55	20	30	25	10	05	08	90	100	95	85	85	85	54
127	70	70	70	70	20	45	40	20	30	100	100	100	70	80	75	64
128	80	30	55	30	20	25	10	10	10	80	95	88	50	85	68	49
129	95	40	68	00	80	40	00	00	00	100	95	98	70	75	73	56

Winter Survival Data (Southern Materials Section) Continued.

Entry No.	Williston, North Dakota			Brookings, South Dakota 1/			Watertown, South Dakota 1/			Mead, Nebraska			St. Paul, Minnesota			5-Station
	Rep I	Rep II	$\bar{x}$	Rep I	Rep II	$\bar{x}$	Rep I	Rep II	$\bar{x}$	Rep I	Rep II	$\bar{x}$	Rep I	Rep II	$\bar{x}$	$\bar{x}$ survival
130	95	50	73	05	20	13	00	00	00	100	95	98	70	75	73	51
131	90	30	60	30	05	18	00	00	00	100	100	100	90	50	70	50
132	60	50	55	05	40	23	00	00	00	95	85	90	70	85	78	49
133	60	70	65	00	40	20	00	00	00	80	90	85	90	85	88	52
134	90	50	70	20	40	30	00	00	00	85	95	90	80	80	80	54
135	95	90	92	30	20	25	00	00	00	95	95	95	80	90	85	59
136	90	90	90	05	20	13	00	05	03	95	80	88	95	90	93	57
137	90	90	90	00	100	50	00	00	00	95	80	88	100	90	95	65
138	80	60	70	00	50	25	00	00	00	70	75	73	90	95	93	52
139	80	95	88	100	50	75	20	70	45	100	100	100	85	100	93	80
140	50	10	30	05	20	13	00	00	00	20	15	18	75	95	85	29
141	50	30	40	20	70	45	05	05	05	100	100	100	95	90	93	59
142	20	60	40	40	90	65	00	00	00	100	100	100	95	100	98	61
143	10	30	20	50	60	55	00	00	00	90	100	95	90	95	93	53
144	01	30	15	05	05	05	00	00	00	60	60	60	90	50	70	30
145	90	50	70	00	60	30	00	05	03	100	90	95	100	65	83	56
146	40	10	25	00	05	03	00	00	00	80	50	65	90	75	83	35
147	50	10	30	05	50	28	00	05	03	75	85	80	60	95	78	44
148	40	10	25	20	30	25	00	10	05	80	65	73	75	90	83	42
149	50	10	30	00	20	10	00	20	10	75	75	75	95	85	90	43
150	40	10	25	20	70	45	00	20	10	100	100	100	90	95	93	55
151	50	00	25	20	50	35	00	20	10	80	75	78	90	75	83	46
152	80	00	40	00	10	05	00	05	03	70	75	73	90	75	83	41
153	70	00	35	00	10	05	00	10	05	60	80	70	60	80	70	37
154	50	10	30	05	05	05	00	20	10	79	90	80	100	100	100	47
155	50	40	45	10	20	15	00	00	00	75	75	75	100	95	98	47
156	50	60	55	10	20	15	00	00	00	50	40	45	85	80	83	40
157	60	20	40	00	10	05	00	00	00	25	40	33	85	95	90	34
158	60	05	33	05	00	03	00	00	00	10	20	15	80	30	55	21
159	90	80	85	00	05	03	10	00	05	90	95	93	90	65	78	53
160	70	90	80	00	10	05	30	05	18	95	100	98	90	75	83	57
161	90	80	85	10	00	05	10	05	08	90	80	85	75	80	78	52
162	95	50	73	30	05	18	30	05	18	95	95	95	90	85	88	58

Winter Survival Data (Southern Materials Section) Continued.

Entry No.	Williston, North Dakota			Brookings, South Dakota 1/			Watertown, South Dakota 1/			Mead, Nebraska			St. Paul, Minnesota			5-Station
	Rep I	Rep II	$\bar{x}$	Rep I	Rep II	$\bar{x}$	Rep I	Rep II	$\bar{x}$	Rep I	Rep II	$\bar{x}$	Rep I	Rep II	$\bar{x}$	$\bar{x}$ survival
163	90	30	60	10	05	08	30	00	15	70	95	83	85	85	85	50
164	90	20	55	05	20	13	70	00	35	65	70	68	90	90	90	52
165	90	20	55	30	90	60	70	10	40	80	80	80	90	90	90	65
166	90	20	55	20	30	25	60	30	45	85	90	88	85	85	85	60
167	90	10	50	05	30	18	60	00	30	85	90	88	80	95	88	55
168	80	10	45	00	00	00	50	00	25	60	80	70	65	95	80	44
169	90	40	65	05	05	05	20	00	10	70	70	70	60	90	75	45
170	90	60	75	05	00	03	10	00	05	45	45	45	90	80	85	43
171	70	60	65	05	05	05	30	05	18	75	75	75	80	95	88	50
172	90	50	70	00	10	05	30	05	18	60	60	60	70	80	75	46
173	05	20	13	00	00	00	05	20	13	40	50	45	65	60	63	27
174	05	30	18	00	00	00	05	05	05	40	75	58	65	65	65	29
175	20	20	20	00	05	03	20	05	13	65	75	70	50	85	68	35
176	30	10	20	00	50	25	05	30	18	20	25	23	65	60	63	30
177	30	30	30	05	05	05	00	60	30	30	45	38	70	65	68	34
178	30	40	35	05	00	03	20	05	13	60	60	60	01	80	41	30
179	30	10	20	00	00	00	10	60	35	15	30	23	01	50	26	21
180	20	70	45	20	70	45	40	40	40	80	95	88	80	95	88	61
181	90	30	60	00	05	03	30	05	18	60	60	60	65	85	75	43
182	30	00	15	00	00	00	00	40	20	10	15	13	02	65	34	16
183	70	20	45	00	20	10	30	30	30	60	85	73	30	80	55	43
184	70	10	40	05	10	08	30	05	18	60	75	68	50	75	63	39
185	80	01	40	00	00	00	00	20	10	01	05	03	01	05	03	11
186	80	10	45	10	00	05	10	05	08	40	50	45	50	90	70	35
187	70	05	38	05	05	05	10	05	08	40	75	58	60	90	75	37
188	90	10	50	05	10	08	05	00	03	35	60	48	30	40	35	29
189	80	00	40	10	00	05	10	30	20	10	35	23	01	20	11	20
190	80	20	50	20	05	13	50	30	40	80	100	90	30	85	58	50
191	90	05	48	10	20	15	05	20	13	80	95	88	02	85	44	42
192	40	00	20	00	30	15	05	10	08	50	65	58	85	95	90	38
193	40	20	30	20	10	15	30	05	18	100	100	100	75	90	83	49
194	40	00	20	00	00	00	20	10	15	70	75	73	55	80	68	35
195	30	10	20	20	20	20	20	5	13	85	100	93	75	80	78	45

Winter Survival Data (Southern Materials Section) Continued.

Entry No.	Williston, North Dakota			Brookings, South Dakota 1/			Watertown, South Dakota 1/			Mead, Nebraska			St. Paul, Minnesota			5-Station $\bar{x}$ survival
	Rep I	Rep II	$\bar{x}$	Rep I	Rep II	$\bar{x}$	Rep I	Rep II	$\bar{x}$	Rep I	Rep II	$\bar{x}$	Rep I	Rep II	$\bar{x}$	
196	30	10	20	00	10	05	10	10	10	60	70	65	85	85	85	37
197	60	05	33	20	20	20	20	10	15	70	85	78	80	95	88	47
198	20	30	25	20	100	60	10	20	15	85	100	93	85	95	90	57
199	20	10	15	00	20	10	05	10	08	70	70	70	75	85	80	37
200	10	30	20	00	90	45	00	05	03	15	20	18	90	60	75	32
201	05	50	28	20	30	25	00	00	00	75	80	78	80	90	85	43
202	00	20	10	40	30	35	05	05	05	90	95	93	80	85	83	45
203	05	20	13	05	90	48	05	05	05	80	100	90	85	75	80	47
204	05	05	05	05	20	13	05	10	08	65	60	63	80	85	83	34
205	05	05	05	10	20	15	10	20	15	80	85	83	90	100	95	43
206	10	30	20	30	10	20	30	20	25	95	90	93	95	95	95	51
207	20	20	20	20	00	10	10	20	15	95	100	98	95	95	95	48
208	10	30	20	00	10	05	20	00	10	95	100	98	90	95	93	45
209	50	20	35	10	20	15	40	10	25	65	85	75	80	95	88	48
210	40	30	35	80	50	65	80	05	43	100	95	98	100	90	95	67
211	60	00	30	00	00	00	20	00	10	80	95	88	85	60	73	40
212	50	00	25	20	05	13	10	05	08	05	15	10	80	75	78	27
213	10	00	05	50	05	28	60	10	35	60	60	60	100	60	80	42
214	20	01	10	10	30	20	80	10	45	95	95	95	95	65	80	50
215	30	00	15	20	00	10	20	30	25	100	100	100	90	90	90	48
216	30	05	18	60	20	40	30	00	15	95	90	93	90	100	95	52
217	50	00	25	70	40	55	30	00	15	95	90	93	95	90	93	56
218	40	01	20	20	20	20	20	00	10	70	80	75	70	85	78	41
219	60	10	35	05	05	05	10	10	10	60	75	68	70	90	80	40
220	70	10	40	20	40	30	05	10	08	95	95	95	75	90	83	51
221	90	10	50	00	20	10	10	00	05	50	55	53	80	80	80	40
222	90	20	55	05	05	05	05	10	08	55	55	55	60	90	75	40
223	50	40	45	20	00	10	00	10	05	95	95	95	75	100	88	49
224	50	50	50	20	05	13	00	10	05	80	80	80	80	85	83	46
225	80	40	60	20	30	25	00	00	00	95	90	93	75	90	83	52
226	95	40	68	20	20	20	00	00	00	80	85	83	80	95	88	52
227	90	80	85	30	20	25	00	00	00	95	100	98	75	90	83	58
228	90	30	60	00	00	00	00	00	00	80	35	58	75	80	78	39

Winter Survival Data (Southern Materials Section) Concluded.

Entry No.	Williston, North Dakota Rep I	Rep II	$\bar{x}$	Brookings, South Dakota[1] Rep I	Rep II	$\bar{x}$	Watertown, South Dakota[1] Rep I	Rep II	$\bar{x}$	Mead, Nebraska Rep I	Rep II	$\bar{x}$	St. Paul, Minnesota Rep I	Rep II	$\bar{x}$	5-Station $\bar{x}$ survival
229	90	50	70	00	20	10	00	00	00	95	65	80	80	90	85	49
230	70	20	45	05	05	05	00	00	00	30	45	38	60	85	73	32
231	95	20	58	30	20	25	00	00	00	100	100	100	85	95	90	55
232	60	10	35	00	00	00	00	00	00	50	55	53	60	90	75	33
233	50	20	35	10	10	10	00	00	00	95	95	95	70	100	85	45
234	95	00	48	10	05	08	00	00	00	60	70	65	50	90	70	38
235	90	00	45	00	00	00	00	00	00	80	80	80	50	90	70	39
236	95	50	73	30	50	40	00	00	00	95	90	93	75	90	83	58
237	90	00	45	00	10	05	00	00	00	80	85	83	30	100	65	40
238	90	00	45	00	05	03	00	00	00	70	75	73	25	75	50	34
239	90	00	45	30	05	18	00	00	00	60	85	73	70	80	75	42
240	90	01	45	20	20	20	00	00	00	90	85	88	25	90	58	42
241	90	00	45	10	10	10	00	00	00	80	95	88	01	80	41	37
242	50	00	25	00	05	03	00	00	00	60	90	75	01	95	48	30
243	60	30	45	40	20	30	00	00	00	100	95	98	90	85	88	52
244	80	30	55	70	80	75	00	05	03	100	100	100	100	100	100	67
245	90	05	48	05	40	23	00	05	03	85	100	93	70	80	75	48

[1] Nursery seeded with deep furrow press drill.

Note: Winter killing insufficient for note-taking at Harve, Montana. Condition of Fargo Nursery not known. Data from Fargo will be distributed to cooperators if they are provided.

1977

Uniform Winterhardiness Nursery

(Northern Materials Section)

Entry no.	Variety or Pedigree	C. I. or Sel. No.	Source
1	Roughrider	ND7121	Check
2	Winalta/Alabaskaja	AT7759-19	NRPN
3	II 21031/Trapper//CO652363	CO701733	
4	SS/12500//RCh/Pn/3/Cnn/4/Kaw/Sk// 2*Cnn	SD713-11	
5	Hokuriko/Fortunato//Lancer	SD7113-16	
6	Norin 10/12500//Hume	SD716-1	
7	Sentinel Selection 8	SD76175	
8	Roughrider	ND7121	
9	Eklund	---	
10	Winoka	14000	Check
11	Hokuriko/Fortunata//Lcr Sel.	SD7113-14	South Dakota
12	NE63250/3/Kaw//Sk/2*Cnn	7119-1	
13		7119-3	
14		7119-7	
15		7119-20	
16	Wka//Jaral 66/Mtr	7149-1	
17		7153-18	
18	Lcr/NE68919//SS-D8-Wmt	7270	
19	SS-D8-Wmt//Hume/NE63265	7279	
20	Warrior	13190	Check
21	SS-D8-Wmt/Hume//NE63265	SD7295	South Dakota
22	YTO-117//CIMMYT/Rec Sel 160	72233-3	
23	SD56497//Rq66/TX65A1304	72298-4	
24		72298-5	
25		72310-3	
26		72310-7	
27	Wka//Rq66/TX65A1304	72311	
28		72313	
29	Rq66/TX65A1304//Mtr/C.I.11490	72343	
30	Roughrider	ND7121	Check
31	Lcr/NE61919//2*SS-D8-Wmt	SD73114	South Dakota
32	SS-D8-Wmt/SD6689	73154	
33		73160	
34	Sut 66/NE66403	73176	
35	Gage/Lcr//Homestead	73211	
36	Pi 62/Mtr//Rq66/TX65A1304	74127	
37	Centurk*2/Hand	74209	
38		74211	
39		74213	
40	Winoka	14000	Check
41	Centurk*2/Hand	SD74218	South Dakota
42		74220	
43		74221	
44		74223	
45		74224	
46	Centurk*4/Nap Hal	75393	

1977 UWHN (Northern Materials Section) continued

Entry no.	Variety or Pedigree	C. I. or Sel. No.	Source
47	Centurk*4/Nap Hal	SD75400	South Dakota
48	↓	75401	↓
49	↓	75404	↓
50	Warrior	13190	Check
51	PI255141-1/3*Centurk	SD75419	South Dakota
52	↓	75420	↓
53	Marias	MT6715	NRPN
54	Yg/Cnn, Sel 11-5-5//YgSS 4662, 20-4-1-1	7216	↓
55	Lcr/MT6319, 110-4-1-1	7252	↓
56	Frd/Wnk//MT6298/Tdr	7602	Montana
57	↓	7605	↓
58	↓	7609	↓
59	↓	7611	↓
60	Roughrider	ND7121	Check
61	Frd/Wnk//MT6298/Tdr	MT7614	Montana
62	↓	7615	↓
63	↓	7618	↓
64	↓	7624	↓
65	↓	7626	↓
66	↓	7629	↓
67	↓	7633	↓
68	↓	7634	↓
69	↓	7639	↓
70	Winoka	14000	Check
71	Frd/Wnk//MT6298/Tdr	MT7640	Montana
72	↓	7648	↓
73	↓	7651	↓
74	↓	7657	↓
75	↓	7658	↓
76	↓	7663	↓
77	↓	7664	↓
78	↓	7666	↓
79	↓	7670	↓
80	Warrior	13190	Check
81	Frd/Wnk//MT6298/Tdr	MT7672	Montana
82	↓	7673	↓
83	↓	7674	↓
84	↓	7675	↓
85	Frd/Wnk//Ctk	7682	↓
86	↓	7683	↓
87	↓	7684	↓
88	↓	7685	↓
89	↓	7686	↓
90	Roughrider	ND7121	Check
91	Frd/Wnk//Ctk	MT7687	Montana
92	↓	7688	↓
93	↓	7689	↓

1977 UWHN (Northern Materials Section) concluded

Entry no.	Variety or Pedigree	C. I. or Sel. No.	Source
94	Frd/Wnk//Ctk	MT7690	Montana
95	↓	7696	↓
96	↓	7697	↓
97	↓	7698	↓
98	Tdr/Frd//Wsr/Wnk	76102	↓
99	Yg/Cnn, 11-5-5//SS63263, 11-1-18-3/3/Frd	76104	↓
100	Winoka	14000	Check
101	Yg/Cnn, 11-5-5//SS63263, 11-1-18-3/3/Frd	MT76105	Montana
102	Froid/Oleson	76120	↓
103	↓	76170	↓
104	↓	76123	↓
105	↓	76124	↓
106	↓	76125	↓
107	↓	76126	↓
108	↓	76127	↓
109	↓	76128	↓
110	Warrior	13190	Check
111	Froid/Oleson	MT76131	Montana
112	↓	76133	↓
113	Yg/Cnn//YgSS4662/3/Frd	76135	↓
114	MT7015/Frd//YgSS2469/2*Cnn	76137	↓
115	↓	76139	↓
116	↓	76142	↓
117	↓	76144	↓
118	Cnn*2/YgSS2469//Frd	76148	↓
119	↓	76149	↓
120	Roughrider	ND7121	Check
121	Cnn*2/YgSS2469//Frd	MT76150	Montana
122	Frd/Wnk//MT6928/Tdr	76171	↓
123	Winoka	14000	Check
124	Warrior	13190	Check

WINTER SURVIVAL DATA
1977 UNIFORM WINTERHARDINESS NURSERY
(NORTHERN MATERIALS SECTION)

Entry No.	Williston, North Dakota			Brookings,[1] South Dakota			Watertown,[1] South Dakota			St. Paul, Minnesota			4-Station
	Rep I	Rep II	$\bar{x}$	Rep I	Rep II	$\bar{x}$	Rep I	Rep II	$\bar{x}$	Rep I	Rep II	$\bar{x}$	$\bar{x}$ Survival
1	90	70	80	50	90	70	80	80	80	90	100	95	81
2	70	10	40	00	70	35	80	100	90	85	95	90	64
3	10	00	05	90	10	50	05	20	13	70	80	75	50
4	15	01	08	50	10	30	05	20	13	45	75	60	28
5	05	01	03	10	10	10	00	10	05	45	85	65	21
6	80	00	40	80	05	43	05	10	08	75	95	85	44
7	01	00	01	00	05	03	00	20	10	65	95	80	24
8	50	00	25	90	100	95	40	70	55	65	95	80	64
9	95	00	48	70	90	80	60	30	45	100	90	95	67
10	90	40	65	80	70	75	50	05	28	100	100	100	67
11	60	10	35	20	20	20	05	05	05	95	85	90	38
12	80	00	40	20	30	25	05	00	03	95	90	93	40
13	80	00	40	--	30	30	10	00	05	80	95	88	41
14	90	00	45	--	00	00	00	00	00	95	90	93	35
15	95	00	48	00	00	00	00	00	00	95	90	93	35
16	70	10	40	60	80	70	20	05	13	95	75	85	52
17	60	10	35	100	90	95	40	00	20	95	95	95	61
18	80	00	40	100	40	70	05	00	03	80	95	88	50
19	90	00	45	100	80	90	40	05	23	95	95	95	63
20	60	00	30	70	70	70	05	05	05	95	95	95	50
21	90	05	48	50	90	70	10	30	20	95	85	90	57
22	30	00	15	20	00	10	05	10	08	95	80	88	30
23	90	05	48	20	90	55	20	60	40	100	90	95	60
24	50	05	28	70	100	85	00	60	30	100	100	100	61
25	40	10	25	90	50	70	05	20	13	95	100	98	52
26	60	30	45	70	30	50	10	05	08	95	95	95	50
27	80	10	45	100	100	100	10	20	15	95	100	98	65
28	70	30	50	90	100	95	20	05	13	95	95	95	63
29	70	20	45	20	30	25	40	00	20	90	90	90	45
30	100	90	95	100	60	80	90	05	48	100	90	95	80
31	10	70	40	30	20	25	00	00	00	60	95	78	36
32	50	50	50	100	20	60	10	00	05	80	95	88	51
33	40	30	35	80	10	45	20	00	10	100	100	100	48
34	70	20	45	70	10	40	20	00	10	75	100	88	46
35	80	70	75	60	10	35	30	05	18	80	90	85	53
36	50	80	65	70	05	38	40	10	25	85	95	90	55
37	60	10	35	80	30	55	50	05	28	100	95	98	54
38	70	60	65	90	10	50	70	05	38	100	100	100	63
39	50	70	60	20	20	20	30	00	15	70	100	85	45
40	90	90	90	80	70	75	40	30	35	85	95	90	73
41	10	90	50	70	20	45	50	05	28	95	95	95	55
42	50	80	65	60	20	40	60	05	33	95	95	95	58
43	30	90	60	30	30	30	20	05	13	90	95	93	49
44	20	80	50	20	30	25	20	30	25	100	90	95	49
45	90	40	65	30	50	40	40	30	35	95	100	98	60

Winter Survival Data (Northern Materials Section) Continued.

Entry No.	Williston, North Dakota Rep I	Rep II	$\bar{x}$	Brookings, South Dakota[1/] Rep I	Rep II	$\bar{x}$	Watertown, South Dakota[1/] Rep I	Rep II	$\bar{x}$	St. Paul, Minnesota Rep I	Rep II	$\bar{x}$	4-Station $\bar{x}$ Survival
46	50	40	45	30	00	15	05	00	03	75	95	85	37
47	30	50	40	00	20	10	00	00	00	80	95	88	35
48	20	60	40	05	30	18	05	20	13	95	90	93	41
49	10	60	35	10	10	10	10	20	15	90	100	95	39
50	70	40	55	30	30	30	70	50	60	100	100	100	61
51	40	30	35	05	20	13	60	60	60	95	90	93	50
52	30	10	20	20	00	10	10	60	35	85	100	93	40
53	40	70	55	30	00	15	50	80	65	75	90	83	55
54	90	40	65	30	20	25	50	60	55	95	90	93	60
55	70	30	55	05	05	05	40	90	65	100	100	100	56
56	70	01	36	60	05	33	20	90	55	30	100	65	47
57	70	01	36	30	05	18	20	90	55	50	95	73	46
58	60	20	40	70	20	45	80	60	70	50	95	73	57
59	40	40	40	80	05	43	70	70	70	60	90	75	57
60	80	70	75	90	60	75	100	100	100	80	95	88	85
61	80	10	45	10	05	08	60	80	70	95	95	95	55
62	90	80	85	00	30	15	90	40	65	100	100	100	66
63	90	95	93	20	40	30	70	40	55	90	100	95	68
64	90	90	90	50	20	35	70	30	50	90	95	93	67
65	90	90	90	30	05	18	50	40	45	95	95	95	62
66	90	90	90	10	20	15	70	30	50	95	85	90	61
67	90	70	80	20	20	20	70	80	75	60	80	70	61
68	80	80	80	20	10	15	70	10	40	60	100	80	54
69	95	50	73	10	05	08	70	50	60	65	95	80	55
70	95	60	78	00	70	35	60	90	75	65	100	83	68
71	50	70	60	20	05	13	70	50	60	90	95	93	57
72	70	70	70	20	30	25	80	90	85	80	95	88	67
73	60	70	65	10	05	08	70	30	50	95	95	95	55
74	60	70	65	10	50	30	90	20	55	90	90	90	60
75	80	80	80	30	50	40	70	70	70	85	100	93	71
76	90	50	70	70	20	45	60	40	50	90	95	93	65
77	60	40	50	10	05	08	50	00	25	85	95	90	43
78	80	60	70	--	70	70	30	30	30	100	100	100	68
79	60	60	60	05	20	13	20	30	25	85	100	93	48
80	90	70	80	60	30	45	20	20	20	85	100	93	60
81	70	80	75	30	05	18	20	30	25	100	100	100	55
82	60	90	75	05	30	18	30	50	40	100	95	98	58
83	80	80	80	20	10	15	40	80	60	90	90	90	61
84	60	70	65	30	10	20	20	--	20	95	100	98	51
85	50	50	50	20	00	10	10	05	08	100	95	98	42
86	50	70	60	00	05	03	00	10	05	85	95	90	40
87	80	50	65	20	05	13	70	20	45	70	100	85	52
88	90	70	80	20	30	25	80	30	55	95	95	95	64
89	70	80	75	20	20	20	20	30	25	95	100	98	55
90	95	95	95	70	70	70	90	70	80	90	100	95	85

Winter Survival Data (Northern Materials Sections) Concluded.

Entry No.	Williston, North Dakota			Brookings, South Dakota 1/			Watertown, South Dakota 1/			St. Paul, Minnesota			4-Station
	Rep I	Rep II	x̄	Rep I	Rep II	x̄	Rep I	Rep II	x̄	Rep I	Rep II	x̄	x̄ Survival
91	90	90	90	20	30	25	60	40	50	90	90	90	64
92	95	70	83	20	05	13	90	20	55	95	90	93	61
93	90	70	80	00	05	03	20	05	13	95	90	93	47
94	70	90	80	00	10	05	05	05	05	90	95	93	46
95	95	80	88	30	00	15	10	00	05	95	90	93	50
96	90	95	93	30	05	18	20	00	10	95	95	95	54
97	70	95	83	30	10	20	30	00	15	90	80	85	51
98	90	90	90	10	70	40	30	05	18	90	95	93	60
99	95	90	93	30	--	30	40	05	23	95	80	88	59
100	95	90	93	40	50	45	50	05	28	95	100	98	66
101	95	90	93	00	30	15	20	00	10	90	95	93	53
102	30	90	60	00	00	00	00	00	00	100	70	85	36
103	20	90	55	00	10	05	00	00	00	85	90	88	37
104	50	90	70	20	05	13	00	00	00	90	95	93	44
105	80	70	75	50	90	70	00	00	00	100	90	95	60
106	90	80	85	20	20	20	00	00	00	95	75	85	48
107	70	30	50	50	30	40	00	00	00	90	95	93	46
108	60	30	45	30	10	20	05	00	03	85	85	85	38
109	50	30	40	00	00	00	00	00	00	85	75	80	30
110	95	00	48	10	90	50	00	00	00	100	100	100	50
111	90	40	65	10	05	08	00	00	00	90	85	88	40
112	30	40	35	10	05	08	00	00	00	90	50	70	28
113	95	10	53	80	60	70	10	00	05	100	95	98	57
114	90	40	65	70	05	38	00	10	05	95	100	98	52
115	95	30	63	10	20	15	05	05	05	75	100	88	43
116	95	10	53	40	--	40	00	00	00	95	80	88	45
117	95	30	63	30	20	25	05	00	03	100	95	98	47
118	95	50	73	10	05	08	00	60	30	75	100	88	50
119	90	50	70	70	05	38	00	30	15	55	95	75	50
120	95	90	93	100	80	90	10	70	40	60	95	78	75
121	80	80	80	30	10	20	00	20	10	90	95	93	51
122	70	20	45	20	00	10	00	20	10	85	80	83	37
123	90	40	65	20	20	20	10	70	40	90	95	93	55
124	90	40	65	30	20	25	20	10	15	100	90	95	50

1/ Nursery seeded with deep furrow press drill.

Note: Winterkilling at Lethbridge, Alberta, and Harve, Montana was insufficient for note-taking.

Information from Fargo not yet received. If survival data are provided they will be distributed to cooperators at a later date.

1977

HRWW Soil-borne Mosaic Nursery

Entry no.	Variety or Pedigree	C. I. or Sel. No.	Source
1	Pawnee	11669	Check
2	CIMMYT[1]/Scout	KS73112	Kansas
3	↓	73141	↓
4	↓	73167	↓
5	↓	73167W	↓
6	↓	73167R	↓
7	↓	73229	↓
8	↓	73253	↓
9	↓	73253W	↓
10	Concho	12517	Check
11	CIMMYT/Scout	KS73253R	Kansas
12	↓	73256	↓
13	↓	73261	↓
14	↓	73263	↓
15	↓	73277	↓
16	↓	75104	↓
17	↓	75120	↓
18	↓	75121	↓
19	↓	75122	↓
20	Bison	12518	Check
21	CIMMYT/Scout	KS75146	Kansas
22	↓	75170	↓
23	↓	75172	↓
24	↓	75178	↓
25	↓	75193	↓
26	↓	75210	↓
27	↓	75211	↓
28	↓	75216	↓
29	↓	75219	↓
30	Pawnee	11669	Check
31	Nrn 10/2*Pn//Ot/3/Swn	KS76144	Kansas
32	↓	76151	↓
33	Arthur/Sturdy	76153	↓
34	CO695708/CO673410	CO533144	Colorado
35	↓	533146	↓
36	↓	533147	↓
37	↓	533305	↓
38	↓	533306	↓
39	CO695552/Centurk	534726	↓
40	Concho	12517	Check
41	CO695427/Centurk	CO535926	Colorado
42	↓	535927	↓
43	↓	535929	↓
44	Lcr/Cno//Centurk	755323	↓
45	↓	755328	↓

[1]CIMMYT = Pitic 62/Chris Sib//2*Sonora 64/3/Klein Rendilor

1977 HRWW Soil-borne Mosaic Nursery (continued)

Entry no.	Variety or Pedigree	C. I. or Sel. No.	Source
46	Lcr/Cno//Centurk	CO755484	Colorado
47	CO695552-2	741230	
48	CO695552-7	741232	
49	CO695552-14	741239	
50	Bison	12518	Check
51	Tcs/T_1//Sdy	OK711248-176	Oklahoma
52		711248-1	
53		711248-2	
54		711248-43	
55	Tam W101/Homestead	753098	
56		753130	
57		753134	
58		753164	
59		753166	
60	Pawnee	11669	Check
61	Tam W101/Homestead	OK753170	Oklahoma
62		753176	
63	Homestead/TX62A2607-6	753212	
64	Crc//Atr/Ncm	753694	
65		753702	
66	Crc//Sdy/Bb	753780	
67	Lovrin 10/Ey Sdy	754714	
68	Tcs/T_1//Sdy	711248-41	
69		711248-47	
70	Concho	12517	Check
71	Tcs/T_1//Sdy	OK711248-51	Oklahoma
72		711248-67	
73		711248-84	
74		711248-85	
75		711248-91	
76		711248-92	
77		711248-135	
78		711248-172	
79	Funk W335	---	Funk
80	Bison	12518	Check
81	Funk W332	---	Funk
82	Funk 7171	---	
83	7172	---	
84	7174	---	
85	CO695708/CO673410	CO533147	SRPN
86	CO695552/Centurk	534727	
87	CO695427/Centurk	535926	
88	Sdy Sib/Tcs, TX62A2642//Ctk	TX71A937	
89		71A946	
90	Pawnee	11669	Check
91	TAM W-101/Centurk	TX71A30	SRPN
92		71A106-5	
93		71A58-3	
94	Palo Duro/Centurk	71A407-6	

1977 HRWW Soil-borne Mosaic Nursery (continued)

Entry no.	Variety or Pedigree	C. I. or Sel. No.	Source
95	Sdy Sib/Tmp, TX62A4615-7//Ctk	TX71A562-6	SRPN
96	Sdy Sib/Kaw, TX65A1503//Ctk	↓ 71A687-5	↓
97	Centurk/Sturdy	NK75V465	
98	Sturdy/Bison	↓ 75V520	↓
99	Winalta/Alabaskaja	AT7759-19	NRPN
100	Concho	12517	Check
101	Hokuriko/Fortunato//Lancer	SD7113-16	NRPN
102	Norin 10/12500//Hume	716-1	↓
103	Sentinel Selection 8	↓ 76175	
104	Buckskin Sib/Homestead	NE73481	Nebraska
105	↓	73491	↓
106		73640	
107		73641	
108		73644	
109		↓ 73649	
110	Bison	12518	Check
111	Buckskin Sib/Homestead	NE73656	Nebraska
112	Centurk	15075	↓
113	Sentinel/Centurk	NE73510	
114	Centurk Selection	69291	
115	Mara/2*Scout//Homestead	74611	
116	Sentinel/HiPlains	74716	
117	↓	74726	
118	NE68457/Homestead	74906	
119	Tobari 66//Sk/2*Cnn//Homestead	↓ 74925	↓
120	Pawnee	11669	Check
121	Ctk/AIV/CI13857//Sel. 14-53	NE74L10035	Nebraska
122	Buckskin/Homestead	75408	↓
123	NE69457//Ctk/Gage Sel.	75423	
124		75424	
125	NE66403/Riebesel//Trader Sel.	75437	
126	Sentinel/HiPlains//NE68457/Ctk	75439	
127	↓	75446	
128	Sentinel/HiPlains//NE68457/Sut Sel.	75449	
129	Arthur/Lcr/Pnc/Cnn//CO652217/NE69457	↓ 75466	↓
130	Concho	12517	Check
131	Arthur/Homestead//Pnc/3*Cnn/Sk/2*Cnn	NE75472	Nebraska
132	At66/Wi/Pkr/Lcr//NE68457/Gage Sel.	75547	↓
133	At66/Wi/Pkr/Lcr//NE68463	75553	
134	Arthur/Centurk Sel.	75575	
135	Olesen/2*Ctk Sel.	75635	
136	Mara/2*Scout//Homestead	75706	
137	↓	75718	
138	Sentinel/HiPlains	75739	
139	NB63218//Ky58/Nth/2*(C-T-M-H)/(NB61983)// NB61983//Pnc/2*Cnn	↓ 75742	↓
140	Bison	12518	Check

1977 HRWW Soil-borne Mosaic Nursery (concluded)

Entry no.	Variety or Pedigree	C. I. or Sel. No.	Source
141	NB63218//Ky58/Nth/2*(C-T-M-H)/(NB61983)// NB61983//Pnc/2*Cnn	NE75743	Nebraska
142	↓	75744	↓
143	At66/Cmn//Nbr/RCh//Homestead	75854	
144	HiPlains/Homestead	75859	
145	NE68457/Homestead	75862	
146		75864	
147		75865	
148		75866	
149	↓	75867	↓
150	Pawnee	11669	Check
151	Scout/CI12995//Homestead	NE75878	Nebraska
152	↓	75881	↓
153	TX391-56-D1-8/Tcs//At66/Cmn//Nbr/RCh	75695	
154	Mara/2*Scout//Homestead	75696	↓
155	NHRW 1307-76	---	NAPB
156	1289-76	---	
157	1291-76	---	
158	1293-76		
159	↓ 1286-76		↓
160	Concho	12517	Check
161	NHRW 1282-76	---	NAPB
162	1241-76	---	
163	1220-76	---	
164	1243-76	---	
165	1153-76	---	
166	1165-76	---	
167	↓ 1166-76	---	↓
168	Roughrider	ND7121	NRPN
169	Eklund	---	↓
170	Bison	12518	Check

Field Infection Data

Hard Red Winter Wheat Regional Soil-Borne Mosaic Nursery

1977

Entry No.	C. I. or Sel. No.	Urbana, Illinois 1/				Kansas	
		Rep. I		Rep. II		Manhattan 2/	Newton 3/
		Incidence	Response	Incidence	Response	Response	Response
1	11669	100	S	100	S	MS	MS
2	KS 73112	100	MS	100	MS	R	R
3	73141	100	MS	100	MS	R	MR
4	73167	100	MS	100	MS	R	R
5	73167W	100	MS	100	MS	R	R
6	73167R	100	MR	100	MS	R	R
7	73229	100	MS	100	MS	MR	R
8	73253	100	MS	100	MS	Seg.	R
9	73253W	100	MS	100	MS	R	R
10	12517	100	MR	100	MR	R	R
11	KS 73253R	100	S	100	S	R	R
12	73256	100	S	100	S	R	R
13	73261	100	S	100	S	R	R
14	73263	100	S	100	S	R	R
15	73277	100	S	100	S	R	MR
16	75104	100	MS	100	MS	R	MR
17	75120	100	MR	100	MR-MS	R	R
18	75121	100	MS	100	MS	R	R
19	75122	100	S	100	S	R	R
20	12518	90	3-S	100	3-S	S	S
21	KS 75146	100	MR	100	MR	MR	R

Field Infection Data - 1977 Continued

Entry No.	C. I. or Sel. No.	Urbana, Illinois[1/] Rep. I Incidence	Urbana, Illinois[1/] Rep. I Response	Urbana, Illinois[1/] Rep. II Incidence	Urbana, Illinois[1/] Rep. II Response	Kansas Manhattan[2/] Response	Kansas Newton[3/] Response
22	KS 75170	100	MR	100	MR	R	R
23	75172	100	MR-MS	100	MR-MS	R	R
24	75178	100	MR	100	MR	R	R
25	75193	100	MS	100	MR	R	R
26	75210	100	MS	100	MS	R	R
27	75211	100	MR-MS	100	MR-MS	R	R
28	75216	100	MS-MR	100	MS-MR	R	R
29	75219	100	MS-MR	100	MS-MR	R	R
30	11669	100	VS	100	VS	S	MS
31	KS 76144	100	MS	100	S	R	R
32	76151	100	MR-MS	100	MR-MS	R	R
33	76153	0	-	10	R	R	R
34	CO 533144	100	VS	100	VS	S	MS
35	533146	100	VS	100	VS	S	MS
36	533147	100	VS	100	VS	MS	MS
37	533305	100	VS	100	VS	MS	MS
38	533306	100	VS	100	VS	MS	S
39	534726	100	VS	100	VS	S	S
40	12517	100	MR	100	MR	R	R
41	CO 535926	100	MR	100	MR	R	MR
42	535927	100	MR-R	100	MR-R	R	R
43	535929	100	MS-MR	100	MS-MR	R	R
44	755323	100	S	100	S	S	MS

Field Infection Data - 1977 Continued

Entry No.	C. I. or Sel. No.	Urbana, Illinois[1] Rep. I Incidence	Rep. I Response	Rep. II Incidence	Rep. II Response	Kansas Manhattan[2] Response	Kansas Newton[3] Response
45	CO 755328	100	MS-MR	100	MS-MR	S	MS
46	755484	100	MS-MR	100	MS-MR	R	R
47	741230	100	S	100	S-MS	S	MS
48	741232	100	S	100	S-MS	S	MS
49	741239	100	S	100	S	S	MS
50	12518	80	S-S	100	3-MS	S	MS
51	OK 711248-176	100	S	100	S	S	S
52	711248-1	100	VS	100	VS	S	S
53	711248-2	100	S	100	S	S	S
54	711248-43	100	S	100	S	S	S
55	753098	100	S	100	S	MR	MR
56	753130	100	MS	100	MS-MR	R	MR
57	753134	100	MR	100	MR-R	R	MR
58	753164	100	S	100	MS	S	MS
59	753166	100	MS	100	MS	MR	MR
60	11669	100	VS	100	VS	MS	MS
61	OK 753170	100	MR	100	MR	R	MR
62	753176	100	MS	100	MS	S	MS
63	753212	100	S	100	VS	S	MS
64	753694	100	MS	100	S	S	MS
65	753702	100	MS	100	S	S	MS
66	753780	100	MS	100	S	S	MS
67	754714	100	S	100	VS	S	MS
68	711248-41	100	S	100	S	S	MS

Field Infection Data - 1977 Continued

Entry No.	C. I. or Sel. No.	Urbana, Illinois[1] Rep. I Incidence	Urbana, Illinois[1] Rep. I Response	Urbana, Illinois[1] Rep. II Incidence	Urbana, Illinois[1] Rep. II Response	Kansas Manhattan[2] Response	Kansas Newton[3] Response
69	OK 711248-47	100	VS	100	VS	S	MS
70	12517	100	MR	100	MR	R	R
71	OK 711248-51	100	S	100	S	S	MS
72	711248-67	100	S	100	S	S	S
73	711248-84	100	S	100	S	S	MS
74	711248-85	100	S	100	S	S	MS
75	711248-91	100	VS	100	VS	S	MS
76	711248-92	100	S	100	S	S	MS
77	711248-135	100	VS	100	VS	S	MS
78	711248-172	100	VS	100	VS	S	MS
79	Funk W 335	100	VS	100	VS	S	MS
80	12518	100	3	50	3-S	S	MS
81	Funk W 332	100	VS	100	VS	S	MS
82	Funk 7171	100	VS	100	VS	MS	MS
83	Funk 7172	100	MR	100	MR	R	R
84	Funk 7174	100	VS	100	VS	MS	MS
85	CO 533147	100	VS	100	VS	S	MS
86	534727	100	VS	100	VS	S	MS
87	535926	100	MS-MR	100	MS-MR	R	MR
88	TX 71A 937	100	VS	100	S	S	MS
89	TX 71A 946	100	VS	100	S	S	MS
90	11669	100	S	100	S	MS	MS
91	TX 71A30	100	S	100	S	S	MS
92	71A106-5	100	VS	100	VS	S	MS

Field Infection Data - 1977 Continued

Entry No.	C. I. or Sel. No.	Urbana, Illinois 1/ Rep. I Incidence	Rep. I Response	Rep. II Incidence	Rep. II Response	Kansas Manhattan 2/ Response	Kansas Newton 3/ Response
93	TX 71A58-3	100	VS-MS	100	VS-MS	MS	MR
94	71A407-6	100	MR	100	MR	R	MR
95	71A562-6	100	MR	100	R	MR	MR
96	71A687-5	100	S	100	S	S	S
97	NK 75V465	100	S	100	S	S	MS
98	NK 75V520	100	VS	100	VS	S	S
99	AT 7759-19	100	MS	100	MR	S	MS
100	12517	100	MR	100	MR	R	R
101	SD 7113-16	100	MR	100	MR	S	MS
102	716-1	100	MS	100	MR	R	MR
103	76175	100	MR	100	MR	R	R
104	NE 73481	100	MS	100	MS	R	R
105	73491	100	S	100	S	S	MR
106	73640	100	MR	100	MR	R	R
107	73641	100	MR	100	MR	MR	R
108	73644	100	MS	100	MS	MR	MR
109	73649	100	R	100	R	R	R
110	12518	70	3-S	80	3-S	S	MS
111	NE 73656	100	MS	100	MS	MR	R
112	15075	100	MR	100	MR	MS	MR
113	73510	100	S	100	S	S	S
114	69291	100	MR	100	MR	S	MS
115	74611	100	MR	100	MR	R	MR
116	74716	100	MS	100	MS	S	S

Field Infection Data - 1977 Continued

Entry No.	C. I. or Sel. No.	Urbana, Illinois[1] Rep. I Incidence	Urbana, Illinois[1] Rep. I Response	Urbana, Illinois[1] Rep. II Incidence	Urbana, Illinois[1] Rep. II Response	Kansas Manhattan[2] Response	Kansas Newton[3] Response
117	NE 74726	100	MR	100	MR	R	MR
118	74906	100	S	100	MS	S	S
119	74925	100	VS	100	VS	S	S
120	11669	100	S	100	S	MS	MS
121	NE 74L10035	100	MS	100	MS	MS	S
122	75408	100	VS	100	VS	S	S
123	75423	100	S	100	S	S	S
124	75424	100	MR	100	R	R	R
125	75437	100	MR	100	R	MR	MR
126	75439	100	S	100	S	S	MS
127	75446	100	MS	100	MS	R	R
128	75449	100	MR	100	MR	R	R
129	75466	100	3	10	3-MS	MS	MR
130	12517	100	MR	100	MR	R	R
131	NE 7547	100	MS	100	MS	MS	MS
132	75547	100	MR	100	MR	R	R
133	75553	100	MS-MR	100	MS-MR	R	R
134	75575	100	MS	100	MS	R	R
135	75635	100	S	100	MS	S	MS
136	75706	100	S	100	S	MS	MS
137	75718	100	R	100	R	R	R
138	75739	100	MS	100	MS	MR	R
139	75742	100	S	100	S	S	S
140	12518	90	3-MS	100	3-S	S	S

Field Infection Data - 1977 Continued

Entry No.	C. I. or Sel. No.	Urbana, Illinois[1] Rep. I Incidence	Urbana, Illinois[1] Rep. I Response	Urbana, Illinois[1] Rep. II Incidence	Urbana, Illinois[1] Rep. II Response	Kansas Manhattan[2] Response	Kansas Newton[3] Response
141	NE 75743	100	S	100	MS-S	S	S
142	75744	100	VS	100	VS	S	S
143	75854	100	VS	100	VS	S	S
144	75859	100	VS	100	VS	S	S
145	75862	100	VS	100	VS	S	S
146	75864	100	VS	100	VS	VS	S
147	75865	100	VS	100	VS	S	S
148	75866	100	S	100	S	S	S
149	75867	100	MS	100	MS	S	S
150	11669	100	S	100	S	S	S
151	NE 75878	100	MR	100	MR	R	R
152	75881	100	MS-MR	100	MR	R	R
153	75695	100	MS-MR	100	MR	Seg.	MR
154	75696	100	VS	100	VS	S	S
155	--NAPB	100	VS	100	VS	S	S
156	--NAPB	100	S	100	S	S	MS
157	--NAPB	100	MR	100	MR	R	MR
158	--NAPB	100	MS	100	MS	R	MR
159	--NAPB	100	MS	100	MS	MR	MR
160	12517	100	MR	100	MR	R	R
161	--NAPB	100	S	100	S	R	MR
162	--NAPB	100	S	100	S	R	MR
163	--NAPB	100	MS	100	MS	MR	MR

Field Infection Data - 1977 Concluded

Entry No.	C. I. or Sel. No.	Urbana, Illinois 1/ Rep. I Incidence	Urbana, Illinois 1/ Rep. I Response	Urbana, Illinois 1/ Rep. II Incidence	Urbana, Illinois 1/ Rep. II Response	Kansas Manhattan 2/ Response	Kansas Newton 3/ Response
164	--NAPB	100	MS	100	MS	R	R
165	--NAPB	100	S	100	MS	R	R
166	--NAPB	100	S	100	MS	R	MR
167	--NAPB	100	MS-MR	100	MS-MR	R	R
168	ND 7121	100	MS-MR	100	MS-MR	S	MS
169	--NRPN	100	MS-MR	100	MS-MR	S	MS
170	12518	100	3-S	10	3-MS	S	MS

1/ Notes taken on April 15, 1977 by H. Jedlinski and C. M. Brown
Incidence = % infected plants.
Severity designations the same as in previous reports; 3 = Rosetting
Infection rate and disease severity at Urbana high despite a dry fall in 1976. The first disease symptoms appeared in mid-March with maximum expression by the first week in April. Subsequent high temperatures arrested further development of symptoms.

2/ Response notes taken at Manhattan on April 6 by E. G. Hayne. Infection was fair.

3/ Response notes at Newton taken on April 7 by E. G. Hayne. Growth of the wheat was limited and infection generally poor. Response ratings at both Kansas sites the same as in previous reports. Centurk type at both sites was much better than usual in 1977 and in some plots rated as high as R. Homestead was rated R in contrast to other years when it generally was MR.

Barley Yellow Dwarf
Field Infection Data
on
Entries in 1977 HRWW Soil-borne Mosaic Nursery
Urbana, Illinois[1]

SBMN Entry no.	BYD response rating[2] I	II	III	SBMN Entry no.	BYD response rating I	II	III
1	2	4	5	36	2	5	3
2	6	6	3	37	4	5	3
3	6	4	1	38	–	4	2
4	3	4	3	39	4	2	3
5	5	2	2	40	3	5	3
6	8	3	4	41	6	3	2
7	4	4	2	42	2	5	5
8	6	5	6	43	3	4	6
9	–	5	4	44	2	–	2
10	3	3	5	45	2	1	4
11	6	5	–	46	2	3	4
12	6	2	4	47	4	3	3
13	4	4	4	48	–	–	3
14	6	4	–	49	6	3	2
15	6	2	2	50	5	4	3
16	5	4	7	51	4	4	6
17	3	1	3	52	5	6	6
18	6	7	–	53	4	3	3
19	5	6	4	54	3	2	5
20	2	4	3	55	5	3	3
21	3	3	3	56	–	6	3
22	2	4	2	57	5	3	3
23	–	4	5	58	4	2	3
24	3	3	3	59	4	5	3
25	3	3	3	60	4	3	5
26	5	4	5	61	4	3	2
27	5	–	2	62	3	3	2
28	4	1	5	63	3	5	4
29	2	2	4	64	6	5	3
30	4	5	2	65	2	5	3
31	4	6	–	66	5	5	4
32	3	4	6	67	3	5	5
33	4	3	4	68	2	3	3
34	2	4	3	69	2	4	–
35	3	6	3	70	6	6	3

[1]Data provided by C. M. Brown and H. Jedlinski from evaluations of hill plots inoculated with a moderately virulent, vector-nonspecific BYDV isolate.

[2]0-9 scale; 0=fully tolerant; 9=intolerant. Entries with generally low ratings ie/4 or below in all replications, probably possess good tolerance to BYD.

Barley Yellow Dwarf Field Infection Data, Urbana, IL continued

SBMN Entry no.	BYD response rating I	II	III	SBMN Entry no.	BYD response rating I	II	III
71	2	5	4	116	8	3	3
72	3	4	3	117	7	3	5
73	3	4	5	118	7	5	4
74	1	3	2	119	2	4	3
75	8	4	3	120	4	4	4
76	7	5	3	121	3	4	3
77	1	4	2	122	4	6	3
78	4	3	3	123	3	5	5
79	6	5	3	124	3	5	3
80	1	5	3	125	2	5	4
81	2	4	4	126	2	4	5
82	5	7	3	127	3	5	3
83	4	4	4	128	4	3	3
84	-	-	8	129	5	4	5
85	3	5	4	130	4	6	2
86	3	5	3	131	4	3	4
87	3	5	4	132	3	3	4
88	4	4	2	133	3	4	8
89	4	3	4	134	4	3	3
90	3	5	2	135	3	2	1
91	6	4	6	136	4	4	4
92	6	2	4	137	3	3	3
93	2	4	3	138	1	4	3
94	8	4	3	139	2	6	4
95	2	4	2	140	2	5	4
96	3	3	3	141	3	2	4
97	3	4	4	142	3	4	4
98	7	3	2	143	5	6	4
99	5	4	3	144	3	3	4
100	7	3	8	145	5	3	4
101	7	2	2	146	6	3	2
102	4	2	3	147	6	3	3
103	6	4	2	148	3	4	4
104	6	-	3	149	6	3	3
105	5	4	3	150	4	5	3
106	5	3	5	151	5	6	6
107	4	3	6	152	5	5	2
108	5	5	3	153	7	6	5
109	6	6	4	154	7	2	3
110	4	4	-	155	7	4	3
111	4	3	2	156	7	3	2
112	2	3	3	157	2	6	3
113	3	5	3	158	8	2	6
114	4	5	5	159	4	5	4
115	2	3	5	160	2	3	2

Barley Yellow Dwarf Field Infection Data, Urbana, IL concluded

SBMN Entry no.	BYD response rating I	II	III	SBMN Entry no.	BYD response rating I	II	III
161	4	4	3	166	3	3	6
162	4	6	4	167	6	5	2
163	4	7	5	168	1	2	5
164	5	5	3	169	3	3	2
165	6	3	2	170	1	3	2