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NEBRASKA FALL-SOWN SMALL GRAIN VARIETY TESTS 1989

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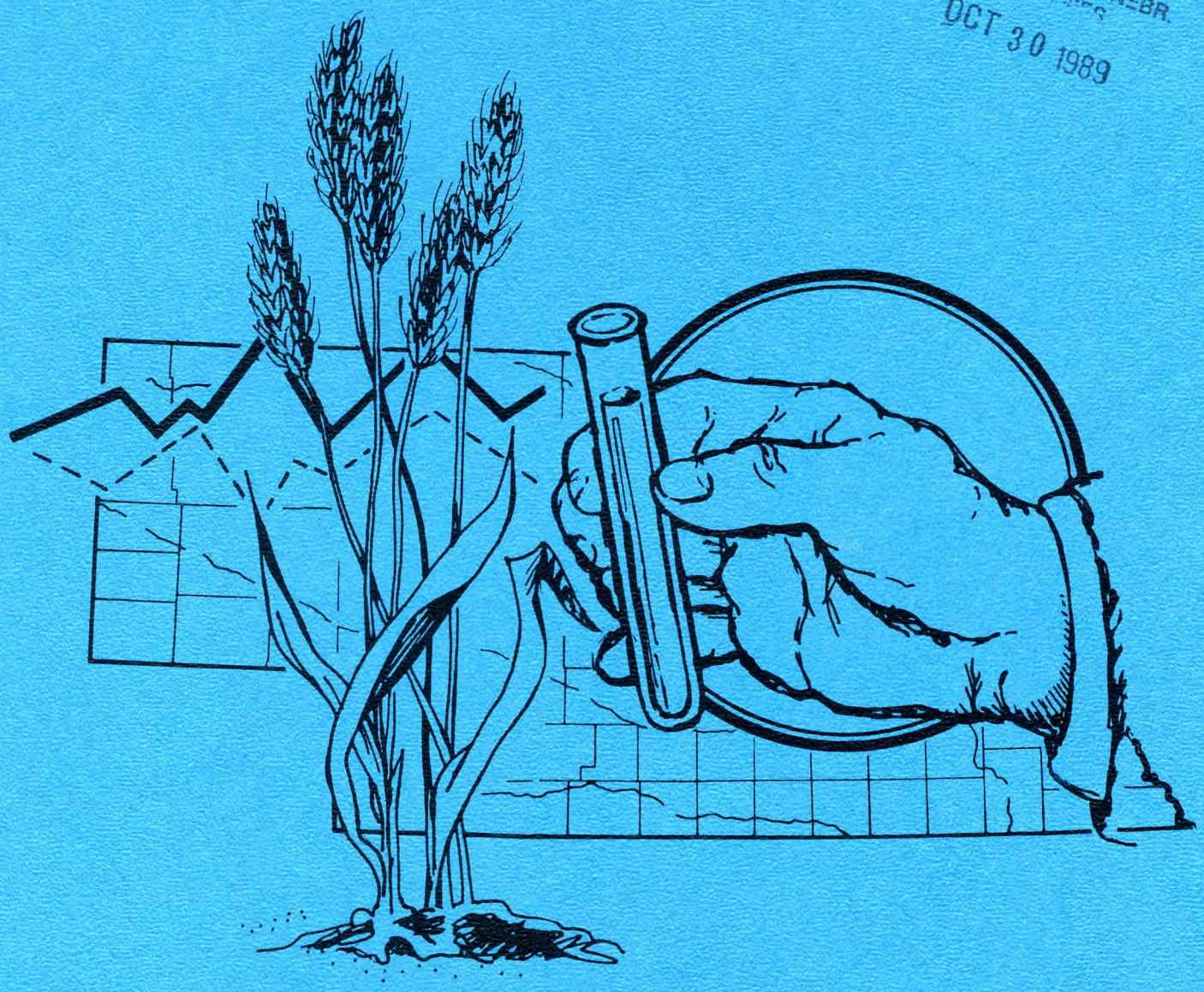

University of Nebraska–Lincoln
Institute of Agriculture and Natural Resources
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EXTENSION CIRCULAR 89-103

NEBRASKA FALL-SOWN SMALL GRAIN VARIETY TESTS

September 1989

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The authors thank the Nebraska Wheat board for contibuting check off money and the Nebraska Agricultural Statistics Service for compiling data on varieties and production of wheat.

METRIC EQUIVALENTS

1 centimeter =	**0.394 inches**	**cm =**	**inches x 2.54**
1 hectare =	**2.471 acres**	**ha =**	**acres x 0.405**
1 kilogram =	**2.205 pounds**	**kg =**	**pounds x 0.454**
1 hectoliter =	**2.838 bushels**	**hl =**	**bushels x 0.35**

Kilogram/hectoliter = ... **lb/bu x 1.287**
Kilogram/hectare = ... **bu/A x 53,81 (48# bushel)**
Kilogram/hectare = ... **bu/A x 67.26 (60# bushel)**

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NEBRASKA WINTER WHEAT PRODUCTION

Year	Planted 000 acres (hectares)	Harvested 000 acres (hectares)	Average yield bu/A (kg/ha
1975	3200 (1296)	3070 (1243)	32.0 (2152)
1976	3400 (1377)	2950 (1195)	32.0 (2152)
1977	3300 (1337)	2950 (1195)	35.0 (2354)
1978	2900 (1175)	2550 (1033)	32.0 (2152)
1979	3000 (1215)	2550 (1033)	34.0 (2287)
1980	3000 (1215)	2850 (1154)	38.0 (2556)
1981	3000 (1215)	2900 (1175)	36.0 (2421)
1982	3050 (1235)	2900 (1175)	35.0 (2354)
1983	2800 (1134)	2300 (932)	43.0 (2892)
1984	3200 (1296)	2250 (911)	36.0 (2421)
1985	2600 (1053)	2300 (932)	39.0 (2623)
1986	2300 (932)	2000 (810)	39.0 (2623)
1987	2200 (891)	1950 (790)	44.0 (2959)
1988	2300 (932)	2000 (810)	39.0 (2623)
1989 [1]	2300 (932)	2050 (830)	26.0 (1747)

[1] August 1 estimate.

NEBRASKA FALL-SOWN SMALL GRAIN VARIETY TESTS 1989

This circular reports data from winter wheat and winter barley trials conducted throughout Nebraska. Entries included varieties or hybrids and promising experimental strains from Nebraska and surrounding states and private breeders. This was the eighth year for privately developed varieties. The state has been divided into eight districts for purposes of variety testing. Locations of these trials and the 1989 variety tests are shown on the map (page 4).

Trials were located on Research Centers and private farms. Names of cooperators and dates of planting and harvest are shown in Table 1. Soil type, soil test data, and fertilizer applications are shown in Table 2. Plot sizes varied with location. Drill strips were used in Lincoln (field plots) and Saunders Counties. Nursery-type plots six rows wide and 15 to 35 feet long were planted at other locations. All tests were direct combined. Entries were replicated 4 to 6 times.

The 1989 season started out quite normal in the fall of 1988. Planting across the state was generally on time. The winter started out warm through January and then got very cold through February. This gave scattered winter kill throughout the eastern 3/4 of the state. Spring growth was ahead of normal due to very warm temperatures in April. The heat was compounded by almost no rainfall during April in the east. Western Nebraska had more normal temperatures and rainfall and less winterkill. During June, the temperatures were far above normal and rainfall was far below normal. Thus, considerable drought and heat stress was placed on most of the wheat in Nebraska. With the approach of harvest, rainfall became more prevalent and combined with cool weather to delay harvest. Harvest was completed close to the long time average and later than 1988. Yields were below normal for all parts of the state. This was one of the smallest harvests on record. In addition, many acres were harvested for hay because of the poor appearance of the wheat coupled with the dire need for animal feed.

Winter Wheat Varieties

In 1989, Siouxland was again the most extensively grown wheat variety in Nebraska. It was grown on 21% of the acres compared to 17% in 1987 and less than 3% in 1986. Brule dropped from a high of 33% in 1985 to 12% in 1989, however when Redland was combined with Brule, they comprised 22% of the acreage. Centura was grown on 12% of the acres in Nebraska for the second highest acreage. Centurk and Centurk 78 on less than 5%, Cody on 3%, and Colt on 2%. AgriPro brands Thunderbird had over 7% and Hawk occupied 3% of the acreage. Of the rest of the varieties, public varieties occupied 19% and private varieties occupied 9% of the acres.

'Arapahoe' was released in 1988 by the Nebraska Agricultural Research Division and the USDA-ARS. This variety has been tested under the experimental number NE82656. Its parentage is-
Brule/3/Parker*4/Agent//Beloterkovskaia198/Lancer.

Siouxland 89 was released in 1989 as a selection from Siouxland. It was released jointly by Texas and Nebraska. It is more uniform than Siouxland, otherwise quite similar.

Karl was released by Kansas in 1988 and was tested as KS831374 in 1988. Karl is a probable replacement for Arkan.

Pedigrees of Nebraska experimental strains are as follows:

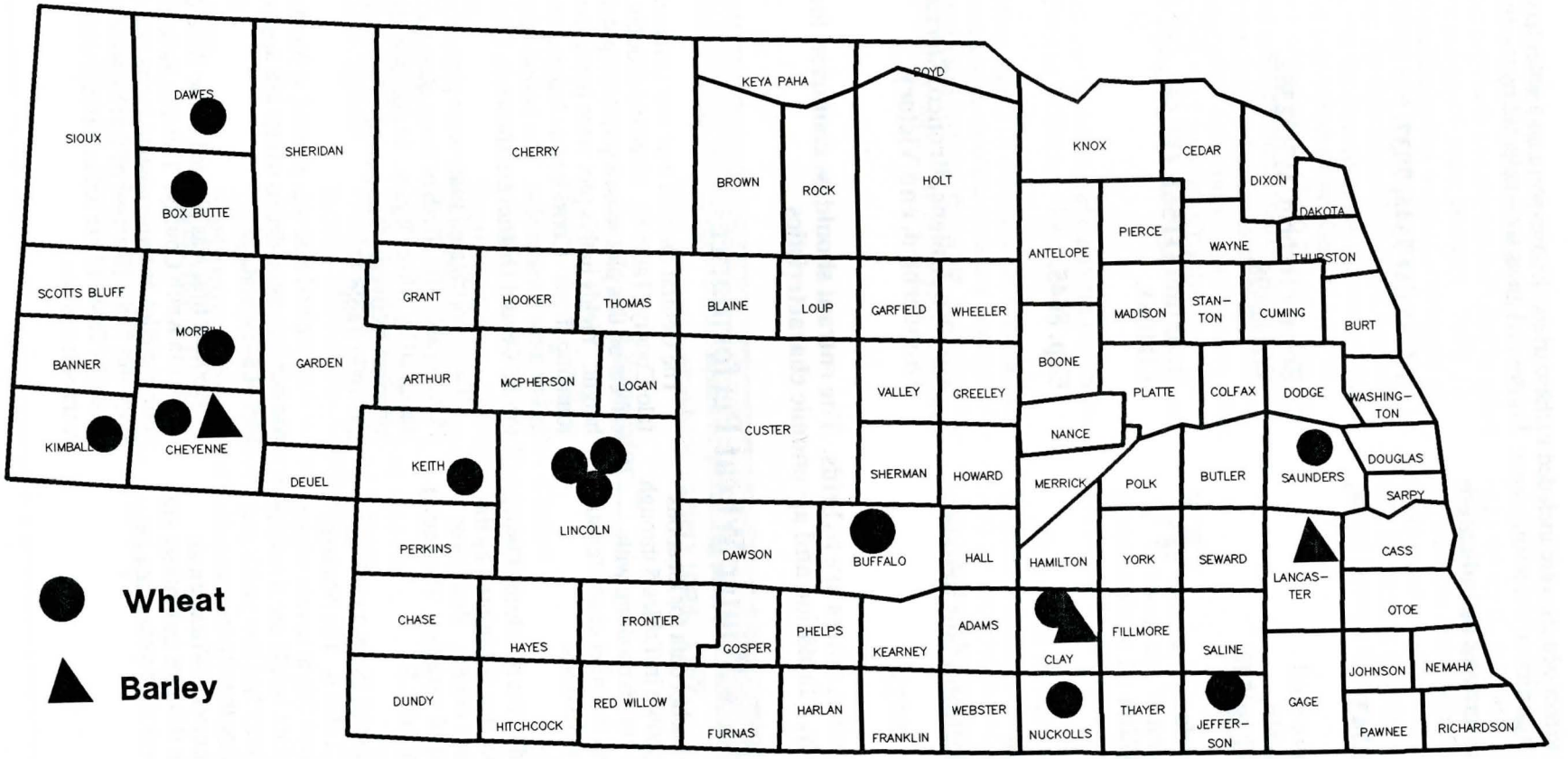
NE83407 - CIMMYT/Scout//Bennett sib//Pkr*4/Agent//Belot198/Lcr/3/Bez1/Ctk78

NE83432 - (FTM/MI/Hope)//Pnc/2*Cnn/3/Pnc/3*Cnn/4/Pnc/2*Cnn//Ill#1-Cns-TT1(Cmth)/Sando60/5/Vona/6/Wrr*5/Agent//Kavkaz

NE83498 - Wrr*5/Agent//Kavkaz/4/Pkr*4/Agent//Belot 198/Lcr/3/Vona

NE 84557 - Wrr/Sut//Mow6811/3/Agate sib/4/NE68457/Ctk

83T12 - Complex



Locations of 1989 Nebraska winter wheat and winter barley variety tests.

Privately developed winter wheats were included in these trials. Entries were on a voluntary basis. A fee was charged to pay a portion of the testing costs. Entries and areas were selected by the seed producer.

The following made entries as indicated:

Agseco **P.O. Box 7** **Girard, KS 66743**	**AGSECO 7846, 7837.**
Cargill Incorporated **2540 E. Drake Rd.** **Ft. Collins, CO 80525**	**Bounty Hybrid WH32362, WH52498.**
HybriTech Seeds **5912 N Meridian** **Wichita, KS 67204**	**Quantum QT561, QT 562, QT 546, XH1061.**
MBS, Inc **Box 308** **Ames, IA 50010**	**Exp. 8645.**
Nickerson American Plant Breeders **Second St.** **Berthoud, CO 80513**	**AgriPro Abilene, Bronco, Sierra, Thunderbird, and Victory.**

Some of these are varieties, others are hybrids. The entrant should be contacted for information on seed availability, adaptation and agronomic characteristics

Winter Wheat Performance

Yield and weight per bushel data for locations and/or districts are shown in Tables 5 through 13. Results of 1989 trials are given along with period-of- years data. Data for other characteristics are summarized in tables as follows:

Two trials were seeded in the Southeast District (Table 4). Saunders county was not injured by the drought as much as Jefferson county. Both plots suffered winter kill on several varieties. The period-of-years data are shown in Table 5.

Results of the South Central District trials in Clay County are shown in Table 6. The Nuckolls county plot was not harvested due to severe winter kill. Winter survival and plant height are shown for Nuckolls county. Clay county had low yields and low bushel weights indicating that the heat and drought had a negative influence. Wheat streak mosaic virus was present in this plot and ratings are included in Table 6. The period-of-years data are shown in Table 7.

The Central District trial was conducted in Buffalo County (Table 8). Heat and drought had some effects on this plot reducing test weight and plant height. Yields in this plot were better than surrounding fields. Considerable lodging and winter injury were present also. The period-of-years data for the Central District are shown in Table 9.

Two nonirrigated trials were planted at North Platte (Table 10). Both of these plots were damaged by winter injury. In addition, dry weather hindered recovery. The period-of-years data are shown in Table 11.

An irrigated trial was planted at North Platte but was not harvested due to winter kill and poor condition of the wheat.

Another trial was planted in the West Central District in Keith County. This test included the same varieties as those entered in the West District. Since this is the first year of that location, the data shown in Table 12 are not combined with other years or locations.

Five trials were planted in the Panhandle. Due to hail at the Cheyenne County location the data reflect regrowth and are not included in either location or period-of-years averages. Table 13 shows the yields, bushel weights, and height of plots in Dawes and Box Butte Counties. Table 14 summarizes the data from Morrill and Kimball Counties. Of the four counties, Dawes and Morrill had the best wheat while Kimball had the poorest wheat due primarily to drought. The Panhandle had average rainfall during the spring of 1989 but was below average later in the summer. The average of all four counties is shown in Table 15 along with the Cheyenne County data. The period-of-years data for the Panhandle are found in Table 16.

Protein and kernel weight data are shown for 12 locations in Tables 17 - 19.

Yielding ability of different varieties cannot be measured with absolute accuracy because of variations in soil fertility, moisture, and other factors. For this reason, small differences in yield have no significance. Unless the difference in yield of two varieties is greater than the difference required for significance shown in the tables, little confidence can be placed in the superiority of the one over the other in that particular test. These differences are shown at the 5% level, meaning that differences as large or larger could be expected through chance alone in 1 of 20 trials.

Winter Barley

Winter barley tests were conducted at four locations. The results of those tests are shown in Table 20. Hail prevented harvest at the Cheyenne County location.

Five wheat varieties were tested in Clay County under irrigated conditions. The data from that trial are included in Table 21. The authors of that data are included in the table.

Table 1. Location and dates of planting and harvest. Nebraska winter wheat variety tests. 1989.

County	Cooperator	Planted	Harvested
Jefferson	Glen Ebbers, Daykin	Sept. 23	July 6
Saunders	Agricultural Res & Dev Center	Oct. 4	July 12
Clay	South Central Res & Ext Center	Sept. 23	July 14
Nuckolls	Scott Eitzmann, Hardy	Sept. 22	July *
Buffalo	Blaschko Bros., Gibbon	Sept. 12	July 20
Lincoln Fld Plts	West Central Res & Ext Center	Sept. 16	July 14
Lincoln Nursery	West Central Res & Ext Center	Sept. 16	July 18
Lincoln Irrigated	West Central Res & Ext Center	Sept. 17	July *
Keith	Kevin Armknecht, Ogallala	Sept. 19	July 14
Kimball	Jim Cederburg, Kimball	Sept. 18	July 19
Cheyenne	High Plains Agricultural Lab.	Sept. 11	July 24 **
Morrill	Leonard Ott, Bridgeport	Sept. 16	July 11
Box Butte	Northwest Agricultural Lab.	Sept. 13	July 25
Dawes	Dave Key, Chadron	Sept. 14	July 21

*** Not harvested due to winter kill and weed pressure.**
**** Hailed May 20. Harvested regrowth.**

Table 2. Soil series, cropping history, and fertilizers applied. Nebraska winter wheat variety tests. 1989.

Table 2							
County	Soil Type	1988 Crop	pH	Nitrate lbs/a	P ppm	Organic matter %	N+P2O5+K lbs/a
Jefferson	Crete silty clay loam	fallow	6.5	187	27	2.9	0+0+0
Saunders	Sharpsburg silty clay loam	fallow	6.0-				
Clay	Hastings silt loam	fallow	6.8	144	18	1.2	34+45+0
Buffalo	Hobbs & Colby silt loam	fallow	7.0	281	36	1.2	53+36+12
Lincoln FP	Hall silt loam	fallow	6.3				60+0+0
Lincoln Nrsy	Hall silt loam	fallow	5.9				60+40+0
Keith	Kuma silt loam	fallow	6.8	180	37	2.2	46+19+0
Dawes	Kadoka silt loam	fallow	7.5	193	19	2.1	6+19+0
Box Butte	Keith silt loam	fallow	6.5	69	27	1.1	6+19+0
Morrill	Keith silt loam	fallow	6.8	235	17	1.1	50+0+0
Kimball	Rosebud silt loam	fallow	7.6	76	35	1.8	6+19+0
Cheyenne	Keith silt loam	fallow	6.3	236	47	2.5	46+19+0

Table 3. Characteristics of winter wheat varieties.[1]

Entry	Year released	Origin	P.V.P.[2]	Relative Maturity	Relative Winter-hardiness	Relative Straw strength	Relative Plant height	Semi-dwarf[3]	Resistance to[4] Hessian fly	Resistance to[4] Leaf rust	Resistance to[4] Stem rust	Resistance to[4] Soil-borne mosaic	Resistance to[4] Wheat streak mosaic
Abilene	1987	NAPB	Yes	Med-early	Good	Strong	Short	Yes	S	R	MR	R	MR-MS
Arapahoe	1988	NE	Yes	Med-early	Good	Med-Strong	Medium	No	MR	MR	R	S	S
Arkan	1983	KS	Yes	Very-early	Fair	Strong	Med-short	No	R	MR	R	R	S
Brule	1982	NE	No	Med-early	Good	Strong	Medium	Yes	R	MS-MR	MR	S	MR-MS
Buckskin	1973	NE	Yes	Med-early	Fair	Med-Strong	Tall	No	MR	S	MR-MS	MR	S
Centura	1983	NE	Yes	Med-early	Fair	Med-Strong	Medium	No	S	MR-MS	MR	MS	MS
Centurk 78	1978	NE	Yes	Med-early	Fair	Med-Strong	Medium	No	S	MS	MR	MS	MS
Cody	1986	NE	Yes	Med-early	Good	Med-Strong	Medium	No	S	MR	MR-R	MS-MR	MR-MS
Colt	1983	NE	Yes	Medium	Good	Strong	Short	Yes	MR	MS-MR	R	MS	S
Karl	1988	KS	Yes	Very-early	Fair	Strong	Med-short	Yes	S	MR	MS	R	S
Norkan	1986	KS	Yes	Med-early	Fair	Strong	Med-short	Yes	R	MS-MR	R	R	MS
Redland	1986	NE	Yes	Med-early	Good	Strong	Medium	Yes	R	MS-MR	R	S	MR-MS
Scout 66	1966	NE	No	Early	Fair	Medium	Tall	No	MS	MS	MR	S	MR-MS
Siouxland	1984	NE	Yes	Med-early	Fair	Med-Strong	Medium	No	S	MR	MR	S	MR-MS
TAM 107	1984	TX	Yes	Very-early	Fair	Med-Strong	Short	Yes	S	S	MR-MS	S	MR-MS
TAM 200	1987	TX	No	Early	Poor	Strong	Short	Yes	S	MR-MS	MR	S	MR-MS
Thunderbird	1986	NAPB	Yes	Early	Good	Strong	Med-short	No	MR-S	R	R-MR	R	MR-MS
Victory	1986	NAPB	Yes	Med-early	Fair	Strong	Short	Yes	S	R	MR-MS	R	S
Vona	1976	CO	Yes	Early	Poor	Strong	Short	Yes	MR	S	MR-MS	S	MS

[1] These apply only to area of adaptation. When varieties are taken out of their primary area of adaptation, relative maturit straw strength and other characteristics are subject to variations. Disease and insect races are constantly changing.

[2] If yes, the variety is registered under the U.S. Plant Variety Protection Act and may only be sold for seed as Registered or Certified.

[3] Semidwarf winter wheats usually have short coleoptile lengths. This may hinder emergence when seeded deep.

[4] R = resistant; MR = moderately resistant; S = susceptible; MS = moderately susceptible.

Table 4. Southeast District Wheat Test - 1989 Jefferson and Saunders County

Table 4

Variety	Jefferson Yield bu/a	Saunders Yield bu/a	Average two locations Yield bu/a	Bushel weight	Height inches	Winter survival
AgriPro Abilene	49.5	67.3	58.4	59.7	25.0	96
AgriPro Sierra	46.2	58.7	52.5	58.1	25.0	73
AgriPro Thunderbird	46.8	58.7	52.8	58.9	27.4	93
AgriPro Victory	46.0	68.2	57.1	57.9	27.0	82
AGSECO 7837	35.0	56.3	45.7	57.0	25.8	62
AGSECO 7846	46.5	51.8	49.2	59.3	26.0	94
Arapahoe	46.1	68.7	57.4	56.5	29.1	98
Arkan	31.5	42.7	37.1	56.2	25.5	82
Bounty WH32362	44.0	56.0	50.0	57.5	27.6	79
Bounty WH52498	48.9	64.5	56.7	55.9	28.0	100
Brule	53.7	61.2	57.5	56.6	28.9	98
Centura	45.0	53.6	49.3	58.4	28.1	92
Centurk 78	38.6	64.2	51.4	57.6	28.6	92
Century	49.5	48.2	48.9	58.4	26.6	96
Cody	48.0	69.9	59.0	57.5	27.9	100
Colt	49.4	54.7	52.1	57.1	25.1	96
Karl	34.7	59.8	47.3	57.7	25.4	98
Norkan	39.1	60.7	49.9	58.4	27.2	80
Quantum QT561	42.3	56.5	49.4	56.6	28.1	91
Quantum XH1061	36.1	52.2	44.2	56.3	28.4	86
Redland	48.9	68.6	58.8	56.4	30.0	100
Scout66	53.3	57.0	55.2	59.2	34.4	95
Siouxland	59.2	66.8	63.0	57.8	31.5	95
Siouxland 89	55.5	67.7	61.6	57.9	31.0	95
TAM 107	58.4	54.0	56.2	58.3	26.6	96
TAM 200	51.9	46.9	49.4	60.0	24.1	64
Turkey	44.0	49.1	46.6	57.0	33.1	100
Vona	38.6	56.7	47.7	58.9	25.5	72
NE83407	68.0	76.6	72.3	56.6	26.8	98
NE8343	51.1	65.7	58.4	58.4	26.6	100
NE83498	56.1	79.4	67.8	57.9	29.1	98
NE84557	56.1	70.3	63.2	59.3	32.0	100
83T12 Triticale	42.9	40.6	41.8	50.5	32.9	55
Mean	47.3	59.8	53.5	57.5	28.0	89
Diff Req Sig 5%	11.0	8.6	6.2	0.8	1.8	12

Table 5. Southeast District Wheat Yields and Bushel Weights - 1985 to 1989.

Table 5

Variety	5 Year(85-89)		4 Year(86-89)		3 Year(87-89)		2 Year(88-89)	
	Yield	Bwt	Yield	Bwt	Yield	Bwt	Yield	Bwt
AgriPro Abilene	--	---	--	---	58	60.0	59	60.8
AgriPro Thunderbird	53	59.6	50	58.7	54	59.4	55	60.0
AgriPro Victory	54	57.2	51	56.4	56	57.6	57	58.4
Arapahoe	--	---	54	56.4	55	57.0	55	57.5
Arkan	44	57.2	40	56.2	43	57.1	41	57.7
Brule	51	55.9	47	54.9	54	56.2	55	57.0
Centura	48	58.6	44	57.8	49	58.8	52	59.4
Centurk 78	--	---	--	---	--	---	50	58.7
Century	--	---	--	---	--	---	52	59.2
Cody	52	57.9	50	57.0	54	57.8	57	58.4
Colt	46	56.5	42	55.6	49	56.8	49	57.9
Karl	--	---	--	---	--	---	50	59.1
Norkan	--	---	46	57.7	50	58.5	49	59.4
Redland	--	---	48	54.5	57	55.9	57	56.7
Scout66	44	58.6	41	57.8	46	58.8	51	59.9
Siouxland	54	58.1	50	57.1	54	57.8	58	58.4
TAM 107	51	56.4	49	55.9	57	57.8	57	58.8
TAM 200	--	---	--	---	--	---	51	61.3
Turkey	34	56.1	32	54.9	39	57.1	43	58.1
Vona	40	56.6	37	55.9	48	58.2	49	59.1
83T12 Triticale	--	---	--	---	--	---	45	51.9
Average	48	57.4	45	56.5	51	57.8	52	58.4
Dif Req Sig. 5%	2.4	0.5	3.2	0.6	2.5	0.2	2.8	0.4

Table 6. South Central District winter wheat variety test - 1989 Clay and Nuckolls county

Table 6

Variety	Clay County					Nuckolls County	
	Yield bu/a	Bushel weight	Winter survival	Height inches	Wheat streak	Winter survival	Height inches
AgriPro Abilene	24.4	58.7	98	22.5	1*	98	15.3
AgriPro Sierra	9.5	53.0	28	20.3	3	58	16.0
AgriPro Thunderbird	22.3	58.3	97	25.8	2	96	17.0
AGSECO 7846	21.9	59.1	69	24.0	2	83	14.5
Arapahoe	29.9	56.3	98	28.0	2	96	19.5
Arkan	16.6	53.8	68	21.8	3	44	13.3
Bounty WH32362	25.0	57.1	84	26.5	2	71	17.3
Bounty WH52498	24.8	54.5	98	25.8	1	93	17.3
Brule	26.2	55.2	91	27.5	3	95	18.3
Centura	25.5	57.3	93	28.0	2	90	18.5
Centurk 78	24.8	56.4	91	26.5	2	92	15.5
Century	27.8	58.3	90	25.0	1	96	17.3
Cody	29.8	55.9	96	27.5	1	99	15.5
Colt	27.7	56.0	91	23.8	3	96	14.3
Karl	17.6	56.3	95	25.3	2	86	16.3
Norkan	21.6	56.2	86	25.8	3	79	14.8
Quantum QT561	27.4	55.9	92	27.5	1	95	18.5
Quantum XH1061	25.0	55.0	95	28.3	1	88	18.3
Redland	29.3	55.2	91	27.0	3	95	18.8
Scout66	26.3	57.6	94	30.5	2	95	19.5
Siouxland	32.7	56.7	00	29.8	1	99	16.8
Siouxland 89	32.7	57.0	00	31.3	1	100	15.8
TAM 107	27.5	57.6	91	24.3	1	88	16.0
TAM 200	34.5	57.8	69	21.3	2	49	16.8
Turkey	30.9	56.7	99	31.5	2	96	19.8
Vona	19.9	58.2	71	21.0	3	80	16.8
NE83407	36.1	55.4	97	24.3	1	96	16.3
NE83432	31.9	55.9	99	26.5	3	100	17.5
NE83498	31.9	56.9	98	27.5	1	90	14.0
NE84557	26.7	57.2	95	27.5	3	81	20.0
83T12 Triticale	22.1	50.3	79	31.3	2	71	27.8
Average	26.1	56.3	88	26.2	1	87	17.2
Dif Req Sig 5%	9.1	1.3	12	1.9	0	19	2.9

* Wheat streak mosaic virus rating of 0 is healthy and 5 is severely infected.

Table 7. South Central District Wheat Yields and Bushel Weights - 1985 - 1989.

Table 7

	5 Yr (85-89)		4 Yr (86-89)		3 Yr (87-89)		2 Yr (88-89)	
Variety	Yld	Bu.Wt	Yld	Bu.Wt	Yld	Bu.Wt	Yld	Bu.Wt
AgriPro Abilene	--	---	--	---	47	58.8	37	60.2
AgriPro Thunderbird	46	58.9	43	58.1	42	58.8	34	59.8
Arapahoe	--	---	46	55.7	48	56.7	37	57.5
Arkan	41	56.0	37	55.0	36	55.7	25	56.5
Brule	43	55.1	40	54.1	45	55.7	36	56.9
Centura	42	57.6	40	57.0	43	58.1	35	59.0
Centurk 78	39	55.9	36	54.9	40	56.1	32	56.5
Century	--	---	--	---	--	---	36	59.9
Cody	46	56.6	44	55.8	44	56.5	38	57.4
Colt	42	55.8	40	54.7	42	56.3	34	57.8
Norkan	--	---	40	55.7	42	57.6	33	58.6
Redland	--	---	41	54.0	45	55.7	36	56.7
Scout66	39	57.7	36	56.9	39	58.1	34	59.1
Siouxland	49	56.6	48	56.2	47	57.4	40	58.5
TAM 107	44	55.9	44	55.3	48	57.5	40	58.8
TAM 200	--	---	--	---	--	---	36	60.3
Turkey	34	55.5	31	54.3	36	56.9	35	58.4
Vona	37	55.8	35	54.8	39	57.8	28	59.2
83T12 Triticale	--	---	--	---	--	---	32	51.1
Average	42	56.4	40	55.5	43	57.1	35	58.0
Dif Req Sig 5%	4.0	1.0	4.0	1.1	3.7	0.6	5.3	0.8

Table 8. Central District winter wheat variety test. Buffalo County - 1989

Table 8

Variety	Yield bu/a	Bushel weight	Winter survival	Height inches	Lodging %
AgriPro Abilene	42	55.8	96	26.7	37
AgriPro Sierra	39	52.6	85	25.0	1
AgriPro Thunderbird	45	54.7	93	29.0	38
AgriPro Victory	52	53.9	77	25.0	48
Arapahoe	46	52.1	100	29.5	55
Bounty WH32362	39	52.5	65	28.0	10
Bounty WH52498	38	51.7	89	27.5	29
Brule	55	51.5	99	30.3	49
Centura	46	53.4	95	31.0	53
Centurk 78	40	51.2	96	29.8	48
Century	50	54.4	97	27.8	50
Cody	45	52.7	99	30.0	51
Colt	51	52.8	99	26.5	25
Karl	52	55.1	99	27.3	40
MBS, Inc. EXP8645	34	55.8	85	24.8	23
Norkan	48	54.2	84	27.5	50
Redland	48	51.6	98	27.8	40
Scout66	48	54.1	96	34.3	63
Siouxland	53	53.1	100	31.8	50
Siouxland 89	51	53.2	100	32.3	53
TAM 107	52	54.2	94	26.3	29
TAM 200	38	53.7	64	23.0	36
Turkey	35	52.0	98	34.5	63
Vona	42	53.8	69	25.8	28
NE83407	53	51.7	99	28.0	60
NE83432	51	52.7	100	29.3	21
NE83498	53	54.1	95	29.0	20
NE84557	49	54.0	86	31.3	51
83T12 Triticale	45	45.8	80	33.3	41
Average	46	53.0	91	28.7	40
Dif Req Sig	12	1.8	15	2.9	26

Table 9. Central District winter wheat yields and bushel weights - 1983 - 1989. No 1984 or 1985 data.

Table 9

	5 Yr (83-89)		4 Yr (86-89)		3 Yr (87-89)		2 Yr (88-89)	
Variety	Yld	Bu.Wt	Yld	Bu.Wt	Yld	Bu.Wt	Yld	Bu.Wt
AgriPro Abilene	--	---	--	---	57	59.2	44	57.4
AgriPro Thunderbird	--	---	42	57.7	46	58.5	43	56.6
Arapahoe	--	---	49	55.3	49	54.9	45	53.8
Brule	49	54.9	51	54.7	56	54.9	49	53.0
Centura	40	57.2	39	56.5	41	56.8	44	55.3
Centurk 78	37	55.7	39	55.7	43	55.7	38	53.4
Century	--	---	--	---	--	---	45	55.5
Cody	40	55.9	43	56.1	44	56.0	43	54.3
Colt	45	56.2	47	55.6	52	56.0	43	53.6
Karl	--	---	--	---	--	---	44	55.0
Norkan	--	---	48	57.6	54	58.0	43	55.7
Redland	--	---	49	54.9	54	54.8	46	52.7
Scout66	36	57.0	40	57.2	41	57.3	45	55.9
Siouxland	43	56.7	45	56.3	48	56.3	47	54.6
TAM 107	--	---	49	56.7	56	56.6	48	54.7
TAM 200	--	---	--	---	--	---	39	56.5
Turkey	26	53.5	31	54.5	32	54.7	35	54.1
Vona	40	55.7	40	55.6	51	57.6	40	55.2
83T12 Triticale	--	---	--	---	--	---	47	47.8
Average	39	55.9	43	56.0	48	56.5	44	54.5
Dif Req Sig 5%	13	2.3	13	2.0	16	1.5	9	1.8

1983 - Sherman County, 1986 - Howard County, 1987 - Nance County, 1988 - Valley County, 1989 - Buffalo County

Table 10. West Central District winter wheat variety tests. Lincoln County (North Platte) yield and bushel weight - 1989.

Table 10

Variety	Nursery		Field Plots		Average 2 tests	
	Yield bu/a	Bushel weight	Yield bu/a	Bushel weight	Yield bu/a	Bushel weight
AgriPro Abilene	26	57.4	27	58.2	27	57.8
AgriPro Sierra	14	53.6	13	54.0	14	53.8
AgriPro Thunderbird	21	54.0	21	55.0	21	54.5
AgriPro Victory	14	51.9	21	55.5	18	53.7
Arapahoe	21	53.4	21	54.5	21	54.0
Bounty WH32362	12	52.4	20	55.2	16	53.8
Bounty WH52498	14	51.0	19	53.5	17	52.3
Brule	20	53.0	31	56.0	26	54.5
Centura	17	53.5	23	55.2	20	54.4
Centurk 78	15	51.7	18	52.0	17	51.9
Century	22	55.7	31	58.7	27	57.2
Cody	21	53.2	23	52.0	22	52.6
Colt	20	53.9	21	55.0	21	54.5
Karl	18	54.7	20	56.5	19	55.6
Norkan	10	51.4	12	54.0	11	52.7
Redland	20	52.8	26	55.0	23	53.9
Scout66	16	55.1	17	56.5	17	55.8
Siouxland	28	52.8	27	54.5	28	53.7
Siouxland 89	27	53.1	32	54.2	30	53.7
TAM 107	21	55.3	26	57.0	24	56.2
TAM 200	11	56.3	14	57.5	13	56.9
Turkey	29	54.0	27	55.0	28	54.5
Vona	13	52.7	15	54.0	14	53.4
NE83407	22	52.7	24	53.7	23	53.2
NE83432	30	54.8	34	57.2	32	56.0
NE83498	23	54.0	26	55.5	25	54.8
NE84557	18	55.5	24	57.0	21	56.3
83T12 Triticale	16	45.7	20	50.0	18	47.9
Average	19	53.4	23	55.1	21	54.3
Dif Req Sig 5%	5.2	1.6	7.0	---	2.	0.8

Table 11. West Central District winter wheat variety tests. 1985-1989.

Table 11

Variety	5 yr (85-89) Yield	5 yr (85-89) Bu.Wt	4 yr (86-89) Yield	4 yr (86-89) Bu.Wt	3 yr (87-89) Yield	3 yr (87-89) Bu.Wt	2 yr (88-89) Yield	2 yr (88-89) Bu.Wt
AgriPro Abilene	--	---	--	---	43	56.2	35	54.7
AgriPro Thunderbird	45	56.8	43	55.6	37	55.1	31	53.7
AgriPro Victory	--	---	39	53.5	35	53.1	27	51.4
Arapahoe	--	---	46	53.7	40	53.1	31	51.7
Brule	46	54.2	44	52.8	39	52.4	32	51.3
Buckskin	37	55.8	34	54.3	34	54.4	26	52.9
Centura	44	57.0	42	55.7	38	55.5	31	54.1
Centurk 78	39	55.9	36	54.4	32	53.7	22	51.7
Century	--	---	--	---	--	---	25	50.4
Cody	46	56.0	43	54.8	37	54.1	31	52.7
Colt	40	55.3	38	53.6	32	52.9	21	50.9
Karl	--	---	--	---	--	---	32	54.9
Norkan	--	---	42	55.3	38	54.7	30	53.1
Redland	44	54.3	41	53.0	36	52.5	27	51.3
Scout66	38	56.7	36	55.3	35	54.8	32	53.4
Siouxland	48	56.2	46	54.4	40	53.7	34	51.8
TAM 107	46	55.3	44	54.4	42	54.4	32	53.2
TAM 200	--	---	--	---	--	---	23	55.3
Turkey	31	54.7	30	53.3	31	53.5	27	52.2
Vona	38	54.6	36	53.5	33	53.4	22	51.1
83T12 Triticale	--	---	--	---	--	---	20	45.1
Average	42	55.6	40	54.2	37	54.0	28	52.2
Dif Req Sig 5%	2.6	0.5	3.1	0.6	3.0	0.7	3.3	0.9

Table 12. Keith County winter wheat variety test - 1989

Table 12

Variety	Yield bu/a	Bushel weight	Lodging %	Wheat * streak
AgriPro Abilene	33.6	53.4	10.0	2.0
AgriPro Bronco	28.5	51.7	15.0	3.2
AgriPro Sierra	24.3	51.2	12.5	3.3
AgriPro Thunderbird	24.5	52.1	10.0	2.8
Arapahoe	36.7	50.6	12.5	2.7
Bounty WH32362	22.3	50.1	17.5	2.7
Bounty WH52498	33.7	50.4	10.0	2.5
Brule	35.6	51.8	15.0	2.7
Buckskin	26.0	51.9	25.0	3.0
Centura	28.8	50.9	17.5	3.5
Centurk 78	20.7	46.7	20.0	4.0
Century	31.5	53.3	12.5	2.3
Cody	27.9	48.7	17.5	2.8
Colt	20.8	50.2	25.0	3.8
Karl	26.5	54.1	10.0	3.8
Norkan	19.9	50.2	45.0	5.0
Quantum QT546	32.8	50.1	17.5	3.2
Quantum QT562	37.6	49.2	10.0	2.0
Redland	31.7	49.6	15.0	3.0
Scout66	29.3	53.7	17.5	4.0
Siouxland	34.3	48.9	15.0	2.7
Siouxland 89	39.2	50.2	15.0	2.2
TAM 107	28.0	51.6	17.5	2.3
TAM 200	27.2	51.9	15.0	2.5
Turkey	34.3	53.3	25.0	2.8
Vona	25.5	49.1	15.0	4.0
NE83407	31.5	48.2	25.0	2.2
NE83432	37.2	50.5	12.5	3.8
NE83498	23.2	51.8	10.0	3.7
NE84557	19.7	51.5	20.0	5.0
83T12 Triticale	33.1	48.4	5.0	1.3
Average	28.9	50.5	15.8	3.1
L.S.D. 5%	4.7	2.2	3.0	0.5

* Wheat streak mosaic virus rating of 0 is healthy and 5 is severely infected.

Table 13. Western District winter wheat variety tests - 1989. Box Butte and Dawes County.

Table 13

Variety	Dawes Yield bu/a	Dawes Bushel weight	Dawes Height inches	Box Butte Yield bu/a	Box Butte Bushel weight	Box Butte Height inches
AgriPro Abilene	53	62.9	29	27	62.8	22
AgriPro Bronco	52	60.3	29	30	61.3	23
AgriPro Sierra	53	61.2	31	25	61.4	22
AgriPro Thunderbird	49	62.3	31	28	62.2	25
Arapahoe	52	60.2	32	27	59.8	26
Bounty WH32362	51	61.0	32	25	60.3	26
Bounty WH52498	48	59.8	30	26	59.9	25
Brule	53	58.6	33	26	59.3	27
Buckskin	50	61.4	36	27	61.4	30
Centura	53	61.2	33	28	61.2	26
Centurk 78	54	61.2	33	29	61.0	28
Century	47	61.0	30	29	61.1	26
Cody	51	61.2	33	27	60.5	27
Colt	54	61.1	30	23	60.5	22
Karl	46	61.1	29	22	61.4	22
Norkan	52	61.4	30	26	61.6	23
Quantum QT546	50	59.8	32	31	60.7	27
Quantum QT562	56	60.2	32	35	61.0	25
Redland	54	58.5	32	28	59.2	27
Scout66	51	60.5	36	26	61.2	29
Siouxland	51	61.2	36	26	61.2	28
Siouxland 89	51	61.4	36	25	60.9	29
TAM 107	58	59.1	30	27	60.0	22
TAM 200	55	62.4	28	28	62.6	23
Turkey	44	60.8	36	27	60.9	31
Vona	55	60.8	31	27	61.9	22
NE83407	53	59.7	29	31	60.1	23
NE83432	50	60.9	30	29	60.3	26
NE83498	53	61.1	34	25	60.3	25
NE84557	50	62.4	33	28	62.3	27
83T12 Triticale	47	52.9	35	24	52.9	32
Average	51	60.6	32	27	60.7	26
Dif Req Sig 5%	2.9	0.8	2.4	4.8	0.7	1.6

Table 14. Western District winter wheat variety tests - 1989. Morrill and Kimball County.

Table 14

Variety	Morrill				Kimball		
	Yield bu/a	Bushel weight	Height inches	Frost 0-5 *	Yield bu/a	Bushel weight	Height inches
AgriPro Abilene	46	64.0	24	1.5	13	62.2	18
AgriPro Bronc	36	61.9	23	1.0	13	60.2	20
AgriPro Sierra	43	62.1	24	1.3	11	61.3	18
AgriPro Thunderbird	37	62.9	26	3.0	12	61.7	21
Arapahoe	45	61.7	27	1.8	13	58.4	22
Bounty WH32362	42	62.6	27	3.8	13	60.9	21
Bounty WH52498	41	60.9	27	1.3	15	59.1	21
Brule	45	61.8	28	2.2	13	58.3	22
Buckskin	44	62.6	31	2.7	14	59.6	24
Centura	43	62.7	27	3.0	13	59.3	21
Centurk 78	41	62.7	28	4.3	13	59.9	22
Century	36	62.5	26	1.3	12	60.1	22
Cody	44	61.8	29	2.5	12	60.4	22
Colt	46	62.3	25	1.2	13	60.4	18
Karl	34	62.8	25	1.7	11	57.9	18
Norkan	40	63.1	26	2.7	11	60.9	19
Quantum QT546	45	61.8	28	2.5	14	60.1	22
Quantum QT562	52	62.3	28	2.0	16	61.0	21
Redland	46	61.5	28	1.5	16	57.8	22
Scout66	38	63.0	30	4.8	13	60.5	25
Siouxland	45	62.3	31	4.3	13	59.7	24
Siouxland 89	45	62.4	30	4.8	12	60.0	23
TAM 107	41	61.0	25	3.3	12	59.6	18
TAM 200	36	64.1	23	3.3	12	62.6	19
Turkey	40	62.2	33	3.3	13	59.9	25
Vona	45	63.0	25	1.5	12	60.9	18
NE83407	45	61.0	24	1.5	12	59.6	18
NE83432	47	62.7	27	1.3	13	60.8	20
NE83498	52	62.6	29	2.2	16	60.4	21
NE84557	42	62.3	28	5.0	12	60.9	21
83T12 Triticale	39	52.0	31	3.3	12	53.7	25
Average	43	62.0	27	2.6	13	59.9	21
Dif Req Sig .05	3.0	0.4	1.1	0.8	2.7	1.5	1.7

* 0 = no damage, 5 = worst broken stems at base from a late freeze and disease.

Table 15. Western District winter wheat variety tests. Average of Dawes, Box Butte, Morrill, and Kimball County. Cheyenne county - 1989.

Table 15

Variety	Average 4 tests			Cheyenne *		
	Yield bu/a	Bushel weight	Height inches	Yield bu/a	Bushel weight	Height inches
AgriPro Abilene	35	63.0	23	22	57.1	20
AgriPro Bronco	33	60.9	24	22	55.9	21
AgriPro Sierra	33	61.5	24	25	56.2	22
AgriPro Thunderbird	32	62.3	26	23	57.6	26
Arapahoe	34	60.0	27	22	55.6	22
Bounty WH32362	33	61.2	27	21	55.1	23
Bounty WH52498	33	59.9	26	21	55.2	23
Brule	34	59.5	27	22	53.9	23
Buckskin	34	61.3	30	20	55.7	26
Centura	34	61.1	27	22	55.2	25
Centurk 78	34	61.2	28	19	55.0	23
Century	31	61.2	26	23	55.7	22
Cody	33	61.0	28	18	52.8	22
Colt	34	61.1	24	24	56.9	22
Karl	28	60.8	24	20	58.5	20
Norkan	32	61.7	24	18	56.6	22
Quantum QT546	35	60.6	27	20	55.3	24
Quantum QT562	40	61.1	26	23	54.7	22
Redland	36	59.2	27	26	54.7	23
Scout66	32	61.3	30	22	58.1	25
Siouxland	34	61.1	30	21	53.8	25
Siouxland 89	33	61.2	30	22	54.0	25
TAM 107	35	59.9	24	25	54.3	21
TAM 200	33	62.9	23	22	57.0	20
Turkey	31	60.9	31	18	55.8	25
Vona	35	61.7	24	21	54.9	21
NE83407	35	60.1	24	21	55.1	21
NE83432	35	61.2	26	20	54.1	21
NE83498	36	61.1	27	21	54.2	23
NE84557	33	62.0	27	25	57.5	26
83T12 Triticale	30	52.9	31	17	45.6	27
Average	34	60.8	26	22	55.2	23
3Dif Req Sig 5%	1.4	0.3	0.5	3.3	1.2	1.3

* Cheyenne county data represents regrowth after May 20 hail and is not included in any combined data.

Table 16. Western District winter wheat variety tests 1985 - 1989 (4 or 5 locations each year)

Table 16

Variety	5 yr (85-89)		4 yr (86-89)		3 yr (87-89)		2 yr (88-89)	
	Yield	Bu.Wt	Yield	Bu.Wt	Yield	Bu.Wt	Yield	Bu.Wt
AgriPro Abilene	--	---	--	---	44	60.5	40	60.4
AgriPro Thunderbird	41	60.6	44	60.2	42	60.4	36	60.1
Arapahoe	--	---	46	58.1	44	58.2	39	57.8
Brule	43	58.1	45	57.6	44	57.9	39	57.2
Buckskin	41	59.3	43	59.0	42	59.4	38	59.0
Centura	43	59.6	46	59.4	45	59.5	39	59.0
Centurk 78	42	59.4	45	59.0	43	59.2	38	58.6
Century	--	---	--	---	--	---	36	58.4
Cody	43	59.1	46	58.6	43	58.7	38	58.3
Colt	42	59.0	44	58.7	42	58.9	38	58.5
Karl	--	---	--	---	--	---	35	59.0
Norkan	--	---	43	59.8	42	59.7	38	59.5
Quantum QT562	--	---	--	---	--	---	42	58.3
Redland	44	57.8	46	57.3	45	57.7	41	57.0
Scout66	40	59.9	43	59.6	42	59.7	36	59.3
Siouxland	43	59.3	46	59.0	44	59.2	40	58.8
TAM 107	45	58.9	48	58.7	47	58.9	41	58.4
TAM 200	--	---	--	---	--	---	37	60.6
Turkey	36	59.0	37	58.7	37	59.0	34	58.7
Vona	43	59.9	46	59.4	45	59.5	39	59.0
83T12 Triticale	--	---	--	---	--	---	35	50.6
Average	42	59.2	45	58.9	43	59.1	38	58.4
Dif Req Sig 5%	0.7	0.1	0.7	0.1	0.7	0.2	0.7	0.2

Table 17. Protein content of entries in Nebraska winter wheat variety tests. 1989.

Variety	Jeffers County	Sndrs County	Clay County	Bufflo County	Nth Plt Fld plt	Nth Plt Nursy	Keith County	Morrill County	Dawes County	Bx Bt County	Kimbl County	Chynne County	Average 12 (or less)
AgriPro Abilene	16.3	15.2	16.4	15.6	15.8	16.6	13.9	14.4	11.5	11.1	10.7	14.5	14.3
AgriPro Bronco	---	---	---	---	---	---	13.6	14.4	10.3	10.5	10.4	13.5	12.1
AgriPro Sierra	15.5	13.9	16.4	15.4	15.9	16.1	14.2	14.1	10.9	10.5	10.7	13.9	13.9
AgriPro Thunderbird	15.9	15.3	15.7	15.5	15.8	16.6	14.5	14.3	11.6	12.1	11.4	13.7	14.4
AgriPro Victory	16.1	14.9	---	15.1	15.0	16.2	---	---	---	---	---	---	15.4
AGSECO 7837	16.5	14.7	---	---	---	---	---	---	---	---	---	---	15.6
AGSECO 7846	15.1	14.4	15.1	---	---	---	---	---	---	---	---	---	14.9
Arapahoe	15.9	14.5	15.7	15.1	15.7	16.6	13.9	14.0	10.9	11.4	12.1	14.6	14.2
Arkan	16.1	15.5	15.6	---	---	---	---	---	---	---	---	---	15.7
Bounty WH32362	16.0	15.1	15.3	15.6	15.4	16.8	14.8	13.7	11.3	12.2	10.4	14.8	14.3
Bounty WH52498	16.5	15.6	15.6	15.8	16.1	16.8	14.2	14.4	10.8	11.3	10.6	14.0	14.3
Brule	13.8	13.7	14.3	13.7	13.4	15.3	13.2	12.7	9.8	10.2	10.7	13.0	12.8
Buckskin	---	---	---	---	---	---	14.5	13.8	11.7	11.6	11.1	13.3	12.7
Centura	15.3	14.9	14.6	15.3	14.9	16.4	14.7	13.4	10.5	11.7	11.3	15.5	14.0
Centurk 78	15.3	14.1	14.0	15.2	16.1	16.0	14.5	13.2	10.2	10.2	11.0	13.8	13.6
Century	14.5	14.7	14.1	14.9	13.4	15.1	13.8	13.0	11.3	10.2	11.6	14.7	13.4
Cody	14.8	14.0	14.7	14.6	15.5	16.1	13.7	13.8	10.6	9.9	11.0	14.4	13.6
Colt	15.3	14.8	15.4	15.2	16.0	16.2	14.2	13.6	11.1	12.0	11.9	14.7	14.2
Karl	18.5	16.4	18.8	16.0	17.8	18.2	15.7	16.5	12.1	14.8	12.6	16.5	16.1
MBS, Inc. EXP8645	---	---	---	16.0	---	---	---	---	---	---	---	---	16.0
Norkan	16.2	15.3	16.6	15.6	16.4	17.1	15.3	14.7	10.7	11.6	11.2	14.7	14.6
Quantum QT546	---	---	---	---	---	---	13.5	13.2	10.0	10.3	10.5	13.5	11.8
Quantum QT561	16.2	15.4	15.8	---	---	---	---	---	---	---	---	---	15.8
Quantum QT562	---	---	---	---	---	---	13.7	12.8	10.1	9.9	9.2	14.0	11.6
Quantum XH1061	17.2	15.8	16.1	---	---	---	---	---	---	---	---	---	16.4
Redland	14.1	13.6	13.8	13.9	13.5	15.3	13.1	12.6	10.8	10.5	10.2	12.9	12.9
Scout66	14.6	14.6	14.6	15.0	14.7	15.6	14.0	13.6	10.3	10.1	10.3	13.4	13.4
Siouxland	14.5	14.2	14.7	14.3	14.6	15.5	13.8	13.7	11.1	10.6	11.0	13.8	13.5
Siouxland Composite	14.4	13.9	14.4	14.4	14.6	15.2	13.8	13.5	11.1	11.3	10.6	13.9	13.4
Tam 107	13.9	14.1	14.2	14.4	14.3	14.7	14.0	13.5	10.2	10.7	10.1	14.3	13.2
Tam 200	14.9	14.8	14.9	15.4	15.2	15.5	14.0	13.4	10.5	12.0	10.1	13.8	13.7
Turkey	15.7	15.3	14.9	15.8	15.5	16.1	14.2	14.4	10.9	11.5	10.9	14.8	14.2
Vona	15.1	14.2	14.7	14.5	14.5	14.6	13.4	12.7	10.1	10.8	10.1	14.1	13.2
NE83407	14.5	13.6	14.8	14.3	14.9	15.9	13.6	14.0	10.7	10.6	11.2	13.7	13.5
NE83432	14.3	13.2	13.9	14.0	13.8	14.4	13.2	12.7	11.0	10.8	10.0	14.4	13.0
NE83498	15.5	13.8	15.5	14.8	15.2	15.8	14.4	12.8	10.1	11.3	10.1	14.6	13.7
NE84557	15.1	14.7	14.9	15.1	14.9	15.6	14.6	13.9	10.4	11.2	11.1	12.7	13.7
83T12 Triticale	16.6	17.2	15.2	16.2	14.8	16.2	13.8	14.3	10.1	11.7	10.8	14.8	14.3
Average	15.5	14.7	15.2	15.1	15.1	15.9	14.1	13.7	10.7	11.1	10.8	14.1	13.8
Dif Req Sig 5%	0.8	0.8	0.7	1.0	1.0	0.5	0.8	0.9	1.0	N.S.	0.8	1.2	0.2

Table 18. Protein content of entries in Nebraska winter wheat variety tests 1985-1989.

Table 18

Variety	5 year (1985-1989)	4 year (1986-1989)	3 year (1987-1989)	2 year (1988-1989)
AgriPro Abilene	---	---	13.1	13.7
AgriPro Thunderbird	12.8	13.0	13.4	13.8
AgriPro Victory	---	---	13.8	13.8
Arapahoe	---	12.7	13.2	13.7
Arkan	---	---	---	14.1
Brule	11.4	11.5	12.0	12.4
Buckskin	---	11.9	12.7	12.7
Centura	12.3	12.4	13.0	13.4
Centurk 78	---	12.4	13.2	13.2
Century	---	---	---	12.9
Cody	12.3	12.5	12.9	13.3
Colt	12.3	12.5	13.0	13.6
Karl	---	---	---	14.9
Norkan	---	12.9	13.3	13.8
Quantum QT562	---	---	---	12.2
Redland	---	11.6	12.0	12.5
Scout66	12.2	12.3	12.7	13.0
Siouxland	12.3	12.4	12.8	13.1
Tam 107	11.9	12.0	12.3	12.8
Tam 200	---	---	---	13.1
Turkey	12.6	12.7	13.5	13.7
Vona	11.7	11.8	12.2	12.7
83T12 Triticale	---	---	---	13.7
Average	12.2	12.3	12.9	13.3
Dif Req Sig 5%	0.1	0.1	0.2	N.S.

Table 19. Kernel weight in gram/1000 of entries in Nebraska winter wheat variety tests. 1989.

Variety	Jeffers County	Sndrs County	Clay County	Bufflo County	Nth Pl Fld Plt	Nth Pl Nrsy	Keith County	Morrill County	Dawes County	BxBt County	Kimbl County	Chynne County	Average 12(or less)
AgriPro Abilene	24.6	27.2	27.1	21.6	25.2	26.3	22.4	25.2	28.8	28.8	25.6	18.7	25.1
AgriPro Bronco	---	---	---	---	---	---	19.3	24.4	28.2	30.6	25.9	19.4	24.6
AgriPro Sierra	27.0	30.0	28.2	22.5	25.8	26.7	22.8	25.6	31.4	32.7	25.5	21.8	26.7
AgriPro Thunderbird	27.1	29.8	29.2	22.6	24.6	25.6	23.9	26.8	29.7	30.4	25.2	22.2	26.4
AgriPro Victory	32.1	34.0	---	28.5	29.3	28.1	---	---	---	---	---	---	30.4
AGSECO 7837	25.4	26.0	---	---	---	---	---	---	---	---	---	---	25.7
AGSECO 7846	24.5	25.2	27.5	---	---	---	---	---	---	---	---	---	25.7
Arapahoe	24.4	30.0	27.3	22.1	25.8	25.4	20.9	26.5	27.8	29.3	25.5	20.7	25.5
Arkan	25.7	29.5	26.7	---	---	---	---	---	---	---	---	---	27.3
Bounty WH32362	28.6	32.2	30.5	25.2	27.7	28.1	23.3	29.3	29.6	30.6	26.9	22.2	27.8
Bounty WH52498	28.1	33.0	30.0	26.6	28.8	30.9	22.7	30.0	37.7	34.1	28.1	24.2	29.5
Brule	26.1	31.8	29.6	22.6	27.4	27.6	23.2	27.6	30.8	30.2	24.6	19.1	26.7
Buckskin	---	---	---	---	---	---	23.3	28.7	30.4	30.7	25.9	22.4	26.9
Centura	26.2	29.8	29.0	22.6	25.2	26.1	21.3	28.3	29.0	30.2	25.4	20.7	26.1
Centurk 78	21.8	27.9	25.8	20.4	21.1	22.6	18.4	24.9	26.3	25.6	22.7	18.0	23.0
Century	26.9	29.1	30.3	23.8	28.6	29.7	26.8	26.5	27.3	28.4	26.5	19.3	26.9
Cody	23.7	28.9	27.7	23.0	24.1	25.0	21.9	25.6	30.9	28.3	25.3	17.5	25.1
Colt	27.4	29.4	28.0	23.8	26.4	28.4	22.2	29.0	30.8	29.9	25.7	20.5	26.8
Karl	26.0	31.5	28.6	26.7	27.8	27.5	25.1	27.4	30.6	30.4	26.3	20.0	27.3
MBS, Inc. EXP8645	---	---	---	24.9	---	---	---	---	---	---	---	---	24.9
Norkan	27.1	31.5	27.5	24.6	26.4	27.7	23.1	28.5	31.1	30.1	25.8	20.3	27.0
Quantum QT546	---	---	---	---	---	---	20.2	26.3	27.1	26.2	25.9	20.5	24.4
Quantum QT561	27.5	30.6	28.4	---	---	---	---	---	---	---	---	---	28.8
Quantum QT562	---	---	---	---	---	---	21.4	26.2	27.6	28.7	27.4	19.4	25.1
Quantum XH1061	28.1	30.7	30.5	---	---	---	---	---	---	---	---	---	29.7
Redland	24.4	31.2	29.1	23.2	28.2	27.7	21.7	27.6	32.8	30.3	25.7	19.4	26.8
Scout66	30.7	33.1	32.5	27.9	29.2	31.2	24.1	30.5	32.1	31.9	28.2	22.3	29.5
Siouxland	27.8	32.3	28.4	23.8	26.4	26.2	22.0	27.5	27.7	30.5	23.8	19.6	26.3
Siouxland 89	27.6	32.1	29.9	23.8	25.6	25.9	23.5	26.8	27.8	30.8	24.2	19.6	26.5
TAM 107	36.3	37.0	36.3	32.0	32.3	32.2	23.1	32.0	33.1	32.6	29.1	22.6	31.5
TAM 200	28.2	27.4	27.8	25.2	25.7	29.7	20.5	25.4	26.3	27.2	24.2	17.9	25.5
Turkey	24.9	30.6	28.6	22.0	26.6	26.1	24.7	27.2	29.2	29.9	26.7	19.4	26.3
Vona	27.9	27.9	27.1	22.5	23.8	24.9	21.5	26.8	28.2	29.7	25.4	18.8	25.4
NE83407	27.7	30.0	28.3	23.6	26.3	27.8	22.0	25.9	29.5	27.6	24.8	20.5	26.1
NE83432	25.4	28.2	25.9	23.2	27.3	25.6	22.2	27.2	28.1	28.0	26.8	18.8	25.6
NE83498	27.0	28.7	28.6	23.1	25.8	24.9	21.6	25.8	28.6	28.4	26.3	17.8	25.5
NE84557	27.8	32.8	29.1	24.6	26.4	27.6	20.8	28.1	28.7	29.1	24.4	20.3	26.6
83T12 Triticale	27.6	33.5	28.2	25.9	29.9	28.1	25.9	24.3	30.1	28.4	24.6	18.1	27.1
Average	27.0	30.4	28.8	24.4	26.7	27.3	22.4	27.2	29.6	29.7	25.8	20.0	26.6
Dif Req Sig 5%	1.7	1.6	1.6	1.5	2.2	2.5	2.5	1.7	3.4	2.0	2.1	1.8	0.8

Table 20. Winter barley variety tests at Lincoln (Lancaster County), Clay Center (Clay County), and Sidney (Cheyenne County) - 1989.

Table 20

Line	Lincoln % wintersurv 3/28/89	Lincoln headdate May	Lincoln height inches	Lincoln yield bu/a	Lincoln Bushel weight	Clay Cnt yield bu/a	Sidney[1] yield bu/a	Average yield bu/a	rank
NE851808	90	16	24	80	57	23	20	41	1
Centurk 78	100	16	32	77	63	32	8	39	2
NE86954	90	15	21	72	56	23	12	36	3
NE86841	95	21	21	59	51	20	26	35	4
NE80725	90	18	25	72	54	16	12	33	5
NE86815	85	18	22	64	57	23	12	33	6
Hitchcock	90	20	21	62	55	20	16	33	7
Nebar	95	17	28	67	53	16	11	31	8
NE87851	90	18	21	60	53	20	9	30	9
Dundy	90	15	19	48	56	24	16	29	10
NE87841	95	14	23	56	55	21	9	29	11
NE85807	90	16	24	54	54	16	16	29	12
NE87805	90	17	21	54	55	14	16	28	13
NE85811	90	16	22	55	52	15	12	27	14
NE85801	85	15	25	51	54	17	13	27	15
NE86902	95	18	23	49	54	13	16	26	16
NE87838	90	15	21	54	55	19	6	26	17
NE85814	90	18	25	46	54	15	15	25	18
Kearney	95	17	25	41	53	15	9	22	19
NE83803	85	18	20	37	54	14	10	21	20
Average	91	17	23	58	50	19	13	30	--
Dif Req Sig 5%	--[2]	1.1	2.4	15	--[2]	5.2	5.6	7.0	--

1 Sidney location was hailed off on May 20. Grain is a product of regrowth.
2 Observations made on only 1 replication

Table 21. IRRIGATED WINTER WHEAT VARIETY TRIAL -- CLAY COUNTY 1988-1989

Roger W. Elmore, Ben Doupnik, Jr., Extension Specialists, SCREC
Ed George, Extension Agent -- Agriculture
John Taylor, Fairfield, NE, Cooperator

Table 21

Variety	Yield	Harvest Moisture	Seed Weight	Test Weight	WSMV[1]	Leaf Rust[2]	Powdery Mildew[3]	Tan Spot[4]	Winter Survival
	(bu/a)	%	(g/1000)	(lb/bu)					%
Abilene	63.6	13.8	28.7	57.15	2.00	21	50	4	97
Bounty X18001	42.7	16.0	34.4	53.68	3.00	63	0	1	46
Colt	52.1	15.2	30.1	53.93	2.50	100	0	1	86
Redland	64.6	15.3	30.6	54.00	2.25	50	0	8	96
Siouxland	65.7	13.4	30.9	54.93	1.00	75	0	15	99
L.S.D. p=0.05	5.6	n.s.	0.9	0.5	0.56	15	--	6	8

[1]WSMV: Wheat streak mosiac virus ratings (0 to 3 scale with 3 = severe)

[2]Leaf rust: % severity on flag-leaf

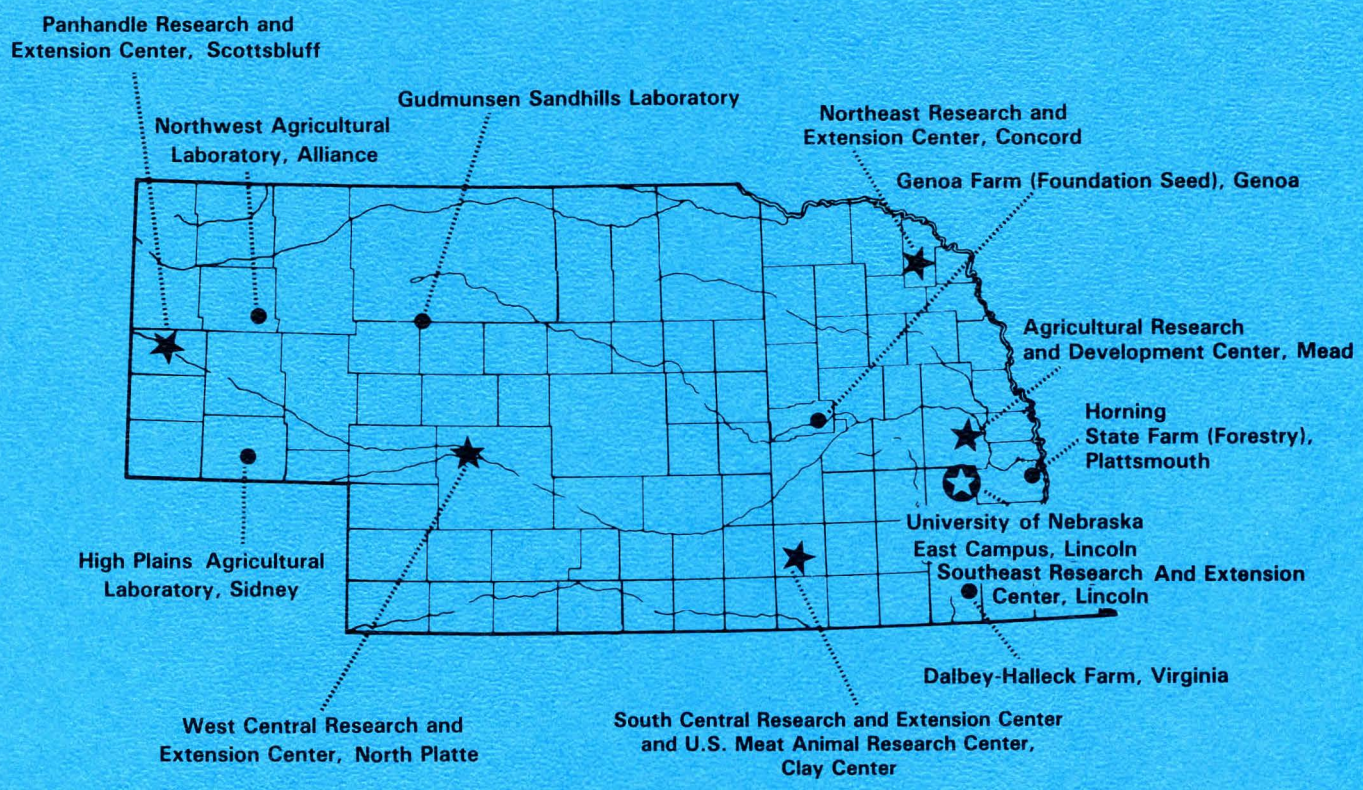
[3]Powdery mildew: % severity on upper 3 to 4 leaves

[4]Tan spot: % severity on flag leaf

Soil Type: Hastings silt loam, 1 to 3% slope
Surface Soil Test: pH = 5.9; O.M. = 2%, P = 43 ppm; K = 425 ppm.
Irrigation system: pivot. Irrigation water applied in spring = 5-6 inches
Field history: fallow 1988, corn 1987
Fertilizer applied: preplant 100 lbs. N/a, anhydrous ammonia
Planting date: Sept. 21, 1988 Harvest date: July 11, 1989
Drill: John Deere Van Brunt model LL, high press wheel, 18 - 7" rows
Seeding rate: 1 bu/acre Plot dimensions: 21' x 440' Four blocks (replicates)

Five varieties:
Agripro Abilene (95% germ, lot W9-297, 16490 seeds/lb) from Lauber Seed
Bounty Hybrid X18001 (90% germ, lot 668026, 13650 seeds/lb) from Cargill
Colt Foundation Seed (96% germ, lot W9-609, 14875 seeds/lb) from
Redland Foundation Seed (96% germ, lot W9-455, 15225 seeds/lb) Nebraska Foundation
Siouxland Foundation Seed (97% germ, lot W8-428, 16,125 seeds/lb) Seed Division

AGRICULTURAL RESEARCH AND EXTENSION FOR ALL OF NEBRASKA



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Nebraska is a large state and has great variation due to topography and the continental type of climate. The elevation ranges from 1,000 feet to near a mile high in the northwest portion of the state, rainfall varies from less than 15 to more than 35 inches per year, and the soil types vary from sands to heavy clays. The research and extension programs thus are broad in subject matter and geography, resulting in the need for various centers, satellite locations, and local offices.