

1984

EC84-102 Nebraska Spring Small Grain Variety Tests 1984

A. F. Dreier

J. W. Schmidt

University of Nebraska-Lincoln, john.w.schmidt@ars.usda.gov

Follow this and additional works at: <https://digitalcommons.unl.edu/extensionhist>

Dreier, A. F. and Schmidt, J. W., "EC84-102 Nebraska Spring Small Grain Variety Tests 1984" (1984). *Historical Materials from University of Nebraska-Lincoln Extension*. 4417.

<https://digitalcommons.unl.edu/extensionhist/4417>

This Article is brought to you for free and open access by the Extension at DigitalCommons@University of Nebraska - Lincoln. It has been accepted for inclusion in Historical Materials from University of Nebraska-Lincoln Extension by an authorized administrator of DigitalCommons@University of Nebraska - Lincoln.

AGRI
5
85
E1
C.1

November 1984

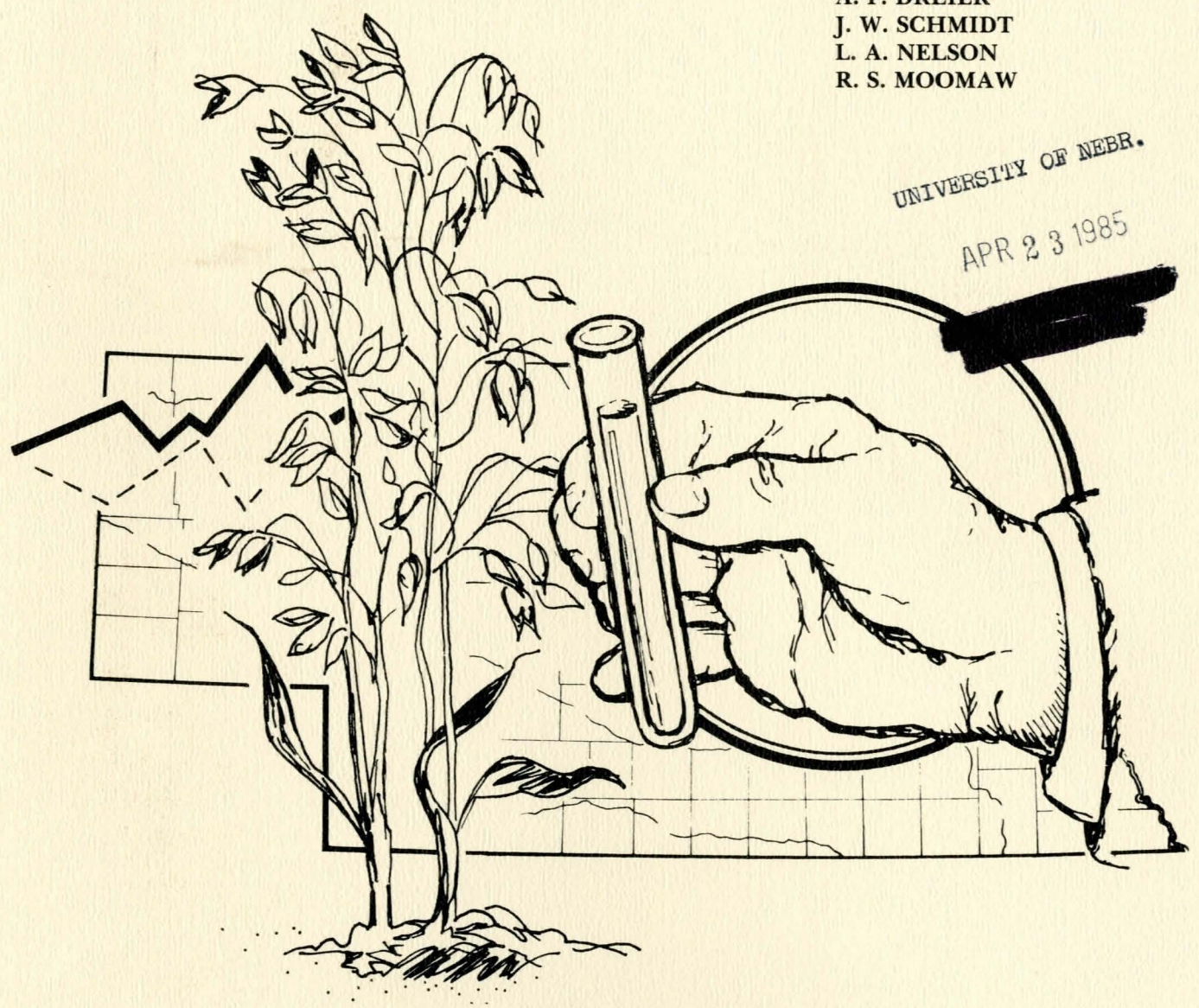
NEBRASKA COOPERATIVE EXTENSION SERVICE
NEBRASKA AGRICULTURAL EXPERIMENT STATION

E.C. 84-102

NEBRASKA SPRING SMALL GRAIN VARIETY TESTS 1984

A. F. DREIER
J. W. SCHMIDT
L. A. NELSON
R. S. MOOMAW

UNIVERSITY OF NEBR.
APR 23 1985



Issued in furtherance of Cooperative Extension work, Acts of May 8 and June 30, 1914, in cooperation with the U.S. Department of Agriculture. Leo E. Lucas, Director of Cooperative Extension Service, University of Nebraska, Institute of Agriculture and Natural Resources.



EXTENSION CIRCULAR 84-102

November 1984

FOREWORD

This circular is a progress report of small grain variety tests conducted by the Agricultural Experiment Station. Trials were conducted by personnel of the Agronomy Department and the Northeast Nebraska and Panhandle Centers and the High Plains and Northwest Agricultural Laboratories. These Extension Circulars replace the Outstate Testing Series. Conduct of experiments and publication of results is a joint effort of the Agricultural Experiment Station and the Cooperative Extension Service. Special acknowledgement is made to farmer cooperators who furnished land for experiments; also to County Agents and others who assisted in the conduct of these tests.

CONTENTS

Nebraska oats and barley production	2
The Metric System	2
Introduction	3
Characteristics of oat varieties	3
Suggested oat and barley varieties	4
Location of tests	6
Performance data	
Southeast oats, Saunders County, 1984	8
Southeast oats, 1977-1984	9
Northeast oats, Dixon County, 1984	10
Northeast oats, Cedar County, 1984	11
Northeast oats, 1977-1984	12
West nonirrigated oats, Cheyenne County, 1984	13
West nonirrigated oats, 1977-1984	14
West irrigated oats, 1984	15
West irrigated oats, 1977-1984	16
Southeast barley, Saunders County, 1984	17
Northeast barley, Dixon County, 1984	17
Southeast barley, 1975-1984	18
Northeast barley, 1975-1984	19
West nonirrigated barley, Cheyenne County, 1984	20
West nonirrigated barley, 1976-1984	21
West irrigated barley, 1984	22
West irrigated barley 1976-1984	23
Southeast spring wheat, 1979-1984	24
Northeast spring wheat, Dixon County, 1978-1984	25
West nonirrigated spring wheat, 1976-1984	26
West irrigated spring wheat, 1984	27
West irrigated spring wheat, 1975-1984	28

NEBRASKA OATS AND BARLEY
PRODUCTION

Year	Oats		Barley	
	Harv. acres 000	Yield bu/A	Harv. acres 000	Yield bu/A
1866	15	38.5	6	24.5
1870	53	31.0	14	19.0
1880	275	21.0	90	12.0
1890	1,550	22.5	165	13.5
1900	1,950	22.0	90	17.0
1910	2,400	27.0	118	14.0
1920	2,400	33.0	256	25.0
1930	2,485	29.0	726	25.5
1940	1,426	24.0	1,321	16.0
1950	2,562	24.0	310	15.0
1955	2,029	26.0	190	20.0
1960	1,213	35.5	225	29.0
1965	617	40.0	37	30.0
1970	573	42.0	45	36.0
1975	590	49.0	33	36.0
1980	380	41.0	25	38.0
1981	395	40.0	25	39.0
1982	460	58.0	22	50.0
1983	310	44.0	78	39.0
1984	320	50.0	88	38.0

1984 data are preliminary. Comparable data for spring wheat are not available.

METRIC CONVERSIONS

Equivalent	Conversion
1 centimeter (cm) = 0.394 inches	cm = inches x 2.54
1 hectare (ha) = 2.471 acres	ha = acres x 0.405
1 kilogram (kg) = 2.205 pounds	kg/ha = bu/A x 35.87 oats
	= bu/A x 53.81 barley
	= bu/A x 67.26 wheat
	= lb/A x 1.12
1 hectoliter (hl) = 2.838 bushels	kg/hl = lb/bu x 1.287
1 metric ton (t) = 2,204.6 pounds	

NEBRASKA SPRING SMALL GRAIN VARIETY TESTS

OATS-BARLEY-SPRING WHEAT

1984

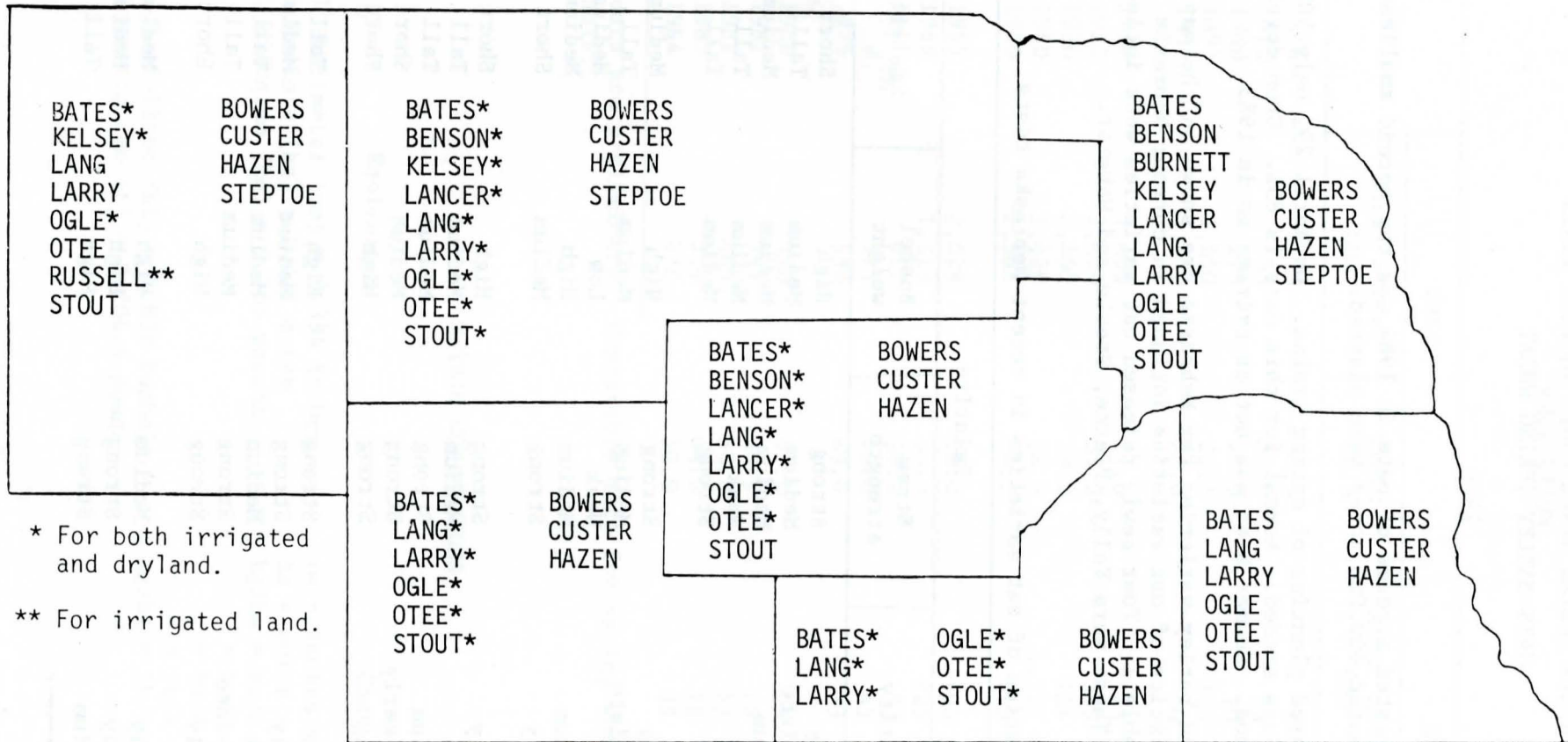
The 320,000 harvested acreage of oats in 1984 was the second smallest since 1881. An estimated 400,000 acres were planted.

Wet weather delayed planting of spring grains. On April 29, only 50% of the intended acreage was seeded. Normal for this date is 85%. Crop development was generally good. Summer heat was not as extreme as in 1983.

Suggested oat and barley varieties for Nebraska are shown on the map (Page 4). Characteristics of oat varieties included in current Nebraska tests are shown in Table 1. Four newly released oat varieties were included in the 1984 trials. These were Kelly, Pierce, Steele and Webster.

Table 1. Characteristics of oat varieties in recent Nebraska tests.

Variety	Relative			
	Maturity	Straw strength	Bushel weight	Height
Bates	Early	Strong	High	Short
Benson	Med-late	Medium	Medium	Tall
Burnett	Medium	Medium	Medium	Medium
Colorado 37	Late	Weak	Medium	Tall
Garry	Late	Strong	Medium	Tall
Kelly	Early	Strong	High	Medium
Kelsey	Med-late	Medium	Medium	Tall
Kherson	Late	Weak	Low	Medium
Lancer	Medium	Medium	High	Medium
Lang	Early	Strong	Medium	Short
Larry	Early	Strong	High	Short
Lodi	Late	Medium	Medium	Tall
Lyon	Medium	Strong	Medium	Tall
Ogle	Med-early	Strong	Medium	Short
Otee	Early	Strong	High	Short
Pierce	Late	Strong	High	Tall
Preston	Early	Strong	Medium	Medium
Russell	Late	Medium	Medium	Tall
Steele	Med-late	Strong	Medium	Tall
Stout	Early	Strong	High	Short
Trio	Early	Medium	High	Medium
Webster	Early	Strong	High	Medium
Wright	Medium	Strong	High	Tall



* For both irrigated and dryland.

** For irrigated land.

SUGGESTED OAT AND BARLEY VARIETIES FOR NEBRASKA

1985

Kelly was released by South Dakota in 1984. It is a selection from a Dal/Nodaway 70 cross and is similar to Nodaway 70 in yield, heading date, height and grain color. It is an improvement over Nodaway 70 in protein content, lodging and crown rust resistance. Kelly is a white oat. It is moderately resistant to loose smut but is susceptible to barley yellow dwarf virus.

Pierce was released by North Dakota in 1983. It was selected from a Hudson/Dal cross. Pierce is a white oat. It is a late oat and may have promise under irrigation in the Panhandle.

Steele was released by North Dakota in 1984. It was selected from a RL3038/DAL//Noble cross. Steele is similar to Kelsey in heading date. Seed is light tan to nearly white in color.

Webster is a multiline oat variety released by Iowa in 1984. Lang was involved in all the crosses in the background. Selections were made for resistance to crown rust, tolerance to barley yellow dwarf virus and high test weight. Webster is a yellow oat. It is slightly later, slightly taller with slightly better straw strength than Lang.

Locations and dates of planting and harvest of spring small grain variety trials are shown in Table 2. Oat data for the Southeast, Northeast and West (irrigated and nonirrigated) trials are shown in Tables 3 through 11. Barley data are summarized in Tables 12 through 19. Spring wheat data are reported in Tables 20 through 24.

The 1983 data are shown along with period-of-years performance. This provides information about variety reaction to differing conditions. The performance of varieties cannot be measured with absolute accuracy because of variations in soil and other conditions within the test area. Unless varieties differ in yield or other characters by more than the difference required for significance shown in the tables, little confidence can be placed in the superiority of one over the other. These differences are calculated at the 5% level of probability. Differences this great would be expected through chance alone in 1 of 20 trials.

Oats

Southeast District data from the Mead Field Laboratory are shown in Table 3. This trial was planted much later than normal for this area. Bushel weights were low. Period-of-years data are shown in Table 4.

The Northeast District trial was planted at two locations. Good yields and high test weights were obtained in 1984 (Tables 5 and 6). Later varieties were favored. In Cedar County, early varieties generally had low yields and test weights. Period-of-years data are shown in Table 7.

Results of the nonirrigated oat trial in Cheyenne County are shown in Table 8. Moisture during May and June was below normal. Period-of-years data are shown in Table 9.

West irrigated oat data from Scotts Bluff and Box Butte Counties are shown in Table 10. Conditions in Box Butte County were especially good. Period-of-years data are shown in Table 11.

Table 2. Locations and dates of planting and harvest. Spring small grain variety tests. 1984.

County	Cooperator	Planted	Harvested
<u>Oats</u>			
Saunders	Mead Field Laboratory	April 19	July 18
Dixon	Northeast Station	April 20	July 20,27
Cedar	Dick Stapleton, Belden	April 20	July 27
Cheyenne	High Plains Ag. Laboratory	April 16	Aug. 10
Scotts Bluff (irr.)	Panhandle Station	April 13	Aug. 3
Box Butte (irr.)	Northwest Ag. Laboratory	April 17	Aug. 8
<u>Barley</u>			
Saunders	Mead Field Laboratory	April 19	July 18
Dixon	Northeast Station	April 20	July 16
Cheyenne	High Plains Ag. Laboratory	April 16	Aug. 10
Scotts Bluff (irr.)	Panhandle Station	April 13	Aug. 1
Box Butte (irr.)	Northwest Ag. Laboratory	April 17	Aug. 8
<u>Spring wheat</u>			
Saunders	Mead Field Laboratory	April 19	July 30
Dixon	Northeast Station	April 20	July 27
Cheyenne	High Plains Ag. Laboratory	April 16	Aug. 10
Scotts Bluff (irr.)	Panhandle Station	April 13	Aug. 3
Box Butte (irr.)	Northwest Ag. Laboratory	April 17	Aug. 8

Barley

Barley trials were planted adjacent to oats. Relative production of oats and barley per unit area was as follows:

<u>Location</u>	<u>Barley % of Oats</u>									
	<u>1975</u>	<u>1976</u>	<u>1977</u>	<u>1978</u>	<u>1979</u>	<u>1980</u>	<u>1981</u>	<u>1982</u>	<u>1983</u>	<u>1984</u>
Saunders	78	86	147	102	89	95	---	79	73	80
Dixon	112	76	85	117	134	117	---	123	73	136
Cheyenne	113	77	114	91	107	121	73	133	101	143
Box Butte	149	---	---	---	---	---	---	---	---	---
Sheridan	---	94	---	---	---	---	---	---	---	---
Scotts Bluff (irr.)	156	128	99	89	95	141	---	125	125	101
Box Butte (irr.)	---	---	108	---	136	112	127	106	121	107
Dawes (irr.)	---	---	---	86	---	---	---	---	---	---

These data are based on the average yield of all varieties included in that test. They emphasize that relative performance of these two crops varies greatly with environmental conditions.

Barley entries included varieties developed by private breeding programs. Entrants and varieties submitted by each were as follows:

<u>Entrant</u>	<u>Variety</u>
Busch Agricultural Resources 806 North Second Street P.O. Box 30 Berthoud, CO 80513	Bumper, Premier
Cenex Seed 951 Rundell P.O. Box 279 Gering, NE 69341	Piston, Lindy, Menuet
Wilber-Ellis Company E. 12001 Empire Way Spokane, WA 99206	Apex, Bellona, Nova

A fee was charged to pay a portion of the costs of conducting trials. Questions about these varieties should be addressed to the appropriate seed supplier.

Nonirrigated barley yield and other data from the Southeast, Northeast and West nonirrigated trials are included in Tables 12 through 17. Barley was especially productive in Dixon and Cheyenne Counties. In long-time yield data, Bowers was most productive in the east and Custer in the west. Data from irrigated barley variety trials are shown in Tables 18 and 19. Later varieties are favored here and Steptoe had the highest six-year average yield.

Spring Wheat

Spring wheat data are shown in Tables 20 through 24. Yields were low in Saunders County (Tables 20-21). Northeast District yields were the highest since 1979 (Table 21). Cheyenne County yields were near average (Table 22). Lack of adequate fertility and possibly moisture resulted in reduced yields in Scotts Bluff County but excellent yields were produced in Box Butte County (Table 23). In long-time averages, yield differences among spring wheat varieties have been nonsignificant in all cropping districts.

Table 3. Southeast District oat variety test. Saunders County. 1984.

Variety	Flower June	Height inches	Lodging score	Stem rust	Yield bu/A	Weight lb/bu
Bates	18	31	0.3	50S	78	32.5
Benson	24	39	5.5	80S	80	30.0
Burnett	19	36	7.0	80S	66	30.0
Kelly	18	35	2.8	60S	78	34.0
Kelsey	23	37	4.0	80S	89	31.5
Kherson	23	38	8.0	60S	47	26.5
Lancer	20	36	3.3	60S	78	33.5
Lang	18	33	0.5	60S	78	30.5
Larry	19	33	1.5	70S	78	32.0
Ogle	20	35	0.8	80S	89	31.0
Otee	18	35	4.5	80S	73	33.0
Preston	18	35	2.5	50S	75	33.5
Russell	26	40	4.5	50S	57	30.5
Stout	20	30	1.0	50S	73	30.0
Webster	18	35	1.8	80S	82	31.5
Exp. 0-12	19	32	0.5	50S	89	32.5
Exp. 0-14	18	36	3.5	50S	87	32.5
Dif. req. sig.	1.5	1.4	2.2	---	12.8	----

Test on Mead Field Laboratory.

Lodging scored 0-9: 0 = none, 9 = flat.

Table 4. Southeast District oat variety tests. 1977-1984.

Variety	Grain yield bu/A										Weight lb/bu	
	1977	1978	1979	1980	1981	1982	1983	1984	1980-84 average	1978-84 average	1980-84 average	1978-84 average
Bates	48	43	26	85	38	67	78	78	69	59	33.3	31.5
Benson	36	32	24	77	27	60	75	80	64	54	31.3	29.7
Burnett	43	43	20	73	34	59	70	66	60	52	30.5	29.1
Garry	33	29	24	91	26	--	--	--	--	--	----	----
Kelly	--	--	--	--	--	--	43	78	--	--	----	----
Kelsey	51	47	18	91	27	64	38	89	62	53	32.1	30.4
Kherson	38	29	22	81	25	58	59	47	54	46	27.3	26.7
Lancer	--	44	25	86	32	72	43	78	62	54	32.5	31.0
Lang	49	61	16	72	45	66	69	78	66	58	31.3	29.3
Larry	--	--	--	78	48	74	60	78	68	--	32.4	----
Ogle	--	--	--	68	39	89	107	89	78	--	31.0	----
Otee	44	41	22	82	30	65	74	73	65	55	33.9	31.8
Preston	--	--	--	76	25	69	70	75	63	--	33.1	----
Russell	45	40	24	74	21	57	48	57	51	46	31.4	29.9
Stout	44	43	10	55	27	62	43	73	52	45	31.5	29.2
Webster	--	--	--	--	--	--	--	82	--	--	----	----
Exp. 0-12	--	--	--	--	--	72	80	89	--	--	----	----
Exp. 0-14	--	--	--	--	--	--	--	87	--	--	----	----
Dif. req. sig.	11.6	10.9	6.8	11.7	8.0	10.2	14.0	12.8	13.3	9.5	1.6	1.6

Tests on Mead Field Laboratory, Saunders County.

Table 5. Northeast District oat variety test. Dixon County. 1984.

Variety	Flower June	Height inches	Lodging %	Grain bu/A	Weight lb/bu	Protein %	Straw cwt/A
Bates	19	32	2	83	35.1	15.4	35.4
Benson	23	38	7	86	37.3	13.0	35.1
Burnett	19	37	8	82	34.8	13.3	28.8
Kelly	18	37	7	69	36.1	15.7	33.4
Kelsey	25	38	8	84	37.0	11.6	32.4
Kherson	23	39	12	72	33.7	13.7	31.2
Lancer	22	35	1	77	36.0	13.9	34.4
Lang	18	34	2	77	29.3	13.2	42.9
Larry	19	33	1	81	27.5	13.3	36.8
Ogle	20	35	2	101	35.1	13.2	37.2
Otee	19	35	3	62	31.6	16.4	35.8
Preston	19	36	5	69	35.6	17.4	33.8
Russell	25	39	5	82	35.3	12.6	36.3
Stout	19	31	2	74	35.2	13.5	34.4
Webster	19	34	2	73	27.8	13.7	41.1
Exp. 0-12	19	34	5	90	36.1	12.2	32.2
Exp. 0-14	19	35	2	67	37.5	15.1	32.9
Dif. req. sig.	0.9	1.5	3.5	7.1	----	2.2	3.4

Test on Northeast Research and Extension Center.
Grain protein on 12% moisture basis.

Table 6. Northeast District oat variety test. Cedar County. 1984.

Variety	Height inches	Lodging %	Grain bu/A	Weight lb/bu	Protein %	Straw cwt/A
Bates	33	5	77	35.1	14.3	32.4
Benson	39	20	80	37.3	13.9	28.2
Burnett	37	56	66	34.8	12.6	20.0
Kelly	38	2	51	36.1	18.2	31.5
Kelsey	41	16	97	37.0	11.5	29.1
Kherson	41	27	75	33.7	14.5	27.6
Lancer	36	0	58	36.0	16.6	27.8
Lang	34	0	36	29.3	13.9	36.9
Larry	32	0	35	27.5	13.8	31.5
Ogle	34	0	74	35.1	15.7	30.2
Otee	34	0	30	31.6	17.9	35.7
Preston	36	3	57	35.6	19.5	30.4
Russell	40	4	71	35.3	14.2	29.8
Stout	31	Tr.	65	35.2	15.6	28.2
Webster	32	0	32	27.8	15.4	32.8
Exp. 0-12	32	5	79	36.1	15.3	23.1
Exp. 0-14	35	1	60	37.5	17.7	23.2
Dif. req. sig.	2.4	11.5	17.0	----	2.2	5.6

Test on Dick Stapleman Farm.

Grain protein on 12% moisture basis.

Table 7. Northeast District oat variety tests. 1977-1984.

Variety	Grain yield bu/A										Weight lb/bu	
	1977	1978	1979	1980	1981	1982	1983	1984	1980-84 average	1978-84 average	1984	1980-84 average
Bates	73	56	95	115	52	108	80	80	87	84	36.1	34.5
Benson	65	52	104	107	36	88	62	83	75	76	37.3	33.6
Burnett	65	48	94	112	49	92	55	74	76	75	35.5	31.7
Kelly	--	--	---	---	--	---	--	60	--	--	38.0	----
Kelsey	77	48	108	108	35	89	53	91	75	76	36.9	32.7
Kherson	58	31	75	95	37	68	42	74	63	60	33.4	28.1
Lancer	--	55	103	110	44	86	59	68	73	75	36.6	34.0
Lang	84	62	97	115	55	103	65	57	79	79	31.7	31.0
Larry	--	--	---	120	61	106	62	58	81	79	31.4	31.8
Lyon	72	46	107	---	--	--	--	--	--	--	----	----
Ogle	--	--	110	122	54	114	81	88	92	--	35.4	32.0
Otee	70	53	95	112	48	92	71	46	74	74	34.4	34.3
Preston	--	--	---	104	41	94	64	63	73	--	36.3	34.4
Russell	66	42	101	---	--	95	56	77	--	--	35.6	----
Stout	73	60	90	106	36	108	58	70	76	75	35.4	33.0
Trio	61	51	92	---	--	---	--	--	--	--	----	----
Webster	--	--	---	---	--	---	--	53	--	--	31.4	----
Wright	75	51	95	---	--	---	--	--	--	--	----	----
Exp. 0-12	--	--	---	---	--	115	85	85	--	--	36.7	----
Exp. 0-14	--	--	---	---	--	---	--	64	--	--	38.0	----
Dif. req. sig.	N.S.	9.9	7.7	N.S.	10.7	11.8	N.S.	24.1	11.7	9.4	3.9	1.9

Location of tests (counties): 1977-1980 Dixon and Cedar; 1981 Cedar; 1982 Dixon; 1983-1984 Dixon and Cedar.

Table 8. West District nonirrigated oat variety test. Cheyenne County. 1984.

Variety	Flower June	Height inches	Lodging %	Yield bu/A	Weight lb/bu
Bates	19	27	0	59	35.4
Benson	26	34	13	62	34.2
Burnett	20	34	5	70	33.1
Kelly	20	33	5	58	36.2
Kelsey	28	37	18	82	34.3
Kherson	25	38	15	72	31.4
Lancer	22	31	3	59	33.8
Lang	20	29	0	58	34.1
Larry	21	27	0	56	34.4
Ogle	22	31	3	87	33.3
Otee	21	31	8	48	35.4
Pierce	28	32	0	67	35.9
Preston	23	32	4	59	34.7
Russell	29	37	23	71	34.7
Steele	26	36	0	76	33.9
Stout	19	27	0	54	35.1
Webster	19	32	0	55	33.9
Exp. 0-12	20	28	0	64	35.9
Exp. 0-14	19	30	0	62	35.8
Dif. req. sig.	2.1	2.0	6.7	7.8	1.5

Test on High Plains Agricultural Laboratory.

Table 9. West District nonirrigated oat variety tests. 1977-1984.

Variety	Grain yield bu/A										Weight lb/bu
	1977	1978	1979	1980	1981	1982	1983	1984	1980-84 average	1978-84 average	1980-84 average
Bates	74	42	81	40	109	98	78	59	77	72	34.6
Benson	79	39	92	35	83	108	77	62	73	71	32.1
Burnett	70	33	99	37	87	80	71	70	69	68	31.9
Garry	76	31	102	33	94	--	--	--	--	--	----
Kelly	--	--	--	--	--	--	--	58	--	--	----
Kelsey	80	29	103	38	88	83	52	82	69	68	31.5
Kherson	63	25	92	27	72	73	59	72	61	60	28.1
Lancer	--	29	93	38	91	111	77	59	75	71	33.0
Lang	75	59	94	48	105	109	78	58	80	79	32.8
Larry	--	--	--	44	97	111	81	56	78	--	33.5
Ogle	--	--	105	42	110	131	81	87	90	--	31.3
Otee	63	43	84	37	87	100	68	48	68	67	34.1
Pierce	--	--	--	--	--	--	--	67	--	--	----
Preston	--	--	--	37	83	89	67	59	67	--	33.9
Russell	88	38	85	36	--	90	73	70	--	--	----
Steele	--	--	--	--	--	--	--	76	--	--	----
Stout	69	51	85	44	80	109	72	54	72	71	33.4
Webster	--	--	--	--	--	--	--	55	--	--	----
Exp. 0-12	--	--	--	--	--	115	79	64	--	--	----
Exp. 0-14	--	--	--	--	--	--	--	62	--	--	----
Dif. req. sig.	9.0	18.6	12.7	N.S.	21.3	16.4	6.2	7.8	12.3	N.S.	1.0

Location of tests (counties): 1977 Cheyenne and Sheridan; 1977-1984 Cheyenne.

Table 10. West District irrigated oat variety tests. 1984.

Variety	Scotts Bluff County				Box Butte County					1984 average			
	Flower June	Height inches	Yield bu/A	Weight lb/bu	Flower June	Height inches	Lodging score	Yield bu/A	Weight lb/bu	Flower June	Height inches	Yield bu/A	Weight lb/bu
Bates	24	32	97	33.7	26	37	2.3	107	34.8	25	35	102	34.3
Benson	26	36	95	34.2	28	43	3.5	108	34.4	27	40	102	34.3
Burnett	25	37	98	33.3	26	45	2.5	115	33.4	26	41	107	33.4
Kelly	26	34	87	34.3	26	43	1.0	96	33.9	26	39	92	34.1
Kelsey	25	36	114	34.6	28	45	4.5	123	34.2	27	41	119	34.4
Kherson	24	38	100	30.8	27	45	6.3	100	32.2	26	42	100	31.5
Lancer	25	32	95	34.5	26	39	0.0	97	32.7	26	36	96	33.6
Lang	26	32	83	32.1	26	37	0.5	90	30.4	26	35	87	31.3
Larry	25	29	90	34.2	26	36	0.5	93	31.8	26	33	92	33.0
Ogle	25	34	107	32.9	26	40	0.3	139	34.6	26	37	123	33.8
Otee	25	34	85	35.8	26	38	1.0	71	33.5	26	36	78	34.7
Pierce	26	36	105	34.0	30	44	3.0	140	37.0	28	40	123	35.5
Preston	25	32	89	34.9	26	41	1.3	83	33.7	26	37	86	34.3
Russell	26	35	106	34.4	30	47	5.5	122	36.0	28	41	114	35.2
Steele	26	36	110	33.4	28	47	2.3	140	32.9	27	42	125	33.2
Stout	23	28	81	32.3	26	36	0.8	106	32.5	25	32	94	32.4
Webster	25	32	92	32.8	26	42	1.0	98	32.1	26	37	95	32.5
Exp. 0-12	24	30	91	33.9	26	37	2.5	118	33.0	25	34	105	33.5
Exp. 0-14	25	33	71	34.7	26	38	0.5	104	34.8	26	36	88	34.8
Dif. req. sig.	1.3	4.7	10.8	1.0	0.6	3.4	2.6	21.2	2.1	N.S.	3.1	20.6	2.1

Lodging scored 0-9; 0 = erect, 9 = flat.

Table 11. West District irrigated oat variety tests. 1976-1984.

Variety	Grain yield bu/A											Weight lb/bu
	1976	1977	1978	1979	1980	1981	1982	1983	1984	1980-84 average	1978-84 average	1980-84 average
Bates	91	104	65	70	81	102	98	84	102	93	86	33.9
Benson	--	98	64	66	84	109	72	86	102	91	83	33.1
Burnett	97	102	60	66	77	113	90	82	107	94	85	32.6
Colorado 37	108	102	70	70	90	95	--	--	--	--	--	----
Garry	99	122	71	82	78	127	--	--	--	--	--	----
Kelly	--	--	--	--	--	--	--	--	92	--	--	----
Kelsey	104	106	71	82	96	127	101	87	119	106	98	33.2
Kherson	98	98	56	60	74	112	95	74	100	91	82	30.2
Lancer	--	--	55	79	70	116	79	77	96	88	82	32.5
Lang	76	105	63	67	70	120	91	81	87	90	83	31.6
Larry	--	--	--	--	73	130	91	76	92	92	--	32.6
Lodi	93	109	65	--	69	108	--	--	--	--	--	----
Ogle	--	--	--	94	93	129	106	95	123	109	--	32.3
Otee	87	90	54	71	75	92	85	67	78	79	75	33.9
Pierce	--	--	--	--	--	--	--	--	123	--	--	----
Preston	--	--	--	--	67	99	79	70	86	80	--	33.7
Russell	100	114	68	83	89	118	89	85	114	99	92	33.3
Steele	--	--	--	--	--	--	--	--	125	--	--	----
Stout	93	89	48	67	58	--	96	64	94	--	--	----
Webster	--	--	--	--	--	--	--	--	95	--	--	----
Exp. 0-12	--	--	--	--	--	--	100	81	105	--	--	----
Exp. 0-14	--	--	--	--	--	--	--	--	88	--	--	----
Dif. req. sig.	N.S.	N.S.	13.0	15.7	16.7	20.2	N.S.	12.1	20.6	8.8	7.1	0.8

Location of tests (counties): 1976 Scotts Bluff; 1977 Scotts Bluff and Box Butte; 1978 Scotts Bluff and Dawes; 1979-1980 Scotts Bluff and Box Butte; 1981 Box Butte; 1982-1984 Scotts Bluff and Box Butte.

Table 12. Southeast District barley variety test. Saunders County. 1984.

Variety	Flower June	Height inches	Lodging score	Stem rust	Yield bu/A	Weight lb/bu
Azure	19	33	4.8	20MS	45	45.0
Bowers	20	33	2.5	25MS	46	46.5
Custer	17	33	7.5	50MS	43	43.0
Hazen	19	34	2.5	20MS	47	46.0
Robust	20	34	2.0	20MS	43	47.5
Steptoe	20	30	4.0	90S	19	43.0
Dif. req. sig.	1.1	1.4	1.6	----	5.0	----

Tests on Mead Field Laboratory.
Lodging scored 0-9: 0 = none, 9 = flat.

Table 13. Northeast District barley variety test. Dixon County. 1984.

Variety	Flower June	Height inches	Lodging %	Yield bu/A	Weight lb/bu
Azure	19	33	5	72	51.1
Bowers	19	33	3	82	50.8
Custer	18	33	5	62	46.3
Hazen	18	32	7	78	50.6
Robust	19	34	4	74	52.1
Steptoe	18	30	5	57	45.6
Dif. req. sig.	N.S.	1.7	N.S.	6.5	----

Test on Northeast Research and Extension Center.

Table 14. Southeast District barley variety tests. 1975-1984. No 1981 data.

Variety	Grain yield bu/A											Weight lb/bu
	1975	1976	1977	1978	1979	1980	1982	1983	1984	1983-84 average	1979-84 average	1983-84 average
Azure	--	--	--	--	15	39	40	36	45	41	35	45.3
Beacon	26	30	40	32	10	--	--	--	--	--	--	----
Bowers	--	--	46	42	14	57	37	34	46	40	38	46.8
Custer	29	46	43	38	12	53	32	26	43	35	33	43.5
Hazen	--	--	--	--	--	--	--	41	47	44	--	46.0
Morex	--	--	44	38	11	45	36	28	--	--	--	----
Primus II	25	33	41	--	--	--	--	--	--	--	--	----
Robust	--	--	--	--	--	--	--	42	43	43	--	47.3
Steptoe	23	49	40	33	16	50	31	14	19	17	26	40.5
Dif. req. sig.	6.1	9.9	9.5	8.8	2.9	N.S.	8.2	6.5	5.0	10.3	N.S.	4.0

Tests on Mead Field Laboratory, Saunders County.

Table 15. Northeast District barley variety tests. 1975-1984. No 1981 data.

Variety	Grain yield bu/A											Weight lb/bu
	1975	1976	1977	1978	1979	1980	1982	1983	1984	1983-84 average	1979-84 average	1983-84 average
Azure	--	--	--	--	77	79	83	36	72	54	69	49.9
Beacon	58	13	39	42	62	--	--	--	--	--	--	----
Bowers	--	--	53	52	81	85	91	40	82	61	76	50.0
Custer	49	16	50	56	78	75	76	40	62	51	66	46.6
Hazen	--	--	--	--	--	--	--	39	78	59	--	50.1
Lud	--	--	47	40	73	--	--	--	--	--	--	----
Morex	--	--	50	48	72	78	73	33	--	--	--	----
Nordic	52	11	42	44	75	--	--	--	--	--	--	----
Primus II	59	12	42	--	--	--	--	--	--	--	--	----
Robust	--	--	--	--	--	--	--	--	74	--	--	----
Steptoe	44	10	52	48	83	68	81	24	57	41	63	45.8
Dif. req. sig.	8.0	N.S.	8.2	4.7	7.3	N.S.	8.1	5.4	6.5	N.S.	7.6	2.5

Tests on Northeast Research and Extension Center. Dixon County.

Table 16. West District nonirrigated barley variety test. Cheyenne County. 1984.

Variety	Flower June	Height inches	Lodging %	Yield bu/A	Weight lb/bu
Apex	26	24	0	56	46.0
Azure	23	29	0	64	44.4
Bellona	27	25	0	58	45.1
Bowers	25	29	0	65	45.0
Bumper	25	31	0	59	43.0
Custer	20	30	Tr.	72	45.2
Hazen	24	29	Tr.	63	45.3
Klages	21	20	0	52	43.7
Menuet	20	28	0	75	42.4
Lindy	19	27	10	53	49.5
Nova	27	24	0	55	44.2
Piston	27	26	0	57	44.9
Premier	24	31	0	60	46.3
Steptoe	22	27	0	65	42.7
Dif. req. sig.	4.8	4.8	N.S.	7.5	1.1

Test on High Plains Agricultural Laboratory.

Table 17. West District nonirrigated barley variety tests. 1976-1984.

Variety	Grain yield bu/A										Weight lb/bu	
	1976	1977	1978	1979	1980	1981	1982	1983	1984	1983-84 average	1979-84 average	1983-84 average
Apex	--	--	--	--	--	--	--	--	56	--	--	----
Azure	--	--	--	74	26	45	93	57	64	61	60	44.0
Bellona	--	--	--	--	--	--	--	--	58	--	--	----
Bowers	--	58	19	70	27	38	94	49	65	57	57	45.2
Bumper	--	--	--	--	--	--	--	37	59	48	--	----
Custer	29	58	28	67	41	66	88	50	72	61	64	43.4
Hazen	--	--	--	--	--	--	--	58	63	61	--	----
Klages	--	--	--	--	--	--	--	--	52	--	--	----
Lindy	--	--	--	--	--	--	--	--	53	--	--	----
Menuet	--	--	--	--	--	--	--	--	75	--	--	----
Nova	--	--	--	--	--	--	--	--	55	--	--	----
Piston	--	--	--	--	--	--	--	--	57	--	--	----
Premier	--	--	--	--	--	--	--	--	60	--	--	----
Stephoe	32	78	25	73	35	56	100	45	65	55	62	40.8
Dif. req. sig.	5.1	10.5	5.5	11.3	6.0	11.4	6.7	6.3	7.5	N.S.	N.S.	N.S.

Location of tests (counties): 1976 Cheyenne and Sheridan; 1977-1984 Cheyenne.

Table 18. West District irrigated barley variety tests. 1984.

Variety	Scotts Bluff County				Box Butte County					1984 average			
	Flower June	Height inches	Yield bu/A	Weight lb/bu	Flower June	Height inches	Lodging score	Yield bu/A	Weight lb/bu	Flower June	Height inches	Yield bu/A	Weight lb/bu
Apex	24	26	59	49.7	26	35	1.3	104	49.4	25	31	82	49.6
Azure	23	33	70	46.2	25	38	5.3	87	44.6	24	36	79	45.4
Bellona	24	27	64	50.4	28	34	0.8	100	47.6	26	31	82	49.0
Bowers	21	32	68	46.1	25	37	4.8	91	46.2	23	35	80	46.2
Bumper	23	35	67	45.5	25	40	4.8	92	44.9	24	38	80	45.2
Custer	22	33	66	45.6	25	36	6.0	80	44.0	24	35	73	44.8
Hazen	23	32	65	45.9	25	41	2.5	96	45.5	24	37	81	45.7
Klages	25	30	56	48.2	27	36	1.3	94	47.0	26	33	75	47.6
Menuet	23	28	58	48.9	26	35	1.5	92	48.1	25	32	75	48.5
Nova	22	30	56	51.1	25	37	4.5	76	48.4	24	34	66	49.8
Premier	25	29	59	48.3	27	34	2.8	92	47.1	26	32	76	47.7
Robust	23	35	60	47.3	25	37	2.3	84	47.0	24	36	72	47.2
Steptoe	23	27	77	44.5	25	41	5.3	88	41.3	24	34	83	42.9
Dif. req. sig.	1.6	2.6	8.8	1.2	1.0	3.9	2.3	N.S.	0.8	N.S.	1.2	N.S.	1.6

Lodging scored 0-9; 0 = erect, 9 = flat.

Table 19. West District irrigated barley variety tests. 1976-1984. No 1981 data.

Variety	Grain yield bu/A										Weight lb/bu	
	1976	1977	1978	1979	1980	1981	1982	1983	1984	1983-84 average	1979-84 average	1983-84 average
Apex	--	--	--	--	--	--	--	--	82	--	--	----
Azure	--	--	--	51	64	99	73	76	79	78	74	44.9
Bellona	--	--	--	--	--	--	--	--	82	--	--	----
Bowers	--	78	37	49	65	102	72	72	80	76	73	46.1
Bumper	--	--	--	--	--	--	--	53	80	67	--	44.0
Custer	87	67	34	47	60	83	72	61	73	67	66	43.6
Hazen	--	--	--	--	--	--	--	72	81	77	--	45.5
Klages	--	--	--	--	--	--	--	--	75	--	--	----
Menuet	--	--	--	--	--	--	--	--	75	--	--	----
Morex	--	66	27	41	61	95	64	62	--	--	--	----
Nova	--	--	--	--	--	--	--	--	66	--	--	----
Steptoe	83	84	45	70	76	124	81	57	83	70	82	42.5
Dif. req. sig.	N.S.	N.S.	N.S.	5.6	N.S.	16.0	13.8	N.S.	N.S.	N.S.	9.7	1.7

Location of tests (counties): 1976 Scotts Bluff; 1977 Scotts Bluff and Box Butte; 1978 Scotts Bluff and Dawes; 1979-1980 Scotts Bluff and Box Butte; 1981 Box Butte; 1982-1984 Scotts Bluff and Box Butte.

Table 20. Southeast District spring wheat variety tests. 1979-1984.

Variety	Grain yield bu/A							Weight lb/bu		1984		
	1979	1980	1981	1982	1983	1984	1982-84 average	1984	1982-84 average	Stem rust	Flower June	Height inches
Butte	17	23	13	17	21	18	19	56.5	56.7	Tr R	23	32
Centa	--	--	--	14	22	26	21	58.5	57.0	Tr R	19	33
Eureka	16	23	12	13	16	21	17	53.5	52.5	Tr R	26	34
Guard	--	--	--	--	21	28	--	58.0	----	Tr R	22	30
James	--	23	13	10	21	25	19	57.0	54.7	R	22	33
Len	18	23	14	14	13	18	15	55.5	54.5	Tr R	29	29
Marshall	--	27	6	12	21	23	19	54.5	55.2	Tr R	29	28
Olaf	16	20	12	9	12	19	13	54.0	----	Tr R	29	30
Oslo	--	--	--	11	14	24	16	54.4	53.7	20MS	18	27
Stoa	--	--	--	--	--	32	--	57.0	----	Tr R	25	36
Wheaton	--	--	--	--	--	25	--	54.5	----	Tr R	26	27
Dif. req. sig.	3.0	5.6	5.6	2.6	4.5	4.0	N.S.	----	N.S.	----	2.0	1.3

Stem rust: R = resistant, S = susceptible, MR = moderately resistant, MS = moderately susceptible, Tr = trace.

Table 21. Northeast District spring wheat variety tests. 1978-1984. No 1981 data.

Variety	Grain yield bu/A							Weight lb/bu		1984		
	1978	1979	1980	1982	1983	1984	1982-84 average	1984	1982-84 average	Flower June	Height inches	Lodging %
Butte	18	41	40	36	15	42	31	59.9	57.7	19	36	3
Centa	--	--	--	41	17	42	33	61.3	57.8	18	35	3
Eureka	--	47	38	31	14	40	28	58.1	55.2	21	37	2
Guard	--	--	--	--	--	47	--	59.2	----	21	33	0
James	--	--	44	35	18	44	32	59.0	57.0	19	33	2
Len	--	45	36	30	17	37	27	58.6	57.1	24	29	0
Marshall	--	--	--	29	25	42	32	59.2	57.6	25	28	0
Olaf	16	45	35	25	17	37	26	57.8	55.6	25	30	0
Oslo	--	--	--	28	17	40	28	56.2	54.8	18	30	Tr.
Stoa	--	--	--	--	--	47	--	60.1	----	22	38	4
Wheaton	--	--	--	--	--	48	--	57.8	----	24	30	0
Dif. req. sig.	2.1	6.5	4.8	4.8	1.9	4.0	N.S.	----	N.S.	1.1	1.7	1.2

Tests on Northeast Research and Extension Center, Dixon County.

Table 22. West District nonirrigated spring wheat variety tests. 1978-1984.

Variety	Grain yield bu/A								Weight lb/bu		1984	
	1978	1979	1980	1981	1982	1983	1984	1982-84 average	1984	1982-84 average	Flower June	Height inches
Butte	22	46	17	22	45	28	34	36	57.2	56.7	25	33
Centa	--	--	--	--	45	27	33	35	57.3	57.7	23	32
Eureka	--	41	16	6	41	26	30	32	54.9	55.1	28	33
Guard	--	--	--	--	--	--	35	--	57.3	----	24	27
James	--	--	16	28	53	28	38	40	56.0	55.6	24	31
Len	--	47	16	16	48	28	36	37	56.9	56.5	28	30
Marshall	--	--	--	11	44	31	38	38	56.0	55.8	28	26
Olaf	21	43	18	10	44	30	37	37	57.9	56.7	28	29
Oslo	--	--	--	--	46	27	30	34	54.4	54.7	21	25
Stoa	--	--	--	--	--	--	41	--	57.0	----	28	33
Wheaton	--	--	--	--	--	--	36	--	53.8	----	25	25
Dif. req. sig.	N.S.	4.3	N.S.	9.0	4.6	3.5	5.1	4.0	1.3	1.0	1.2	2.4

Tests on High Plains Agricultural Laboratory. Cheyenne County.

Table 23. West District irrigated spring wheat variety tests. 1984.

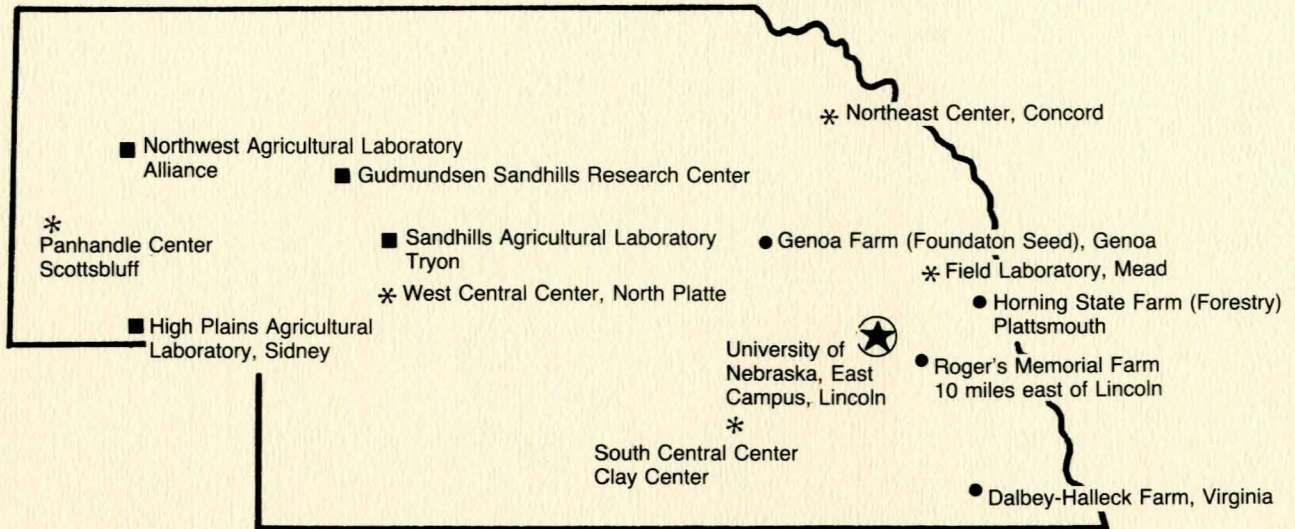
Variety	Scotts Bluff County				Box Butte County				1984 average			
	Flower June	Height inches	Yield bu/A	Weight lb/bu	Flower June	Height inches	Yield bu/A	Weight lb/bu	Flower June	Height inches	Yield bu/A	Weight lb/bu
Butte	22	35	44	59.8	25	43	75	58.8	24	39	60	59.3
Centa	22	35	44	60.0	25	44	59	59.1	24	40	52	59.6
Eureka	24	37	40	57.5	27	45	64	56.2	26	41	52	56.9
Guard	21	30	43	58.9	25	38	58	56.5	23	34	51	57.7
James	22	34	42	57.9	25	39	72	56.0	24	37	57	57.0
Len	23	31	42	58.2	28	37	59	57.7	26	34	51	58.0
Marshall	24	28	43	58.0	28	35	80	56.5	26	32	62	57.3
Olaf	24	31	44	59.1	28	37	67	57.2	26	34	56	58.2
Oslo	21	27	47	57.1	24	33	78	55.7	23	30	63	56.4
Stoa	24	37	42	58.2	26	46	72	57.3	25	42	57	57.8
Wheaton	22	28	42	56.0	27	35	67	53.4	25	32	55	54.7
Dif. req. sig.	1.6	1.7	N.S.	1.0	1.0	2.2	8.7	1.7	2.2	3.1	N.S.	1.0

Table 24. West District irrigated spring wheat variety tests. 1975-1984.

Variety	Grain yield bu/A											Weight lb/bu
	1975	1976	1977	1978	1979	1980	1981	1982	1983	1984	1982-84 average	1982-84 average
Butte	--	--	49	34	46	41	60	38	38	60	45	57.3
Centa	--	--	--	--	--	--	--	45	36	52	44	58.5
Eureka	--	--	--	--	38	39	54	41	35	52	43	54.6
Guard	--	--	--	--	--	--	--	--	--	51	--	----
James	--	--	--	--	--	42	63	44	38	57	46	55.4
Len	--	--	--	--	47	37	64	43	37	51	44	54.1
Marshall	--	--	--	--	--	--	61	43	40	62	48	53.8
Olaf	47	46	59	31	45	43	55	42	37	56	45	56.0
Oslo	--	--	--	--	--	--	--	46	35	63	48	55.2
Stoa	--	--	--	--	--	--	--	--	--	57	--	----
Wheaton	--	--	--	--	--	--	--	--	--	55	--	----
Dif. req. sig.	--	--	N.S.	N.S.	N.S.	N.S.	N.S.	N.S.	N.S.	N.S.	N.S.	2.4

Location of tests (counties): 1975 Scotts Bluff and Box Butte; 1976 Scotts Bluff and Morrill; 1977 Scotts Bluff and Box Butte; 1978 Scotts Bluff and Dawes; 1979-1980 Scotts Bluff and Box Butte; 1981 Box Butte; 1982-1984 Scotts Bluff and Box Butte.

Agricultural Research for All of Nebraska



The agricultural research division of the Institute of Agriculture and Natural Resources is the Nebraska Agricultural Experiment Station. The Experiment Station relies on its research centers and field laboratories to provide applied knowledge for development of Nebraska's largest industry—agriculture. In addition, many Nebraska farmers cooperate by furnishing land and other facilities for research projects. This provides information from areas not well represented by stations.

The Cooperative Extension Service transmits data to users through District and County Ex-

tension Offices. Area and County Extension Agents are available to provide additional interpretation and more specific recommendations.

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 14 to 40 inches per year, and the soil types vary from sands to heavy clays. The research program thus is broad in subject matter and geography, resulting in the need for various stations and satellite locations.

The Cooperative Extension Service provides information and educational programs to all people without regard to race, color, national origin, sex or handicap.