

UNITED STATES DEPARTMENT OF AGRICULTURE
AGRICULTURAL RESEARCH SERVICE
PLANT SCIENCE RESEARCH DIVISION
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 1970

V. A. Johnson, Agronomist

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

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

Lincoln, Nebraska
PSR-71

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By

V. A. Johnson¹

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¹ The writer expresses appreciation to Mrs. Katie Meierhenry, Mrs. Berni Chermok, Mrs. Diane Kramer, and Charles Lay for their assistance in preparing this report.

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

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Hard Red Winter Wheat Region

Rust Investigations

Quality Investigations

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Southwestern Gr. Plains

Field Station

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Oklahoma State University

Agronomy

Botany and Plant Pathology

Entomology

Biochemistry

Woodward

Southern Great Plains

Field Station

Goodwell

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Manhattan

Kansas State University

Agronomy

Plant Pathology

Entomology

Flour and Feed Milling Industries

Hays

Ft. Hays Branch Station

Garden City

Garden City Agr. Exp. Station

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Springfield	Southeastern Colo. Branch Station
Yellow Jacket	San Juan Basin Branch Sta. (Hesperus)

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Lincoln	University of Nebraska
Agronomy	

North Platte	North Platte Exp. Station
Alliance	Box Butte Exp. Station
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Clay Center	U. S. Meat Animal Research Center

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Plant Pathology	
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Agronomy and Plant Genetics	
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M. Nagamitsu

THE 1970 CROP YEAR

The United States produced a winter wheat crop of 1,118 million bushels in 1970. This was down 3 percent from the 1969 crop and 9 percent below the record 1968 crop of 1,576 million bushels. However, yield per harvested acre of 33.4 bushels was a new record.

Seeding in the southern and central parts of the region was completed under generally favorable moisture conditions in the fall. Lack of adequate soil moisture delayed seeding in South Dakota and Montana and a considerable part of the intended winter wheat acreage in the latter state was not seeded. Winter precipitation in most parts of the region was light. This was followed by substantial rain and snow in March and April which boosted prospects.

Lack of May precipitation hurt dryland wheat in Texas and Oklahoma. Harvest throughout the south and central plains was well ahead of schedule. Near optimum conditions in western Nebraska resulted in late harvest in that area and very high acre yields. Leaf and stem rust were present and became heavy in some localities. Overall, damage from the rusts was light.

Winter wheat production statistics for 10 states appear in the tabulation that follows:

<u>State</u>	<u>Seeded acres 1,000</u>	<u>Harvested acres 1,000</u>	<u>Aban- donment %</u>	<u>Yield per harvested acre bu.</u>	<u>Production (bu.) 1,000</u>
New Mexico	297	184	38	30.0	5,520
Texas	3,547	2,267	36	24.0	54,408
Colorado	2,829	2,368	16	28.5	67,488
Oklahoma	4,875	3,777	23	26.0	98,202
Kansas	9,690	9,061	7	33.0	299,013
Nebraska	2,698	2,558	5	38.0	97,204
South Dakota	599	522	13	27.0	14,094
Wyoming	231	196	15	29.0	5,684
Montana	1,638	1,548	6	27.0	41,796
North Dakota	58	48	17	26.0	1,248

Data from USDA Statistical Reporting Service, Crop Reporting Board, CrPr 2-1(70) Washington, D. C.

State average acre yields no lower than 24 bushels in any state reflect the overall favorable conditions that prevailed in the region in 1970. The 38- and 33-bushel average yields in Nebraska and Kansas, respectively, are new all-time records for these states. Acreage abandonment also was very low in these two states.

NEW VARIETIES

The Texas Agricultural Experiment Station released the new bread wheat "Fox" in 1970 for production in parts of Texas where winters are not severe. Fox was tested in the SRPN as Agent/Tascosa, Tx62C436 in 1968 and 1969. It possesses excellent resistance to leaf rust and some races of stem rust. It is a moderately tall variety with excellent quality. Fox is recommended for plantings in North Central, Central, East, and South Texas.

The Texas Station also began initial seed increase in 1970 of Tx65A1682. This semi-dwarf selection from Norin 16/C.I.12500//Bison is early-maturing, and lodging and shattering resistant. Its performance record under irrigation in Texas has been superior to either Sturdy or Caprock. It is intended for initial seed distribution in Texas in 1971.

The Oklahoma Experiment Station increased Triumph x C.I.12406, C.I.13874, for distribution to Oklahoma growers in the fall of 1971 under the name Nicoma. The new variety has exceeded Triumph in yield in Oklahoma and regional trials and possesses slightly stronger straw than Triumph. It has a long mixing requirement and possesses overall milling and baking quality superior to Triumph.

The Kansas and Nebraska Agricultural Experiment Stations both released improved quality selections from the Scout variety in 1970. KS6728 (C.I.15068) was distributed under the name Eagle. NB65482 (C.I.14075) was named Scoutland. Both varieties possess distinctly stronger mixing properties than Scout itself but are similar to Scout in performance and agronomic traits.

Breeder seed in the amount of 970 bushels of Ky58/2/Nth/3/Hope/2*Tk/4/Cnn/5/Pkr, NB66425 (C.I.15075) was produced in Nebraska and Colorado in 1970. The production was shared with 8 other states in anticipation of joint formal release of C.I.15075 in 1971 under the name Centurk. C.I. 15075 is a moderately early variety that combines excellent productiveness with resistance to leaf and stem rust and good quality. It appears to have a range of adaptation equal to or broader than Scout.

SOUTHERN REGIONAL PERFORMANCE NURSERY

Varieties and hybrids evaluated in the SRPN in 1970 totaled 29. Included were 13 experimental lines from cooperating state experiment stations and 7 commercially developed experimental hybrids. The remainder of entries were recently released varieties in the region and check varieties. There were 30 nurseries grown at 28 sites. Both irrigated and dryland nurseries were grown at Bushland, Texas and Clovis, New Mexico. The nursery was comprised of single observation plots at Brookings, South Dakota. Data were reported from all test sites in 1970 except Presho, South Dakota where hail destroyed the nursery.

Data from nursery sites appear in table 1. Pedigrees and C.I. or Selection Numbers of nursery entries are listed below:

Entry No.	Pedigree	C.I. or Sel. No.	Source
1	Kharkof	1442	Check
2	Early Blackhull	8856	"
3	Comanche	11673	"
4	Scout 66	13996	"
5*	Scoutland (NB65482)	14075	Nebr.
6	Eagle (KS6728)	15068	Kans.
7	Ky58/2/Nth/3/Hope/2*Tk/4/Cnn/5/Pkr (NB66425)	15075	Nebr.
8	Ky58/2/Nth/3/Cnn/Tm/Mi/Hope/4/Pn/Cnn/5/Om	NB66497	"
9	Pn/Cnn/3/Pn/2/Ky58/4/Nth	NB66403	"
10	Triumph	12132	Okla.
11	Danne 145B4	OK60111	"
12	391-56-D8/Triumph	TX62A2607-6	Texas
13	Norin 16/C.I.12500/2/Bsn	TX65A1682	"
14*	391-56-D8/Kaw	TX65A1460	"
15*	391-56-D8/Kaw	TX65A1503	"
16*	391-56-D8/Tascosa	TX62A2712-6	"
17*	Parker*3/Bison	KS6623	Kans.
18*	Palo Duro	14584	DeKalb
19*	Satanta	14582	"
20*	Chanute	14581	"
21*	Yukon	14583	"
22**	DeKalb Hybrid	A-235	"
23**	" "	A-227	"
24*	" "	H1	"
25*	Northrup - King Hybrid	NK70-1	Northrup - King
26*	" " "	NK70-2	" "
27*	" " "	NK70-3	" "
28*	" " "	NK70-4	" "
29*	Scout/C.I.12995	C0653033	Colo.

* New entry in 1970.

** New F₁ seed provided in 1970.

Data Obtained

The writer did not visit regional test sites in 1970. Information that follows was provided entirely by cooperators.

Denton--No weather information provided.

Chillicothe--The nursery was seeded on November 10 in moist soil. Emergence was prompt and good stands were obtained. Heavy leaf rust developed on susceptible varieties in March. Winter and spring precipitation was near normal and well distributed. Temperatures were somewhat below normal.

Bushland--The dryland trial was sown on summer-fallowed ground in which moisture was adequate for rapid germination and emergence. Stored moisture in the profile was near maximum. Below-normal early spring precipitation and temperatures permitted the wheat to efficiently utilize the stored water. Diseases and insects were of minor importance only. The irrigated nursery received 3 spring irrigations, each approximately 3½ inches. The nursery was fertilized with 150 pounds of nitrogen per acre.

Clovis--The dryland nursery received only 7.27 inches of precipitation between seeding and harvest, of which 4.42 inches occurred in October. The irrigated nursery was irrigated 6 times and received 200 pounds of nitrogen.

Oklahoma Stations--The SRPN was grown at Stillwater, Woodward, and Goodwell. The Goodwell nursery was irrigated. The SRPN at the Cherokee station was terminated after the 1969 crop year due to the closing of the station. Fall stands at Stillwater and Goodwell were satisfactory. At Woodward, seeding was delayed because of fall army worm activity. The nursery eventually emerged to full stands but little growth occurred until spring. The wheat outlook was excellent until mid-May when drought stress and hot winds reduced prospects at Stillwater and Woodward. Leaf rust and powdery mildew were noted in the Stillwater nursery.

Manhattan--The nursery was seeded on September 24. Conditions were generally good throughout the crop season, except for too much rain in June. Soil-borne mosaic was a problem and produced some unusual varietal responses. Scout 66 showed severe symptoms whereas some other known susceptible varieties did not show symptoms until the flag leaf emerged. Infection was uneven throughout the nursery and probably was the main factor contributing to variation in the nursery.

Hays--There was excellent stored moisture at seeding which was followed by adequate fall precipitation. Stand establishment and fall growth were excellent. The winter was mild and no injury was noted. The spring was favorable except for 10 days of drought stress late in May. Post-anthesis conditions were cool with adequate moisture. There were no insects of importance. A moderately late epidemic of leaf rust may have had some influence on yields.

Garden City--Soil moisture conditions were excellent in the fall. A cold October reduced fall growth. There was little moisture during the winter but no winterkilling occurred. Heavy snow in March was beneficial. The spring period was dry with below-normal precipitation. A very light infection of leaf rust was the only disease of consequence. Light hail on May 27 caused approximately 5 percent damage.

Colby--Emergence and stand establishment were good but fall growth was somewhat below normal. There was no winterkilling. Growth resumed in February and resulted in profuse tillering. Subsoil moisture carried the wheat during the dry winter and spring until precipitation came in mid-May. Moisture was adequate thereafter. There were no insect problems but there was some development of leaf rust. Strong winds and high temperatures in late June force-ripened all varieties.

Colorado Stations--Information not provided.

Nebraska Stations--Stand establishment was adequate at all sites. Soil moisture was satisfactory throughout the fall and winter. No winterkilling of consequence occurred. The late spring was dry and warm at Lincoln. Overall conditions improved westward and were near optimal in the Panhandle where record yields were made in several localities. Leaf rust became heavy on susceptible varieties in the eastern part of the state.

South Dakota Stations--Information not reported. Hail destroyed the nursery at Presho. Observation plots only were grown at Brookings where stem rust became heavy. Good leaf rust infection was recorded at Highmore.

Columbia--Fall and winter rainfall was normal but precipitation during the spring was frequent and heavy. Septoria became severe on both leaves and spikes during the spring from an infection that began in the fall. Hessian fly was prevalent and caused damage. A spotty infection of mildew occurred and leaf rust came in too late for readings. No stem rust was observed.

Ames--Soil moisture at seeding time was deficient and resulted in some unevenness of emergence and fall stands. Subsequent fall growth was variable. Substantial but erratic winterkilling occurred. Due to uneven fall stands, winterkilling was determined on the basis of dead plants in plots. Leaf rust developed in the latter half of June but was held down by hot, dry weather. Some Septoria was observed as was leaf rust in trace amounts.

Urbana--Favorable conditions of moisture and temperature prevailed during the fall and winter. Stands were excellent and no winterkilling occurred. Moisture continued adequate into early spring but was followed by dry weather until harvest. The moisture stress and a late infection of leaf rust may have reduced test weight and grain yields. A mild spring infestation of army worms was controlled with an application of the insecticide "Sevin" before serious damage occurred.

Lind--The nursery was seeded with a deep-furrow drill. Rain approximately five days later affected emergence and stand establishment. The winter was mild and the spring cool. The varieties headed during a period of high temperatures. There were no diseases.

Table 1.--Yield and other data for varieties grown in the Southern Regional Performance Nursery at 27 stations (29 trials) in the hard red winter wheat region in 1970.

Denton, Texas																							
Four replications																							
C.I.	:	Days	:	Plant	:	Leaf rust	:	Septoria	:	Volume	Weight	:	Average yield	:	No.	:	Percent						
or	:	to	:	height	:	severity	:	a/	:	kg/hl	lbs/bu	:	1970	:	1969-1970	:	years	:	of				
Sel. No.	:	head	:		:	4/21	5/13:		:			:	kg/ha	:	bu/a	:	kg/ha	:	bu/a	:	grown	:	Kharkof
		cm		%		%																	
15075		116		102		T	5	2.0		78.7	61.0		3120		46.4		3124		46.6		3		197.7
KS6623		117		109		T	25	1.5		78.7	61.0		2865		42.6		--		--		1		181.3
CO653033		117		114		5	40	2.5		76.8	59.5		2808		41.7		--		--		1		177.5
TX62A2607-6		114		81		T	10	2.5		74.8	58.0		2777		41.3		2577		38.4		3		151.0
TX65A1682		114		89		20	70	3.5		76.8	59.5		2730		40.6		2768		41.3		2		163.7
TX62A2712-6		118		91		5	70	2.0		76.8	59.5		2656		39.5		--		--		1		168.1
A-235		115		112		10	70	1.0		80.0	62.0		2616		38.9		2336		34.8		2		138.1
H-1		116		109		30	70	2.0		77.4	60.0		2562		38.1		--		--		1		162.1
14075		112		104		20	80	1.5		77.4	60.0		2535		37.7		--		--		1		160.4
15068		114		104		20	80	3.0		77.4	60.0		2529		37.6		2544		37.9		2		150.4
13996		113		112		20	80	2.5		76.8	59.5		2461		36.6		2557		38.1		6		148.5
NK70-1		116		117		40	60	1.0		77.4	60.0		2434		36.2		--		--		1		154.0
11673		114		109		5	40	2.5		78.7	61.0		2421		36.0		2292		34.2		30		128.9
NK-70-4		116		114		20	80	3.5		75.5	58.5		2414		35.9		--		--		1		152.8
14581		117		97		20	80	1.0		76.8	59.5		2401		35.7		--		--		1		151.9
NK-70-2		115		114		30	70	1.0		76.8	59.5		2401		35.7		--		--		1		151.9
14582		116		91		20	70	1.5		76.1	59.0		2320		34.5		--		--		1		146.8
NK70-3		117		112		40	70	2.5		75.5	58.5		2266		33.7		--		--		1		143.4
A-227		117		114		50	70	1.5		76.1	59.0		2260		33.6		2312		34.5		2		136.7
14584		118		94		20	70	1.5		74.8	58.0		2145		31.9		--		--		1		135.7
14583		117		94		30	60	2.0		75.5	58.5		2091		31.1		--		--		1		132.3
OK60111		110		102		30	80	2.5		76.8	59.5		2078		30.9		2174		32.4		3		131.5
8856		112		109		5	70	2.0		80.0	62.0		2018		30.0		2074		30.9		34		130.0
12132		112		102		20	45	1.5		78.1	60.5		1883		28.0		2107		31.4		10		123.4
TX65A1503		119		79		30	70	2.0		76.1	59.0		1856		27.6		--		--		1		117.5
NB66403		116		99		40	80	2.0		72.9	56.5		1822		27.1		2023		30.2		3		118.3
TX65A1460		118		76		50	70	2.0		78.1	60.5		1749		26.0		--		--		1		110.6
NB66497		118		97		40	80	1.5		74.8	58.0		1621		24.1		1953		29.1		2		115.5
1442		123		109		20	40	2.5		79.3	61.5		1580		23.5		1691		25.2		34		100.0

a/ 0 = least severe
9 = most severe

L.S.D. .05 = 329 kg/ha; C.V. = 9.6%

Chillicothe, Texas
Four replications

C.I. or Sel. No.	Days to		Plant height cm	Volume Weight		Average yield				No. years grown	Percent of Kharkof
	head	ripe		kg/hl	lbs/bu	1970		1969-1970			
						kg/ha	bu/a	kg/ha	bu/a		
KS6623	119	152	83	70.6	56.6	2502	37.3	--	--	1	138.7
14075	123	155	83	71.1	57.0	2375	35.4	--	--	1	131.6
C0653033	124	156	88	68.9	55.2	2301	34.3	--	--	1	127.5
13996	121	154	83	68.9	55.2	2294	34.2	2289	34.1	6	119.9
15075	120	153	78	68.3	54.8	2235	33.3	2403	35.8	3	144.0
NK70-4	121	155	90	67.8	54.4	2091	31.2	--	--	1	116.0
NK70-1	120	154	88	68.9	55.2	2021	30.1	--	--	1	111.9
14583	120	153	75	70.0	56.1	2019	30.1	--	--	1	111.9
A227	120	154	88	69.4	55.6	2009	29.9	1963	29.3	2	107.9
14584	120	153	73	70.0	56.1	2001	29.8	--	--	1	110.8
H1	121	154	80	70.0	56.1	1969	29.3	--	--	1	108.9
A235	119	152	83	69.4	55.6	1947	29.0	1886	28.1	2	103.7
8856	115	149	88	71.7	57.5	1927	28.7	1953	29.1	32	108.7
15068	121	154	80	69.4	55.6	1917	28.6	2168	32.3	2	119.2
TX62A2712-6	120	152	68	69.4	55.6	1875	27.9	--	--	1	103.7
14581	125	156	70	70.6	56.6	1875	27.9	--	--	1	103.7
11673	123	155	88	68.9	55.2	1861	27.7	1836	27.4	32	116.0
TX62A2607-6	120	153	70	66.6	53.4	1844	27.5	2134	31.8	3	134.8
TX65A1503	124	157	63	69.4	55.6	1833	27.3	--	--	1	101.5
OK60111	115	148	80	62.8	54.4	1809	27.0	2040	30.4	3	110.6
1442	127	158	83	70.6	56.6	1808	26.9	1819	27.1	32	100.0
14582	124	155	70	71.1	57.0	1774	26.4	--	--	1	98.1
12132	116	148	78	69.4	55.6	1693	25.2	1755	26.2	10	123.7
NK70-2	123	156	85	67.8	54.4	1687	25.1	--	--	1	93.3
TX65A1460	125	157	63	69.4	55.6	1683	25.1	--	--	1	93.3
NK70-3	124	156	85	67.2	53.9	1531	22.8	--	--	1	84.8
TX65A1682	119	151	63	70.0	56.1	1401	20.9	1859	27.7	2	102.2
NB66497	124	157	73	67.8	54.4	1351	20.1	1708	25.5	2	93.9
NB66403	126	158	73	67.8	54.4	1346	20.1	1681	25.1	3	95.5

L.S.D. .05 = 528 kg/ha; C.V. = 19.7%

Bushland, Texas
Four replications, dryland

C. I.	:	Days:	:	:	Average yield:	No. :	Percent
or	:	to :	Plant :	Volume Weight :	1970	:years:	of
Sel. No.	:	head:	height:	kg/hl :	lbs/bu :	kg/ha :	bu/a :grown: Kharkof
		cm					
15075		127	63	76.4	61.3	2460	36.7 2 147.0
15068		125	63	77.5	62.1	2429	36.2 1 166.1
NK70-3		127	73	76.3	61.2	2349	35.0 1 160.6
NB66403		127	63	74.5	59.7	2315	34.5 2 139.1
KS6623		127	58	78.2	62.7	2246	33.5 1 153.7
OK60111		126	65	76.9	61.7	2235	33.3 2 129.8
TX65A1682		124	55	76.7	61.5	2190	32.6 1 149.5
13996		124	68	73.3	58.8	2161	32.2 3 127.1
NK70-4		127	65	75.3	60.4	2126	31.7 1 145.4
12132		124	68	77.2	61.9	2120	31.6 5 113.9
14582		122	60	77.2	61.9	2117	31.5 1 144.5
14075		124	65	75.5	60.5	2057	30.7 1 140.8
11673		127	68	77.1	61.8	2044	30.5 25 108.2
A227		128	65	76.3	61.2	2040	30.4 1 139.5
14583		122	60	75.5	60.5	2023	30.1 1 138.1
NK70-1		128	70	75.8	60.8	2016	30.0 1 137.6
C0653033		127	65	74.5	59.7	2013	30.0 1 137.6
NB66497		126	60	72.0	57.7	2011	30.0 1 137.6
NK70-2		128	65	74.2	59.5	1940	28.9 1 132.6
14581		123	60	71.1	57.0	1923	28.7 1 131.7
TX62A2607-6		125	60	75.0	60.1	1904	28.4 2 116.3
TX62A2712-6		124	60	73.7	59.1	1901	28.3 1 129.8
8856		121	65	78.2	62.7	1899	28.3 25 105.6
14584		122	58	75.0	60.1	1872	28.0 1 128.4
H1		127	65	75.9	60.9	1853	27.6 1 126.6
TX65A1503		128	53	74.2	59.5	1834	27.3 1 125.2
TX65A1460		128	53	71.1	57.0	1831	27.3 1 125.2
A235		127	65	77.1	61.8	1805	26.9 1 123.4
1442		132	65	75.8	60.8	1464	21.8 25 100.0

L.S.D. = 511 kg/ha; C.V. = 18.1%

Bushland, Texas
Three replications, irrigated

C.I. or Sel. No.	Days to head	Plant height cm	Lodg- ing %	Volume kg/hl	Weight lbs/bu	Average yield 1970 kg/ha	bu/a	No. years: grown	Percent of Kharkof
TX65A1682	129	75	0	76.5	61.3	4948	73.7	1	141.2
14584	125	85	80	79.3	63.6	4745	70.7	1	135.4
14583	125	83	50	80.3	64.4	4734	70.5	1	135.1
14582	126	80	40	79.9	64.1	4649	69.3	1	132.8
TX62A2607-6	129	78	0	75.8	60.8	4631	69.0	2	137.2
15068	128	85	8	76.9	61.7	4595	68.5	1	131.2
13996	128	90	15	77.5	62.1	4586	68.3	4	138.8
14581	127	75	42	80.9	64.9	4552	67.8	1	129.9
TX62A2712-6	129	80	0	76.7	61.5	4486	66.8	1	128.0
15075	132	88	0	76.0	60.9	4473	66.7	2	154.5
TX65A1460	133	75	0	76.0	60.9	4454	66.4	1	127.2
TX65A1503	133	75	0	73.7	59.1	4299	64.1	1	122.8
NB66403	133	90	5	75.3	60.4	4154	62.0	2	126.4
KS6623	132	90	0	77.5	62.1	4143	61.7	1	118.2
A227	132	95	2	77.1	61.8	4129	61.3	1	117.8
NK70-3	133	98	8	74.8	60.0	4084	60.9	1	116.7
14075	129	88	7	76.3	61.2	3977	59.3	1	113.6
11673	132	95	13	74.4	59.7	3938	58.7	17	115.0
H1	131	95	5	77.2	61.9	3884	57.9	1	110.9
OK60111	130	90	3	75.2	60.3	3872	57.7	2	120.5
8856	125	90	33	77.1	61.8	3865	57.6	17	98.3
NK70-2	132	98	0	75.5	60.5	3802	56.7	1	108.6
NR70-1	132	98	0	74.9	60.1	3779	56.3	1	107.9
12132	128	93	2	76.9	61.7	3750	55.9	6	112.3
NK70-4	133	95	5	74.9	60.1	3627	54.0	1	103.5
NB66497	130	83	0	74.5	59.7	3618	53.9	1	103.3
1442	136	95	2	74.1	59.4	3504	52.2	17	100.0
CO653033	132	93	3	74.9	60.1	3436	51.2	1	98.1
A235	131	93	2	76.6	61.4	3229	48.1	1	92.2

L.S.D. .05 = 532 kg/ha; C.V. = 8.0%

Clovis, New Mexico
Four replications, dryland

C.I. or Sel. No.	Days to		Plant height cm	1/ Spring vigor	Volume Weight		Average yield				No. years grown	Percent of Kharkof
	head	ripe			kg/hl	lbs/bu	1970 kg/ha	bu/a	1969-1970 kg/ha	bu/a		
H1	127	159	71	3	80	62	2382	35.5	--	--	1	165.1
A227	127	161	76	3	79	61	2351	35.0	1909	28.5	2	112.5
8856	124	160	74	3	83	64	2321	34.6	1799	26.8	13	101.7
KS6623	127	160	69	3	81	63	2250	33.5	--	--	1	155.8
TX62A2712-6	125	159	61	4	80	62	2230	33.2	--	--	1	154.4
14582	125	159	64	3	83	64	2149	32.0	--	--	1	148.8
TX62A2607-6	126	158	58	3	80	62	2109	31.4	1832	27.3	3	102.7
NK70-4	127	159	76	4	80	62	2099	31.3	--	--	1	145.6
14583	127	159	66	3	83	64	2069	30.8	--	--	1	143.3
CO653033	128	160	76	3	79	61	2048	30.5	--	--	1	141.9
14075	125	159	66	4	80	62	2048	30.5	--	--	1	141.9
OK60111	126	159	69	2	80	62	2038	30.4	1812	27.0	3	103.1
NB66403	128	159	69	3	79	61	2028	30.2	1973	29.4	3	124.3
14581	126	159	66	3	84	65	2028	30.2	--	--	1	140.5
15075	127	158	66	3	77	60	1998	29.8	1940	28.9	3	121.9
13996	126	159	66	3	79	61	1968	29.3	1872	27.9	3	113.2
15068	125	159	66	3	79	61	1927	28.7	1688	25.2	2	99.4
TX65A1682	127	159	56	4	80	62	1917	28.6	1537	22.9	2	90.5
NK70-1	127	160	74	3	79	61	1917	28.6	--	--	1	133.0
14584	126	159	64	3	81	63	1837	27.4	--	--	1	127.4
NK70-2	127	159	74	3	79	61	1837	27.4	--	--	1	127.4
11673	127	160	76	2	80	62	1796	26.8	1658	24.7	13	99.8
12132	126	159	76	2	81	63	1756	26.2	1443	21.5	5	94.3
NB66497	126	159	66	2	79	61	1726	25.7	1661	24.8	2	97.8
TX65A1460	127	158	61	2	81	63	1715	25.6	--	--	1	119.1
TX65A1503	127	160	58	2	80	62	1705	25.4	--	--	1	118.1
NK70-3	126	159	76	4	79	61	1705	25.4	--	--	1	118.1
A235	126	159	71	3	77	60	1655	24.7	1534	22.9	2	90.3
1442	133	166	81	2	76	59	1443	21.5	1698	25.3	13	100.0

1/ 1 = very poor, 2 = poor, 3 = average, 4 = good, 5 = excellent

L.S.D. .05 = 577 kg/ha; C.V. = 20.4%

Clovis, New Mexico
Four replications, irrigated

C.I.	:	:	:	1/	:	2/	:	Average Yield				:	No.	:	Percent				
or	:	Days to	Plant	Spring	:	Shatter-	:	Volume	Weight	:	1970	1969-1970	:	years	:	of			
Sel. No.	:	head	ripe	height	:	vigor	:	ing	:	kg/hl	lbs/bu	:	kg/ha:bu/a	:	kg/ha:bu/a	:	grown	:	Kharkof
			cm			%													
TX65A1682	131	174	81	5	0	77	59.6	5136	76.5	4732	70.5	2	153.1						
TX65A1460	134	176	84	3	0	78	60.4	5076	75.6	-	-	1	148.2						
TX62A2712-6	132	175	89	3	0	79	61.0	4975	74.1	-	-	1	145.3						
A227	135	175	117	4	0	77	59.4	4854	72.3	3876	57.8	2	125.4						
15075	134	174	99	4	0	77	59.4	4813	71.7	4466	66.6	3	144.2						
TX65A1503	134	176	86	4	0	78	60.8	4692	69.9	--	-	1	137.1						
15068	133	172	97	4	0	75	58.5	4632	69.0	4423	65.9	2	143.1						
14584	131	174	94	4	0	78	60.8	4581	68.3	-	-	1	133.9						
14581	132	174	91	3	0	79	61.5	4289	63.9	-	-	1	125.3						
NB66497	132	173	102	3	0	74	57.4	4268	63.6	3993	59.5	2	129.2						
13996	132	173	107	3	0	76	58.9	4248	63.3	3500	52.2	5	105.4						
14583	132	174	97	3	0	78	60.5	4137	61.6	-	-	1	120.8						
TX62A2607-6	131	173	89	3	0	74	57.6	4107	61.2	4423	65.9	3	135.0						
14582	131	173	91	2	0	78	60.4	4046	60.3	-	-	1	118.2						
HL	133	173	112	4	0	77	59.7	3996	59.5	-	-	1	116.7						
NB66403	134	176	112	2	0	75	58.0	3986	59.4	3530	52.6	3	118.0						
14075	132	172	104	3	0	76	59.1	3935	58.6	-	-	1	114.9						
11673	134	174	112	3	0	76	58.8	3895	58.0	3466	51.7	8	100.1						
8856	131	173	109	4	0	77	59.6	3855	57.4	3859	57.5	8	94.4						
KS6623	133	175	102	3	0	79	61.1	3845	57.3	-	-	1	112.4						
NK70-2	135	174	112	4	0	74	57.2	3623	54.0	-	-	1	105.9						
NK70-3	134	173	109	4	0	74	57.5	3582	53.4	-	-	1	104.7						
NK70-1	135	174	112	4	0	73	56.9	3512	52.3	-	-	1	102.6						
1442	136	177	109	3	0	75	58.1	3421	51.0	3091	46.1	8	100.0						
CO653033	135	176	109	4	0	75	58.0	3380	50.4	-	-	1	98.8						
NK70-4	135	174	112	4	0	75	58.2	3380	50.4	-	-	1	98.8						
A235	132	172	107	4	20	77	59.7	3027	45.1	3460	51.6	2	111.9						
OK60111	132	173	109	3	20	75	57.9	2351	35.0	3178	47.4	3	108.7						
12132	132	173	107	2	20	75	58.1	2170	32.3	2668	39.8	8	85.6						

1/ 1 = very poor, 2 = poor, 3 = average, 4 = good, 5 = excellent.
2/ Average of 2 reps.

L.S.D. = 595 kg/ha
.05
C.V. = 10.6%

Stillwater, Oklahoma
Four replications

C.I	Days									Average yield		No.	Percent
or	to	Plant	Lodg-		Leaf rust	Powdery	Volume	Weight		1970	1969-1970	years	of
Sel. No.	head	height	ing		severity:response	mildew	kg/hl	lbs/bu	kg/ha:bu/a	kg/ha:bu/a	kg/ha:bu/a	grown	Kharkof
		cm	%	%		%							
14075	119	102	15	15	S	0	77.4	62.1	3502	52.2	-	1	150.7
15075	121	96	15	10	MR-S	0	73.6	59.0	3345	49.8	3836 57.2	3	186.3
TX62A2607-6	122	81	0	10	MR-S	2	74.4	59.7	3169	47.2	3446 51.4	3	168.7
A235	118	96	15	25	MR-S	0	77.5	62.1	3128	46.6	3430 51.1	2	153.0
13996	119	104	20	25	S	0	77.6	62.2	3115	46.4	3346 49.9	5	160.8
H1	120	102	20	30	MR-S	0	78.0	62.5	3064	45.7	-	1	131.3
TX62A2712-6	121	89	0	40	MR-S	2	75.7	60.7	3054	45.5	-	1	130.8
15068	120	104	20	30	S	0	77.1	61.8	3044	45.4	3352 50.0	2	149.6
NK70-1	122	107	15	30	MR-S	0	76.1	61.0	3041	45.3	-	1	130.2
KS6623	119	94	10	10	MR-S	1	78.4	62.9	2977	44.4	-	1	127.6
CO653033	122	112	20	40	MR-S	1	75.9	60.9	2967	44.2	-	1	127.0
NK70-2	122	107	15	20	S	0	75.9	60.9	2947	43.9	-	1	126.2
14584	120	91	5	30	S	0	76.8	61.9	2938	43.8	-	1	125.9
12132	117	91	15	40	S	0	79.7	63.9	2933	43.7	3265 48.7	8	130.2
NB66497	119	96	10	40	S	0	73.9	59.3	2868	42.7	3393 50.6	2	151.4
TX65A1682	118	76	5	30	S	2	77.5	62.1	2846	42.4	3164 47.2	2	141.2
14583	121	84	0	30	S	0	76.7	61.5	2839	42.3	-	1	121.6
TX65A1503	122	81	0	40	MR-S	0	74.1	59.4	2832	42.2	-	1	121.3
11673	123	107	20	20	MR-S	0	75.8	60.8	2741	40.8	3064 45.7	29	120.4
14582	120	86	0	30	S	0	77.2	61.9	2737	40.8	-	1	117.2
OK60111	117	91	15	35	S	0	75.7	60.7	2728	40.7	3188 47.5	3	152.4
TX65A1460	122	84	0	40	MR-S	1	73.4	58.9	2725	40.6	-	1	116.7
14581	121	84	0	30	S	0	77.7	62.3	2713	40.4	-	1	116.1
NK70-4	122	107	20	20	S	0	75.7	60.7	2673	39.8	-	1	114.4
NK70-3	122	109	25	20	MR-S	0	75.3	60.4	2652	39.5	-	1	113.5
8856	117	99	45	25	S	0	80.8	64.8	2625	39.1	2899 43.2	35	119.4
NB66403	122	99	15	45	S	0	75.3	60.4	2612	38.9	2893 43.1	3	138.8
1442	128	107	25	30	S	0	77.9	62.5	2333	34.8	2242 33.4	35	100.0
A227	122	102	25	25	S	0	77.2	61.9	2297	34.2	2638 39.3	2	117.7

L.S.D. = 329 kg/ha C.V. = 11.4%

Woodward, Oklahoma
Four replications

C.I. or Sel. No.	:Days: : to : :head:	:Plant :height:	:Volume :kg/hl :	:weight: :lbs/bu :	Average yeild				: No. :	:Percent
					1970	1969-1970	years:	of		
					kg/ha:	bu/a :	kg/ha:	bu/a:	grown:	Kharkof
	cm									
TX65A1682	122	71	76.2	61.1	2689	40.1	3339	49.8	2	150.5
TX65A1460	126	71	74.8	60.0	2619	39.0	-	-	1	138.8
TX62A2607-6	124	74	72.5	58.1	2585	38.5	3409	50.8	3	172.3
12132	122	91	76.3	61.2	2474	36.9	3302	49.2	10	134.8
14075	123	89	76.3	61.2	2445	36.4	-	-	1	129.5
TX65A1503	126	74	73.4	58.9	2404	35.8	-	-	1	127.4
TX62A2712-6	124	76	71.2	57.1	2393	35.7	-	-	1	127.1
15068	124	86	73.2	58.7	2292	34.2	2997	44.7	2	135.1
14581	122	76	74.3	59.6	2279	34.0	-	-	1	121.0
14583	122	79	74.9	60.1	2255	33.6	-	-	1	119.6
15075	124	84	72.2	57.9	2205	32.9	3282	48.9	3	173.9
NB66497	123	86	70.8	56.8	2175	32.4	3044	45.4	2	137.2
14582	122	79	72.5	58.1	2166	32.3	-	-	1	115.0
HL	123	89	73.1	58.6	2107	31.4	-	-	1	111.7
8856	120	91	76.8	61.6	2101	31.3	2693	40.2	39	111.6
A235	123	84	74.5	59.7	2101	31.3	2956	44.1	2	133.3
OK60111	122	86	69.6	55.8	2086	31.1	3238	48.3	3	175.7
NK70-4	125	94	74.0	59.3	2043	30.4	-	-	1	108.2
11673	126	91	72.3	58.0	1956	29.1	2836	42.3	34	171.6
13996	123	89	71.7	57.5	1946	29.0	2916	43.5	6	142.4
A227	127	86	74.1	59.4	1914	28.5	2628	39.2	2	118.5
1442	129	86	75.8	60.8	1884	28.1	2252	33.6	39	100.0
KS6623	123	86	74.7	59.9	1874	27.9	-	-	1	99.3
14584	122	81	70.4	56.5	1870	27.9	-	-	1	99.3
NK70-2	125	94	74.0	59.3	1870	27.9	-	-	1	99.3
NB66403	125	89	70.9	56.9	1855	27.6	2547	38.0	3	144.6
NK70-3	125	94	69.9	56.1	1838	27.4	-	-	1	97.5
NK70-1	125	89	74.0	59.3	1837	27.4	-	-	1	97.5
C0653033	125	91	71.8	57.6	1551	23.1	-	-	1	82.2

L.S.D. = 463 kg/ha C.V. = 17.6%
.05

Goodwell, Oklahoma
Four replications, irrigated

C.I. or Sel. No.	Days : to : head	Plant : height cm	Volume weight : kg/hl : bu/a	Average yield: 1970 : kg/ha : bu/a	No. : years : grown	Percent : of : Kharkof		
TX65A1682	136	76	79.5	63.7	4143	61.7	1	160.7
14582	135	84	80.7	64.7	4105	61.2	1	159.4
TX65A1503	136	76	78.3	62.8	4087	60.9	1	158.6
14581	135	81	81.4	65.3	4038	60.2	1	156.8
14583	135	84	81.2	65.1	3988	59.4	1	154.7
TX65A1460	137	74	78.0	62.5	3846	57.3	1	149.2
TX62A2712-6	135	79	79.8	64.0	3829	57.1	1	148.7
TX62A2607-6	136	81	77.4	62.1	3749	55.9	1	145.6
15075	140	81	78.5	62.9	3576	53.3	1	138.8
NB66497	138	81	76.6	61.4	3551	52.9	1	137.8
14584	136	84	81.1	65.0	3488	52.0	1	135.4
12132	135	94	79.4	63.7	3472	51.7	1	134.6
14075	136	91	79.8	64.0	3379	50.4	1	131.3
OK60111	136	86	77.1	61.8	3312	49.4	1	128.7
NB66403	140	91	76.4	61.3	3241	48.3	1	125.8
15068	137	81	78.3	62.8	3212	47.9	1	124.7
13996	137	94	78.5	62.9	3165	47.2	1	122.9
KS6623	137	89	79.5	63.7	3164	47.1	1	122.7
NK70-4	137	97	76.3	61.2	3107	46.3	1	120.6
11673	139	94	76.8	61.6	3031	45.2	1	117.7
8856	135	102	79.8	64.0	3011	44.9	1	116.9
HL	136	86	78.3	62.8	2984	44.5	1	115.9
CO653033	139	97	77.9	62.5	2891	43.1	1	112.2
NK70-1	137	89	77.2	61.9	2889	43.1	1	112.2
A227	137	91	78.3	62.8	2856	42.6	1	110.9
NK70-2	137	89	76.6	61.4	2806	41.8	1	108.9
A235	135	86	78.4	62.9	2800	41.7	1	108.6
NK70-3	137	97	75.9	60.9	2789	41.6	1	108.3
1442	144	91	73.4	58.9	2580	38.4	1	100.0

L.S.D. = 443 kg/ha C.V. = 10.9%
.05

Manhattan, Kansas
Four replications

C.I.	Days					Soil				Average yield				No.	Percent
or	to	Plant	Leaf rust			borne	Volume weight			1970	1969-1970	years		of	
Sel. No.	head	height	severity:response	Bunt	mosaic	kg/hl	lbs/bu	kg/ha:bu/a	kg/ha:bu/a	kg/ha:bu/a	kg/ha:bu/a	grown	Kharkof		
	cm	%	%												
14583	132	84	15	MS	10	R	78.8	61.1	3596	53.6	-	-	1	148.5	
14582	133	84	20	S	5	R	78.7	61.0	3580	53.3	-	-	1	147.7	
NB66497	133	91	20	S	5	R	76.6	59.4	3421	50.8	2638	39.3	2	146.6	
TX65A1503	134	79	10	S	0	MS	77.5	60.1	3402	50.7	-	-	1	140.4	
NB66403	136	91	20	S	10	S	75.2	58.3	3374	50.3	2487	37.1	3	132.3	
14584	133	81	20	S	5	R	78.2	60.6	3318	49.4	-	-	1	136.8	
14581	132	81	10	MS	0	R	78.2	60.6	3308	49.3	-	-	1	136.6	
15075	135	89	20	MS	10	S	77.0	59.7	3268	48.7	2826	42.1	3	143.1	
C0653033	136	99	20	MS	10	MR	77.1	59.8	3095	46.1	-	-	1	127.7	
11673	136	89	30	S	0	R	76.5	59.3	3016	44.9	2148	32.0	34	117.7	
TX65A1682	134	71	30	S	0	S	76.6	59.4	2981	44.4	2154	32.1	2	119.8	
NK70-1	136	97	10	MS	5	MS	77.5	60.1	2955	44.0	-	-	1	128.9	
TX65A1460	135	74	10	S	10	MS	76.2	59.1	2946	43.9	-	-	1	121.6	
OK60111	132	91	20	S	10	MS	75.6	58.6	2916	43.5	2174	32.4	3	125.6	
HL	135	91	15	MS	5	S	78.2	60.6	2905	43.3	-	-	1	119.9	
TX62A2607-6	133	79	20	S	5	S	75.2	58.3	2809	41.9	1758	26.2	3	103.6	
TX62A2712-6	134	76	20	S	0	VS	77.4	60.0	2802	41.8	-	-	1	115.8	
NK70-2	136	99	20	MS	0	S	77.0	59.7	2797	41.7	-	-	1	115.5	
A235	135	89	10	S	T	S	77.4	60.0	2771	41.3	2141	31.9	2	119.0	
KS6623	135	86	20	S	5	S	78.6	60.9	2763	41.2	-	-	1	114.1	
NK70-4	136	91	20	MS	T	S	74.8	58.0	2712	40.4	-	-	1	111.9	
15068	134	91	20	S	10	S	74.8	58.0	2703	40.3	2245	33.5	2	125.0	
12132	132	89	20	S	30	MS	77.7	60.2	2700	40.2	1987	29.6	10	104.8	
14075	134	86	20	S	5	S	75.0	58.1	2647	39.4	-	-	1	109.1	
8856	132	91	10	S	20	S	79.3	61.5	2618	39.0	1621	24.2	39	109.1	
A227	136	99	20	S	5	S	77.5	60.1	2598	38.7	1886	28.1	2	104.9	
1442	140	89	20	S	10	S	75.7	58.7	2420	36.1	1795	26.8	39	100.0	
13996	134	86	20	S	5	S	75.2	58.3	2311	34.4	2164	32.3	6	111.7	
NK70-3	136	94	20	MS	0	S	73.0	56.6	2264	33.7	-	-	1	93.4	

L.S.D. = 446 kg/ha C.V. = 15.2%
.05

Hays, Kansas
Four replications

C.I. or Sel. No.	: Days : : to : : head :	: Plant : : height : : cm :	: Leaf : : rust : : % :	: Straw : : attitude : : in degrees :	: Shatter- : ing :	b/ : Volume weight : : kg/hl : lbs/bu :	Average yeild				: No. : : years: of : grown: Kharkof	Percent : of
							1970	1969-1970	kg/ha:bu/a	kg/ha:bu/a		
NB66403	140	82	40	71	3.0	78.6 61.1	2931	43.7	2752	41.0	3	137.0
NB66497	137	85	75	69	2.3	80.2 62.3	2921	43.5	2708	40.4	2	138.0
CO653033	141	92	15	75	2.8	79.7 61.9	2843	42.4	-	-	1	124.3
TX65A1682	137	71	90	72	2.0	80.5 62.5	2803	41.8	2943	43.9	2	149.9
14075	138	88	35	69	2.8	81.9 63.6	2801	41.7	-	-	1	122.2
13996	138	89	60	66	2.0	81.1 63.0	2783	41.5	2799	41.7	6	129.8
A235	138	95	40	74	2.3	82.1 63.8	2739	40.8	2567	38.3	2	130.8
NK70-1	139	93	35	80	2.0	78.9 61.3	2732	40.7	-	-	1	119.4
TX65A1503	139	68	20	85	2.8	79.2 61.5	2730	40.7	-	-	1	119.4
TX65A1460	139	69	40	89	2.8	79.2 61.5	2722	40.6	-	-	1	119.1
14584	135	80	20	61	2.0	82.6 64.2	2719	40.5	-	-	1	118.8
TX62A2607-6	136	74	50	70	2.0	80.6 62.6	2692	40.1	2765	41.2	3	129.5
15075	140	79	5	69	2.0	79.5 61.8	2650	39.5	2634	39.3	3	128.8
14583	135	78	20	61	2.0	82.3 63.9	2645	39.4	-	-	1	115.5
TX62A2712-6	137	76	50	78	2.0	79.9 63.1	2631	39.2	-	-	1	115.0
A227	141	90	40	74	2.0	80.2 62.3	2630	39.2	2477	36.9	2	126.2
12132	136	91	30	61	2.0	81.4 63.2	2623	39.1	2678	39.9	9	112.2
14582	136	78	60	67	2.0	83.0 64.5	2603	38.8	-	-	1	113.8
15068	138	85	60	71	2.0	80.8 62.8	2594	38.7	2775	41.4	2	141.4
11673	139	90	20	68	3.0	80.6 62.6	2583	38.5	2396	35.7	29	119.9
KS6623	139	84	5	76	2.3	81.9 63.6	2567	38.2	-	-	1	112.0
H-1	138	88	25	75	3.3	81.5 63.3	2566	38.2	-	-	1	112.0
NK70-3	140	92	20	74	2.5	77.6 60.3	2529	37.7	-	-	1	110.6
OK60111	136	87	50	63	2.0	80.1 62.2	2515	37.5	2624	39.1	3	120.1
14581	136	79	50	58	2.0	82.4 64.0	2493	37.1	-	-	1	108.8
NK70-2	139	88	15	77	2.0	78.9 61.3	2473	36.8	-	-	1	107.9
1442	143	88	35	80	2.5	78.8 61.2	2288	34.1	1963	29.3	33	100.0
NK70-4	139	92	30	71	2.3	77.5 60.2	2240	33.4	-	-	1	98.0
8856	135	90	40	54	2.0	81.9 63.6	2166	32.3	2376	35.4	33	113.5

a/ vertical = 90 degrees
b/ 1 = least, 5 = most

L.S.D. = 370 kg/ha C.V. = 10.0%

Garden City, Kansas
Four replications

C.I. or Sel. No.	: Days : to : head	: Plant : height	: Lodging : %	: Shatt- : ering : %	Volume kg/hl	Weight lbs/bu	: Average yield : 1970 : kg/ha : bu/a	: Average yield : 1969-1970 : kg/ha : bu/a	: No. : years : grown	: Percent : of : Kharkof	
14582	137	74	2	T	80	62	2789	41.6	--	1	121.6
CO653033	140	83	2	T	78	61	2769	41.3	--	1	120.8
TX65A1503	138	63	0	T	78	61	2742	40.9	--	1	119.6
TX65A1460	138	64	0	O	77	60	2708	40.3	--	1	117.8
KS6623	139	82	2	T	80	62	2661	39.6	--	1	115.8
15075	139	74	2	O	77	60	2654	39.5	3285	2	127.3
14581	137	70	2	T	80	62	2648	39.5	--	1	115.5
14584	137	70	2	T	80	62	2628	39.2	--	1	114.6
14583	137	74	3	T	80	62	2574	38.4	--	1	112.3
NB66497	139	76	1	T	77	60	2567	38.2	3084	2	119.4
15068	138	80	1	O	77	60	2560	38.1	3258	2	126.1
OK60111	138	79	3	T	77	60	2554	38.1	3161	2	122.3
12132	137	84	3	O	78	61	2554	38.1	2997	8	99.8
TX62A2607-6	138	70	2	T	77	60	2533	37.7	2943	2	113.9
A235	138	83	1	O	78	61	2520	37.5	2980	2	115.3
11673	139	82	3	O	78	61	2507	37.4	2919	15	106.6
NB66403	138	80	1	O	77	60	2486	37.0	3104	2	120.1
A227	140	82	3	O	78	61	2426	36.1	3121	2	120.8
TX65A1682	137	65	1	T	78	61	2419	36.0	2946	2	114.0
TX62A2712-6	138	71	3	O	77	60	2412	35.9	--	1	105.0
13996	138	81	1	O	76	59	2406	35.8	3027	4	113.6
14075	138	81	1	T	78	61	2392	35.6	--	1	104.1
H-1	138	84	2	T	78	61	2386	35.6	--	1	104.1
1442	142	82	3	O	77	60	2298	34.2	2584	15	100.0
NK70-3	139	83	3	O	76	59	2258	33.6	--	1	98.3
NK70-1	139	82	2	O	77	60	2251	33.5	--	1	98.0
NK70-2	139	82	2	O	77	60	2211	32.9	--	1	96.2
NK70-4	139	85	3	O	77	60	2164	32.2	--	1	94.2
8856	137	86	4	O	78	61	2124	31.6	2611	15	96.8

L.S.D. .05 = 335 kg/ha; C.V. = 9.5%

Colby, Kansas
Four replications

C.I. or Sel. No.	Days to head	Plant height	Lodging	Shatter- ing	Average yield				No. years grown	Percent of Kharkof
					1970		1969-1970			
		cm	%	%	kg/ha	bu/a	kg/ha	bu/a		
14584	139	64	T	T	4314	64.3	--	--	1	199.7
14583	140	61	T	O	4053	60.4	--	--	1	187.6
13996	142	69	5	T	4040	60.2	3207	47.8	5	129.6
14582	140	61	T	T	4033	60.1	--	--	1	186.7
14581	140	61	T	T	4027	60.0	--	--	1	186.3
TX62A2607-6	140	64	T	T	3897	58.1	2799	41.7	3	129.8
TX62A2712-6	141	61	T	T	3788	56.4	--	--	1	175.2
NB66497	143	66	T	3	3749	55.9	2933	43.7	2	148.1
13546 a/	142	66	3	T	3736	55.7	--	--	1	173.0
OK60111	142	66	4	2	3642	54.3	2785	41.5	3	130.2
15068	143	66	T	T	3560	53.0	2849	42.5	2	143.9
TX65A1682	141	58	T	O	3448	51.4	2668	39.8	2	134.8
TX65A1460	143	58	T	1	3331	49.6	--	--	1	154.0
NB66403	147	69	T	3	3288	49.0	2755	41.1	3	133.3
NK70-3	144	74	3	5	3266	48.7	--	--	1	151.2
A227	145	66	3	3	3256	48.5	2228	33.2	2	112.5
H-1	143	69	T	5	3216	47.9	--	--	1	148.8
14075	143	61	T	1	3132	46.7	--	--	1	145.0
8856	140	69	4	3	3127	46.6	2430	36.2	18	97.4
NK70-2	144	74	2	5	2990	44.6	--	--	1	138.5
TX65A1503	143	56	T	T	2970	44.3	--	--	1	137.6
A235	143	69	T	10	2899	43.2	2383	35.5	2	120.3
12132	140	69	4	3	2888	43.0	2315	34.5	8	97.5
15075	147	58	3	4	2835	42.2	2480	37.0	3	115.9
NK70-1	144	76	T	2	2735	40.8	--	--	1	126.7
11673	146	81	4	8	2703	40.3	2352	35.1	17	98.6
NK70-4	145	76	4	10	2669	39.8	--	--	1	123.6
CO653033	145	79	T	10	2557	38.1	--	--	1	118.3
1442	149	91	4	19	2163	32.2	1980	29.5	18	100.0

a/ Scout substituted for KS 6623

L.S.D. .05 = 567 kg/ha; C.V. = 12.1%

Fort Collins, Colorado
Four replications, irrigated

C.I.	Days	Plant	Lodging	Stem rust					Average yield		No.	Percent	
or	to	height	degrees	sever-	responses	Volume	Weight	1970	1969-1970	years	of		
Sel. No.	head		a/	ity	b/	kg/ha	lbs/bu	kg/ha	bu/a	kg/ha	bu/a	grown : Kharkof	
	cm			%									
15075	160	100	3.0	7.5	2.0	80.9	62.7	7128	106.2	6826	101.7	3	162.7
NB66403	159	105	5.5	32.5	2.5	80.1	62.1	6577	98.0	6460	96.3	3	162.3
NB66497	157	94	1.0	15.0	2.0	78.2	60.6	5713	85.1	5681	84.7	2	163.0
13996	157	98	3.0	25.0	3.5	80.4	62.3	5642	84.1	5772	86.0	5	142.2
C0653033	159	108	3.0	25.0	2.5	80.5	62.4	5616	83.7	--	--	1	163.5
TX65A1460	158	77	0.0	70.0	4.0	79.3	61.5	5473	81.6	--	--	1	159.4
15068	157	86	1.5	42.5	3.0	79.7	61.8	5426	80.9	5487	81.8	2	157.4
OK60111	157	93	2.0	57.5	3.5	80.0	62.0	5386	80.3	5725	85.3	3	146.4
14075	157	95	1.0	20.0	2.5	80.1	62.1	5335	79.5	--	--	1	155.3
14583	156	83	1.0	55.0	4.0	79.6	61.7	5309	79.1	--	--	1	154.5
A235	156	99	3.0	60.0	4.0	81.1	62.9	5274	78.6	5339	79.6	2	153.1
NK 70-4	159	110	4.5	65.0	4.0	77.4	60.0	5164	76.9	--	--	1	150.2
TX62A2607-6	156	75	0.0	62.5	4.0	77.4	60.0	5163	76.9	5483	81.7	3	141.6
TX62A2712-6	156	81	0.0	52.5	4.0	79.6	61.7	5122	76.3	--	--	1	149.0
14584	156	79	1.0	65.0	4.0	79.3	61.5	5120	76.3	--	--	1	149.0
TX65A1503	157	83	0.0	60.0	4.0	79.6	61.7	5116	76.2	--	--	1	148.8
NK70-3	159	108	4.5	32.5	4.0	78.3	60.7	5055	75.3	--	--	1	147.1
14582	156	81	1.0	50.0	4.0	80.1	62.1	5051	75.3	--	--	1	147.1
A227	160	112	3.5	45.0	4.0	79.2	61.4	5031	75.0	5205	77.6	2	149.3
H1	158	98	2.0	57.5	4.0	81.1	62.9	5012	74.7	--	--	1	145.9
11673	159	112	4.5	40.0	4.0	79.2	61.4	4908	73.1	5067	75.5	29	110.8
TX65A1682	156	77	0.0	85.0	4.0	78.4	60.8	4810	71.7	4856	72.4	2	139.3
KS6623	158	99	1.0	55.0	3.5	80.1	62.1	4736	70.6	--	--	1	137.9
NK70-2	159	113	2.0	50.0	3.0	78.3	60.7	4616	68.8	--	--	1	134.4
8856	155	104	5.0	65.0	4.0	79.0	61.2	4524	67.4	4560	68.0	33	103.5
NK70-1	159	113	2.5	40.0	3.5	77.8	60.3	4439	66.1	--	--	1	129.1
14581	157	80	1.0	60.0	4.0	80.4	62.3	4176	62.2	--	--	1	121.5
12132	156	98	1.5	70.0	4.0	77.7	60.2	4166	62.1	4661	69.5	9	113.5
1442	165	118	6.0	92.5	4.0	71.6	55.5	3435	51.2	3487	52.0	33	100.0

a/ 0 = erect
9 = flat

b/ 1 = R, 2 = MR, 3 = MS, 4 = S

L.S.D. .05 = 639 kg/ha; C.V. = 8.8%

Akron, Colorado
Four replications

C.I. or Sel. No.	Days to head	Plant height cm	Volume Weight kg/hl : lbs/bu		Average yield				No. years grown	Percent of Kharkof
					1970		1969-1970			
					kg/ha	bu/a	kg/ha	bu/a		
A227	155	72	77.5	60.1	3215	47.9	3349	49.9	2	122.3
NB66403	154	69	77.7	60.2	3179	47.4	3406	50.8	3	119.3
15075	155	64	77.9	60.4	3123	46.5	3557	53.0	3	125.0
OK60111	151	69	77.8	60.3	3091	46.1	3292	49.1	3	118.4
11673	154	76	77.4	60.0	3030	45.2	2973	44.3	23	103.9
C0653033	155	75	76.4	59.2	3018	45.0	--	--	1	116.3
NB66497	153	65	76.9	59.6	3007	44.8	3342	49.8	2	122.1
13996	153	72	78.3	60.7	2965	44.2	3265	48.7	4	103.9
TX65A1503	153	63	77.1	59.8	2879	42.9	--	--	1	110.9
TX65A1460	153	60	76.4	59.2	2860	42.6	--	--	1	110.1
14584	150	63	77.8	60.3	2803	41.8	--	--	1	108.0
15068	153	61	77.7	60.2	2796	41.7	3047	45.4	2	111.3
H1	153	73	81.1	62.9	2785	41.5	--	--	1	107.2
14075	153	67	78.8	61.1	2738	40.8	--	--	1	105.4
NK70-4	155	81	75.1	58.2	2690	40.1	--	--	1	103.6
NK70-3	154	73	75.1	58.2	2640	39.3	--	--	1	101.6
KS6623	154	69	78.4	60.8	2638	39.3	--	--	1	101.6
1442	159	78	76.0	58.9	2595	38.7	2738	40.8	26	100.0
8856	150	69	78.1	60.5	2576	38.4	2748	41.0	26	105.8
TX65A1682	152	58	76.4	59.2	2576	38.4	3168	47.2	2	115.7
14581	152	65	79.0	61.2	2568	38.3	--	--	1	99.0
TX62A2607-6	152	59	75.6	58.6	2547	38.0	3047	45.4	3	112.3
A235	153	70	78.1	60.5	2541	37.9	2859	42.6	2	104.4
14582	151	62	79.6	61.7	2514	37.5	--	--	1	96.9
TX62A2712-6	152	60	78.1	60.5	2501	37.3	--	--	1	96.4
NK70-2	154	72	69.9	54.2	2388	35.6	--	--	1	92.0
14583	151	63	79.3	61.5	2379	35.5	--	--	1	91.7
12132	151	69	76.2	59.1	2309	34.4	2718	40.5	8	90.4
NK70-1	155	73	74.8	58.0	2205	32.9	--	--	1	85.0

L.S.D._{.05} = 331 kg/ha; C.V. = 8.6%

Burlington, Colorado
Four replications

C.I. or Sel. No.	Plant height cm	Volume Weight		Average yield				No. years grown	Percent of Kharkof
		kg/hl	lbs/bu	1970		1969-1970			
				kg/ha	bu/a	kg/ha	bu/a		
14584	50	80.6	62.5	1564	23.3	--	--	1	112.6
NB66497	44	76.8	59.5	1557	23.2	2074	30.9	2	124.1
14581	48	81.3	63.0	1545	23.0	--	--	1	111.1
12132	56	80.0	62.0	1542	23.0	1745	26.0	3	94.4
11673	61	77.3	59.9	1518	22.6	1909	28.5	3	99.8
TX62A2712-6	51	79.1	61.3	1479	22.0	--	--	1	106.3
A227	56	79.0	61.2	1466	21.8	1993	29.7	2	119.3
14582	48	80.5	62.4	1459	21.7	--	--	1	104.8
NB66403	46	76.8	59.5	1446	21.6	2124	31.7	3	121.2
13996	50	77.8	60.3	1442	21.5	2081	31.0	3	105.5
OK60111	47	78.6	60.9	1441	21.5	1809	27.0	3	102.0
A235	56	80.0	62.0	1405	20.9	1893	28.2	2	113.3
8856	56	81.3	63.0	1395	20.8	1668	24.9	3	100.1
1442	56	76.9	59.6	1392	20.7	1671	24.9	3	100.0
14583	47	80.8	62.6	1377	20.5	--	--	1	99.0
15075	43	78.1	60.5	1365	20.3	2195	32.7	3	121.0
H1	53	80.0	62.0	1359	20.3	--	--	1	98.1
TX65A1503	47	79.2	61.4	1339	20.0	--	--	1	96.6
KS6623	46	79.7	61.8	1301	19.4	--	--	1	93.7
TX65A1682	42	78.7	61.0	1290	19.2	2017	30.1	2	120.7
NK70-4	53	75.0	58.1	1283	19.1	--	--	1	92.3
15068	42	78.4	60.8	1271	18.9	1936	28.9	2	115.9
CO653033	62	77.4	60.0	1260	18.8	--	--	1	90.8
TX62A2607-6	42	78.6	60.9	1231	18.3	1782	26.6	3	106.1
TX65A1460	41	78.3	60.7	1213	18.1	--	--	1	87.4
NK70-3	57	74.8	58.0	1196	17.8	--	--	1	86.0
14075	47	78.7	61.0	1195	17.8	--	--	1	86.0
NK70-2	50	76.4	59.2	1081	16.1	--	--	1	77.8
NK70-1	52	76.4	59.2	1054	15.7	--	--	1	75.9

L.S.D. .05 = 305 kg/ha; C.V. = 15.9%

Springfield, Colorado
Four replications

C.I. or Sel. No.	Days to head	Days to ripe	Plant height cm	Volume Weight kg/hl : lbs/bu		Average yield				No. years grown	Percent of Kharkof
						1970	1969-1970	1970	1969-1970		
						kg/ha	bu/a	kg/ha	bu/a		
14582	130	170	43	80.8	62.6	2308	34.4	--	--	1	198.8
TX62A2712-6	132	173	45	79.9	61.9	2165	32.3	--	--	1	186.7
15068	132	172	49	77.1	59.8	2122	31.6	2211	33.0	2	137.9
C0653033	137	175	53	77.4	60.0	2115	31.5	--	--	1	182.1
12132	133	173	53	78.8	61.1	2111	31.5	2228	33.2	7	94.1
NB66497	134	173	46	76.4	59.2	2085	31.1	2265	33.8	2	141.2
13996	133	173	48	77.3	59.9	2068	30.8	2339	34.9	4	109.8
A227	138	176	50	77.9	60.4	2048	30.5	2295	34.2	2	143.1
OK60111	135	174	50	76.6	59.4	2038	30.4	2440	36.4	3	130.6
TX65A1682	131	171	42	78.6	60.9	2018	30.1	2215	33.0	2	138.1
NK70-2	137	175	51	75.2	58.3	1975	29.4	--	--	1	169.9
TX65A1460	137	175	39	78.4	60.8	1942	28.9	--	--	1	167.1
NK70-1	138	176	51	76.2	59.1	1939	28.9	--	--	1	167.1
14584	130	171	42	79.1	61.3	1911	28.5	--	--	1	164.7
NK70-4	138	175	51	75.9	58.8	1886	28.1	--	--	1	162.4
A235	134	173	50	77.9	60.4	1863	27.8	2121	31.6	2	132.2
15075	138	175	46	77.3	59.9	1816	27.1	2638	39.3	3	152.9
8856	130	172	49	79.7	61.8	1807	26.9	1993	29.7	10	101.9
KS6623	136	174	46	79.5	61.6	1796	26.8	--	--	1	154.9
14075	132	172	45	77.8	60.3	1744	26.0	--	--	1	150.3
14583	131	171	39	79.6	61.7	1730	25.8	--	--	1	149.1
NK70-3	137	175	51	74.8	58.0	1730	25.8	--	--	1	149.1
TX62A2607-6	131	170	42	77.1	59.8	1718	25.6	2044	30.5	3	125.5
TX65A1503	136	174	38	78.2	60.6	1694	25.2	--	--	1	145.7
14581	130	170	39	79.0	61.2	1651	24.6	--	--	1	142.2
11673	136	174	46	77.0	59.7	1646	24.5	2111	31.5	10	111.0
H1	135	174	43	76.9	59.6	1605	23.9	--	--	1	138.2
NB66403	136	175	38	75.6	58.6	1500	22.4	2265	33.8	3	137.2
1442	142	180	43	76.2	59.1	1158	17.3	1604	23.9	10	100.0

L.S.D. .05 = 617 kg/ha; C.V. = 23.4%

Yellow Jacket, Colorado
Four replications

C.I. or Sel. No.	Days to head	Plant height cm	Volume Weight		Average yield				No. years grown	Percent of Kharkof
			kg/hl	lbs/bu	1970		1969-1970			
					kg/ha	bu/a	kg/ha	bu/a		
13996	159	65	79.6	61.7	1495	22.3	1386	20.7	5	106.9
12132	159	68	80.6	62.5	1492	22.2	1228	18.3	5	96.0
NB66403	165	61	79.1	61.3	1473	22.0	1416	21.1	3	106.4
8856	159	68	81.8	63.4	1456	21.7	1148	17.1	5	94.1
11673	159	69	79.2	61.4	1431	21.3	1232	18.4	5	94.3
1442	168	72	81.8	63.4	1424	21.2	1252	18.7	5	100.0
15068	159	62	80.6	62.5	1413	21.1	1218	18.2	2	97.3
NK70-4	161	68	78.2	60.6	1413	21.1	--	--	1	99.5
OK60111	159	64	79.2	61.4	1408	21.0	1191	17.8	3	92.4
KS6623	161	58	81.9	63.5	1399	20.9	--	--	1	98.6
14075	159	64	80.4	62.3	1391	20.7	--	--	1	97.6
15075	161	61	80.1	62.1	1376	20.5	1339	20.0	3	115.3
NK70-3	160	69	77.8	60.3	1376	20.5	--	--	1	96.7
A227	161	71	80.0	62.0	1347	20.1	1279	19.1	2	102.1
14582	159	55	82.0	63.6	1345	20.0	--	--	1	94.3
CO653033	161	65	79.6	61.7	1338	19.9	--	--	1	93.9
TX65A1682	159	54	81.0	62.8	1331	19.8	1161	17.3	2	92.8
TX62A2712-6	160	56	81.4	63.1	1323	19.7	--	--	1	92.9
H1	159	67	80.6	62.5	1292	19.3	--	--	1	91.0
TX65A1460	161	52	80.2	62.2	1282	19.1	--	--	1	90.1
14584	159	58	82.0	63.6	1267	18.9	--	--	1	89.2
14583	159	53	82.6	64.0	1253	18.7	--	--	1	88.2
NB66497	159	64	78.2	60.6	1251	18.6	1057	15.8	2	84.5
TX65A1503	160	58	80.8	62.6	1232	18.4	--	--	1	86.8
TX62A2607-6	159	56	79.1	61.3	1189	17.7	960	14.3	3	74.5
14581	160	55	82.4	63.9	1176	17.5	--	--	1	82.6
A235	159	60	80.9	62.7	1170	17.4	1131	16.9	2	90.4
NK70-2	159	68	78.4	60.8	1107	16.5	--	--	1	77.8
NK70-1	160	66	79.0	61.2	1044	15.6	--	--	1	73.6

L.S.D..05 = 165 kg/ha; C.V. = 8.8%

Mead, Nebraska
Three replications

C.I.	Days							Average yield	No.	Percent	
or	to	Plant		Leaf rust	Volume	Weight		1970	years	of	
Sel. No.	head	height	Lodging	severity	response	kg/hl	lbs/bu	kg/ha	bu/a	grown	Kharkof
		cm	%	%							
NB66403	144	89	0	50	S	77.9	60.4	3478	51.8	2	124.2
TX65A1682	141	76	0	60	S	78.1	60.5	3462	51.6	1	132.6
KS6623	143	84	0	1	R	80.4	62.3	3346	49.9	1	128.3
13996	143	94	10	50	S	78.2	60.6	3312	49.4	5	118.0
NK70-2	143	97	0	40	S	78.4	60.8	3301	49.2	1	126.5
A227	143	94	0	60	S	78.8	61.1	3285	49.0	1	126.0
NB66497	143	86	3	60	S	77.4	60.0	3254	48.5	1	124.7
H1	143	91	5	60	S	79.6	61.7	3245	48.4	1	124.4
CO653033	143	97	0	5	MR	79.0	61.2	3238	48.3	1	124.2
OK60111	141	89	7	40	S	78.1	60.5	3234	48.2	2	118.1
15068	143	86	2	50	S	78.7	61.0	3200	47.7	1	122.6
TX65A1460	143	71	0	10	MR	77.9	60.4	3164	47.1	1	121.1
NK70-3	143	97	0	40	S	76.8	59.5	3162	47.1	1	121.1
15075	142	84	0	2	MR	77.9	60.4	3157	47.0	2	120.8
14582	141	76	2	40	S	80.0	62.0	3157	47.0	1	120.8
NK70-1	143	97	0	50	S	78.8	61.1	3110	46.3	1	119.0
12132	141	91	8	60	S	80.0	62.0	3072	45.8	9	118.8
A235	143	91	3	50	S	79.9	61.9	3059	45.6	1	117.2
TX65A1503	143	74	0	5	MR	77.9	60.4	3056	45.5	1	117.0
14075	143	89	5	50	S	79.3	61.5	3045	45.4	1	116.7
14584	140	79	3	30	S	79.7	61.8	3045	45.4	1	116.7
NK70-4	144	97	2	40	S	77.3	59.9	3014	44.9	1	115.4
14581	141	74	3	40	S	79.5	61.6	3005	44.8	1	115.1
14583	141	76	0	30	S	79.9	61.9	2978	44.4	1	114.1
11673	143	94	8	40	S	77.9	60.4	2920	43.5	32	117.0
TX62A2712-6	143	74	0	65-0	S-R	79.0	61.2	2837	42.3	1	108.7
TX62A2607-6	141	74	0	10	MR	76.2	59.1	2834	42.2	2	124.6
8856	141	99	12	50	S	81.1	62.9	2740	40.8	37	116.0
1442	146	99	3	65	S	78.4	60.8	2610	38.9	37	100.0

L.S.D..05 = 418 kg/ha; C.V. = 8.2%

Clay Center, Nebraska
Three replications

C.I. or Sel. No.	Plant height cm	Shatter- ing %	Volume Weight		1970 Average yield		No. years grown	Percent of Kharkof
			kg/hl	lbs/bu	kg/ha	bu/a		
13996	91	T	80.1	62.1	3272	48.8	1	156.9
15068	86	T	79.5	61.6	2900	43.2	1	138.9
14075	89	T	80.2	62.2	2727	40.6	1	130.6
KS6623	79	0	81.1	62.9	2720	40.5	1	130.2
TX65A1503	69	0	79.9	61.9	2660	39.6	1	127.3
15075	89	5	79.6	61.7	2657	39.6	1	127.3
NK70-1	99	1	78.6	60.9	2601	38.8	1	124.8
C0653033	97	5	79.3	61.5	2601	38.8	1	124.8
NK70-4	94	1	77.7	60.2	2595	38.7	1	124.4
NB66497	86	1	78.6	60.9	2577	38.4	1	123.5
NK70-2	94	0	78.2	60.6	2552	38.0	1	122.2
8856	99	T	81.9	63.5	2547	38.0	1	122.2
OK60111	86	T	79.2	61.4	2545	37.9	1	121.9
H1	91	5	80.4	62.3	2532	37.7	1	121.2
A235	86	1	80.4	62.3	2503	37.3	1	119.9
TX65A1460	66	0	79.7	61.8	2480	37.0	1	119.0
NB66403	91	1	77.8	60.3	2476	36.9	1	118.7
A227	94	1	79.3	61.5	2451	36.5	1	117.4
11673	97	5	79.2	61.4	2449	36.5	1	117.4
NK70-3	91	0	78.1	60.5	2433	36.3	1	116.7
14583	76	0	80.5	62.4	2278	33.9	1	109.0
TX65A1682	69	0	79.1	61.3	2209	32.9	1	105.8
14584	71	0	80.1	62.1	2177	32.4	1	104.2
1442	112	5	77.3	59.9	2090	31.1	1	100.0
TX62A2607-6	69	0	77.5	60.1	2074	30.9	1	99.4
12132	89	1	79.1	61.3	2047	30.5	1	98.1
TX62A2712-6	71	0	80.1	62.1	2027	30.2	1	97.1
14582	74	0	80.1	62.1	1996	29.7	1	95.5
14581	76	0	80.0	62.0	1659	24.7	1	79.4

L.S.D. = 446 kg/ha; C.V. = 11.2%
.05

North Platte, Nebraska
Three replications

C.I. or Sel. No.	Days to head	Volume Weight		Average yield				No. years grown	Percent of Kharkof
				1970		1969-1970			
		kg/hl	lbs/bu	kg/ha	bu/a	kg/ha	lbs/bu		
14582	147	80.9	62.7	3153	47.0	--	--	1	151.1
14581	147	80.4	62.3	2951	44.0	--	--	1	141.5
TX65A1503	148	76.5	59.3	2857	42.6	--	--	1	137.0
TX65A1682	148	77.1	59.8	2781	41.4	2503	37.3	2	102.8
NB66403	149	76.9	59.6	2774	41.3	2980	44.4	3	115.2
TX62A2712-6	147	78.3	60.7	2740	40.8	--	--	1	131.2
14584	147	79.6	61.7	2722	40.6	--	--	1	130.6
15075	149	76.8	59.5	2691	40.1	2792	41.6	3	107.5
TX65A1460	148	76.2	59.1	2689	40.1	--	--	1	128.9
NB66497	148	77.0	59.7	2646	39.4	2668	39.8	2	109.5
C0653033	150	78.1	60.5	2635	39.3	--	--	1	126.4
13996	149	78.6	60.9	2633	39.2	2755	41.1	6	114.9
14583	147	79.9	61.9	2630	39.2	--	--	1	126.1
A227	149	77.9	60.4	2568	38.3	2748	41.0	2	112.8
TX62A2607-6	148	75.5	58.5	2552	38.0	2238	33.4	3	89.0
8856	147	78.1	60.5	2547	38.0	2450	36.5	33	101.1
12132	148	78.3	60.7	2525	37.6	2295	34.2	10	110.2
15068	149	77.8	60.3	2494	37.2	2574	38.4	2	105.7
OK60111	148	77.3	59.9	2384	35.5	2369	35.3	3	93.3
NK70-3	149	76.6	59.4	2370	35.3	--	--	1	113.5
KS6623	149	78.2	60.6	2368	35.3	--	--	1	113.5
NK70-4	149	75.6	58.6	2357	35.1	--	--	1	112.9
11673	148	77.1	59.8	2305	34.3	2450	36.5	30	112.1
NK70-1	149	76.8	59.5	2173	32.4	--	--	1	104.2
NK70-2	149	75.1	58.2	2146	32.0	--	--	1	102.9
1442	152	76.1	59.0	2088	31.1	2436	36.3	33	100.0
H1	148	78.1	60.5	2054	30.6	--	--	1	98.4
14075	149	78.7	61.0	1888	28.1	--	--	1	90.4
A235	149	78.1	60.5	1888	28.1	2171	32.4	2	89.1

L.S.D. _{.05} = 437 kg/ha; C.V. = 10.7%

Sidney, Nebraska
Three replications

C.I. or Sel. No.	Days to head	Plant height cm	Volume Weight		Average yield 1970		No. years grown	Percent of Kharkof
			kg/hl	lbs/bu	kg/ha	bu/a		
TX65A1460	156	76	81.3	63.0	4994	74.4	1	119.2
TX65A1503	153	76	80.2	62.2	4990	74.4	1	119.2
TX62A2712-6	151	76	82.0	63.6	4810	71.7	1	114.9
NB66403	158	86	82.0	63.6	4759	70.9	1	113.6
A227	156	91	82.3	63.8	4682	69.8	1	111.9
14583	153	79	83.0	64.3	4640	69.1	1	110.7
14581	151	76	84.0	65.1	4539	67.6	1	108.3
14584	152	79	83.9	65.0	4519	67.3	1	107.9
OK60111	152	86	81.5	63.2	4514	67.3	1	107.9
NK70-3	158	86	80.4	62.3	4386	65.4	1	104.8
KS6623	155	91	82.8	64.2	4285	63.9	1	102.4
14582	153	79	82.7	64.1	4211	62.7	1	100.5
15075	158	81	83.0	64.3	4207	62.7	1	100.5
1442	162	99	81.4	63.1	4187	62.4	1	100.0
13996	154	84	82.0	63.6	4144	61.8	1	99.0
NK70-4	158	91	80.2	62.2	4122	61.4	1	98.4
C0653033	158	86	82.2	63.7	4061	60.5	1	97.0
H1	158	89	82.2	63.7	4050	60.4	1	96.8
TX65A1682	152	71	81.9	63.5	4030	60.1	1	96.3
TX62A2607-6	152	79	81.3	83.0	3987	59.4	1	95.2
NB66497	153	76	81.3	63.0	3965	59.1	1	94.7
NK70-2	156	91	79.6	61.7	3850	57.4	1	92.0
15068	153	81	81.5	63.2	3830	57.1	1	91.5
11673	153	84	81.1	62.9	3763	56.1	1	89.9
14075	153	84	81.9	63.5	3756	56.0	1	89.7
A235	158	86	82.0	63.6	3705	55.2	1	88.5
NK70-1	158	86	80.1	62.1	3505	52.2	1	88.5
12132	151	86	79.9	61.9	3442	51.3	1	82.2
8856	150	91	81.5	63.2	3312	49.4	1	79.2

L.S.D. .05 = 781 kg/ha; C.V. = 11.4%

Alliance, Nebraska
Three replications

C.I. or Sel. No.	Days to head	Plant height cm	Volume Weight		Average yield				No. years grown	Percent of Kharkof
					1970		1969-1970			
					kg/hl	lbs/bu	kg/ha	bu/a		
NB66403	157	89	76.5	59.3	3157	47.0	2372	35.4	2	123.6
OK60111	156	89	77.9	60.4	3155	47.0	2208	32.9	2	115.0
C0653033	157	91	77.5	60.1	3030	45.2	--	--	1	126.6
KS6623	157	86	79.3	61.5	3005	44.8	--	--	1	125.5
A227	158	94	77.8	60.3	2998	44.7	2178	32.5	2	113.5
TX65A1460	158	74	78.4	60.8	2994	44.6	--	--	1	124.9
H1	157	91	78.8	61.1	2987	44.5	--	--	1	124.7
13996	155	89	78.3	60.7	2976	44.3	2268	33.8	5	131.6
15068	155	81	78.2	60.6	2969	44.2	2144	32.0	2	111.7
14582	155	76	80.0	62.0	2935	43.7	--	--	1	122.4
14584	155	76	78.8	61.1	2866	42.7	--	--	1	119.6
NB66497	156	84	76.2	59.1	2846	42.4	2121	31.6	2	110.5
TX62A2712-6	155	74	79.1	61.3	2832	42.2	--	--	1	118.2
15075	159	84	77.4	60.0	2819	42.0	2201	32.8	2	114.7
A235	156	91	78.1	60.5	2752	41.0	2047	30.5	2	106.6
TX65A1503	158	74	77.7	60.2	2707	40.3	--	--	1	112.9
14583	156	76	79.3	61.5	2689	40.1	--	--	1	112.3
14581	156	76	80.4	62.3	2684	40.0	--	--	1	112.0
11673	156	89	78.2	60.6	2651	39.5	2044	30.5	28	101.4
TX62A2607-6	154	69	76.6	59.4	2574	38.4	1809	27.0	2	94.2
NK70-3	158	94	75.7	58.7	2559	38.1	--	--	1	106.7
NK70-4	157	94	75.9	58.8	2431	36.2	--	--	1	101.4
14075	155	84	77.4	60.0	2426	36.2	--	--	1	101.4
12132	154	86	77.5	60.1	2422	36.1	1728	25.8	8	100.2
1442	161	97	77.0	59.7	2395	35.7	1919	28.6	31	100.0
NK70-2	157	94	76.5	59.3	2350	35.0	--	--	1	98.0
TX65A1682	155	69	76.6	59.4	2343	34.9	1671	24.9	2	87.1
NK70-1	157	94	75.7	58.7	2218	33.1	--	--	1	92.7
8856	155	91	77.5	60.1	2146	32.0	1698	25.3	31	93.6

L.S.D. = 562 kg/ha; C.V. = 12.6%
.05

Brookings, South Dakota
Single plots

C.I. or Sel. No.	: Days : to : head	: : Plant : height	: : Lodging :	: : severity %	: : Stem rust : response
		cm	%	%	
1442	164	107	20	100	S
8856	157	108	40	65	S
11673	159	108	30	65	S
13996	158	105	0	5	M
14075	157	103	0	0	R
15068	158	98	0	0	R
15075	160	100	0	0	R
NB66497	158	95	0	0	R
NB66403	160	105	0	0	R
12132	156	95	0	65	S
OK60111	157	102	0	25	M
TX62A2607-6	158	77	0	65	S
TX65A1682	159	75	0	45	M
TX65A1460	159	80	0	65	S
TX65A1503	159	80	0	65	S
TX62A2712-6	159	80	0	65	S
KS6623	158	98	0	100	S
14584	158	82	20	65	S
14582	158	80	0	100	S
14581	159	83	0	100	S
14583	158	85	0	65	S
A235	158	105	0	100	S
A227	159	107	0	65	S
H1	159	105	0	100	S
NK70-1	160	108	0	65	S
NK70-2	160	107	0	65	S
NK70-3	160	110	0	100	S
NK70-4	160	110	0	100	S
C0653033	160	105	0	0	R

Highmore, South Dakota
Three replications

C.I. or Sel. No.	: Days : to : head	: : Plant : height	: : Leaf rust : severity	: : re- : sponse	: Winter : sur- : vival	: : Volume : kg/ha	: : Weight : lbs/bu	: : Average yield : 1970 : kg/ha	: : bu/a	: No. : years : grown	: Percent : of : Kharkof
	cm	%	%		%						
15075	160	64	20	S	47	75.2	58.3	3444	51.3	1	138.7
KS6623	160	66	15	S	37	79.1	61.3	3104	46.3	1	125.1
15068	159	67	51	S	58	77.8	60.3	3035	45.2	1	122.2
13996	157	77	50	S	58	78.1	60.5	3022	45.0	1	121.6
A227	160	79	70	S	41	77.3	59.9	2918	43.5	1	117.6
14075	159	75	50	S	57	77.8	60.3	2889	43.1	1	116.5
TX65A1503	160	69	38	S	47	76.9	59.6	2872	42.8	1	115.7
CO653033	159	75	13	S	60	76.2	59.1	2862	42.6	1	115.1
11673	160	80	60	S	65	75.6	58.6	2846	42.4	1	114.6
NB66403	160	72	50	S	55	75.2	58.3	2822	42.1	1	113.8
TX65A1460	161	57	35	S	62	76.8	59.5	2727	40.6	1	109.7
H1	158	80	83	S	88	78.1	60.5	2707	40.3	1	108.9
A235	159	69	83	S	57	78.3	60.7	2691	40.1	1	108.4
OK60111	156	72	63	S	45	75.7	58.7	2690	40.1	1	108.4
TX62A2712-6	156	58	60	S	37	77.3	59.9	2642	39.4	1	106.5
NK70-1	161	77	55	S	52	75.9	58.8	2588	38.6	1	104.3
NK70-2	160	78	55	S	45	75.3	58.4	2555	38.1	1	103.0
NB66497	157	67	50	S	65	74.8	58.0	2535	37.8	1	102.2
1442	163	77	70	S	67	74.6	57.8	2486	37.0	1	100.0
12132	158	71	83	S	20	76.1	59.0	2480	37.0	1	100.0
NK70-4	158	77	70	S	43	73.7	57.1	2388	35.6	1	96.2
NK70-3	160	81	70	S	37	73.5	57.0	2292	34.2	1	92.4
8856	157	80	70	S	23	78.3	60.7	2240	33.4	1	90.3
TX65A1682	157	60	60	S	39	76.1	59.0	2219	33.1	1	89.5
14584	159	66	60	S	35	77.1	59.8	2128	31.7	1	85.7
14583	156	55	83	S	10	77.3	59.9	2121	31.6	1	85.4
14582	158	56	70	S	9	79.0	61.2	1929	28.7	1	77.6
14581	160	61	70	S	10	77.4	60.0	1894	28.2	1	76.2
TX62A2607-6	159	49	30	S	5	74.6	57.8	1846	27.5	1	74.3

L.S.D. = 462 kg/ha; C.V. = 19.9%
.05

Columbia, Missouri
Three replications

C.I. or Sel. No.	: Days : to : head	: : Plant : height	: : Lodging	: : Mildew	: : Septoria : Leaf	: : Head	: : Volume Weight : kg/hl	: : lbs/bu	: : Average yield : 1970 : kg/ha	: : bu/a	: : No. : years : grown	: : Percent : of : Kharkof
		cm	%	%	%	%						
NB66497	140	99	28	30	53	32	74.2	57.5	2683	40.0	1	181.0
15075	142	104	40	17	33	13	73.5	57.0	2674	39.8	2	164.1
TX65A1682	139	89	3	33	43	25	73.5	57.0	2657	39.6	1	179.2
TX65A1503	140	89	0	7	53	25	72.9	56.5	2546	37.9	1	171.5
14582	141	94	15	7	43	25	75.5	58.5	2434	36.3	1	164.3
TX65A1460	141	91	0	20	60	32	69.0	53.5	2400	35.8	1	162.0
KS6623	143	102	50	24	33	20	76.8	59.5	2383	35.5	1	160.6
A235	141	104	40	37	70	37	74.2	57.5	2332	34.8	1	157.5
TX62A2712-6	142	94	3	13	47	63	70.3	54.5	2238	33.4	1	151.1
12132	137	102	35	23	73	37	74.8	58.0	2160	32.2	6	133.4
15068	141	104	16	20	77	27	68.4	53.0	2083	31.0	1	140.3
NK70-2	143	112	43	24	43	33	71.6	55.5	2075	30.9	1	139.8
13996	141	107	47	27	73	35	67.1	52.0	2056	30.6	5	144.7
TX62A2607-6	139	89	3	17	80	23	67.7	52.5	2049	30.5	2	112.9
NK70-1	144	112	50	34	43	40	73.5	57.0	1954	29.1	1	131.7
A227	144	112	57	33	43	30	74.8	58.0	1904	28.4	1	128.5
14581	144	94	27	4	40	37	71.0	55.0	1894	28.2	1	127.6
11673	143	109	47	27	67	33	70.3	54.5	1877	28.0	6	130.1
14584	142	91	47	4	47	63	71.0	55.0	1853	27.6	1	124.9
8856	136	104	60	14	90	43	74.2	57.5	1834	27.3	6	125.7
C0653033	145	114	13	40	50	33	71.0	55.0	1792	26.7	1	120.8
NB66403	144	107	35	37	57	43	67.7	52.5	1783	26.6	2	139.6
H1	142	107	58	41	70	35	72.2	56.0	1783	26.6	1	120.4
OK60111	139	97	56	44	90	37	69.0	53.5	1775	26.5	2	119.2
14583	141	94	60	4	50	60	67.1	52.0	1758	26.2	1	118.6
NK70-3	143	109	43	24	63	43	68.4	53.0	1637	24.4	1	110.4
NK70-4	145	112	47	47	63	43	67.7	52.5	1611	24.0	1	108.6
1442	148	114	60	11	43	30	72.2	56.0	1482	22.1	6	100.0
14075	140	104	40	7	90	40	64.5	50.0	1475	22.0	1	99.6

L.S.D. .05 = 463 kg/ha; C.V. = 13.9%

Ames, Iowa
Three replications

C.I. or Sel. No.	: Days : to : head	: Days : : to : : ripe :	: Winter: : Plant : : height:	: sur- : : vival:	: Spring: : stand:	: se- : : verity:	: Leaf rust : : response:	: Volume : kg/hl	: Weight : lbs/bu	: Average yield : : 1970 : : kg/ha	: No. : : years : : grown	: Percent : of : Kharkof	
			cm	%	%	%				bu/a			
11673	150	184	81	93	90	25	VS	73.5	57.0	2265	33.7	24	112.7
H1	150	186	74	92	88	10	M	76.5	59.3	2171	32.3	1	103.5
NK70-4	151	187	81	88	88	15	S	73.0	56.6	2144	31.9	1	102.2
A227	153	187	81	85	83	20	M	75.6	58.6	2103	31.3	1	100.3
1442	157	188	81	93	85	20	M	76.4	59.2	2097	31.2	24	100.0
KS6623	152	187	74	93	88	10	M	76.1	59.0	1989	29.6	1	94.9
13996	150	184	69	93	88	25	M	74.1	57.4	1895	28.2	3	122.3
TX65A1503	152	187	61	87	82	15	M	77.7	60.2	1875	27.9	1	89.4
CO653033	153	187	76	85	85	15	M	95.1	58.2	1814	27.0	1	86.5
A235	150	186	71	85	85	5	R	75.1	58.2	1760	26.2	1	84.0
TX65A1460	154	187	58	82	78	20	S	76.0	58.9	1707	25.4	1	81.4
NK70-1	152	187	76	85	85	15	S	74.3	57.6	1646	24.5	1	78.5
NB66497	149	183	63	97	92	25	S	75.9	58.8	1626	24.2	1	77.6
NK70-3	151	187	76	88	82	20	S	72.5	56.2	1593	23.7	1	76.0
NK70-2	151	187	71	90	85	15	M	73.0	56.6	1586	23.6	1	75.6
15068	153	187	69	80	77	10	MR	72.2	56.0	1552	23.1	1	74.0
14075	150	184	69	90	85	15	M	74.1	57.4	1519	22.6	1	72.4
14584	155	185	61	78	78	25	S	76.4	59.2	1485	22.1	1	70.8
8856	152	187	76	78	78	20	S	77.7	60.2	1411	21.0	24	117.2
15075	154	188	66	90	68	Tr	R	73.5	57.0	1398	20.8	2	98.9
14583	151	185	63	73	68	15	S	75.0	58.1	1357	20.2	1	64.7
TX62A2712-6	154	187	61	77	70	10	M	74.8	58.0	1270	18.9	1	60.6
OK60111	149	181	63	92	82	15	S	72.0	55.8	1210	18.0	2	87.8
14582	154	186	58	73	68	20	S	76.4	59.2	1122	16.7	1	53.5
NB66403	154	188	71	88	73	15	S	70.4	54.6	1109	16.5	2	81.6
TX65A1682	152	187	53	70	60	15	VS	67.6	52.4	867	12.9	1	41.4
12132	150	182	53	83	75	15	S	--	--	739	11.0	6	148.3
14581	155	187	61	47	50	15	S	--	--	719	10.7	1	34.3
TX62A2607-6	152	183	51	62	47	10	VR	--	--	585	8.7	2	68.0

L.S.D. = 698 kg/ha; C.V. = 28%
.05

Urbana, Illinois
Three replications

C.I. or Sel. No.	: Days : to : head	: Plant : height cm	: Lodging %	: Volume Weight		: Average yield				: No. : years : grown	: Percent : of : Kharkof
				kg/hl	lbs/bu	1970	1969-1970	kg/ha	bu/a		
						kg/ha	bu/a	kg/ha	bu/a		
TX65A1682	133	89	37	76.1	59.0	4126	61.5	4030	60.1	2	123.2
12132	132	104	68	78.3	60.7	4108	61.2	3339	49.8	10	103.0
TX62A2607-6	132	91	52	75.6	58.6	4023	59.9	4030	60.1	3	120.1
TX65A1503	135	86	40	75.1	58.2	3992	59.5	--	--	1	138.1
TX65A1460	135	89	47	75.5	58.5	3962	59.0	--	--	1	136.9
NB66497	135	99	58	75.2	58.3	3913	58.3	3909	58.3	2	119.5
14582	136	97	75	77.7	60.2	3906	58.2	--	--	1	135.0
TX62A2712-6	134	89	28	75.7	58.7	3886	57.9	--	--	1	134.3
13996	133	99	70	76.4	59.2	3857	57.5	3993	59.5	6	124.0
14581	136	91	80	76.9	59.6	3841	57.2	--	--	1	132.7
OK60111	133	104	63	77.8	60.3	3839	57.2	3872	57.7	3	123.3
15075	136	102	67	75.7	58.7	3812	56.8	4117	61.4	3	125.4
A235	136	102	57	78.4	60.8	3805	56.7	3859	57.5	2	117.8
H1	137	102	68	77.9	60.4	3763	56.1	--	--	1	130.2
KS6623	135	99	47	78.8	61.1	3749	55.9	--	--	1	129.7
15068	134	97	57	75.5	58.5	3736	55.7	3735	55.7	2	114.1
NB66403	137	99	63	73.7	57.1	3631	54.1	3909	58.3	3	122.7
14075	133	97	45	76.9	59.6	3561	53.1	--	--	1	123.2
A227	138	107	53	77.1	59.8	3449	51.4	3668	54.7	2	112.1
NK70-4	137	104	47	74.7	57.9	3444	51.3	--	--	1	119.0
14583	134	94	85	75.5	58.5	3424	51.0	--	--	1	118.3
NK70-3	138	107	62	75.0	58.1	3420	51.0	--	--	1	118.3
11673	136	102	78	74.3	57.6	3402	50.7	3537	57.2	10	108.7
C0653033	138	102	62	74.7	57.9	3373	50.3	--	--	1	116.7
14584	136	91	92	76.0	58.9	3361	50.1	--	--	1	116.2
8856	131	104	82	77.7	60.2	3258	48.5	3265	48.7	10	102.3
NK70-2	138	104	65	75.5	58.5	3227	48.1	--	--	1	111.6
NK70-1	138	109	57	75.5	58.5	3198	47.7	--	--	1	110.7
1442	139	107	83	71.3	55.3	2891	43.1	3272	48.8	10	100.0

L.S.D. .05 = 503 kg/ha; C.V. = 8.5%

Lind, Washington
Four replications

C.I.	Days	Plant	Volume Weight		Average yield		No.	Percent
or	to	height	1970		1970		years	of
Sel. No.	head	cm	kg/hl	lbs/bu	kg/ha	bu/a	grown	Kharkof
15075	148	91	80.2	62.2	3294	49.1	1	120.1
13996	146	97	80.0	62.0	3127	46.6	1	113.9
A227	149	104	79.7	61.8	3061	45.6	1	111.5
11673	147	99	79.7	61.8	2960	44.1	1	107.8
TX65A1460	149	71	79.3	61.5	2943	43.9	1	107.3
KS6623	148	97	81.5	63.2	2916	43.4	1	106.1
NB66403	149	94	78.7	61.0	2912	43.4	1	106.1
H1	148	102	80.4	62.3	2870	42.8	1	104.7
OK60111	146	91	79.7	61.8	2788	41.5	1	101.5
TX65A1682	146	71	80.2	62.2	2764	41.2	1	100.7
TX62A2712-6	146	74	80.5	62.4	2747	40.9	1	100.0
1442	152	99	78.2	60.6	2743	40.9	1	100.0
C0653033	148	102	79.5	61.6	2728	40.6	1	99.3
14582	146	81	81.8	63.4	2683	40.0	1	97.8
TX65A1503	148	74	79.7	61.8	2661	39.6	1	96.8
12132	146	94	79.7	61.8	2649	39.5	1	96.6
14581	146	81	81.9	63.5	2583	38.5	1	94.1
NK70-2	148	104	72.4	60.0	2530	37.7	1	92.2
NB66497	146	89	78.6	60.9	2500	37.3	1	91.2
A-235	148	102	80.6	62.5	2483	37.0	1	90.5
NK70-3	148	102	77.0	59.7	2479	36.9	1	90.2
NK70-4	148	104	77.4	60.0	2423	36.1	1	88.3
NK70-1	148	102	77.3	59.9	2388	35.6	1	87.0
15068	146	86	79.6	61.7	2344	34.9	1	85.3
14583	146	81	81.5	68.2	2239	33.4	1	81.7
14075	146	86	79.9	61.9	2198	32.8	1	80.2
TX62A2607-6	146	76	78.6	60.9	2132	31.8	1	77.8
8856	145	102	80.5	62.4	2113	31.5	1	77.0
14584	146	84	81.5	63.2	1923	28.7	1	70.2

L.S.D. .05 = 504 kg/ha; C.V. = 13.6%

Summary of SRPN Yields

Grain yields at cooperating stations, state averages and ranks, and regional average yields are summarized in kilograms per hectare for varieties and hybrids in the SRPN in table 2. Yields in bushels per acre appear in table 3. C.I. 15075 (NB66425) again was the most productive variety on a region-wide basis. It ranked 1st in Texas, South Dakota, Colorado, and Washington, and 2nd in Missouri. Scout 66 was the second most productive variety with 2907 kg/ha regional yield compared with 3021 kg/ha for C.I. 15075. Three Texas semi-dwarf varieties were next most productive — all yielding 2849 kg/ha or more. DeKalb A227 was the most productive of 7 hybrids in the SRPN.

Fourteen varieties and hybrids have been tested for 2 years or more in the SRPN. Their 2-year average yields are summarized in kg/ha in table 4 and in bu/a in table 5. C.I. 15075, Scout 66, and NB66403 in that order have been most productive on a 2-year basis. The 3108 kg/ha 2-year yield of C.I. 15075 is substantially higher than second-place yield of 2863 kg/ha made by Scout 66. Eagle, a high quality new Kansas variety selected from Scout, ranked fourth in 2-year regional yield. The 2-year regional yield of Danne Sel., OK60111, is substantially higher than Triumph (2738 vs. 2470 kg/ha).

Summary of Agronomic Data

Agronomic data obtained for varieties in the SRPN in 1970 are summarized in table 6. Varieties are arranged in the table according to their regional average grain yields. Date of heading and date ripe are reported in days from January 1. Early Blackhull, Triumph, and TX62A2607-6 headed the earliest and Kharkof was latest heading. Plant heights ranged from 68 cm for TX65A1460 and TX65A1682 to 91 cm for Kharkof. C.I. 15075 was the only variety in the nursery that exhibited good combined resistance to leaf and stem rust. Lowest average mildew readings were recorded for Chanute, Yukon, and Palo Duro. K86623 and C.I. 15075 provided the lowest Septoria readings. Chanute and TX62A2607-6 were the least winterhardy at 2 stations recording differential winter survival. As a group the Texas semi-dwarf varieties lodged the least. Highest shattering (8%) was recorded for A235.

Table 2. Summary of average yield in kilograms per hectare made by 29 varieties grown in the Southern Regional Performance Nursery in 28 trials in 1970 with state averages and ranks.

Variety	: C.I. : or : Sel. No.	: Texas					
		: Denton	: Chilli- : cothe	: Bush- : land	: Bush- : land	: Average	: Rank
				irrig	dryl		
Kv58/2/Nth/3/Hope/2*Tk/4/Cnn/5/Pkr	15075	3120	2235	4473	2460	3072	1
Scout 66	13996	2461	2294	4586	2161	2876	3
391-56-D8/Kaw	TX65A1460	1749	1683	4454	1831	2429	23
391-56-D8/Kaw	TX65A1503	1856	1833	4299	1834	2456	22
391-56-D8/Tcs	TX62A2712-6	2656	1875	4486	1901	2730	8
Satanta	14582	2320	1774	4649	2117	2715	10
Eagle	15068	2529	1917	4595	2429	2868	4
Nrn 16/C.I. 12500//Bsn	TX65A1682	2730	1401	4948	2190	2817	5
Pn/Cnn/3/Pn/2/Ky58/4/Cnn	NB66403	1822	1346	4154	2315	2409	25
Pkr*3/Bsn	KS6623	2865	2502	4143	2246	2939	2
Dekalb Hybrid	A227	2260	2009	4129	2040	2610	14
Ky58/5/Nth/6/Cnn/Tm/3/Mi/2/Hope/7/Pn/4/Cnn/8/Om	NB66497	1621	1351	3618	2011	2150	28
Yukon	14583	2091	2019	4734	2023	2717	9
Palo Duro	14584	2145	2001	4745	1872	2691	11
Sut/C.I. 12995	C0653033	2804	2301	3436	2013	2639	13
Dekalb Hybrid	H1	2562	1969	3884	1853	2567	15
Danne 145B4	OK60111	2078	1809	3872	2235	2499	20
Chanute	14581	2401	1875	4552	1923	2688	12
391-56-D8/Tmp	TX62A2607-6	2777	1844	4631	1904	2789	6
Scoutland	14075	2535	2375	3977	2057	2736	7
Comanche	11673	2421	1861	3938	2044	2566	16
Dekalb Hybrid	A235	2616	1947	3229	1805	2399	26
Northrup-King Hybrid	NK70-4	2414	2091	3627	2126	2565	17
Northrup-King Hybrid	NK70-3	2266	1531	4084	2349	2558	19
Northrup-King Hybrid	NK70-2	2401	1687	3802	1940	2458	21
Triumph	12132	1883	1693	3750	2120	2362	27
Northrup-King Hybrid	NK70-1	2434	2021	3779	2016	2563	18
Early Blackhull	8856	2018	1927	3856	1899	2427	24
Kharkof	1442	1580	1808	3504	1464	2089	29

Table 2. (continued)

C.I.	New Mexico				Oklahoma				Illinois		Missouri		Iowa		
or					:Still-:Good-:Wood-:Aver-:				:Ur-:		:Colum-:				
Sel. No.	:Clovis:	Clovis:	Average:	Rank:	water	well	ward	age	:Rank:	bana:	Rank:	bia	:Rank:	Ames:	Rank
	irrig.	dryl.				irrig									
15075	4813	1998	3406	4	3345	3576	2205	3042	7	3812	12	2674	2	1398	20
13996	4248	1968	3108	11-12	3115	3165	1946	2742	16	3857	9	2056	13	1895	7
TX65A1460	5076	1715	3396	5	2725	3846	2619	3063	6	3962	5	2400	6	1707	11
TX65A1530	4692	1705	3199	8	2832	4087	2404	3108	4	3992	4	2546	4	1875	8
TX62A2712-6	4975	2230	3603	1-2	3054	3829	2393	3092	5	3886	8	2238	9	1270	22
14582	4046	2149	3098	14	2737	4105	2166	3003	10	3906	7	2434	5	1122	24
15068	4632	1927	3280	6	3044	3212	2292	2849	13	3736	16	2083	11	1552	16
TX65A1682	5136	1917	3527	3	2846	4143	2689	3226	1	4126	1	2657	3	867	26
NB66403	3986	2028	3007	17	2612	3241	1855	2569	24	3631	17	1783	22	1109	25
KS6623	3845	2250	3048	16	2977	3164	1874	2672	14	3749	15	2383	7	1989	6
A227	4854	2351	3603	1-2	2297	2856	1914	2356	28	3449	19	1904	16	2103	4
NB66497	4268	1726	2997	18	2868	3551	2175	2865	12	3913	6	2683	1	1626	13
14583	4137	2069	3103	13	2839	3988	2255	3027	8	3424	21	1758	25	1357	21
14584	4581	1837	3209	7	2938	3488	1870	2765	15	3361	25	1853	19	1485	18
CO653033	3380	2048	2714	24	2967	2891	1551	2470	26	3373	24	1792	21	1814	9
HL	3996	2382	3189	9	3064	2984	2107	2718	17	3763	14	1783	23	2171	2
OK60111	2351	2038	2195	28	2728	3312	2086	2709	18	3839	11	1775	24	1210	23
14581	4289	2028	3159	10	2713	4038	2279	3010	9	3841	10	1894	17	719	28
TX62A2607-6	4107	2109	3108	11-12	3169	3749	2585	3168	2	4023	3	2049	14	585	29
14075	3935	2048	2992	19	3502	3379	2445	3109	3	3561	18	1475	29	1519	17
11673	3895	1796	2846	20	2741	3031	1956	2576	23	3402	23	1877	18	2265	1
A235	3027	1655	2341	27	3128	2800	2101	2676	19	3805	13	2332	8	1760	10
NK70-4	3380	2099	2740	21	2673	3107	2043	2608	20	3444	20	1611	27	2144	3
NK70-3	3582	1705	2644	25	2652	2789	1838	2426	27	3420	22	1637	26	1593	14
NK70-2	3623	1837	2730	22	2947	2806	1870	2541	25	3227	27	2075	12	1586	15
12132	2170	1756	1963	29	2933	3472	2474	2960	11	4108	2	2160	10	739	27
NK70-1	3512	1917	2715	23	3041	2889	1837	2589	21	3198	28	1954	15	1646	12
8856	3855	2321	3088	15	2625	3011	2101	2579	22	3258	26	1834	20	1411	19
1442	3421	1443	2432	26	2333	2580	1884	2266	29	2891	29	1482	28	2097	5

Table 2. (continued)

C.I. or Sel. No.	Kansas						Nebraska						South Dakota		
	:Man- hattan:	:Colby:	:Hays:	:Garden: City:	:Average:	:Rank:	:Mead: Center:	:Clay:	:North: Platte:	:Alliance:	:Sidney:	:Average:	:Rank:	:High- more:	:Rank:
15075	3268	2835	2650	2654	2852	15	3157	2657	2691	2819	4207	3106	9	3444	1
13996	2311	4040	2783	2406	2885	13	3312	3272	2633	2976	4144	3267	2	3022	4
TX65A1460	2946	3331	2722	2708	2927	9	3164	2480	2689	2994	4994	3264	3	2727	11
TX65A1503	3402	2970	2730	2742	2961	8	3056	2660	2857	2707	4990	3254	4	2872	7
TX62A2712-6	2802	3788	2631	2412	2908	11	2837	2027	2740	2832	4810	3049	14	2642	15
14582	3580	4033	2603	2789	3251	1	3157	1996	3153	2935	4211	3090	10	1929	27
15068	2703	3560	2594	2560	2854	14	3200	2900	2494	2969	3830	3079	11	3035	3
TX65A1682	2981	3448	2803	2419	2913	10	3462	2209	2781	2343	4030	2965	19	2219	24
NB66403	3374	3288	2931	2486	3020	6	3478	2476	2774	3157	4759	3329	1	2822	10
K6623	2763	-	2567	2661	2664	24	3346	2720	2368	3005	4285	3145	7	3104	2
A227	2598	3256	2630	2426	2728	20	3285	2451	2568	2998	4682	3197	5	2918	5
NB66497	3421	3749	2921	2567	3165	4	3254	2577	2646	2846	3965	3058	13	2535	18
14583	3596	4053	2645	2574	3217	3	2978	2278	2630	2689	4640	3043	15	2121	26
14584	3318	4314	2719	2628	3245	2	3045	2177	2722	2866	4519	3066	12	2128	25
CO653033	3095	2557	2843	2769	2816	16	3238	2601	2635	3030	4061	3113	8	2862	8
H1	2905	3216	2566	2386	2768	17	3245	2532	2054	2987	4050	2974	17	2707	12
OK60111	2916	3642	2515	2554	2907	12	3234	2545	2384	3155	4514	3166	6	2690	14
14581	3308	4027	2493	2648	3119	5	3005	1659	2951	2684	4539	2968	18	1894	28
TX62A2607-6	2809	3897	2692	2533	2983	7	2834	2074	2552	2574	3987	2804	23	1846	29
14075	2647	3132	2801	2392	2743	18	3045	2727	1888	2426	3750	2768	25	2889	6
11673	3016	2703	2583	2507	2702	21	2920	2449	2305	2651	3763	2818	22	2846	9
A235	2771	2899	2739	2520	2732	19	3059	2503	1888	2752	3705	2781	24	2691	13
NK70-4	2712	2669	2240	2164	2446	28	3014	2595	2357	2431	4122	2904	20	2388	21
NK70-3	2264	3266	2529	2258	2579	26	3162	2433	2370	2559	4386	2982	16	2292	22
NK70-2	2797	2990	2473	2211	2618	25	3301	2552	2146	2350	3850	2840	21	2255	17
12132	2700	2888	2623	2554	2691	22	3072	2047	2575	2422	3442	2702	27	2480	20
NK70-1	2955	2735	2732	2251	2668	23	3110	2601	2173	2218	3505	2721	26	2588	16
8856	2618	3127	2166	2124	2509	27	2740	2547	2547	2146	3312	2658	28	2240	23
1442	2420	2163	2288	2298	2292	29	2610	2090	2088	2395	4187	2674	29	2486	19

Table 2. (concluded)

C.I. or Sel. No.	Colorado						Washington: 28-			
	Fort	Burling-	Spring-	Yellow:					Trial	
	: Collins: Akron: ton	: field	: Jacket:	: Average:	: Rank:	: Lind	: Rank:	: Average		
15075	7128	3123	1365	1816	1376	2962	1	3294	1	3021
13996	5642	2965	1442	2068	1495	2722	4	3127	2	2907
TX65A1460	5473	2860	1213	1942	1282	2554	9	2943	5	2866
TX65A1503	5116	2879	1339	1694	1232	2452	16	2661	15	2852
TX62A2712-6	5122	2501	1479	2165	1323	2518	12	2747	11	2849
14582	5051	2514	1459	2308	1345	2535	10	2683	14	2831
15068	5426	2796	1271	2122	1413	2606	8	2344	24	2827
TX65A1682	4810	2576	1290	2018	1331	2405	20	2764	10	2826
NB66403	6577	3179	1446	1500	1473	2835	2	2912	7	2804
KS6623	4736	2638	1301	1796	1399	2374	22	2916	6	2800 ^{a/}
A227	5031	3215	1466	2048	1347	2621	7	3061	3	2791
NB66497	5713	3007	1557	2085	1251	2723	3	2500	19	2786
14583	5309	2379	1377	1730	1253	2410	19	2239	25	2757
14584	5120	2803	1564	1911	1267	2533	11	1923	29	2757
CO653033	5616	3018	1260	2115	1338	2669	6	2728	13	2719
HL	5012	2785	1359	1605	1292	2411	18	2870	8	2717
OK60111	5386	3091	1441	2038	1408	2673	5	2788	9	2701
14581	4176	2568	1545	1651	1176	2223	27	2583	17	2695
TX62A2607-6	5163	2547	1231	1718	1189	2370	23	2132	27	2690
14075	5335	2738	1195	1744	1391	2481	15	2198	26	2683
11673	4908	3030	1518	1646	1431	2507	13	2960	4	2659
A235	5274	2541	1405	1863	1170	2451	17	2483	20	2588
NK70-4	5164	2690	1283	1886	1413	2487	14	2423	22	2583
NK70-3	5055	2640	1196	1730	1376	2399	21	2479	21	2551
NK70-2	4616	2388	1081	1975	1107	2233	26	2530	18	2526
12132	4166	2309	1542	2111	1492	2324	25	2649	16	2510
NK70-1	4439	2205	1054	1939	1044	2136	28	2388	23	2506
8856	4524	2576	1395	1807	1456	2352	24	2113	28	2484
1442	3435	2595	1392	1158	1424	2001	29	2743	12	2295

^{a/} 1 less trial than the number shown.

Table 3. Summary of average yield in bushels per acre made by 29 varieties grown in the Southern Regional Performance Nursery in 28 trials in 1970, with state averages and ranks.

Variety	C.I. or Sel. No.	Texas					Average Rank
		:Chilli-:Denton:	Bush-:cothe:	Bush-:land:	:Average:	:Rank	
				irrig dryl			
Ky58/2/Nth/3/Hope/2*Tk/4/Cnn/5/Pkr	15075	46.4	33.3	66.7	36.7	45.8	1
Scout 66	13996	36.6	34.2	68.3	32.2	42.8	3
391-56-D8/Kaw	TX65A1460	26.0	25.1	66.4	27.3	36.2	23-24
391-56-D8/Kaw	TX65A1503	27.6	27.3	64.1	27.3	36.6	21-22
391-56-D8/Tcs	TX62A2712-6	39.5	27.9	66.8	28.3	40.6	8
Satanta	14582	34.5	26.4	69.3	31.5	40.4	10
Eagle	15068	37.6	28.6	68.5	36.2	42.7	4
Nrn 16/ C.I. 12500//Bsn	TX65A1682	40.6	20.9	73.7	32.6	42.0	5
Pn/Cnn/3/Pn/2/Ky58/4/Cnn	NB66403	27.1	20.1	62.0	34.5	35.9	25
Pkr*3/Bsn	KS6623	42.6	37.3	61.7	33.5	43.8	2
Dekalb Hybrid	A227	33.6	29.9	61.5	30.4	38.9	14
Ky58/5/Nth/6/Cnn/Tm/3/Mi/2/Hope/7/Pn/4/Cnn/8/Om	NB66497	24.1	20.1	53.9	30.0	32.0	28
Yukon	14583	31.1	30.1	70.5	30.1	40.5	9
Pala Duro	14584	31.9	29.8	70.7	28.0	40.1	11
Sut/C.I. 12995	C0653033	41.7	34.3	51.2	30.0	39.3	13
Dekalb Hybrid	HL	38.1	29.3	57.9	27.6	38.2	15-16-17-18
Danne 145B4	OK60111	30.9	27.0	57.7	33.3	37.2	20
Chanute	14581	35.7	27.9	67.8	28.7	40.0	12
391-56-D8/Tmp	TX62A2607-6	41.3	27.5	69.0	28.4	41.6	6
Scoutland	14075	37.7	35.4	59.3	30.7	40.8	7
Camanche	11673	36.0	27.7	58.7	30.5	38.2	15-16-17-18
Dekalb Hybrid	A235	38.9	29.0	48.1	26.9	35.7	26
Northrup-King Hybrid	NK70-4	35.9	31.2	54.0	31.7	38.2	15-16-17-18
Northrup-King Hybrid	NK70-3	33.7	22.8	60.9	35.0	38.1	19
Northrup-King Hybrid	NK70-2	35.7	25.1	56.7	28.9	36.6	21-22
Triumph	12132	28.0	25.2	55.9	31.6	35.2	27
Northrup-King Hybrid	NK70-1	36.2	30.1	56.3	30.0	38.2	15-16-17-18
Early Balckhull	8856	30.0	28.7	57.6	28.3	36.2	23-24
Kharkof	1442	23.5	26.9	52.2	21.8	31.1	29

Table 3. (continued)

C.I. or Sel. No.	New Mexico				Oklahoma				Illinois		Missouri		Iowa		
	:Clovis:	:Clovis:	:age	:Rank:	:water	:well	:ward	:age	:Rank:	:bana:	:Rank:	:bia	:Rank:	:Ames:	:Rank:
	irrig	dryl				irrig									
15075	71.7	29.8	50.8	4	49.8	53.3	32.9	45.3	7	56.8	12	39.8	2	20.8	20
13996	63.3	29.3	46.3	11-12	46.4	47.2	29.0	40.9	15	57.5	9	30.6	13	28.2	7
TX65A1460	75.6	25.6	50.6	5	40.6	57.3	39.0	45.6	6	59.0	5	35.8	6	25.4	11
TX65A1503	69.9	25.4	47.7	8	42.2	60.9	35.8	46.3	3-4	59.5	4	37.9	4	27.9	8
TX62A2712-6	74.1	33.2	53.7	1-2	45.5	57.1	35.7	46.1	5	57.9	8	33.4	9	18.9	22
14582	60.3	32.0	46.2	13-14	40.8	61.2	32.3	44.8	10	58.2	7	36.3	5	16.7	24
15068	69.0	28.7	48.9	6	45.4	47.9	34.2	42.5	13	55.7	16	31.0	11	23.1	16
TX65A1682	76.5	28.6	52.6	3	42.4	61.7	40.1	48.1	1	61.5	1	39.6	3	12.9	26
NB66403	59.4	30.2	44.8	17	38.9	48.3	27.6	38.3	24	54.1	17	26.6	22-23	16.5	25
KS6623	57.3	33.5	45.4	16	44.4	47.1	27.9	39.8	19	55.9	15	35.5	7	29.6	6
A227	72.3	35.0	53.7	1-2	34.2	42.6	28.5	35.1	28	51.4	19	28.4	16	31.3	4
NB66497	63.6	25.7	44.7	18	42.7	52.9	32.4	42.7	12	58.3	6	40.0	1	24.2	13
14583	61.6	30.8	46.2	13-14	42.3	59.4	33.6	45.1	8	51.0	21-22	26.2	25	20.2	21
14584	68.3	27.4	47.9	7	43.8	52.0	27.9	41.2	14	50.1	25	27.6	19	22.1	18
CO653033	50.4	30.5	40.5	23-24	44.2	43.1	23.1	36.8	26	50.3	24	26.7	21	27.0	9
H1	59.5	35.5	47.5	9	45.7	44.5	31.4	40.5	16	56.1	14	26.6	22-23	32.3	2
OK60111	35.0	30.4	32.7	28	40.7	49.4	31.1	40.4	17	57.2	10-11	26.5	24	18.0	23
14581	63.9	30.2	47.1	10	40.4	60.2	34.0	44.9	9	57.2	10-11	28.2	17	10.7	28
TX62A2607-6	61.2	31.4	46.3	11-12	47.2	55.9	38.5	47.2	2	59.9	3	30.5	14	8.7	29
14075	58.6	30.5	44.6	19	52.2	50.4	36.4	46.3	3-4	53.1	18	22.0	29	22.6	17
11673	58.0	26.8	42.4	20	40.8	45.2	29.1	38.4	22-23	50.7	23	28.0	18	33.7	1
A235	45.1	24.7	34.9	27	46.6	41.7	31.3	39.9	18	56.7	13	34.8	8	26.2	10
NK70-4	50.4	31.3	40.9	21	39.8	46.3	30.4	38.8	20	51.3	20	24.0	27	31.9	3
NK70-3	53.4	25.4	39.4	25	39.5	41.6	21.4	36.2	27	51.0	21-22	24.4	26	23.7	14
NK70-2	54.0	27.4	40.7	22	43.9	41.8	27.9	37.9	25	48.1	27	30.9	12	23.6	15
12132	32.3	26.2	29.3	29	43.7	51.7	36.9	44.1	11	61.2	2	32.2	10	11.0	27
NK70-1	52.3	28.6	40.5	23-24	45.3	43.1	27.4	38.6	21	47.7	28	29.1	15	24.5	12
8856	57.4	34.6	46.0	15	39.1	44.9	31.3	38.4	22-23	48.5	26	27.3	20	21.0	19
1442	51.0	21.5	36.3	26	34.8	38.4	28.1	33.8	29	43.1	29	22.1	28	31.2	5

Table 3. (continued)

C.I. or Sel. No.	Kansas						Nebraska						South Dakota			
	Man- hattan	Colby	Hays	Garden City	Aver- age	Rank	Clay Mead	North Center	Platte	Alliance	Sidney	Aver- age	Rank	High- more	Rank	
15075	48.7	42.2	39.5	39.5	42.5	14-15	47.0	39.6	40.1	42.0	62.7	46.3	9	51.3	1	
13996	34.4	60.2	41.5	35.8	43.0	13	49.4	48.8	39.2	44.3	61.8	48.7	2	45.0	4	
TX65A1460	43.9	49.6	40.6	40.3	43.6	9	47.1	37.0	40.1	44.6	74.4	48.6	3	40.6	11	
TX65A1503	50.7	44.3	40.7	40.9	44.2	8	45.5	39.6	42.6	40.3	74.4	48.5	4	42.8	7	
TX62A2712-6	41.8	56.4	39.2	35.9	43.3	12	42.3	30.2	40.8	42.2	71.7	45.4	14	39.4	15	
14582	53.3	60.1	38.8	41.6	48.5	1	47.0	29.7	47.0	43.7	62.7	46.0	10	28.7	28	
15068	40.3	53.0	38.7	38.1	42.5	14-15	47.7	43.2	37.2	44.2	57.1	45.9	11	45.2	3	
TX65A1682	44.4	51.4	41.8	36.0	43.4	10-11	51.6	32.9	41.4	34.9	60.1	44.2	18-19	33.1	24	
NB66403	50.3	49.0	43.7	37.0	45.0	6	51.8	36.9	41.3	47.0	70.9	49.6	1	42.1	10	
KS6623	41.2	-	38.2	39.6	39.7	24	49.9	40.5	35.3	44.8	63.9	46.9	7	46.3	2	
A227	38.7	48.5	39.2	36.1	40.6	20	49.0	36.5	38.3	44.7	69.8	47.7	5	43.5	5	
NB66497	50.8	55.9	43.5	38.2	47.1	4	48.5	38.4	39.4	42.4	59.1	45.6	13	37.8	18	
14583	53.6	60.4	39.4	38.4	48.0	3	44.4	33.9	39.2	40.1	69.1	45.3	15	31.6	26	
14584	49.4	64.3	40.5	39.2	48.4	2	45.4	32.4	40.6	42.7	67.3	45.7	12	31.7	25	
CO653033	46.1	38.1	42.4	41.3	42.0	16	48.3	38.8	39.3	45.2	60.5	46.4	8	42.6	8	
HI	43.3	47.9	38.2	35.6	41.3	17	48.4	37.7	30.6	44.5	60.4	44.3	17	40.3	12	
OK60111	43.5	54.3	37.5	38.1	43.4	10-11	48.2	37.9	35.5	47.0	67.3	47.2	6	40.1	13-14	
14581	49.3	60.0	37.1	39.5	46.5	5	44.8	24.7	44.0	40.0	67.6	44.2	18-19	28.2	27	
TX62A2607-6	41.9	58.1	40.1	37.7	44.5	7	42.2	30.9	38.0	38.4	59.4	41.8	23	27.5	29	
14075	39.4	46.7	41.7	35.6	40.9	18	45.4	40.6	28.1	36.2	56.0	41.3	25	43.1	6	
11673	44.9	40.3	38.5	37.4	40.3	21	43.5	36.5	34.3	39.5	56.1	42.0	22	42.4	9	
A235	41.3	43.2	40.8	37.5	40.7	19	45.6	37.3	28.1	41.0	55.2	41.4	24	40.1	13-14	
NK70-4	40.4	39.8	33.4	32.2	36.5	28	44.9	38.7	35.1	36.2	61.4	43.3	20	35.6	21	
NK70-3	33.7	48.7	32.7	33.6	38.4	26	47.1	36.3	35.3	38.1	65.4	44.4	16	34.2	22	
NK70-2	41.7	44.6	36.8	32.9	39.0	25	49.2	38.0	32.0	35.0	57.4	42.3	21	38.1	17	
12132	40.2	43.0	39.1	38.1	40.1	22	45.8	30.5	37.6	36.1	51.3	40.3	27	37.0	19-20	
NK70-1	44.0	40.8	40.7	33.5	39.8	23	46.3	38.8	32.4	33.1	52.2	40.6	26	38.0	16	
8856	39.0	46.6	32.3	31.6	37.4	27	40.8	38.0	38.0	32.0	49.4	39.6	29	33.4	23	
1442	36.1	32.2	34.1	34.2	34.2	29	38.9	31.1	31.1	35.7	62.4	39.8	28	37.0	19-20	

Table 3. (concluded)

C.I. or Sel. No.	Colorado								Washington:28-	
	Fort	Burling-	Spring-	Yellow:	Aver--			Trial		
	Collins:	Akron:	ton	field	Jacket:	age	Rank:	Lind	Rank:	Average
15075	106.2	46.5	20.3	27.1	20.5	44.1	1	49.1	1	45.0
13996	84.1	44.2	21.5	30.8	22.3	40.6	3-4	46.6	2	43.3
TX65A1460	81.6	42.6	18.1	28.9	19.1	38.1	9	43.9	5	42.7
TX65A1503	76.2	42.9	20.0	25.2	18.4	36.5	16-17	39.6	15	42.5
TX62A2712-6	76.3	37.3	22.0	32.3	19.7	37.5	12	40.9	11-12	42.5
14582	75.3	37.5	21.7	34.4	20.0	37.8	10-11	40.0	14	42.2
15068	80.9	41.7	18.9	31.6	21.1	38.8	8	34.9	24	42.1
TX62A1682	71.7	38.4	19.2	30.1	19.8	35.8	20	41.2	10	42.1
NB66403	98.0	47.4	21.6	22.4	22.0	42.3	2	43.4	6-7	41.8
KS6623	70.6	39.3	19.4	26.8	20.9	35.4	22	43.4	6-7	41.7 a/
A227	75.0	47.9	21.8	30.5	20.1	39.1	7	45.6	3	41.6
NB66497	85.1	44.8	23.2	31.1	18.6	40.6	3-4	37.3	19	41.5
14583	79.1	35.5	20.5	25.8	18.7	35.9	18-19	33.4	25	41.1
14584	76.3	41.8	23.3	28.5	18.9	37.8	10-11	28.7	29	41.1
C0653033	83.7	45.0	18.8	31.5	19.9	39.8	6	40.6	13	40.5
H1	74.7	41.5	20.3	23.9	19.3	35.9	18-19	42.8	8	40.5
OK60111	80.3	46.1	21.5	30.4	21.0	39.9	5	41.5	9	40.3
14581	62.2	38.3	23.0	24.6	17.5	33.1	27	38.5	17	40.2
TX62A2607-6	76.9	38.0	18.3	25.6	17.7	35.3	23	31.8	27	40.1
14075	79.5	40.8	17.8	26.0	20.7	37.0	15	32.8	26	40.0
11673	73.1	45.2	22.6	24.5	21.3	37.3	13	44.1	4	39.6
A235	78.6	37.9	20.9	27.8	17.4	36.5	16-17	37.0	20	38.6
NK70-4	76.9	40.1	19.1	28.1	21.1	37.1	14	36.1	22	38.5
NK70-3	75.3	39.3	17.8	25.8	20.5	35.7	21	36.9	21	38.0
NK70-2	68.8	35.6	16.1	29.4	16.5	33.3	26	37.7	18	37.6
12132	62.1	34.4	23.0	31.5	22.2	34.6	25	39.5	16	37.4
NK70-1	66.1	32.9	15.7	28.9	15.6	31.8	28	35.6	23	37.4
8856	67.4	38.4	20.8	26.9	21.7	35.0	24	31.5	28	37.0
1442	51.2	38.7	20.7	17.3	21.2	29.8	29	40.9	11-12	34.2

a/ One less trial than the number shown.

Table 4. Summary of 2-year average yields in kilograms per hectare for 14 varieties grown in the Southern Regional Performance Nursery in 18 trials in 1969 and 1970, with state averages and ranks.

Pedigree	C.I. or Sel. No.	Texas				New Mexico			
		Den-	Chilli-	Aver-	Rank	Clovis	Clovis	age	Rank
		ton	cothe	age		irrig. dryl.			
Ky58/2/Nth/3/Hope/2*Tk/4/Cnn/5/Pkr	15075	3124	2403	2764	1	4466	1940	3203	1
Scout 66	13996	2557	2289	2423	2	3500	1872	2686	9
Pn/Cnn/3/Pn/2/Ky58/4/Cnn	NB66403	2023	1681	1852	13	3530	1973	2752	8
Eagle	15068	2544	2168	2356	3-4	4423	1688	3056	4
Ky58/5/Nth/6/Cnn/Tm/3/M1/2/Hope/7/Pn/4/Cnn/8/On	66497	1953	1708	1831	14	3993	1661	2827	7
Nrn 16/C.I. 12500//Bsn	TX65A1682	2768	1859	2314	5	4732	1537	3135	2
391-56-D8/Tmp	TX62A2607-6	2577	2134	2356	3-4	4423	1832	3128	3
Danne 145B4	OK60111	2174	2040	2107	8	3178	1812	2495	12
Dekalb Hybrid	A227	2312	1963	2138	6	3876	1909	2893	5
Dekalb Hybrid	A235	2336	1886	2111	7	3460	1534	2497	11
Comanche	11673	2292	1836	2064	9	3466	1658	2562	10
Triumph	12132	2107	1755	1931	11	2668	1443	2056	14
Early Blackhull	8856	2074	1953	2014	10	3859	1799	2829	6
Kharkof	1442	1691	1819	1755	12	3091	1698	2395	13

Table 4. (continued)

C.I. or Sel. No.	Oklahoma				Illinois		Kansas					
	Wood-	Still-	Aver-	Rank	Urbana	Rank	Colby	City	attan	Manh-	Aver-	Rank
	ward	water	age							Hays	age	
15075	3282	3836	3559	1	4117	1	2480	3285	2826	2634	2806	2
13996	2916	3346	3131	9	3993	4	3207	3027	2164	2799	2799	3
NB66403	2547	2893	2720	12	3909	5-6	2755	3104	2487	2752	2775	5
15068	2997	3352	3175	8	3735	9	2849	3258	2245	2775	2782	4
NB66497	3044	3393	3219	5	3909	5-6	2933	3084	2638	2708	2841	1
TX65A1682	3339	3164	3252	4	4030	2-3	2668	2946	2154	2943	2678	7
TX62A2607-6	3409	3446	3428	2	4030	2-3	2799	2943	1758	2765	2566	8
OK60111	3238	3188	3213	6	3872	7	2785	3161	2174	2624	2686	6
A227	2628	2638	2633	13	3668	10	2228	3121	1886	2477	2428	12
A235	2956	3430	3193	7	3859	8	2383	2980	2141	2567	2518	9
11673	2836	3064	2950	10	3537	11	2352	2919	2148	2396	2454	11
12132	3302	3265	3284	3	3339	12	2315	2997	1987	2678	2494	10
8856	2695	2899	2797	11	3265	14	2430	2611	1621	2376	2260	13
1442	2252	2242	2247	14	3272	13	1980	2584	1795	1963	2081	14

Table 4. (concluded)

C.I. or Sel. No.	Nebraska					Colorado					:18	
	:Alli- :ance	:North :Platte	:Aver- :age	:Rank	:Jacket	:Yellow:Fort :Collins	:Burling- :ton	:Spring- :field	:Aver- :Akron	:Rank	:Average	:Trial
15075	2201	2792	2497	3	1339	6826	2195	2638	3557	3311	1	3108
13996	2268	2755	2512	2	1386	5772	2081	2339	3265	2696	7	2863
NB66403	2372	2980	2676	1	1416	6460	2124	2265	3406	3134	2	2815
15068	2144	2574	2359	6	1218	5487	1936	2211	3047	2780	6	2814
NB66497	2121	2668	2395	5	1057	5681	2074	2265	3342	2884	4	2791
TX65A1682	1671	2503	2087	11	1161	4856	2017	2215	3168	2683	8	2763
TX62A2607-6	1809	2238	2024	13	960	5483	1782	2044	3047	2663	10	2749
OK60111	2208	2369	2289	7	1191	5725	1809	2440	3292	2891	3	2738
A227	2178	2748	2463	4	1279	5205	1993	2295	3349	2824	5	2653
A235	2047	2171	2109	10	1131	5339	1893	2121	2859	2669	9	2616
11673	2044	2450	2247	8	1232	5067	1909	2111	2973	2658	11	2572
12132	1728	2295	2012	14	1228	4661	1745	2228	2718	2516	12	2470
8856	1698	2450	2074	12	1148	4560	1668	1993	2748	2423	13	2439
1442	1919	2436	2178	9	1252	3487	1671	1604	2738	2150	14	2194

Table 5. Summary of 2 year average yields in bushels per acre of 14 varieties grown in the Southern Regional Performance Nursery in 18 trials in 1969 and 1970, with state averages and ranks.

Pedigree	C.I. or Sel. No.	Texas				New Mexico			
		Den-	Chilli-	Aver-	Rank	Clovis	Clovis	age	Rank
		ton	cothe	age		irrig.	dryl.		
Ky/58/2/Nth/3/Hope/3*Tk/4/Cnn/5/Pkr	15075	46.6	35.8	41.2	1	66.6	28.9	47.8	1
Scout 66	13996	38.1	34.1	36.1	2	52.2	27.9	40.1	9
Pn/Cnn/3/Pn/2/Ky58/4/Cnn	NB66403	30.2	25.1	27.7	13	52.6	29.4	41.0	8
Eagle	15068	37.9	32.3	35.1	3-4	65.9	25.2	45.6	4
Ky58/5/Nth/6/Cnn/Tm/3/Mi/2/Hope/7/Pn/4/Cnn/8/Om	NB66497	29.1	25.5	27.3	14	59.5	24.8	42.2	7
Nrn 16/ C.I. 12500//Bsn	TX65A1682	41.3	27.7	34.5	5	70.5	22.9	46.7	2
391-56-D8/Tmp	TX62A2607-6	38.4	31.8	35.1	3-4	65.9	27.3	46.6	3
Danne 145B4	OK60111	32.4	30.4	31.4	8	47.4	27.0	37.2	12
Dekalb Hybrid	A227	34.5	29.3	31.9	6	57.8	28.5	43.2	5
Dekalb Hybrid	A235	34.8	28.1	31.5	7	51.6	22.9	37.3	11
Comanche	11673	34.2	27.4	30.8	9	51.7	24.7	38.2	10
Triumph	12132	31.4	26.2	28.8	11	39.8	21.5	30.7	14
Early Blackhull	8856	30.9	29.1	30.0	10	57.5	26.8	42.2	6
Kharkof	1442	25.2	27.1	26.2	12	46.1	25.3	35.7	13

Table 5. (continued)

C.I. or Sel. No.	Oklahoma				Illinois			Kansas				
	Wood-	Still-	Aver-	Rank	Ur-	Rank	Colby	Garden:	Manha-	Aver-	Rank	
	ward	water	age		bana			City	ttan	Hays:	age	
15075	48.9	57.2	53.1	1	61.4	1	37.0	49.0	42.1	39.3	41.9	2
13996	43.5	49.9	46.7	9	59.5	4	47.8	45.1	32.3	41.7	41.7	3
NB66403	38.0	43.1	40.6	12	58.3	5-6	41.1	46.3	37.1	41.1	41.4	5
15068	44.7	50.0	47.4	8	55.7	9	42.5	48.6	33.5	41.4	41.5	4
NB66497	45.4	50.6	48.0	5	58.3	5-6	43.7	46.0	39.3	40.4	42.4	1
TX65A1682	49.8	47.2	48.5	4	60.1	2-3	39.8	43.9	32.1	43.9	39.9	7
TX62A2607-6	50.8	51.4	51.1	2	60.1	2-3	41.7	43.9	26.2	41.2	38.3	8
OK60111	48.3	47.5	47.9	6	57.7	7	41.5	47.1	32.4	39.1	40.0	6
A227	39.2	39.3	39.3	13	54.7	10	33.2	46.5	28.1	36.9	36.2	12
A235	44.1	51.1	47.6	7	57.5	8	35.5	44.4	31.9	38.3	37.5	9
11673	42.3	45.7	44.0	10	57.2	11	35.1	43.5	32.0	35.7	36.6	11
12132	49.2	48.7	49.0	3	49.8	12	34.5	44.7	29.6	39.9	37.2	10
8856	40.2	43.2	41.7	11	48.7	14	36.2	38.9	24.2	35.4	33.7	13
1442	33.6	33.4	33.5	14	48.8	13	29.5	38.5	26.8	29.3	31.0	14

Table 5. (concluded)

C.I. or Sel. No.	Nebraska					Colorado					:18	
	:Alli- :ance	:North :Platte	:Aver- :age	:Rank	:Yellow: :Jacket	:Fort :Collins	:Burling- :ton	:Spring- :field	:Aver- :Akron	:age	:Rank	:Average
15075	32.8	41.6	37.2	3	20.0	101.7	32.7	39.3	53.0	49.3	1	46.3
13996	33.8	41.1	37.5	2	20.7	86.0	31.0	34.9	48.7	44.3	7	42.7
NB66403	35.4	44.4	39.9	1	21.1	96.3	31.7	33.8	50.8	46.7	2	42.0
15068	32.0	38.4	35.2	6	18.2	81.8	28.9	33.0	45.4	41.5	6	42.0
NB66497	31.6	39.8	35.7	5	15.8	84.7	30.9	33.8	49.8	43.0	4	41.6
TX65A1682	24.9	37.3	31.1	11	17.3	72.4	30.1	33.0	47.2	40.0	8	41.2
TX62A2607-6	27.0	33.4	30.2	13	14.3	81.7	26.6	30.5	45.4	39.7	10	41.0
OK60111	32.9	35.3	34.1	7	17.8	85.3	27.0	36.4	49.1	43.1	3	40.8
A227	32.5	41.0	36.8	4	19.1	77.6	29.7	34.2	49.9	42.1	5	39.6
A235	30.5	32.4	31.5	10	16.9	79.6	28.2	31.6	42.6	39.8	9	39.0
11673	30.5	36.5	33.5	8	18.4	75.5	28.5	31.5	44.3	39.6	11	38.6
12132	25.8	34.2	30.0	14	18.3	69.5	26.0	33.2	40.5	37.5	12	36.8
8856	25.3	36.5	30.9	12	17.1	68.0	24.9	29.7	41.0	36.1	13	36.3
1442	28.6	36.3	32.5	9	18.7	52.0	24.9	23.9	40.8	32.1	14	32.7

Table 6. Summary of agronomic and yield data for varieties grown in the Southern Regional Performance Nursery in 1970.

C.I. or Sel. No.	Days to		Plant	Rust		Mildew	Septoria	Survival	Lodg-	Shatt-	Volume	weight	Average yield	
	head	ripe	height	leaf	stem				ing	ering	kg/hl	lbs/bu	kg/ha	bu/a
Number of Trials--	27	5	cm	%	%	%	%	%	%	%	27	27	28	28
15075	142	170	80	9	4	9	22	69	17	2	77.0	59.7	3021	45.0
13996	139	169	85	44	15	14	40	76	22	1	77.0	59.7	2907	43.3
TX65A1460	141	171	68	32	68	11	33	72	5	0	76.9	59.6	2866	42.7
TX65A1503	141	171	70	28	63	4	30	67	5	1	77.1	59.8	2852	42.5
TX62A2712-6	139	169	72	45	59	8	38	57	4	0	77.5	60.1	2849	42.5
14582	139	169	74	44	75	4	25	41	16	1	79.1	61.3	2831	42.2
15068	140	169	80	43	21	10	41	69	13	1	77.0	59.7	2827	42.1
TX65A1682	139	168	68	51	65	18	35	55	5	0	77.2	59.8	2826	42.1
NB66403	142	171	83	43	16	14	35	72	19	1	75.7	58.7	2804	41.8
KS6623	141*	170	82	12	78	13	21	65	15*	1	79.0	61.2	2800*	41.7*
A227	142	171	89	44	55	17	26	63	20	1	77.6	60.2	2791	41.6
NB66497	140	169	79	50	8	15	29	81	12	1	76.0	58.9	2786	41.5
14583	139	168	74	36	60	2	38	42	23	0	78.4	60.8	2757	41.1
14584	139	168	75	36	65	2	35	57	29	1	78.2	60.6	2757	41.1
C0653033	142	171	90	21	13	21	34	73	15	4	76.8	59.5	2719	40.5
HL	140	169	86	42	79	21	37	90	20	3	78.1	60.5	2717	40.5
OK60111	139	167	82	43	41	22	45	69	19	6	76.6	59.4	2701	40.3
14581	140	169	73	42	80	2	25	29	18	1	78.9*	61.2*	2695	40.2
TX62A2607-6	138	167	70	20	64	10	39	34	6	1	76.0*	58.9*	2690	40.1
14075	139	168	82	38	10	4	40	74	14	1	77.5	60.1	2683	40.0
11673	141	169	89	34	53	14	38	79	28	3	76.7	59.5	2659	39.6
A235	140	168	85	40	80	19	32	71	17	8	78.1	60.5	2588	38.6
NK70-4	142	170	90	39	83	24	44	66	19	3	75.5	58.5	2583	38.5
NK70-3	142	170	90	37	66	12	39	63	21	1	75.2	58.3	2551	38.0
NK70-2	141	170	89	34	58	12	24	68	16	1	75.6	58.6	2526	37.6
12132	138	167	84	42	64	12	35	52	17	6	78.0	60.5	2510	37.4
NK70-1	142	170	90	36	53	17	26	69	17	1	76.3	59.2	2506	37.4
8856	137	168	88	41	65	7	44	51	37	1	78.8	61.1	2484	37.0
1442	146	174	91	40	96	6	31	80	29	6	76.1	59.0	2295	34.2

* Average based on one less trial than the number shown.

NORTHERN REGIONAL PERFORMANCE NURSERY

Twenty-five varieties were grown in 18 nurseries in 8 states and at Lethbridge, Alberta in 1970. The nurseries were comprised of 4-row observation plots only at Mead, Nebraska and Brookings, South Dakota. Difficult seedling conditions in the fall prevented the nursery from being planted at St. Paul, Minnesota. Hail destroyed the nursery at Presho, South Dakota. Entries in the 1970 NRPN appear in the listing that follows. Data from re-reporting nursery sites are contained in table 7.

Entry No.	Pedigree	C.I. or Sel. No.	Source
1	Kharkof	1442	Check
2	Warrior	13190	"
3	Winoka	14000	So. Dak.
4	Trader	13998	Nebr.
5	Trapper	13999	"
6	Pn/Cnn/3/Pn/2/Ky58/4/Cnn	NB66403	"
7	"	NB66408	"
8*	Wrr/3/At166/2/Cnn/4/Cnn/Ot	NB68513	"
9*	Wrr/Minn. III-54-12	SD66117-1	So. Dak.
10**	Pnc/3*Cnn/2/NB61981	SD66171	"
11*	Pnc/2*Cnn/2/Hume	SD6710	"
12*	M1/Hope/Pn/Oro/I1 1/2/Cnn/3/Svl/ 2*Pn/4/Hume	SD6712	"
13*	"	SD6713	"
14*	Gage/Hume	SD6716	"
15*	"	SD6717	"
16*	"	SD6718	"
17*	"	SD6745	"
18*	Recurrent Sel. Series I, Cycle II	SD6753	"
19*	"	SD6755	"
20*	Ky58/Nth/3/Cnn/Tm/M1/Hope/2/Pn/Cnn/4/Om	NB66497	Nebr.
21*	Northrup - King Hybrid	NK70-1	Northrup-King
22*	"	NK70-2	"
23*	"	NK70-3	"
24*	"	NK70-4	"
25	Froid	13872	Mont.

* New entry in 1970.

** New seed provided by South Dakota.

Data Obtained

Nebraska Stations--See SRPN information.

Archer--The nursery was highly variable although full stands were established in the fall. The wheat survived the winter well. The weather turned dry after early spring rains and spots of severe moisture stress developed in the nursery area.

Sheridan--Fall stands were adequate and the nursery survived the winter well. Condition of the nursery was excellent in the spring until early May after which there was little effective precipitation until after harvest. There was no damage from diseases or insects.

Highmore--No information received.

Presho--The nursery destroyed by hail.

Brookings--Information on conditions not reported.

Dickinson--The fall was dry. Lack of surface moisture at seeding time resulted in weak germination and spotty stands. Some winterkill occurred but it was difficult to read because of poor seeds and lack of fall growth. There was no leaf or stem rust of consequence on winter wheat.

Williston--The nursery was seeded on September 12 at a seeding rate of 45 pounds per acre. Acceptable fall stands were obtained. Some winterkilling occurred which appeared to be affected by differential packing of the seedbed by the tractor wheels at seeding time. April and May were cold and wet. The weather turned hot and dry in June. However, total precipitation during May, June, and July was 8.15 inches compared to a long-time average of 7.10 inches for the period.

Casselton--The nursery did not survive the winter.

St. Paul--The nursery was not seeded.

Waseca--Fall, winter and spring were about normal for the area. June was somewhat dry. Leaf rust was somewhat more prevalent than usual.

Sidney, Montana--An extremely dry fall delayed seeding and affected germination and emergence. Some seed did not germinate until spring. Winter snow cover was light but temperatures were about normal for the location. The mean January temperature was +7°F. and the lowest temperature for the month was -39°F. A dust storm in early April cut off much new growth. The spring was cold and wet delaying growth. June and July were hot and dry. Leaf and stem rust occurred in trace amounts only. No insects injurious to wheat were noted. Ergot was noted in the hybrid nursery entries.

Moccasin--Conditions not reported.

Tetonia--The nursery developed a mild infection of Typhula idahoensis. There was also a light infection of dwarf bunt with most entries showing little resistance. A severe hail storm in the spring followed by torrential rains a few weeks later set back the nursery. An extended dry period occurred during summer. Winter wheat harvest was not completed until October 21.

Lethbridge--The fall was very dry and it was necessary to seed the NRPN on irrigated land. Fertilizer was applied according to soil tests. There was no winterkill. The summer was hotter than normal. There were no diseases of consequence.

Clovis--Precipitation received from seeding to harvest totaled 7.27 inches, of which 4.42 inches came in October. The irrigated test received irrigation water 6 times and 200 lbs. of nitrogen.

Table 7. Yield and other data for varieties grown in the Northern Regional Performance Nursery at 16 locations in 1970.

North Platte, Nebraska
Three replications

C.I. or Sel. No.	:Days: : to	:Volume weight:	: 1970	: 1969-1970	: years:	:Percent of
	:head:kg/hl	:lbs/bu:kg/ha:bu/a	: kg/ha:bu/a	:grown:Kharkof		
SD6755	149	77.1	59.8	2906	43.3	- - 1 136.6
SD6753	149	76.6	59.4	2799	41.7	- - 1 131.6
NB66497	148	76.1	59.0	2785	41.5	- - 1 130.9
14000	153	78.8	61.1	2756	41.1	2993 44.6 4 103.9
NB66403	150	76.4	59.2	2747	40.9	3171 47.3 2 120.1
SD6745	149	76.5	59.3	2698	40.2	- - 1 126.8
SD6717	149	76.8	59.5	2664	39.7	- - 1 125.2
13190	150	73.5	57.0	2639	39.3	3091 46.1 7 117.3
SD6710	150	78.3	60.7	2633	39.2	- - 1 123.7
13999	151	74.4	57.7	2606	38.8	3030 45.2 5 116.7
SD6718	149	76.4	59.2	2595	38.7	- - 1 122.1
SD6716	149	76.8	59.5	2583	38.5	- - 1 121.5
SD6713	148	78.1	60.5	2574	38.4	- - 1 121.1
SD6712	149	77.5	60.1	2554	38.1	- - 1 120.2
NK70-1	150	76.6	59.4	2471	36.8	- - 1 116.1
13998	151	74.1	57.4	2464	36.7	2859 42.6 5 107.5
15074(NB68513)	150	77.8	60.3	2462	36.7	- - 1 115.8
NK70-2	149	76.5	59.3	2462	36.7	- - 1 115.8
NB66408	149	79.0	61.2	2447	36.5	2903 43.3 2 109.9
SD66117-1	151	75.1	58.2	2433	36.3	2919 43.5 2 110.6
NK70-3	150	74.3	57.6	2420	36.1	- - 1 113.9
SD66171	153	80.1	62.1	2411	35.9	2742 40.9 2 103.8
NK70-4	150	74.8	58.0	2366	35.3	- - 1 111.4
13872	156	76.6	59.4	2184	32.5	2534 37.8 4 89.8
1442	154	76.1	59.0	2124	31.7	2641 39.4 12 100.0

L.S.D. = 437 kg/ha C.V. = 10.5%
.05

Sidney, Nebraska
Three replications

C.I. or Sel. No.	:Days: : to	:Plant :head:	:Volume :height:	:weight: :kg/hl	:1970 :lbs/bu:	:Average yield: :kg/ha	No. : :years:	:Percent :of :grown:Kharkof
			cm					
NB66403	159	91	78.6	60.9	5992	89.3	1	133.9
13190	160	97	79.0	61.2	5256	78.3	1	117.4
13998	161	99	79.0	61.2	5057	75.4	1	113.0
13999	160	99	79.3	61.5	4904	73.1	1	109.6
SD6753	159	91	77.7	60.2	4770	71.1	1	106.6
SD66117-1	160	84	78.6	60.9	4759	70.9	1	106.3
NB66497	155	91	77.3	59.9	4736	70.6	1	105.9
NK70-3	158	94	77.4	60.0	4736	70.6	1	105.9
NB66408	158	89	79.3	61.5	4725	70.4	1	105.6
15074(NB68513)	158	91	79.2	61.4	4671	69.6	1	104.4
SD6745	158	94	77.1	59.8	4653	69.3	1	103.9
SD6716	158	91	77.4	60.0	4637	69.1	1	103.6
SD6755	159	97	78.2	60.6	4575	68.2	1	102.3
1442	163	102	78.7	61.0	4476	66.7	1	100.0
SD6710	159	89	78.7	61.0	4371	65.1	1	97.6
SD6712	152	91	78.6	60.9	4368	65.1	1	97.6
14000	161	94	79.9	61.9	4353	64.9	1	97.3
SD6718	158	94	77.1	59.8	4344	64.7	1	97.0
SD66171	163	104	79.2	61.4	4297	64.0	1	96.0
NK70-2	159	97	77.0	59.7	4198	62.6	1	93.9
SD6713	153	91	78.8	61.1	4196	62.5	1	93.7
NK70-4	158	97	76.9	59.6	4196	62.5	1	93.7
SD6717	159	84	77.7	60.2	4140	61.7	1	92.5
13872	164	99	76.8	59.5	4034	60.1	1	90.1
NK70-1	159	89	77.1	59.8	4007	59.7	1	89.5

L.S.D. = 438 kg/ha C.V. = 5.9%
.05

Alliance, Nebraska
Three replications

C.I. or Sel. No.	:Days: : to	: :Plant	: :Volume	: :weight:	Average yeild				: No.	:Percent
					1970	1969-1970	years:	of		
	:head:	:height:	:kg/hl	:lbs/bu:	:kg/ha:	:bu/a	: kg/ha:	:bu/a:	:grown:	:Kharkof
		cm								
NB66403	158	89	77.1	59.8	3749	55.9	2745	40.9	2	124.9
13999	161	94	78.4	60.8	3261	48.6	2416	36.0	4	110.2
13998	160	94	78.2	60.6	3213	47.9	2255	33.6	4	106.2
NB66497	156	81	76.2	59.1	3204	47.7	-	-	1	109.4
14000	160	94	79.5	61.6	3032	45.2	2141	31.9	3	98.7
NB66408	158	89	78.8	61.1	2971	44.3	2215	33.0	2	100.8
SD6712	155	89	77.4	60.0	2938	43.8	-	-	1	100.5
1442	161	99	77.3	59.9	2929	43.6	2198	32.8	17	100.0
SD66117-1	160	86	78.1	60.5	2917	43.5	2292	34.2	2	104.3
SD6713	155	84	77.7	60.2	2908	43.3	-	-	1	99.3
SD6753	158	89	76.0	58.9	2900	43.2	-	-	1	99.1
SD66171	160	99	79.0	61.2	2895	43.1	2017	30.1	2	91.8
13190	159	91	78.2	60.6	2888	43.0	2285	34.1	6	115.4
SD6718	157	86	75.0	58.1	2864	42.7	-	-	1	97.9
15074(NB68513)	158	89	78.6	60.9	2826	42.1	-	-	1	96.6
13872	161	91	76.6	59.4	2745	40.9	2064	30.8	2	93.9
NK70-3	157	89	75.9	58.8	2711	40.4	-	-	1	92.7
SD6717	157	89	75.6	58.6	2695	40.2	-	-	1	92.2
SD6710	158	89	77.9	60.4	2610	38.9	-	-	1	89.2
NK70-1	156	91	75.7	58.7	2532	37.7	-	-	1	86.5
NK70-2	157	89	76.5	59.3	2503	37.3	-	-	1	85.6
NK70-4	157	91	75.9	58.8	2496	37.2	-	-	1	85.3
SD6755	158	84	76.4	59.2	2485	37.0	-	-	1	84.9
SD6716	158	86	76.0	58.9	2433	36.3	-	-	1	83.3
SD6745	159	86	75.1	58.2	2272	33.9	-	-	1	77.6

L.S.D. = 528 kg/ha C.V. = 11.4%
.05

Mead, Nebraska
Single plots

C.I. or Sel. No.	: Days : : to : : head :	: Plant : : height : cm	: Lodging :	: Leaf rust severity :	: response
1442	149	102	5	30	S
13190	145	89	0	60	S
14000	149	97	0	20	S
13998	145	97	0	65	S
13999	145	99	0	65	S
NB66403	144	89	0	65	S
NB66408	144	91	0	50	S
15074(NB68513)	144	86	0	10	MR
SD66117-1	144	86	5	25	MR
SD66171	146	102	15	5	MR
SD6710	144	94	5	40	S
SD6712	145	89	0	40	S
SD6713	144	86	0	30	MS
SD6716	144	89	0	10	MR
SD6717	144	89	0	20	MR
SD6718	144	86	0	10	MR
SD6745	144	89	0	5	MR
SD6753	144	89	0	10	MR
SD6755	144	91	0	10	MR
NB66497	142	76	0	50	S
NK70-1	145	94	0	50	S
NK70-2	144	91	0	50	S
NK70-3	144	91	10	40	S
NK70-4	144	91	0	30	S
13872	150	102	5	40	S

Archer, Wyoming
Three replications

C.I. or Sel. No.	:Days:		:		Average yield				: No. :	:Percent
	: to :	:Plant :	:Volume :	:weight:	1970	1969-1970	:years:	of		
	:head:	height:	kg/hl	:lbs/bu:	kg/ha:	bu/a :	kg/ha:	bu/a:	grown:	Kharkof
		cm								
13998	174	93	79.8	61.9	2871	42.8	2171	32.4	5	113.6
NB66497	166	80	79.2	61.4	2859	42.6	-	-	1	127.5
15074(NB68513)	171	87	79.3	61.5	2823	42.1	-	-	1	126.1
SD6713	169	87	79.3	61.5	2701	40.2	-	-	1	120.4
NB66403	169	87	77.2	59.8	2678	39.9	2013	30.0	2	115.8
13190	171	88	80.4	62.3	2584	38.5	1930	28.8	6	103.1
SD6716	169	94	79.8	61.9	2532	37.7	-	-	1	112.9
NB66408	171	78	80.1	62.1	2520	37.6	1785	26.6	2	102.7
13999	174	89	79.6	61.7	2518	37.5	1846	27.5	5	108.2
SD6745	171	90	79.0	61.2	2506	37.3	-	-	1	111.7
SD6718	170	90	77.9	60.4	2497	37.2	-	-	1	111.4
14000	174	91	81.2	63.0	2424	36.1	1799	26.8	4	99.0
SD66117-1	171	87	78.5	60.9	2402	35.8	1876	28.0	2	107.9
SD6717	169	94	79.2	61.4	2379	35.5	-	-	1	106.3
SD6710	171	90	78.3	60.7	2374	35.4	-	-	1	106.0
SD6755	170	88	79.8	61.9	2358	35.1	-	-	1	105.1
NK70-1	170	101	78.3	60.7	2356	35.1	-	-	1	105.1
13872	175	97	77.5	60.1	2312	34.5	1671	24.9	4	94.2
SD6712	167	94	79.8	61.9	2308	34.4	-	-	1	103.0
NK70-3	169	91	76.7	59.5	2297	34.2	-	-	1	102.4
SD66171	171	94	78.4	60.8	2256	33.6	1705	25.4	2	98.1
1442	171	96	79.4	61.6	2242	33.4	1738	25.9	14	100.0
SD6753	170	90	79.6	61.7	2196	32.7	-	-	1	97.9
NK70-2	169	91	78.4	60.8	2083	31.0	-	-	1	92.8
NK70-4	170	92	78.5	60.9	2013	30.0	-	-	1	89.8

L.S.D. = 405 kg/ha C.V. = 12.2%
.05

Sheridan, Wyoming
Three replications

C.I. or Sel. No.	:Days:		:		Average yield				: No. :	:Percent
	: to :	:Plant :	:Volume :	:weight:	1970	1969-1970	:years:	of		
	:head:	:height:	:kg/hl :	:lbs/bu:	:kg/ha:	:bu/a :	:kg/ha:	:bu/a:	:grown:	:Kharkof
		cm								
1442	169	89	78.0	60.5	1898	28.3	2416	36.0	19	100.0
13190	165	80	78.1	60.5	1848	27.5	2339	34.9	7	108.1
SD66171	167	88	79.3	61.5	1782	26.6	1772	26.4	2	73.3
13999	168	82	79.4	61.6	1694	25.2	2151	32.1	5	100.1
13998	168	82	78.8	61.1	1630	24.3	2248	33.5	5	98.9
SD66117-1	166	76	79.4	61.6	1530	22.8	2258	33.7	2	93.5
NK70-3	162	86	75.8	58.8	1460	21.8	-	-	1	77.0
SD6755	164	79	76.7	59.5	1451	21.6	-	-	1	76.3
SD6712	159	76	77.9	60.4	1428	21.3	-	-	1	75.3
14000	168	82	79.8	61.9	1412	21.0	2111	31.5	4	92.3
SD6718	161	76	76.1	59.0	1385	20.6	-	-	1	72.8
15074(NB68513)	161	77	78.6	60.9	1360	20.3	-	-	1	71.7
NK70-4	164	93	76.0	58.9	1352	20.1	-	-	1	71.0
NB66408	162	76	79.9	61.9	1341	20.0	2164	32.3	2	89.6
NB66403	162	77	78.6	60.9	1329	19.8	2419	36.1	2	100.1
SD6713	158	79	77.5	60.1	1322	19.7	-	-	1	69.6
SD6716	160	77	76.6	59.4	1306	19.5	-	-	1	68.9
13872	171	89	76.0	58.9	1277	19.0	2003	29.9	4	88.8
SD6753	163	81	77.2	59.8	1214	18.1	-	-	1	64.0
NB66497	159	71	77.2	59.8	1177	17.5	-	-	1	61.8
SD6710	163	76	77.0	59.7	1154	17.2	-	-	1	60.8
SD6717	161	75	76.1	59.0	1131	16.9	-	-	1	59.7
NK70-1	161	81	75.8	58.8	1112	16.6	-	-	1	58.7
SD6745	162	77	76.0	58.9	1033	15.4	-	-	1	54.4
NK70-2	161	84	75.8	58.8	965	14.4	-	-	1	50.9

L.S.D. = 527 kg/ha C.V. = 23.2%
.05

Highmore, South Dakota
Six replications

C.I. or rel. No.	:Days: : to :Plant :	: : Leaf rust :	: : Stem rust :	: : Winter :	: : Volume weight :	: : Average yield :	: : No. :Percent :
	:head:height:	:severity:response:	:severity:response:	:survival:	:kg/hl :lbs/bu:	:kg/ha:bu/a : kg/ha:bu/a:	:years: of grown:Kharkof
	cm	%	%	%			
SD6755	161 62	65 M	0 R	65	76.4 59.2	2396 35.7	- - 1 120.6
VB66403	160 64	100 S	0 R	35	75.9 58.8	2382 35.5	2205 32.9 2 115.3
15074(NB68513)	160 66	15 M	0 R	45	77.9 60.4	2373 35.4	- - 1 119.6
SD6753	160 60	40 MR	0 R	78	74.8 58.0	2189 32.6	- - 1 110.1
SD6718	160 60	40 M	0 R	60	75.1 58.2	2112 31.5	- - 1 106.4
SD6713	158 63	100 S	0 R	83	76.8 59.5	2111 31.5	- - 1 106.4
SD66117-1	161 58	25 M	0 R	38	76.5 59.3	2105 31.4	1990 29.7 2 104.0
13999	162 70	100 S	0 R	65	76.2 59.1	2066 30.8	1919 28.6 5 96.7
SD6712	158 64	100 S	0 R	78	76.2 59.1	2027 30.2	- - 1 102.0
SD6745	160 61	40 M	0 R	60	74.8 58.0	2000 29.8	- - 1 100.7
VB66408	161 60	100 S	0 R	30	79.5 61.6	1997 29.8	1963 29.3 2 102.6
SD6710	161 67	100 S	0 R	65	75.6 58.6	1994 29.7	- - 1 100.3
SD6717	160 59	40 MR	0 R	65	76.0 58.9	1993 29.7	- - 1 100.3
13190	161 66	100 S	20 S	25	76.5 59.3	1991 29.7	2057 30.7 7 104.2
1442	163 76	100 S	25 S	55	74.4 57.7	1987 29.6	1913 28.5 8 100.0
VB66497	160 60	100 S	0 R	15	75.2 58.3	1975 29.4	- - 1 99.3
WK70-2	160 70	100 MS	25 S	35	75.6 58.6	1894 28.2	- - 1 95.3
SD66171	163 75	15 MS	0 R	23	76.9 59.6	1887 28.1	1574 23.5 2 82.3
SD6716	160 63	40 MR	0 R	85	75.3 58.4	1866 27.8	- - 1 93.9
14000	161 65	100 S	10 S	30	73.9 57.3	1719 25.6	2081 31.0 4 102.1
WK70-3	163 68	100 S	1 S	55	77.1 59.8	1715 25.6	- - 1 86.5
WK70-1	161 70	100 S	1 S	25	75.6 58.6	1650 24.6	- - 1 83.1
13998	162 67	100 S	0 R	45	75.6 58.6	1622 24.2	1765 26.3 5 93.3
13872	164 81	100 S	tr S	55	70.3 54.5	1513 22.5	1956 29.2 4 95.3
WK70-4	162 70	100 S	10 S	18	72.6 56.3	1429 21.3	- - 1 72.0

L.S.D. = 396 kg/ha C.V. = 17.8%

Brookings, South Dakota
Single plots

C.I. or Sel. No.	: Days : : to : : head :	: Plant : : height : : cm :	: Lodging : : % :	: : : %	Stem rust severity response
1442	164	110	50	100	S
13190	161	105	0	40	S
1400	162	108	0	0	R
13998	161	105	0	0	R
13999	162	105	0	0	R
NB66403	160	105	0	0	R
NB66408	159	105	0	0	R
15074(NB68513)	160	105	0	0	R
SD66117-1	161	98	0	0	R
SD66171	164	110	0	0	R
SD6710	161	107	5	0	R
SD6712	158	105	10	0	R
SD6713	157	103	5	0	R
SD6716	158	105	5	0	R
SD6717	158	108	10	0	R
SD6718	158	108	20	0	R
SD6745	159	108	20	0	R
SD6753	159	108	0	0	R
SD6755	159	105	10	0	R
NB66497	158	98	0	0	R
NK70-1	160	108	0	100	S
NK70-2	160	108	0	20	M
NK70-3	160	105	0	25	M
NK70-4	161	108	5	65	S
13872	166	110	0	25	S

Dickinson, North Dakota
Three replications

C.I. or Sel. No.	:Days: : to	: :Plant	:Volume weight: :kg/hl	:Average yield: 1970 :lbs/bu	:Percent :grown	:No. : :years:	:Percent :of :Kharkof
	head	height	cm	kg/ha	bu/a		
NK70-3	172	89	76.8	59.5	1668	24.9	1 123.2
SD6716	172	94	75.9	58.8	1650	24.6	1 121.8
SD6713	172	97	77.4	60.0	1632	24.3	1 120.3
13998	174	84	80.0	62.0	1452	21.6	4 82.9
SD6718	172	89	76.1	59.0	1412	21.0	1 104.0
SD6753	172	94	77.4	60.0	1408	21.0	1 104.0
SD66171	174	91	76.8	59.5	1381	20.6	1 102.0
1442	175	89	77.7	60.2	1354	20.2	6 100.0
NK70-4	172	89	75.3	58.4	1313	19.6	1 97.0
NB66408	174	89	78.2	60.6	1264	18.8	1 93.1
13190	175	89	78.2	60.6	1237	18.4	4 88.1
NB66497	172	79	76.8	59.5	1233	18.4	1 91.1
NB66403	174	94	77.4	60.0	1192	17.8	1 88.1
NK70-2	172	76	75.6	58.6	1134	16.9	1 83.7
SD6745	172	89	74.8	58.0	1121	16.7	1 82.7
SD66117-1	174	86	78.1	60.5	1116	16.6	1 82.2
SD6717	172	89	77.7	60.2	1089	16.2	1 80.2
13999	175	86	76.8	59.5	1071	16.0	4 88.2
13872	177	94	76.1	59.0	1053	15.7	3 84.7
SD6755	172	81	76.8	59.5	1035	15.4	1 76.2
14000	175	86	78.1	60.5	1027	15.3	3 95.9
NK70-1	172	81	75.5	58.5	1013	15.1	1 74.8
SD6712	173	91	77.1	59.8	995	14.8	1 73.3
SD6710	174	81	74.8	58.0	950	14.2	1 70.3
15074(NB68513)	173	89	78.7	61.0	926	13.8	1 68.3

L.S.D. = 494 kg/ha C.V. = 24.6%
.05

Williston, North Dakota
Four replications

C.I. or Sel. No.	:Days: : to :Plant	: :Spring ^a / :head:height:vigor	: :Winter :survival:WSMV ^b	: :Volume weight: :kg/hl :lbs/bu:kg/ha:bu/a	: :Average yield : 1970 : 1969-1970 : years: of	: :No. :Percent :grown:Kharkof
	cm		%			
1442	178	51	3.2	82.5	2	74.8 58.0 1336 19.9 1450 21.6 5 100.0
15074(NB68513)	174	53	3.2	81.2	1	77.1 59.8 1154 17.2 - - 1 86.4
13998	177	41	3.0	87.5	5	75.0 58.1 1081 16.1 1211 18.1 5 89.2
SD66171	177	58	2.5	80.0	2	77.4 60.0 1060 15.8 1044 15.6 2 72.0
13190	176	41	3.0	83.8	4	72.8 56.4 1040 15.5 1221 18.2 5 86.2
NB66408	175	38	3.0	83.2	4	76.8 59.5 1027 15.3 1013 15.1 2 69.9
14000	180	46	3.8	86.3	4	74.6 57.8 1020 15.2 1168 17.4 4 84.9
NB66403	175	38	3.2	75.5	4	72.2 56.0 987 14.7 1101 16.4 2 75.9
SD6753	175	41	3.2	80.0	4	69.5 53.9 866 12.9 - - 1 64.8
NK70-1	175	51	2.5	63.8	1	74.1 57.4 826 12.3 - - 1 61.8
SD66117-1	177	36	3.2	82.5	5	72.5 56.2 799 11.9 1013 15.1 2 69.9
13999	179	41	2.3	76.3	5	72.2 56.0 785 11.7 1081 16.1 5 82.6
SD6710	177	41	3.2	90.0	3	72.5 56.2 738 11.0 - - 1 55.3
NK70-4	176	53	2.5	65.0	1	73.0 56.6 725 10.8 - - 1 54.3
13872	184	43	4.8	90.0	5	66.6 51.6 691 10.3 1178 17.6 4 89.6
NK70-2	176	56	2.5	68.8	1	72.5 56.2 658 9.8 - - 1 49.3
NK70-3	175	53	2.2	53.8	1	73.0 56.6 638 9.5 - - 1 47.7
SD6718	177	36	2.2	77.5	4	70.2 54.4 617 9.2 - - 1 46.2
SD6717	176	36	2.8	81.2	5	70.7 54.8 604 9.0 - - 1 45.2
SD6713	175	33	2.5	78.8	5	71.2 55.2 537 8.0 - - 1 40.2
SD6716	176	36	3.2	82.5	5	70.2 54.4 517 7.7 - - 1 38.7
SD6712	176	36	3.0	85.0	5	72.2 56.0 510 7.6 - - 1 38.2
SD6745	176	36	3.0	87.5	5	69.9 54.2 510 7.6 - - 1 38.2
SD6755	175	43	2.8	76.2	4	73.3 56.8 403 6.0 - - 1 30.2

L.S.D. = 240 kg/ha C.V. = 19.1%

.05

a/ 1 is poor; 5 is excellent.

b/ Wheat streak mosaic virus; 0 = 0 infection; 1 = 1% to 25% infection; 2 = 26% to 50% infection; 3 = 51% to 75% infection; 4 = 76% to 100% with same recovery; 5 = 76% to 100% with no recovery.

Waseca, Minnesota
Three replications

C.I.	:	:	Average yield				:	No.	:	Percent
or	:	Volume weight	:	1970	:	1969-1970	:	years	:	of
Sel. No.	:	kg/hl :lbs/bu	:	kg/ha:bu/a	:	kg/ha:bu/a	:	grown	:	Kharkof
SD66171		79.3 61.5		3178 47.4		2977 44.4		2		139.5
NK70-1		77.4 60.0		2785 41.5		- -		1		126.5
NK70-3		74.8 58.0		2776 41.4		- -		1		126.2
SD6755		77.4 60.0		2691 40.1		- -		1		122.3
SD6745		78.1 60.5		2637 39.3		- -		1		119.8
NB66408		78.1 60.5		2590 38.6		2846 42.4		2		133.3
NK70-4		76.1 59.0		2586 38.5		- -		1		117.4
SD66117-1		78.7 61.0		2581 38.5		2795 41.7		2		131.0
14000		77.4 60.0		2559 38.1		2463 36.7		3		124.5
SD6718		76.8 59.5		2547 38.0		- -		1		115.9
SD6753		78.1 60.5		2547 38.0		- -		1		115.9
13872		77.4 60.0		2521 37.6		2215 33.0		3		121.9
15074(NB68513)		78.1 60.5		2516 37.5		- -		1		114.3
SD6713		78.1 60.5		2509 37.4		- -		1		114.0
NB66403		74.2 57.5		2485 37.0		2943 43.9		2		137.9
SD6716		76.8 59.5		2444 36.4		- -		1		111.0
SD6717		76.1 59.0		2438 36.3		- -		1		110.7
13998		76.1 59.0		2431 36.2		2483 37.0		4		113.4
13999		76.8 59.5		2395 35.7		2366 35.3		4		117.9
Nk70-2		76.1 59.0		2357 35.1		- -		1		107.0
13190		74.8 58.0		2265 33.8		2242 33.4		5		99.6
1442		76.1 59.0		2198 32.8		2143 31.8		8		100.0
SD6710		76.8 59.5		2101 31.3		- -		1		95.4
SD6712		76.8 59.5		2088 31.1		- -		1		94.8

L.S.D. = 656 kg/ha C.V. = 16.1%
.05

Sidney, Montana
Four replications

C.I. or Sel. No.	:Days: : to :	Days: : to :	: Plant	: Winter	: Volume	: weight:	Average yield:	No.	:Percent
	:head:	ripe:	height:	survival:	kg/hl	lbs/bu:	kg/ha	bu/a	:years: of
			cm	%					grown:Kharkof
1442	175	211	86	67	77.4	60.0	2834	42.2	1 100.0
NB66403	174	211	74	57	78.1	60.5	2619	39.0	1 92.4
SD66117-1	174	211	74	57	77.4	60.0	2593	38.6	1 91.5
13998	174	211	81	60	77.4	60.0	2545	37.9	1 89.8
15074(NB68513)	173	211	79	43	79.3	61.5	2543	37.9	1 89.8
13999	175	211	79	57	77.4	60.0	2439	36.3	1 86.0
SD6745	172	210	81	60	75.5	58.5	2430	36.2	1 85.8
14000	175	211	79	63	78.7	61.0	2415	36.0	1 85.3
13190	174	211	74	53	77.4	60.0	2365	35.2	1 83.4
SD6716	173	211	81	63	76.1	59.0	2274	33.9	1 80.3
SD66171	176	213	79	33	78.7	61.0	2087	31.1	1 73.7
SD6712	171	211	76	50	77.4	60.0	1988	29.6	1 70.1
SD6710	174	211	79	57	78.7	61.0	1929	28.7	1 68.0
SD6718	173	211	79	50	77.4	60.0	1885	28.1	1 66.6
13872	178	212	84	47	73.5	57.0	1784	26.6	1 63.0
NK70-1	173	211	81	50	76.7	59.5	1768	26.3	1 62.3
NB66408	173	212	76	50	80.0	62.0	1652	24.6	1 58.3
SD6755	172	211	71	50	78.7	61.0	1636	24.4	1 57.8
NK70-4	173	212	79	37	76.7	59.5	1589	23.7	1 56.2
NK70-3	174	212	79	23	75.5	58.5	1532	22.8	1 54.0
SD6713	172	211	76	43	78.1	60.5	1504	22.4	1 53.1
SD6753	172	212	76	40	77.4	60.0	1477	22.0	1 52.1
NB66497	172	211	68	37	77.4	60.0	1430	21.3	1 50.5
SD6717	173	212	74	33	78.1	60.5	1352	20.1	1 47.6
NK70-2	174	212	81	20	76.1	59.0	1149	17.1	1 40.5

L.S.D. = 823 kg/ha C.V. = 14.7%
.05

Moccasin, Montana
Three replications

C.I. or Sel. No.	: Days : : to : : head :	: Plant : : height : : cm :	: Average yield : : 1970 : : kg/ha : bu/a :	: No. : : years : : grown :	: Percent : : of : : Kharkof :
NB66497	170	86	2368	35.3	1 119.7
SD6712	170	89	2321	34.6	1 117.3
NB66403	173	86	2319	34.6	1 117.3
NK70-4	172	94	2290	34.1	1 115.6
15074(NB68513)	172	89	2229	33.2	1 112.5
SD66117-1	173	84	2195	32.7	1 110.9
SD6755	170	94	2146	32.0	1 108.5
NB66408	172	84	2139	31.9	1 108.1
SD6710	172	89	2135	31.8	1 107.8
13872	176	91	2133	31.8	3 95.0
SD6718	172	89	2081	31.0	1 105.1
SD66171	175	86	2054	30.6	1 103.7
SD6745	171	91	2043	30.4	1 103.1
13998	175	81	2005	29.9	4 98.4
1442	175	86	1982	29.5	4 100.0
14000	176	84	1980	29.5	1 100.0
SD6713	170	89	1962	29.2	1 99.0
SD6716	170	86	1960	29.2	1 99.0
NK70-1	172	91	1937	28.9	1 98.0
NK70-2	172	91	1933	28.8	1 97.6
NK70-3	172	94	1915	28.5	1 96.6
SD6753	172	86	1888	28.1	1 95.3
SD6717	170	89	1879	28.0	1 94.9
13190	173	79	1846	27.5	4 98.4
13999	174	84	1825	27.2	4 99.6

L.S.D. - 342 kg/ha C.V. = 10.2%
.05

Tetonia, Idaho
Four replications

C.I. or Sel. No.	: Days : : to : : head :	: Plant : : height : : cm :	: Dwarf : : Bunt : : % :	: Volume weight :		Average yield				: No. : : years : : grown :	: Percent : : of : : Kharkof :
				kg/hl	lbs/bu	1970	1969-1970	kg/ha:bu/a	kg/ha:bu/a		
13999	192	79	2	75.7	58.7	2616	39.0	2876	42.9	5	115.1
13998	192	81	2	76.5	59.3	2592	38.6	2701	40.3	5	114.8
NB66403	190	81	5	74.3	57.6	2501	37.3	2705	40.3	2	112.4
SD66117-1	189	74	3	75.0	58.1	2363	35.2	2577	38.4	2	107.1
14000	192	84	3	78.1	60.5	2256	33.6	2685	40.0	4	106.2
NB66408	190	81	3	77.5	60.1	2238	33.4	2383	35.5	2	99.0
13190	191	81	3	75.0	58.1	2226	33.2	2758	41.1	7	107.2
SD66171	192	91	1	77.5	60.1	2180	32.5	2570	38.3	2	106.8
15074(NB68513)	189	84	2	77.1	59.8	2110	31.4	-	-	1	104.7
SD6755	189	74	3	74.1	57.4	2069	30.8	-	-	1	102.7
NB66497	189	76	2	73.4	56.9	2043	30.4	-	-	1	101.3
SD6716	188	74	3	73.1	56.7	2008	29.9	-	-	1	99.7
SD6710	189	74	1	75.3	58.4	2005	29.9	-	-	1	99.7
1442	194	86	3	75.7	58.7	1999	29.8	2406	35.9	8	100.0
SD6712	185	74	1	75.2	58.3	1952	29.1	-	-	1	97.0
SD6717	189	74	1	73.3	56.8	1910	28.5	-	-	1	95.0
SD6753	190	68	3	74.2	57.5	1908	28.4	-	-	1	94.7
SD6745	190	76	2	73.0	56.6	1900	28.3	-	-	1	94.3
SD6713	187	74	2	74.8	58.0	1873	27.9	-	-	1	93.0
SD6718	188	74	1	72.8	56.4	1795	26.8	-	-	1	89.3
NK70-3	190	81	3	72.5	56.2	1782	26.6	-	-	1	88.7
NK70-4	193	86	3	72.9	56.5	1771	26.4	-	-	1	88.0
NK70-1	190	89	4	73.3	56.8	1727	25.7	-	-	1	85.7
13872	191	89	2	74.1	57.4	1712	25.5	2409	35.9	4	97.7
NK70-2	190	81	4	73.0	56.6	1708	25.5	-	-	1	85.0

L.S.D. = 250 kg/ha C.V. 8.6%
.05

Lethbridge, Alberta
Four replications

C.I. or Sel. No.	:Days:Days:		:Plant:	:Lodging:	:Shattering:	Volume weight			Average yield			: No. :	:Percent
	: to :	: to :				:kg/hl :	: lbs/bu :	: lbs/bu :	: 1970 :	: 1969-1970 :	: years :		
	:head:	:ripe:	:height:			1/	2/	3/	:kg/ha:	:bu/a :	: kg/ha:bu/a :		
			cm	%	%								
NB66403	178	202	91	25	8	79.3	61.5	63.5	5543	82.6	4477	66.7	2 114.9
13999	180	202	102	20	4	80.0	62.0	64.0	5300	79.0	4399	65.6	5 105.8
NB66408	179	202	86	15	5	81.9	63.5	65.5	5175	77.1	4027	60.0	2 103.4
SD6713	172	199	86	20	2	81.9	63.5	65.5	5014	74.7	-	-	1 111.5
13190	178	201	91	20	2	79.3	61.5	63.5	4922	73.3	4185	62.4	6 101.8
NB66490	178	202	89	20	80	81.9	63.5	65.5	4883	72.8	-	-	- -
13998	179	202	102	25	2	80.0	62.0	64.0	4876	72.7	4034	60.1	5 101.5
SD6745	176	199	94	30	12	80.6	62.5	64.5	4869	72.5	-	-	1 108.2
SD6755	175	198	86	30	8	81.3	63.0	65.0	4779	71.2	-	-	1 106.3
SD6753	175	200	91	25	10	80.6	62.5	64.5	4717	70.3	-	-	1 104.9
SD6712	172	198	84	15	4	81.3	63.0	65.0	4597	68.5	-	-	1 102.2
NK70-3	176	200	96	35	8	78.7	61.0	63.0	4574	68.2	-	-	1 101.8
SD6710	178	199	96	25	0	80.6	62.5	64.5	4565	68.0	-	-	1 101.5
13872	183	204	107	45	2	80.0	62.0	64.0	4561	68.0	4023	60.0	4 104.4
SD6716	173	198	86	20	8	80.6	62.5	64.5	4553	67.8	-	-	1 101.2
1442	181	203	102	40	2	80.0	62.0	64.0	4494	67.0	3896	58.1	15 100.0
SD117-1	179	201	89	15	0	80.0	62.0	64.0	4448	66.3	3943	58.8	2 98.4
NB68513	177	200	91	15	1	81.9	63.5	65.5	4431	66.0	-	-	1 98.5
NK70-4	176	200	94	35	5	79.3	61.5	63.5	4363	65.0	-	-	1 97.0
NK70-1	176	200	89	20	10	80.0	62.0	64.0	4319	64.4	-	-	1 96.1
NK70-2	176	200	86	20	10	80.0	62.0	64.0	4269	63.6	-	-	1 94.9
14000	180	202	99	25	0	83.1	64.4	66.5	4237	63.1	3604	53.7	4 93.7
SD6717	174	198	91	25	15	79.3	61.5	63.5	4229	63.0	-	-	1 94.0
SD6718	174	199	91	30	25	80.0	62.0	64.0	4212	62.8	-	-	1 93.7
SD66171	180	202	102	25	4	81.9	63.5	65.5	4104	61.1	3638	54.2	2 93.4

L.S.D. = 851 kg/ha C.V. = 13.0%

.05
1/ lbs/U.S. bushel
2/ lbs/Imperial bushel

Clovis, New Mexico
Four replications, dryland

C.I. or Sel. No.	:Days:Days: : to : to :Plant :Spring				: : :Volume weight:		Average yield				: No. :Percent		
	:head:	:ripe:	:height:	:vigor	a/	:kg/hl	:lbs/bu:	:kg/ha:	:bu/a :	:kg/ha:	:bu/a:	:grown:	:Kharkof
			cm										
13999	131	162	69	2	80.0	62.0	2624	39.1	2134	31.8	3	129.9	
13190	130	161	71	3	80.0	62.0	2462	36.7	2171	32.4	3	127.7	
13998	131	154	71	3	78.7	61.7	2311	34.4	2087	31.1	3	130.8	
14000	132	162	74	2	80.0	62.0	2281	34.0	2054	30.6	3	117.1	
SD66171	132	165	79	2	74.8	58.0	2230	33.2	2054	30.6	2	121.0	
SD6716	128	159	71	3	77.4	60.0	2230	33.2	-	-	1	154.4	
SD6718	128	159	71	2	80.0	62.0	2230	33.2	-	-	1	154.4	
SD66117-1	129	160	64	2	78.7	61.0	2210	32.9	1946	29.0	2	114.6	
SD6755	129	159	71	2	78.7	61.0	2200	32.8	-	-	1	152.6	
NK70-4	127	159	76	4	80.0	62.0	2099	31.3	-	-	1	145.6	
NB66403	128	159	69	3	78.7	61.0	2028	30.2	1973	29.4	2	116.2	
13872	133	164	76	3	80.0	62.0	1998	29.8	1836	27.4	3	102.6	
NB66408	129	161	66	2	80.0	62.0	1988	29.6	1792	26.7	2	105.5	
SD6713	127	159	66	3	80.0	62.0	1958	29.2	-	-	1	135.8	
SD6717	126	159	64	2	78.7	61.0	1958	29.2	-	-	1	135.8	
SD6753	128	159	71	2	78.7	61.0	1958	29.2	-	-	1	135.8	
NK70-1	127	160	74	3	78.7	61.0	1917	28.6	-	-	1	133.0	
SD6710	127	159	66	3	78.7	61.0	1907	28.4	-	-	1	132.1	
SD6712	126	159	69	3	80.0	62.0	1897	28.3	-	-	1	131.6	
NK70-2	127	159	74	3	78.7	61.0	1837	27.4	-	-	1	127.4	
SD6745	128	159	69	3	77.4	60.0	1736	25.9	-	-	1	120.5	
NB66497	126	159	66	2	78.7	61.0	1726	25.7	-	-	1	119.5	
NK70-3	126	159	76	4	78.7	61.0	1705	25.4	-	-	1	118.1	
15074(NB68513)	130	160	76	2	82.6	64.0	1534	22.9	-	-	1	106.5	
1442	133	166	81	2	76.1	59.0	1443	21.5	1698	25.3	3	100.0	

L.S.D. = 564 kg/ha C.V. = 19.5%
.05

a/ 1 = very poor; 2 = poor; 3 = average; 4 = good; 5 = excellent.

Clovis, New Mexico
Four replications, irrigated

C.I. or Sel. No.	:Days:Days:		:	:	:	Average yield		:	No. :	Percent
	: to :	: to :	:Plant :	:Spring :	:Shatter-:	:Volume weight:	1970	: 1969-1970	:years:	of
	:head:	:ripe:	:height:	:vigor	a/	:ing	:kg/hl :	:lbs/bu:	:kg/ha:bu/a :	:kg/ha:bu/a:grown:Kharkof
			cm		%					
13998	138	178	107	2	0	77.5	60.1	5247	78.2	3983 59.4 5 113.8
13999	137	177	107	2	0	77.4	60.0	5177	77.1	4312 64.3 5 115.8
NB66408	134	176	104	4	0	79.0	61.2	5136	76.5	4430 66.0 2 143.3
13190	135	178	107	2	0	76.5	59.3	4874	72.6	4416 65.8 6 117.5
SD6755	133	174	112	3	0	76.0	58.9	4813	71.7	- - 1 140.6
SD66117-1	137	178	104	2	10	76.6	59.4	4702	70.1	4013 59.8 2 129.9
14000	138	178	109	2	0	78.4	60.8	4561	68.0	4040 60.2 4 110.0
15074(NB68513)	135	176	107	3	0	77.8	60.3	4531	67.5	- - 1 132.4
SD6745	134	175	104	3	10	75.3	58.4	4440	66.2	- - 1 129.8
SD6753	133	175	102	2	0	76.1	59.0	4349	64.8	- - 1 127.1
NB66497	132	173	102	3	0	74.1	57.4	4268	63.6	- - 1 124.7
SD6710	133	174	109	2	10	76.8	59.5	4188	62.4	- - 1 122.4
SD6718	134	175	112	2	10	75.3	58.4	4016	59.8	- - 1 117.3
NB66403	134	176	112	2	0	74.8	58.0	3986	59.4	3530 52.6 2 114.2
SD6717	134	176	107	2	10	75.3	58.4	3956	58.9	- - 1 115.5
SD6716	133	174	109	3	10	75.3	58.4	3724	55.5	- - 1 108.8
NK70-2	135	174	112	4	0	73.8	57.2	3623	54.0	- - 1 105.9
NK70-3	134	173	109	4	0	74.2	57.5	3582	53.4	- - 1 104.7
13872	139	178	112	2	0	75.0	58.1	3512	52.3	2993 44.6 4 89.7
NK70-1	135	174	112	4	0	73.4	56.9	3512	52.3	- - 1 102.6
1442	136	177	109	3	0	75.0	58.1	3421	51.0	3091 46.1 11 100.0
NK70-4	135	174	112	4	0	75.1	58.2	3380	50.4	- - 1 98.8
SD6713	132	173	104	3	10	75.9	58.8	3330	49.6	- - 1 97.3
SD66171	135	177	112	3	10	75.6	58.6	3300	49.2	3262 48.6 2 105.5
SD6712	131	174	104	3	10	76.0	58.9	3259	48.6	- - 1 95.3

L.S.D. = 538 kg/ha C.V. = 9.3%
.05

a/ 1 = very poor; 2 = poor; 3 = average; 4 = good; 5 = excellent.

Summary of NRPN Yields

Grain yields made by 25 varieties in 15 trials of the NRPN in 1970 are summarized in kg/ha in table 8. Yields in bu/a are summarized in table 9. NB66403, Trader, Trapper, Warrior, and NB66408 in that order were the most productive varieties on a region-wide basis. None was consistently superior in all states although NB66403 ranked first in Nebraska, Montana, and Lethbridge and second and third respectively in South Dakota and Idaho. Three hybrids were the least productive in the nursery. C.I. 15074, a high protein line derived from Atlas 66, ranked seventh with its best state performances in Wyoming, South Dakota, Montana, and Idaho.

NB66403 also was the most productive among 10 varieties grown in the NRPN in 1968 and 1969 (tables 10 and 11). Its 2-year average yield was 2662 kg/ha or 39.7 bu/a. Warrior, Trapper and Trader in that order were next most productive on a 2-year basis. Froid was least productive.

Summary of Agronomic Data

Agronomic data for entries in the 1970 NRPN are summarized in table 12. Plant height ranged from 79 to 91 centimeters. C.I. 15074, SD66117-1, and SD66171 had the lowest leaf rust reading. All but 6 entries showed good resistance to stem rust. SD6716 had the highest winter survival at 3 stations; and NB66408 and C.I. 17074 lodged the least.

Table 8. Summary of average yields in kilograms per hectare made by 25 varieties grown in the Northern Regional Performance Nursery in 15 trials in 1970 with state averages and ranks.

Pedigree	C.I. or Sel. No.	New Mexico			Wyoming			
		: Aver-:		: Rank:	: Sheri-:		: Aver-:	
		: Clovis:	: Clovis:		: dan	: Archer:	: age	: Rank
		dryl.	irrig.					
Pn/Cnn/3/Pn/2/Ky58/4/Cnn	NB66403	2028	3986	3007	13	1329	2678	2004 9
Trader	13998	2311	5247	3779	2	1630	2871	2251 1
Trapper	13999	2624	5177	3901	1	1694	2518	2106 3
Warrior	13190	2462	4874	3668	3	1848	2584	2216 2
Pn/Cnn/3/Pn/2/Ky58/4/Cnn	NB66408	1988	5136	3562	4	1341	2520	1931 12
Wrr 2*/III 54-12	SD66117-1	2210	4702	3456	6	1530	2402	1966 10
Wrr 3/Atl66/2/Cnn/4/Cnn/Ot	15074(NB68513)	1534	4531	3033	12	1360	2823	2092 4
Winoka	14000	2281	4561	3421	7	1412	2424	1918 14
Recurrent Sel. Series I, Cycle II	SD6755	2200	4813	3507	5	1451	2358	1905 15
Ky58/5/Nth/6/Cnn/Tm/3/Mi/2/Hope/7/Pn/4/Cnn/8/Om	NB66497	1726	4268	2997	14	1177	2859	2018 7
Recurrent Sel. Series I, Cycle II	SD6753	1958	4349	3154	8	1214	2196	1705 23
Pnc/3*Cnn//NB61981	SD66171	2230	3300	2765	17	1782	2256	2019 6
Gage/Hume	SD6745	1736	4440	3088	10	1033	2506	1770 19
Kharkof	1442	1443	3421	2432	25	1898	2242	2070 5
Gage/Hume	SD6716	2230	3724	2977	15	1306	2532	1919 13
Gage/Hume	SD6718	2230	4016	3123	9	1385	2497	1941 11
Mi-Hope-Pn/Oro-III-Cnn/3/Sv1/2/2*Pn/4/Hume	SD6713	1958	3330	2644	22-23	1322	2701	2012 8
Pnc/2*Cnn/2/Hume	SD6710	1907	4188	3048	11	1154	2374	1764 20
Northrup King Hybrid	NK70-3	1705	3582	2644	22-23	1460	2297	1829 16
Mi-Hope-Pn/Oro-III-Cnn/3/Sv1/2/2*Pn/4/Hume	SD6712	1897	3259	2578	24	1428	2308	1868 17
Gage/Hume	SD6717	1958	3956	2957	16	1131	2379	1755 21
Froid	13872	1998	3512	2755	18	1277	2312	1795 18
Northrup King Hybrid	NK70-4	2099	3380	2740	19	1352	2013	1683 24
Northrup King Hybrid	NK70-1	1917	3512	2715	21	1112	2356	1734 22
Northrup King Hybrid	NK70-2	1837	3623	2730	20	965	2083	1524 25

Table 8. (continued)

C.I. or Sel. No.	:Minnesota:		North Dakota:				Nebraska:				:South Dakota:		
	:	:	:Dickin-:	Willis-:	Aver-:	:	Alli-:	North:	:	Aver-:	:	High-:	
	:Waseca:	Rank:	son	:ton	:age	:Rank:	ance	:Platte:	Sidney:	:age	:Rank:	more	: Rank
NB66403	2485	15	1192	987	1090	8	3749	2747	5992	4163	1	2382	2
13998	2431	18	1452	1081	1267	2	3213	2464	5057	3578	4	1622	23
13999	2395	19	1071	785	928	16	3261	2606	4904	3590	3	2066	8
13190	2265	21	1237	1040	1139	6	2888	2639	5256	3594	2	1991	14
NB66408	2590	6	1264	1027	1146	5	2971	2447	4725	3381	7	1997	11
SD66117-1	2581	8	1116	799	958	15	2917	2433	4759	3370	9	2105	7
15074(NB68513)	2516	13	926	1154	1040	11	2826	2462	4671	3320	11	2373	3
14000	2559	9	1027	1020	1024	12	3032	2756	4353	3380	8	1715	20
SD6755	2691	4	1035	403	719	24	2485	2906	4575	3322	10	2396	1
NB66497	-	-	1233	-	-	-	3204	2785	4736	3575	5	1975	16
SD6753	2547	10-11	1408	866	1137	7	2900	2799	4770	3490	6	2189	4
SD66171	3178	1	1381	1060	1221	3	2895	2411	4297	3201	19	1887	18
SD6745	2637	5	1121	510	816	22	2272	2698	4653	3208	17	2000	10
1442	2198	22	1354	1336	1345	1	2929	2124	4476	3176	20	1987	15
SD6716	2444	16	1650	517	1084	10	2433	2583	4637	3218	16	1866	19
SD6718	2547	10-11	1412	617	1015	14	2864	2595	4344	3268	14	2112	5
SD6713	2509	14	1632	537	1085	9	2908	2574	4196	3226	15	2111	6
SD6710	2101	23	950	738	844	21	2610	2633	4371	3205	18	1994	12
NK70-3	2776	3	1668	638	1153	4	2711	2420	4736	3289	12	1719	21
SD6712	2088	24	995	510	753	23	2938	2554	4368	3287	13	2027	9
SD6717	2438	17	1089	604	847	20	2695	2664	4140	3166	21	1993	13
13872	2521	12	1053	691	872	19	2745	2184	4034	2988	25	1513	24
NK70-4	2586	7	1313	725	1019	13	2496	2366	4196	3019	23	1429	25
NK70-1	2785	2	1013	826	920	17	2532	2471	4007	3003	24	1650	22
NK70-2	2357	20	1134	658	896	18	2503	2462	4198	3054	22	1894	17

Table 8. (concluded)

C.I. or Sel. No.	: Montana :				: Idaho :		: Alberta :		: 15-	
	: Mocca-:Aver-:				: Teton-:		: Leth- :		: Trial	
	: Sidney:	: sin	: age	: Rank:	: ia	: Rank:	: bridge:	: Rank:	: Average	
NB66403	2619	2319	2469	1	2501	3	5543	1	2836	
13998	2545	2005	2275	5	2592	2	4876	6	2760	
13999	2439	1825	2132	9	2616	1	5300	2	2752	
13190	2365	1846	2106	11	2226	7	4922	5	2696	
NB66408	1652	2139	1896	18	2238	6	5175	3	2614	
SD66117-1	2593	2195	2394	3	2363	4	4448	16	2610	
15074(NB68513)	2543	2229	2386	4	2110	9	4431	17	2566	
14000	2415	1980	2198	7	2256	5	4237	21	2535	
SD6755	1636	2146	1891	19	2069	10	4779	8	2530	
NB66497	1430	2368	1899	17	2043	11	-	-	2484 ^{a/}	
SD6753	1477	1888	1683	23	1908	17	4717	9	2479	
SD66171	2087	2054	2071	12	2180	8	4104	24	2474	
SD6745	2430	2043	2237	6	1900	18	4869	7	2457	
1442	2834	1982	2408	2	1999	14	4494	15	2448	
SD6716	2274	1960	2117	10	2008	12	4553	14	2448	
SD6718	1885	2081	1983	14	1795	20	4212	23	2439	
SD6713	1504	1962	1733	21	1873	19	5014	4	2409	
SD6710	1929	2135	2032	13	2005	13	4565	12	2377	
NK70-3	1532	1915	1724	22	1782	21	4574	11	2368	
SD6712	1988	2321	2155	8	1952	15	4597	10	2349	
SD6717	1352	1879	1616	24	1910	16	4229	22	2294	
13872	1784	2133	1959	15	1712	24	4561	13	2269	
NK70-4	1589	2290	1940	16	1771	22	4363	18	2265	
NK70-1	1768	1937	1853	20	1727	23	4319	19	2262	
NK70-2	1149	1933	1541	25	1708	25	4269	20	2185	

a/ Average based on 12 trials.

Table 9. Summary of average yields in bushels per acre made by 25 varieties grown in the Northern Regional Performance Nursery in 15 trials in 1970 with state averages and ranks.

Pedigree	C.I. or Sel. No.	New Mexico				Wyoming			
		Clovis		Aver-		Sheri-		Aver-	
		dryl.	irrig.	age	Rank	dan	Archer	age	Rank
Pn/Cnn/3/Pn/2/Ky58/4/Cnn	NB66403	30.2	59.4	44.8	13	19.8	39.9	29.9	9
Trader	13998	34.4	78.2	56.3	2	24.3	42.8	33.6	1
Trapper	13999	39.1	77.1	58.1	1	25.2	37.5	31.4	3
Warrior	13190	36.7	72.6	54.7	3	27.5	38.5	33.0	2
Pn/Cnn/3/Pn/2/Ky58/4/Cnn	NB66408	29.6	76.5	53.1	4	20.0	37.6	28.8	12
Wrr 2*/III 54-12	SD66117-1	32.9	70.1	51.5	6	22.8	35.8	29.3	10
Wrr/3/Atl66/2/Cnn/4/Cnn/Ot	15074(NB68513)	22.9	67.5	45.2	12	20.3	42.1	31.2	4
Winoka	14000	34.0	68.0	51.0	7	21.0	36.1	28.6	13-14
Recurrent Sel. Series I, Cycle II	SD6755	32.8	71.7	52.3	5	21.6	35.1	28.4	15
Ky58/5/Nth/6/Cnn/Tm/3/Mi/2/Hope/7/Pn/4/Cnn/8/Cnn	NB66497	25.7	63.6	44.7	14	17.5	42.6	30.1	6-7
Recurrent Sel., Series I, Cycle II	SD6753	29.2	64.8	47.0	8	18.1	32.7	25.4	23
Pnc/3*Cnn//NB61981	SD66171	33.2	49.2	41.2	17	26.6	33.6	30.1	6-7
Gage/Hume	SD6745	25.9	66.2	46.1	10	15.4	37.3	26.4	19
Kharkof	1442	21.5	51.0	36.3	25	28.3	33.4	30.9	5
Gage/Hume	SD6716	33.2	55.5	44.4	15	19.5	37.7	28.6	13-14
Gage/Hume	SD6718	33.2	59.8	46.5	9	20.6	37.2	28.9	11
Mi-Hope-Pn/Oro-III-Cnn/3/Sul/2/2*Pn/4/Hume	SD6713	29.2	49.6	39.4	22-23	19.7	40.2	30.0	8
Pnc/2*Cnn/2/Hume	SD6710	28.4	62.4	45.4	11	17.2	35.4	26.3	20
Northrup King Hybrid	NK70-3	25.4	53.4	39.4	22-23	21.8	34.2	28.0	16
Mi-Hope-Pn/Oro-III-Cnn/3/Sul/2/2*Pn/4/Hume	SD6712	28.3	48.6	38.5	24	21.3	34.4	27.9	17
Gage/Hume	SD6717	29.2	58.9	44.1	16	16.9	35.5	26.2	21
Froid	13872	29.8	52.3	41.1	18	19.0	34.5	26.8	18
Northrup King Hybrid	NK70-4	31.3	50.4	40.9	19	20.1	30.0	25.1	24
Northrup King Hybrid	NK70-1	28.6	52.3	40.5	21	16.6	35.1	25.9	22
Northrup King Hybrid	NK70-2	27.4	54.0	40.7	20	14.4	31.0	22.7	25

Table 9. (continued)

C.I. or Sel. No.	: Minnesota :			North Dakota :			Nebraska :			South Dakota :		
	: : : Dick-: Willis-: Aver-: :			Alli-: North : : Aver-: :			: High-: :			: Rank: more : Rank		
	: Waseca:	Rank:	inson:	ton :	age :	Rank:	ance :	Platte:	Sidney:	age :	Rank:	more : Rank
NB66403	37.0	15	17.8	14.7	16.3	8	55.9	40.9	89.3	62.0	1	35.5 2
13998	36.2	18	21.6	16.1	18.9	2	47.9	36.7	75.4	53.3	4-5	24.2 23
13999	35.7	19	16.0	11.7	13.9	16	48.6	38.8	73.1	53.5	2-3	30.8 8
13190	33.8	21	18.4	15.5	17.0	6-7	43.0	39.3	78.3	53.5	2-3	29.7 12-13-14
NB66408	38.6	6	18.8	15.3	17.1	5	44.3	36.5	70.4	50.4	7-8	29.8 10-11
SD66117-1	35.8	7-8	16.6	11.9	14.3	15	43.5	36.3	70.9	50.2	9	31.4 7
15074(NB68513)	37.5	13	13.8	17.2	15.5	11	42.1	36.7	69.6	49.5	10-11	35.4 3
14000	38.1	9	15.3	15.2	15.3	12	45.2	41.1	64.9	50.4	7-8	25.6 20-21
SD6755	40.1	4	15.4	6.0	10.7	24	37.0	43.3	68.2	49.5	10-11	35.7 1
NB66497	-	-	18.4	-	-	-	47.7	41.5	70.6	53.3	4-5	29.4 16
SD6753	38.0	10-11	21.0	12.9	17.0	6-7	43.2	41.7	71.1	52.0	6	32.6 4
SD66171	47.4	1	20.6	15.8	18.2	3	43.1	36.0	64.0	47.7	18-19	28.1 18
SD6745	39.3	5	16.7	7.6	12.2	22	33.9	40.2	69.3	47.8	17	29.8 10-11
1442	32.8	22	20.2	19.9	20.1	1	43.6	31.7	66.7	47.3	20	29.6 15
SD6716	36.4	16	24.6	7.7	16.2	9-10	36.3	38.5	69.1	48.0	16	27.8 19
SD6718	38.0	10-11	21.0	9.2	15.1	14	42.7	38.7	64.7	48.7	14	31.5 5-6
SD6713	37.4	14	24.3	8.0	16.2	9-10	43.3	38.4	62.5	48.1	15	31.5 5-6
SD6710	31.3	23	14.2	11.0	12.6	20-21	38.9	39.2	65.1	47.7	18-19	29.7 12-13-14
NK70-3	41.4	3	24.9	9.5	17.2	4	40.4	36.1	70.6	49.0	12-13	25.6 20-21
SD6712	31.1	24	14.8	7.6	11.2	23	43.8	38.1	65.1	49.0	12-13	30.2 9
SD6717	36.3	17	16.2	9.0	12.6	20-21	40.2	39.7	61.7	47.2	21	29.7 12-13-14
13872	37.6	12	15.7	10.3	13.0	19	40.9	32.5	60.1	44.5	25	22.5 24
NK70-4	38.5	7-8	19.6	10.8	15.2	13	37.2	35.3	62.5	45.0	23	21.3 25
NK70-1	41.5	2	15.1	12.3	13.7	17	37.7	36.8	59.7	44.7	24	24.6 22
NK70-2	35.1	20	16.9	9.8	13.4	18	37.3	36.7	62.6	45.5	22	28.2 17

Table 9. (concluded)

C.I. or Sel. No.	: Montana :			: Idaho :		: Alberta :		: 15	
	: Mocca-:Aver-:			: Tet-:		: Leth- :		: Trial	
	:Sidney:	sin	:age	:Rank:	onia:	:Rank:	bridge:	:Rank:	Average
NB66403	39.0	34.6	36.8	1	37.3	3	82.6	1	42.4
13998	37.9	29.9	33.9	5	38.6	2	72.7	6	41.2
13999	36.3	27.2	31.8	9	39.0	1	79.0	2	41.1
13190	35.2	27.5	31.4	11	33.2	7	73.3	5	40.3
NB66408	24.6	31.9	28.3	17-18	33.4	6	77.1	3	39.1
SD66117-1	38.6	32.7	35.7	3	35.2	4	66.3	16	39.0
15074(NB68513)	37.9	33.2	35.6	4	31.4	9	66.0	17	38.4
14000	36.0	29.5	32.8	7	33.6	5	63.1	21	37.9
SD6755	24.4	32.0	28.2	19	30.8	10	71.2	8	37.8
NB66497	21.3	35.3	28.3	17-18	30.4	11	-	-	37.1 ^{a/}
SD6753	22.0	28.1	25.1	23	28.4	17	69.6	9	37.0
SD66171	31.1	30.6	30.9	12	32.5	8	61.1	24	37.0
SD6745	36.2	30.4	33.3	6	28.3	18	72.5	7	36.7
1442	42.2	29.5	35.9	2	29.8	14	67.0	15	36.6
SD6716	33.9	29.2	31.6	10	29.9	12-13	67.8	14	36.6
SD6718	28.1	31.0	29.6	14	26.8	20	62.8	23	36.5
SD6713	22.4	29.2	25.8	21	27.9	19	74.7	4	36.0
SD6710	28.7	31.8	30.3	13	29.9	12-13	68.0	12-13	35.5
NK70-3	22.8	28.5	25.7	22	26.6	21	68.2	11	35.4
SD6712	29.6	34.6	32.1	8	29.1	15	68.5	10	35.1
SD6717	20.1	28.0	24.1	24	28.5	16	63.0	22	34.3
13872	26.6	31.8	29.2	15	25.5	24-25	68.0	12-13	33.9
NK70-4	23.7	34.1	28.9	16	26.4	22	65.0	18	33.9
NK70-1	26.3	28.9	27.6	20	25.7	23	64.4	19	33.8
NK70-2	17.1	28.8	23.0	25	25.5	24-25	63.6	20	32.7

a/ Average based on 12 trials.

Table 10. Summary of 2-year average yields in kilograms per hectare for 10 varieties grown in the Northern Regional Performance Nursery in 11 trials in 1969 and 1970 with state averages and ranks.

Pedigree	C.I.	New Mexico				Wyoming			
	or	:Aver-:				Sher-:	:Aver-:		
	Sel. No.	Clovis:	Clovis:	age	:Rank:	idan	:Archer:	age	:Rank
		dryl.	irrig.						
Pn/Cnn/3/Pn/2/Ky58/4/Cnn	NB66403	1973	3530	2752	7	2419	2013	2216	1
Warrior	13190	2171	4416	3294	1	2339	1930	2135	3
Trapper	13999	2134	4312	3223	2	2151	1846	1999	6
Trader	13998	2087	3983	3035	5	2248	2171	2210	2
Wrr 2*/III 54-12	SD66117-1	1946	4013	2980	6	2258	1876	2067	5
Pn/Cnn/3/Pn/2/Ky58/4/Cnn	NB66408	1792	4430	3111	3	2164	1785	1975	7
Winoka	14000	2054	4040	3047	4	2111	1799	1955	8
Kharkof	1442	1698	3091	2395	10	2416	1738	2077	4
Pnc/3*Cnn//NB61981	SD66171	2054	3262	2658	8	1772	1705	1739	10
Froid	13872	1836	2993	2415	9	2003	1671	1837	9

Table 10. (concluded)

C.I.	Minnesota		North Dakota		Nebraska		South Dakota		Idaho		Alberta		11		
or	:	:	Will-	:	All-	North	Aver-	:	High-	:	:	Leth-	:	Trial	
Sel. No.	Waseca	Rank	iston	Rank	iance	Platte	age	Rank	more	Rank	Tetonia	Rank	bridge	Rank	Average
NB66403	2943	2	1101	6	2745	3171	2958	1	2205	1	2705	3	4477	1	2662
13190	2242	8	1221	2	2285	3091	2688	3	2057	3	2758	2	4185	3	2609
13999	2366	7	1081	7	2416	3030	2723	2	1919	8	2876	1	4399	2	2594
13998	2483	5	1211	3	2255	2859	2557	7	1765	10	2701	4	4034	4	2527
SD66117-1	2795	4	1013	9-10	2292	2919	2606	4	1990	4	2577	6	3943	7	2511
NB66408	2846	3	1013	9-10	2215	2903	2559	6	1963	6	2383	10	4027	5	2502
14000	2463	6	1168	5	2141	2993	2567	5	2081	2	2685	5	3604	10	2467
1442	2143	10	1450	1	2198	2641	2420	8	1913	9	2406	9	3896	8	2326
SD66171	2977	1	1044	8	2017	2742	2380	9	1574	5	2570	7	3638	9	2305
13872	2215	9	1178	4	2064	2534	2299	10	1956	7	2409	8	4023	6	2262

Table 11. Summary of 2-year average yields in bushels per acre for 10 varieties grown in the Northern Regional Performance Nursery in 11 trials in 1969 and 1970 with state averages and ranks.

Pedigree	C.I. or Sel. No.	New Mexico				Wyoming				Minnesota	
		Clovis		Aver-		Aver-		Aver-		Was-	
		dryl. irrig.		age		age		age		eca	
Pn/Cnn/3/Pn/2/Ky58/4/Cnn	NB66403	29.4	52.6	41.0	7	36.1	30.0	33.1	1	43.9	2
Warrior	13190	32.4	65.8	49.1	1	34.9	28.8	31.9	3	33.4	8
Trapper	13999	31.8	64.3	48.1	2	32.1	27.5	29.8	6	35.3	7
Trader	13998	31.1	59.4	45.2	5	33.5	32.4	33.0	2	37.0	5
Wrr 2*/III 54-12	SD66117-1	29.0	59.8	44.4	6	33.7	28.0	30.9	5	41.7	4
Pn/Cnn/3/Pn/2/Ky58/4/Cnn	NB66408	26.7	66.0	46.4	3	32.3	26.6	29.5	7	42.4	3
Winoka	14000	30.6	60.2	45.4	4	31.5	26.8	29.2	8	36.7	6
Kharkof	1442	25.3	46.1	35.7	10	36.0	25.9	31.0	4	31.8	10
Pnc/3*Cnn//NB61981	SD66171	30.6	48.6	39.6	8	26.4	25.4	25.9	10	44.4	1
Froid	13872	27.4	44.6	36.0	9	29.9	24.9	27.4	9	33.0	9

Table 11. (concluded)

C.I. or Sel. No.	:North Dakota:			Nebraska			:South Dakota:			Idaho :		Alberta :		ll
	:Will-:	:Alli-:	:North :	:Aver-:		: High-:	:Tet-:	:Leth- :	:Trial					
	:iston:	Rank:	ance	:Platte:	age	:Rank:	more :	Rank:	onia:	Rank:	bridge:	Rank:	Average	
NB66403		16.4	6	40.9	47.3	44.1	1	32.9	1	40.3	3-4	66.7	1	39.7
13190		18.2	2	34.1	46.1	40.1	3	30.7	3	41.1	2	62.4	3	38.9
13999		16.1	7	36.0	45.2	40.6	2	28.6	7	42.9	1	65.6	2	38.7
13998		18.1	3	33.6	42.6	38.1	7	26.3	9	40.3	3-4	60.1	4	37.7
SD66117-1		15.1	9-10	34.2	43.5	38.9	4	29.7	4	38.4	6	58.8	7	37.4
NB66408		15.1	9-10	33.0	43.3	38.2	6	29.3	5	35.5	10	60.0	5-6	37.3
14000		17.4	5	31.9	44.6	38.3	5	31.0	2	40.0	5	53.7	10	36.8
1442		21.6	1	32.8	39.4	36.1	8	28.5	8	35.9	8-9	58.1	8	34.7
SD66171		15.6	8	30.1	40.9	35.5	9	23.5	10	38.3	7	54.2	9	34.4
13872		17.6	4	30.8	37.8	34.3	10	29.2	6	35.9	8-9	60.0	5-6	33.7

Table 12. Summary of agronomic and yield data for varieties grown in the Northern Regional Performance Nursery in 1970.

C.I. or Sel. No.	: Days to :		: Rust :		: Winter :		: Lodg-:Shat- :		: Volume weight:		: Average yield	
	:head:	:ripe:	:Plant :	:leaf:	:stem:	:Survival:	:ing :	:tering:	:kg/hl :	:lbs/bu:	:kg/ha :	: bu/a
			cm	%	%	%	%	%				
Number of trials	16	4	15	2	2	3	3	2	14	14	15	15
NB66403	162	187	83	83	0	56	8	4	76.6	59.4	2836	42.4
13998	164	186	86	83	0	64	8	1	77.6	60.2	2760	41.2
13999	164	188	86	83	0	66	7	2	77.4	60.0	2752	41.1
13190	173	188	83	80	30	54	7	2	77.1	59.8	2696	40.3
NB66408	162	188	81	75	0	54	5	3	79.2	61.4	2614	39.1
SD66117-1	163	188	79	10	0	59	7	5	77.4	60.0	2610	39.0
1507 ⁴ (NB68513)	162	187	85	13	0	58	5	1	78.9	61.2	2566	38.4
14000	165	188	86	60	1	68	8	0	78.7	61.0	2535	37.9
SD6755	161	186	83	38	0	64	13	4	77.2	59.8	2530	37.8
NB66497	159 ^a	186	80 ^a	75	0	26	7	40	77.0 ^b	59.7	2484 ^c	37.1 ^c
SD6753	161	187	82	25	0	66	8	5	76.7	59.5	2479	37.0
SD66171	164	189	91	10	0	45	13	7	78.2	60.6	2474	37.0
SD6745	161	186	83	23	0	69	17	11	75.9	58.8	2457	36.7
1442	165	189	91	65	63	68	32	1	76.9	59.6	2448	36.6
SD6716	161	186	83	25	0	77	8	9	76.2	59.1	2448	36.6
SD6718	161	186	83	25	0	63	17	18	76.2	59.1	2439	36.5
SD6713	159	186	81	65	0	68	8	6	77.5	60.1	2409	36.0
SD6710	162	186	83	70	0	71	12	5	77.1	59.8	2377	35.5
NK70-3	161	186	87	70	18	36	15	4	75.8	58.8	2368	35.4
SD6712	159	186	82	70	0	71	8	7	77.4	60.0	2349	35.1
SD6717	161	186	81	30	0	60	12	13	76.5	59.3	2294	34.3
13872	167	190	91	70	13	64	17	1	75.5	58.5	2269	33.9
NK70-4	162	186	88	65	38	40	13	3	75.9	58.8	2265	33.9
NK70-1	162	186	87	75	51	46	7	5	76.3	59.2	2262	33.8
NK70-2	161	186	86	75	23	41	7	5	76.1	59.0	2185	32.7

- a/ 1 less trial than the number shown.
b/ 2 less trials than the number shown.
c/ 3 less trials than the number shown.

QUALITY DATA

The quality of varieties in the SRPN and NRPN is evaluated at the Hard Winter Wheat Quality Laboratory at Kansas State University. One-pound samples from each nursery site are composited for evaluation purposes. Results are reported to cooperators by K. F. Finney.

UNIFORM WINTERHARDINESS NURSERY

The nursery is comprised of two sections according to the origin of entries. A Southern Materials Section is made up of wheats from Texas, Oklahoma, Kansas, Colorado, and Nebraska. The Northern Materials Section contains wheats from Wyoming, South Dakota, Minnesota, and Montana. Entries are grown in single rows and two replications with hardiness check varieties at 10-row intervals.

The Southern Materials Section had 208 entries in 1970. Testing sites were Brookings and Watertown, South Dakota; Casselton, North Dakota; St. Paul, Minnesota; Laramie, Wyoming; Havre and Sidney, Montana. Survival data were received from Brookings, Watertown, St. Paul, and Laramie. These were assembled and distributed to cooperators in a separate report.

The Northern Materials Section was comprised of only 40 entries which were grown at the same testing sites as the Southern Section except that Lethbridge, Alberta was substituted for Laramie, Wyoming. Differential killing occurred only at Brookings and Watertown. The data were sent to cooperators in a separate report.

SOIL-BORNE MOSAIC NURSERY

This nursery was grown in 1970 at Urbana, Illinois and Powhattan, Kansas on soil known to be infected with the soil-borne mosaic virus. Sixty-six varieties were tested. Both sites provided data which were distributed to cooperators in a separate report.

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