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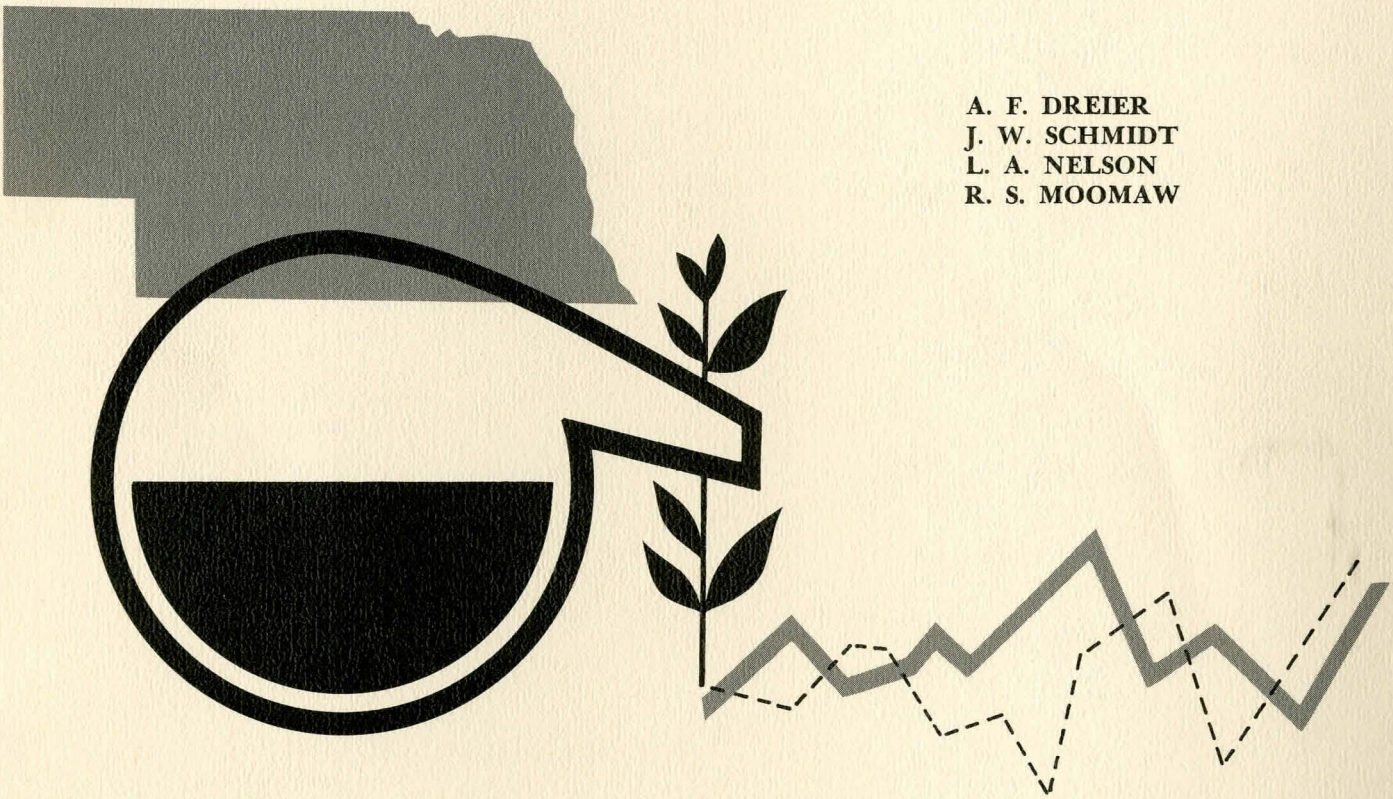
Institute of Agriculture
and Natural Resources

NEBRASKA SPRING SMALL GRAIN VARIETY TESTS 1978



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Extension work in "Agriculture,
Home Economics and subjects relating
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University of Nebraska–Lincoln
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EXTENSION CIRCULAR 78-102

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FORWORD

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 Stations 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 in Cedar and Dawes Counties, also to County Agents and others who assisted in the conduct of these tests.

Research results of the Nebraska Agricultural Experiment Station are available to anyone regardless of race, color, religion, sex or national origin.

THE METRIC SYSTEM

The United States is committed to changing to the metric system of weights and measures. This conversion will take time and there will be some confusion until the metric system becomes more familiar. Measurement data in this circular are given in currently used or English units followed by the metric units in parenthesis ( ).

Among the more common equivalents used are:

0° Celsius	=	32° Fahrenheit
1 millimeter (mm)	=	0.0394 inches
1 centimeter (cm)	=	0.394 inches
1 hectare (ha)	=	2.471 acres
1 kilogram (kg)	=	2.205 pounds
1 hectoliter (hl)	=	2.838 bushels
1 metric ton (t)	=	2,204.6 pounds

Conversion factors used in this circular were as follows:

^{o}C	=	0.555 (F-32)
mm	=	inches x .254
cm	=	inches x 2.54
ha	=	acres x 0.405
kg/ha	=	bu/A x 35.87 oats
	=	bu/A x 53.81 barley
	=	bu/A x 67.26 wheat
	=	lb/A x 1.121
kg/hl	=	lbs/bu x 1.287
t/ha	=	cwt/A 0.1121

NEBRASKA SPRING SMALL GRAIN VARIETY TESTS

Oats-Barley-Spring Wheat

1978

Recent average yields and harvested acreages of oats and barley for Nebraska were as follows:

	Oats				Barley			
Year	Yield bu/A	(kg/ha)	000 Acres	(ha)	Yield bu/A	(kg/ha)	000 Acres	(ha)
1965	40.0	(1430)	627	(254)	30	(1610)	37	(15)
1966	40.0	(1430)	543	(220)	30	(1610)	32	(13)
1967	43.5	(1560)	569	(230)	35	(1880)	25	(10)
1968	27.5	(990)	464	(188)	33	(1780)	35	(14)
1969	43.5	(1560)	561	(227)	34	(1830)	45	(18)
1970	42.0	(1510)	573	(232)	36	(1940)	45	(18)
1971	51.0	(1830)	517	(209)	40	(2150)	42	(17)
1972	49.0	(1760)	390	(158)	38	(2040)	38	(15)
1973	49.0	(1760)	430	(174)	36	(1940)	30	(12)
1974	47.0	(1690)	535	(217)	35	(1880)	27	(11)
1975	49.0	(1760)	590	(239)	36	(1940)	33	(13)
1976	42.0	(1510)	660	(267)	36	(1940)	40	(16)
1977	58.0	(2080)	670	(271)	45	(2420)	34	(14)
1978	44.0	(1580)	450	(182)	40	(2150)	33	(13)

The 1978 data are preliminary. Comparable data for spring wheat are not obtained in Nebraska.

The location and dates of planting and harvesting of spring small grain variety tests are shown in Table 1. Weather data for the East Central, Northeast and West Cropping Districts are included in Table 2.

Conditions for seeding spring small grains generally were unfavorable. Wet soil delayed seeding and finally caused shifting to other crops. The acreage seeded was below earlier intentions.

Early growth was good even though the crop was later than usual. June rainfall was much below normal. Above average temperatures in late June were very damaging to the oat crop. Yields and test weights were reduced.

Suggested oat and barley varieties for Nebraska are shown on the map (page 6). Agronomic characteristics of oat varieties included in recent Nebraska tests are included in Table 3. The rusts generally have not been a limiting factor in oat production in Nebraska.

Two oat varieties are relatively new to Nebraska. Bates and Lang are early varieties which should find a place in Nebraska.

Table 1. Locations and dates of planting and harvest. Spring small grain variety tests. 1978.

County	Cooperator	Planted	Harvested
	Oats		
Saunders	Mead Field Laboratory	April 4	July 27
Dixon	Northeast Station	April 13	July 11
Cedar	Pete Burbach, Hartington	April 26	July 14
Cheyenne	High Plains Ag. Lab.	March 28	July 24
Scotts Bluff (irr)	Panhandle Station	March 29	August 8
Dawes (irr)	Ralph Pinney, Whitney	April 20	August 7
	Barley		
Saunders	Mead Field Laboratory	April 4	July 17
Dixon	Northeast Station	April 13	July 11
Cheyenne	High Plains Ag. Lab.	March 28	July 24
Scotts Bluff (irr)	Panhandle Station	March 29	July 25
Dawes (irr)	Ralph Pinney, Whitney	April 20	August 7
	Spring Wheat		
Saunders	Mead Field Laboratory	April 4	July 27
Dixon	Northeast Station	April 13	July 25
Cheyenne	High Plains Ag. Lab.	March 28	August 8
Scotts Bluff (irr)	Panhandle Station	March 29	August 8
Dawes (irr)	Ralph Pinney, Whitney	April 20	August 7

Bates was selected in Missouri from a cross of Pettis x Florida 500 and released in 1977. It is an early oat with good test weight. It has shorter, stronger straw than Pettis and a higher yield potential. Kernels are slightly dark in color; intensity depends on environmental conditions. Bates has demonstrated some tolerance to barley yellow dwarf virus. Bates was highly productive in the 1975-1978 Nebraska tests.

Lang was selected in Illinois from a cross of Tyler x Orbit and released in 1976. Lang is an early-maturing, lodging-resistant oat with high yield potential. It has demonstrated higher yield potential than varieties of similar maturity. Lang is a yellow oat. The primary seed has a prominent awn which is usually separated from the seed during combining. It had an excellent performance in the 1975-1978 Nebraska tests.

Weather during the grain-filling period is critical for spring small grains in Nebraska. Spring wheat is later in maturity than winter wheat and often is adversely affected by hot weather in late June and early July. Temperatures after flowering are critical for oats. The timing of high temperatures often determines whether early- or late-maturing oat varieties perform best. This causes wide variations in performance over years and between locations in the same year. Of the spring grains, barley is least affected by unfavorable high temperatures during the period of flowering to the beginning of ripening.

Table 2. Temperature and precipitation data from East Central, Northeast and Panhandle Divisions of Nebraska.

Division and month	Temperature degrees F (C)		Precipitation inches (mm)	
	1977 average	Departure from normal	1977 average	Departure from normal
East Central				
March	34.6 (1.4)	-1.8 (-1.0)	1.08 (27)	- .47 (- 12)
April	51.6 (10.9)	.2 (.1)	7.03 (179)	4.40 (112)
May	60.9 (16.1)	-1.2 (- .7)	3.36 (85)	- .49 (- 12)
June	72.6 (22.6)	1.0 (.6)	2.44 (62)	-2.70 (- 69)
July	76.1 (24.5)	.7 (- .4)	4.73 (120)	1.28 (33)
Northeast				
March	33.2 (0.7)	- .6 (- .3)	.68 (17)	- .80 (- 20)
April	48.8 (9.3)	- .7 (- .4)	4.50 (114)	2.12 (54)
May	60.3 (15.7)	- .3 (- .2)	3.11 (79)	- .75 (- 19)
June	71.1 (21.7)	.9 (.5)	1.56 (40)	-3.20 (- 81)
July	75.0 (23.9)	- .6 (- .3)	4.84 (123)	1.69 (43)
Panhandle				
March	37.1 (2.8)	3.3 (1.8)	.23 (6)	- .64 (- 16)
April	46.9 (8.3)	.8 (.4)	1.93 (49)	.24 (6)
May	54.5 (12.5)	-1.6 (- .9)	5.00 (127)	1.82 (46)
June	66.1 (18.9)	.7 (.4)	1.56 (40)	-2.00 (- 51)
July	72.2 (22.3)	- .8 (- .4)	3.69 (94)	1.32 (34)

From Climatoligical Data, Nebraska

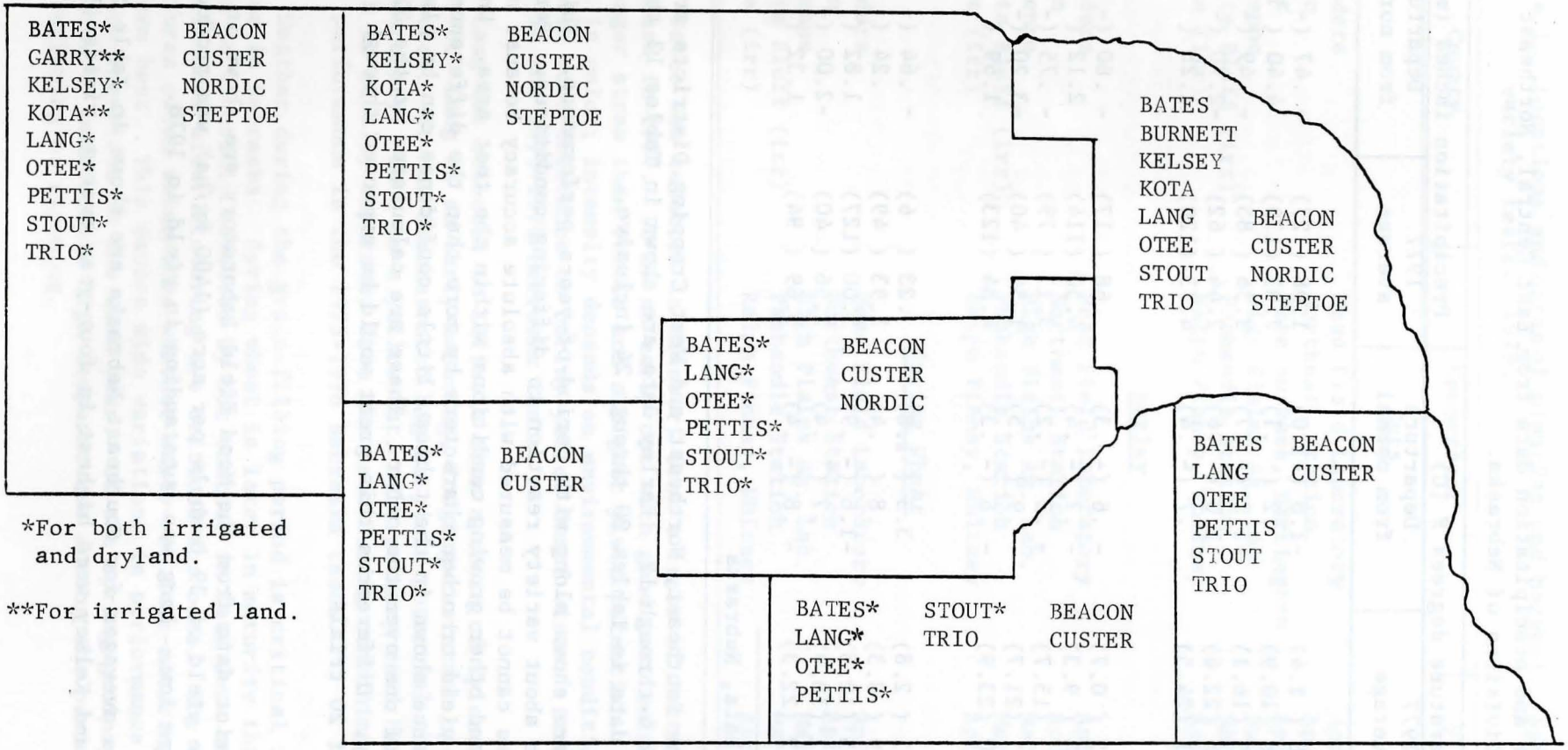
Oat data for the Southeast, Northeast and West Cropping Districts are summarized in Tables 4 through 12. Barley data are shown in Tables 13 through 19 and apring wheat data in Tables 20 through 24 inclusive.

The 1978 data are shown along with period-of-years performance. This provides information about variety reaction to differing conditions. Performance of varieties cannot be measured with absolute accuracy because of variations in soil and other growing 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 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 4. An average yield of 39 bushels per acre (1400 kg/ha) was produced and test weights were low. Lang was outstanding in yield in 1978.

Period-of-years averages for Southeast Nebraska are shown in Table 5. Bates, Lang, Stout and Kelsey were highest in four-year average yields (1975-1978).



*For both irrigated and dryland.

**For irrigated land.

SUGGESTED OAT AND BARLEY VARIETIES FOR NEBRASKA

1979

Table 3. Characteristics of oat varieties in recent Nebraska tests.

Variety	Relative			
	Maturity	Straw strength	Bushel weight	Height
Allen	Early	Strong	High	Short
Bates	Early	Strong	High	Short
Burnett	Medium	Strong	Medium	Medium
Colorado 37	Late	Weak	Medium	Tall
Dal	Late	Strong	High	Medium
Garry	Late	Strong	Medium	Tall
Kelsey	Medium	Medium	Medium	Tall
Kherson	Late	Weak	Low	Medium
Kota	Medium	Medium	High	Tall
Lang	Early	Strong	High	Short
Lodi	Late	Medium	Medium	Tall
Lyon	Medium	Strong	Medium	Tall
Otee	Early	Strong	High	Short
Pettis	Early	Medium	High	Medium
Russell	Late	Medium	Medium	Tall
Spear	Med-early	Medium	Medium	Medium
Stout	Early	Strong	High	Short
Trio	Early	Medium	Medium	Medium
Wright	Medium	Strong	High	Tall

Two trials were harvested in the Northeast District (Tables 6 and 7). Relatively good yields were produced in Dixon County but test weights were low. The Cedar County trial was planted later on a lower fertility soil. Test weights were low. Lang and Stout produced the highest 1978-average yields. Late-maturing varieties such as Dal, Kherson and Russell were lowest in yield.

Five-year yield data from Northeast Nebraska are shown in Table 8. Lang made an outstanding record during the 1975-1978 period. Stout, Bates, and Wright had good four-year average yield records.

Oat yields in the West District nonirrigated trial were the lowest since 1973 (Table 9). Early growth was good but heat and lack of moisture resulted in low yields and test weights. Lang, Stout and Spear had the highest 1978 yields. Later-maturing varieties were lowest in yield.

Six-year yield data for the West District are shown in Table 10. Lang and Allen had the highest four-year average yields. Many varieties had equivalent yield records.

Two irrigated trials were conducted in the West District (Table 11). Yields in Scotts Bluff County were good but not outstanding. The Dawes County plot was not planted until April 20. Yields and bushel weights were much lower than in Scotts Bluff County. Performance of varieties in the two trials was not in close agreement. In the average of two tests, many varieties had equivalent 1978 yield records.

West District irrigated oat variety trials for the 1973-1978 period are summarized in Table 12. Kelsey, Garry, Russell and Colorado 37 had the highest four-year average yields. Earlier-maturing varieties were not competitive in yield under these test conditions.

Barley

Barley varieties were planted adjacent to oats. Relative production of oats and barley on a grain weight per unit area was as follows:

Location	Barley % of Oats			
	1975	1976	1977	1978
Saunders	78	86	147	102
Dixon	112	76	85	117
Cheyenne	113	77	114	91
Box Butte-Sheridan	149	94	---	---
Scotts Bluff (irr.)	156	128	99	89
Box Butte	---	---	108	---
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 seasonal environmental conditions.

Data for Southeast and Northeast District barley variety trials in 1978 are summarized in Tables 13 and 14. Period-of-years yields for these areas are shown in Tables 15 and 16. Varietal differences were non-significant in 1973-1978 trials. Custer has consistently yielded as well as any other variety.

Barley yields were low in Cheyenne County (Table 17). Steptoe and Custer had the highest six-year average yields in these nonirrigated trials.

Irrigated barley trials in the West District were located in Scotts Bluff and Dawes Counties. The Dawes plot was planted later and lower yields were obtained. Steptoe and Klages yielded well in both trials but other varieties were inconsistent in performance. The 1972-1978 yield data for West irrigated barley variety tests are shown in Table 19.

Spring Wheat

Spring wheat variety trials included a number of privately developed varieties. No attempt was made to test all varieties available. Three spring triticale strains were included to provide information about the performance of this crop. Yield information is given in pounds per acre (kg/ha) to simplify comparisons of crops with different test weights.

Spring wheat data for 1978 along with data from previous tests are shown in Tables 20 through 24. Average yields of spring wheats included in each 1978 test were as follows: Saunders 953 (1068), Dixon 1848 (2072), Cheyenne 1253 (1405), Scotts Bluff irrigated 2786 (3123), and Dawes irrigated 1089 (1221) pounds per acre (kg/ha).

Table 4. Southeast District oat variety test. 1978.

Variety	Saunders County			
	Flower June	Height in (cm)	Yield bu/A (kg/ha)	Weight lbs/bu (kg/hl)
Allen	14	33 (84)	49 (1760)	32.5 (41.8)
Bates	16	31 (79)	43 (1540)	31.0 (39.9)
Burnett	18	36 (91)	43 (1540)	30.1 (38.7)
Dal	22	32 (81)	31 (1110)	26.0 (33.5)
Garry	22	37 (94)	29 (1040)	23.0 (29.6)
Kelsey	18	35 (89)	47 (1690)	30.4 (39.1)
Kherson	18	35 (89)	29 (1040)	27.9 (35.9)
Kota	18	34 (86)	37 (1330)	30.1 (38.7)
Lang	16	33 (84)	61 (2190)	31.0 (39.9)
Lodi	22	37 (94)	33 (1180)	26.5 (34.1)
Lyon	18	37 (94)	40 (1430)	27.8 (35.8)
Otee	17	34 (86)	41 (1470)	30.3 (39.0)
Pettis	13	37 (94)	14 (500)	32.0 (41.2)
Russell	20	33 (84)	40 (1430)	27.4 (35.3)
Spear	17	35 (89)	44 (1580)	31.5 (40.5)
Stout	16	30 (76)	43 (1540)	29.2 (37.6)
Trio	16	33 (84)	42 (1510)	28.7 (36.9)
Wright	18	35 (89)	42 (1510)	31.6 (40.7)
Exp. 0-5	19	34 (86)	32 (1150)	30.0 (38.6)
Lancer	16	34 (86)	44 (1580)	31.5 (40.5)
Dif. req. sig.	1.2	1.9 (4.8)	10.9 (391)	---- ----

Table 5. Southeast District oat variety tests. 1973-1978.

Variety	Grain yield bu/A (kg/ha)							Weight lbs/bu (kg/hl)
	1973	1974	1975	1976	1977	1978	1975-78 average	1975-78 average
Bates	-- ----	-- ----	70 (2510)	89 (3190)	48 (1720)	43 (1540)	63 (2260)	33.4 (43.0)
Lang	-- ----	-- ----	44 (1580)	83 (2980)	49 (1760)	61 (2190)	59 (2120)	30.4 (39.1)
Stout	61 (2190)	58 (2080)	62 (2220)	79 (2830)	44 (1580)	43 (1540)	57 (2040)	30.8 (39.6)
Kelsey	69 (2480)	73 (2620)	71 (2550)	55 (1970)	51 (1830)	47 (1690)	56 (2010)	30.5 (39.3)
Burnett	59 (2120)	68 (2440)	63 (2260)	71 (2550)	43 (1540)	43 (1540)	55 (1970)	31.0 (39.9)
Wright	-- ----	-- ----	60 (2150)	74 (2650)	34 (1220)	42 (1510)	53 (1900)	32.5 (41.8)
Otee	56 (2010)	73 (2620)	53 (1900)	75 (2690)	44 (1580)	41 (1470)	53 (1900)	31.7 (40.8)
Russell	63 (2260)	59 (2120)	66 (2370)	60 (2150)	45 (1610)	40 (1430)	53 (1900)	30.3 (39.0)
Allen	-- ----	-- ----	49 (1760)	68 (2440)	36 (1290)	49 (1760)	51 (1830)	31.3 (40.3)
Trio	56 (2010)	64 (2300)	55 (1970)	52 (1870)	46 (1560)	42 (1510)	49 (1760)	31.6 (40.7)
Kota	66 (2480)	72 (2580)	64 (2300)	51 (1830)	39 (1400)	37 (1330)	48 (1720)	31.5 (40.5)
Lodi	58 (2080)	53 (1900)	70 (2510)	37 (1330)	39 (1400)	33 (1180)	45 (1610)	32.0 (41.2)
Kherson	56 (2010)	58 (2080)	57 (2050)	56 (2010)	38 (1360)	29 (1040)	45 (1610)	28.0 (36.0)
Garry	61 (2190)	52 (1870)	64 (2300)	48 (1720)	33 (1180)	29 (1040)	44 (1580)	27.7 (35.6)
Pettis	45 (1610)	63 (2260)	51 (1830)	61 (2190)	25 (900)	14 (500)	38 (1360)	28.9 (37.2)
Spear	-- ----	65 (2330)	61 (2190)	-- ----	38 (1360)	44 (1580)	-- ----	---- ----
Lyon	-- ----	-- ----	-- ----	40 (1440)	43 (1540)	40 (1430)	-- ----	---- ----
Dal	-- ----	-- ----	-- ----	-- ----	43 (1540)	31 (1110)	-- ----	---- ----
Exp. 0-5	-- ----	-- ----	-- ----	-- ----	36 (1290)	32 (1150)	-- ----	---- ----
Lancer	-- ----	-- ----	-- ----	-- ----	-- ----	44 (1580)	-- ----	---- ----
Dif. sig.	10.8 (387)	9.8 (352)	11.3 (405)	14.9 (534)	11.6 (416)	10.9 (391)	13.5 (484)	N.S.

Tests on Mead Field Laboratory, Saunders County.

Table 6. Northeast District oat variety test. 1978.

Variety	Dixon County					
	Flower June	Height in (cm)	Lodging %	Yield bu/A (kg/ha)	Weight lbs/bu (kg/hl)	Protein %
Allen	15	27 (69)	2	66 (2370)	30.9 (39.8)	15.3
Bates	15	27 (69)	2	72 (2580)	30.7 (39.5)	16.0
Burnett	16	29 (74)	9	50 (1790)	26.6 (34.2)	15.5
Dal	24	31 (79)	7	42 (1510)	24.3 (31.3)	17.1
Kelsey	19	32 (81)	6	56 (2010)	28.0 (36.0)	13.5
Kherson	20	30 (76)	18	32 (1150)	21.2 (27.3)	15.8
Kota	19	34 (86)	6	58 (2080)	28.8 (37.1)	15.4
Lang	14	30 (76)	2	73 (2620)	27.4 (35.3)	14.9
Lyon	19	32 (81)	6	52 (1870)	25.7 (33.1)	16.5
Otee	16	30 (76)	3	61 (2190)	29.4 (37.8)	17.8
Pettis	14	28 (71)	3	65 (2330)	31.4 (40.4)	15.6
Russell	21	32 (81)	6	50 (1790)	23.6 (30.4)	15.1
Spear	16	30 (76)	4	60 (2150)	29.6 (38.1)	17.2
Stout	15	27 (69)	2	70 (2510)	26.5 (34.1)	15.6
Trio	15	30 (76)	4	59 (2120)	27.4 (35.3)	14.7
Wright	19	34 (86)	5	60 (2150)	30.6 (39.4)	16.9
Exp. 0-5	20	33 (84)	5	60 (2150)	28.0 (36.0)	16.2
Lancer	17	30 (76)	4	65 (2330)	29.5 (38.0)	17.8
Dif. req. sig.	1.2	2.2 (5.6)	2.1	5.6 (201)	---- ----	1.5

Protein on 12% moisture basis.

Table 7. Northeast District oat variety test. 1978.

Variety	Cedar County				
	Height in (cm)	Lodging %	Yield bu/A (cwt/bu)	Weight lbs/bu (kg/hl)	Protein %
Allen	26 (66)	3	44 (1580)	31.0 (39.9)	17.2
Bates	24 (61)	2	41 (1470)	27.0 (34.7)	17.2
Burnett	29 (74)	4	46 (1650)	25.0 (32.2)	18.5
Dal	27 (69)	3	34 (1220)	23.0 (29.6)	18.8
Kelsey	29 (74)	4	39 (1400)	24.0 (30.9)	16.1
Kherson	26 (66)	5	29 (1040)	21.5 (27.7)	18.7
Kota	29 (74)	4	43 (1540)	26.5 (34.1)	17.8
Lang	26 (66)	1	51 (1830)	26.6 (34.2)	17.6
Lyon	31 (79)	3	40 (1430)	24.7 (31.9)	18.4
Otee	27 (69)	2	44 (1580)	30.0 (38.6)	19.4
Pettis	28 (71)	3	46 (1650)	31.5 (40.5)	17.9
Russell	29 (74)	3	33 (1180)	22.5 (29.0)	16.4
Spear	27 (69)	2	45 (1610)	29.1 (37.5)	18.9
Stout	25 (64)	2	49 (1760)	26.7 (34.4)	18.1
Trio	29 (74)	3	43 (1540)	27.3 (35.1)	17.5
Wright	31 (79)	3	41 (1470)	29.5 (38.0)	19.3
Exp. 0-5	29 (74)	4	43 (1540)	24.5 (31.5)	18.6
Lancer	28 (71)	T	45 (1610)	28.0 (36.0)	19.5
Dif. sig.	2.0 (5.1)	1.8	5.7 (204)	---- ----	1.1

Protein on 12% moisture basis.

Table 8. Northeast District oat variety tests. 1974-1978.

Variety	Grain yield bu/A (kg/ha)						Weight lbs/bu (kg/hl)	
	1974	1975	1976	1977	1978	1975-78 average	1978	1975-78 average
Lang	-- ----	69 (2480)	39 (1400)	84 (3010)	62 (2220)	63 (2260)	27.0 (34.7)	28.2 (36.3)
Stout	75 (2690)	50 (2150)	31 (1110)	73 (2620)	60 (2150)	56 (2010)	26.6 (34.2)	29.0 (37.3)
Bates	-- ----	64 (2300)	28 (1000)	73 (2620)	56 (2010)	55 (1970)	28.9 (37.2)	30.6 (39.4)
Wright	-- ----	60 (2150)	29 (1040)	75 (2690)	51 (1830)	54 (1940)	30.1 (38.7)	32.3 (41.6)
Otee	72 (2580)	57 (2050)	25 (900)	70 (2510)	53 (1900)	51 (1830)	29.7 (38.2)	29.8 (38.4)
Allen	-- ----	56 (2010)	29 (1040)	62 (2220)	55 (1970)	51 (1830)	31.0 (39.9)	31.5 (40.5)
Kelsey	77 (2760)	54 (1940)	20 (720)	77 (2760)	48 (1720)	50 (1790)	26.0 (33.5)	29.0 (37.3)
Burnett	73 (2620)	62 (2220)	25 (900)	65 (2330)	48 (1720)	50 (1790)	25.8 (33.2)	27.6 (35.5)
Pettis	77 (2760)	58 (2080)	25 (900)	51 (1830)	56 (2010)	48 (1720)	31.5 (40.5)	31.4 (40.4)
Kota	74 (2650)	61 (2190)	20 (720)	61 (2190)	51 (1830)	48 (1720)	27.7 (35.6)	29.5 (38.0)
Trio	71 (2550)	53 (1900)	23 (830)	61 (2190)	51 (1830)	47 (1690)	27.4 (35.3)	28.5 (36.7)
Russell	72 (2580)	57 (2050)	17 (610)	66 (2370)	42 (1510)	46 (1650)	23.1 (29.7)	27.1 (34.9)
Kherson	69 (2480)	52 (1870)	11 (400)	58 (2080)	31 (1110)	38 (1360)	21.4 (27.5)	24.5 (31.5)
Lyon	-- ----	-- ----	24 (860)	72 (2580)	46 (1650)	-- ----	25.2 (32.4)	---- ----
Exp. 0-5	-- ----	-- ----	-- ----	65 (2330)	52 (1870)	-- ----	26.3 (33.8)	---- ----
Spear	72 (2580)	57 (2040)	-- ----	62 (2220)	53 (1900)	-- ----	29.4 (37.8)	---- ----
Dal	-- ----	-- ----	-- ----	61 (2190)	38 (1360)	-- ----	23.7 (30.5)	---- ----
Lancer	-- ----	-- ----	-- ----	-- ----	55 (1970)	-- ----	28.8 (37.1)	---- ----
Dif. sig.	N.S.	N.S.	6.0 (215)	N.S.	9.9 (355)	6.9 (248)	2.1 (2.7)	2.0 (2.6)

Location of tests (counties): 1974-1978 Dixon and Cedar.

Table 9. West District nonirrigated oat variety test. 1978

Variety	Cheyenne County				
	Flower June	Height in (cm)	Lodging %	Yield bu/A (kg/ha)	Weight lbs/bu (kg/hl)
Allen	22	35 (89)	23	48 (1720)	29.5 (38.0)
Bates	19	32 (81)	20	42 (1500)	28.0 (36.0)
Burnett	22	37 (94)	48	33 (1180)	24.5 (31.5)
Dal	29	31 (79)	13	30 (1070)	27.5 (35.4)
Garry	26	37 (94)	28	31 (1110)	27.0 (34.7)
Kelsey	25	36 (91)	60	29 (1040)	25.0 (32.2)
Kherson	24	35 (89)	35	25 (900)	23.5 (30.2)
Kota	24	37 (94)	30	39 (1400)	26.5 (34.1)
Lang	20	34 (86)	13	59 (2110)	26.0 (33.5)
Lodi	29	37 (94)	10	28 (1000)	25.0 (32.2)
Lyon	25	39 (99)	20	42 (1500)	25.5 (32.8)
Otee	23	34 (86)	13	43 (1540)	27.5 (35.4)
Pettis	20	35 (89)	88	31 (1110)	27.5 (35.4)
Russell	25	35 (89)	35	38 (1360)	26.0 (33.5)
Spear	22	36 (91)	25	49 (1760)	28.5 (36.7)
Stout	20	31 (79)	25	51 (1830)	27.5 (35.4)
Trio	20	35 (89)	43	39 (1400)	29.5 (38.0)
Wright	24	38 (97)	18	46 (1650)	30.0 (38.6)
Exp. 0-5	24	35 (89)	48	39 (1400)	26.0 (33.5)
Lancer	23	34 (86)	63	29 (1040)	26.5 (34.1)
Dif. sig.	1.5	1.5 (4)	28	18.6 (667)	2.4 (3.1)

Table 10. West District nonirrigated oat variety tests. 1973-1978.

Variety	Grain yield bu/A (kg/ha)							Weight lbs/bu (kg/hl)
	1973	1974	1975	1976	1977	1978	1975-78 average	1975-78 average
Lang	-- ----	-- ----	75 (2690)	53 (1900)	75 (2690)	59 (2120)	66 (2370)	30.4 (39.1)
Allen	-- ----	-- ----	62 (2220)	38 (1360)	63 (2260)	48 (1720)	62 (2220)	32.8 (42.2)
Wright	-- ----	-- ----	66 (2370)	49 (1760)	70 (2510)	46 (1650)	58 (2080)	33.8 (43.5)
Stout	27 (970)	56 (2010)	58 (2080)	52 (1870)	69 (2480)	51 (1830)	58 (2080)	31.8 (40.9)
Bates	-- ----	-- ----	64 (2300)	48 (1720)	74 (2650)	42 (1510)	57 (2040)	32.7 (42.1)
Russell	30 (1080)	54 (1940)	66 (2370)	36 (1290)	88 (3160)	38 (1360)	57 (2040)	31.3 (40.3)
Spear	-- ----	58 (2080)	60 (2150)	41 (1470)	69 (2480)	49 (1760)	55 (1970)	32.3 (41.6)
Kelsey	25 (900)	59 (2120)	66 (2370)	42 (1510)	80 (2870)	29 (1040)	54 (1940)	31.1 (40.0)
Pettis	26 (930)	58 (2080)	64 (2300)	49 (1760)	68 (2440)	31 (1110)	53 (1900)	33.4 (43.0)
Kota	23 (830)	56 (2010)	58 (2080)	46 (1650)	69 (2480)	39 (1400)	53 (1900)	32.5 (41.8)
Burnett	25 (900)	62 (2220)	60 (2150)	50 (1790)	70 (2510)	33 (1180)	53 (1900)	30.7 (39.5)
Trio	23 (830)	51 (1830)	58 (2080)	41 (1470)	62 (2220)	39 (1400)	50 (1790)	32.5 (41.8)
Otee	22 (790)	54 (1940)	58 (2080)	37 (1330)	63 (2260)	43 (1540)	50 (1790)	31.9 (41.1)
Kherson	21 (750)	53 (1900)	57 (2050)	43 (1540)	63 (2260)	25 (900)	47 (1690)	28.6 (36.8)
Lyon	-- ----	-- ----	-- ----	35 (1260)	78 (2800)	42 (1510)	-- ----	---- ----
Exp. 0-5	-- ----	-- ----	-- ----	-- ----	79 (2830)	39 (1400)	-- ----	---- ----
Lodi	-- ----	-- ----	-- ----	-- ----	80 (2870)	28 (1000)	-- ----	---- ----
Garry	-- ----	-- ----	-- ----	-- ----	76 (2730)	31 (1110)	-- ----	---- ----
Dal	-- ----	-- ----	-- ----	-- ----	74 (2650)	30 (1080)	-- ----	---- ----
Lancer	-- ----	-- ----	-- ----	-- ----	-- ----	29 (1040)	-- ----	---- ----
Dif. sig.	N.S.	N.S.	N.S.	15.5 (556)	9.0 (323)	18.6 (667)	9.0 (323)	1.6 (2.1)

Location of tests (counties): 1973-1975 Cheyenne and Box Butte; 1976 Cheyenne and Sheridan; 1977-1978 Cheyenne.

Table 11. West District irrigated oat variety tests. 1978

Variety	Scotts Bluff County				Dawes County		1978 average	
	Flower June	Height in (cm)	Yield bu/A (kg/ha)	Weight lbs/bu (kg/hl)	Yield bu/A (kg/ha)	Weight lbs/bu (kg/hl)	Yield bu/A (kg/ha)	Weight lbs/bu (kg/hl)
Allen	16	33 (84)	64 (2300)	34.7 (44.7)	39 (1400)	32.8 (42.2)	52 (1870)	33.8 (43.5)
Bates	16	31 (79)	77 (2760)	34.3 (44.1)	52 (1870)	32.5 (41.8)	65 (2330)	33.4 (43.0)
Colorado 37	24	38 (97)	89 (3190)	34.6 (44.5)	50 (1790)	31.8 (40.9)	70 (2510)	33.2 (42.7)
Burnett	16	37 (94)	72 (2580)	33.8 (43.5)	48 (1720)	31.8 (40.9)	60 (2150)	32.8 (42.2)
Dal	22	33 (84)	69 (2480)	33.6 (43.2)	60 (2150)	31.5 (40.5)	65 (2330)	32.6 (42.0)
Garry	22	37 (94)	77 (2760)	32.4 (41.7)	64 (2300)	30.5 (39.2)	71 (2550)	31.5 (40.5)
Kelsey	20	37 (94)	79 (2830)	33.3 (42.9)	62 (2220)	32.0 (41.2)	71 (2550)	32.7 (42.1)
Kherson	20	35 (90)	57 (2040)	29.7 (38.2)	55 (1970)	28.0 (36.0)	56 (2010)	28.9 (37.2)
Kota	19	34 (86)	55 (1970)	35.5 (45.7)	49 (1760)	32.8 (42.2)	52 (1870)	34.2 (44.0)
Lang	14	28 (71)	71 (2550)	31.4 (40.4)	54 (1940)	30.3 (39.0)	63 (2260)	30.9 (39.8)
Lodi	24	37 (94)	78 (2800)	31.2 (40.2)	52 (1870)	28.5 (36.7)	65 (2330)	29.9 (38.5)
Lyon	20	37 (94)	72 (2580)	33.0 (42.5)	40 (1430)	27.8 (35.8)	56 (2010)	30.4 (39.1)
Otee	18	32 (81)	61 (2190)	34.4 (44.3)	47 (1690)	31.5 (40.5)	54 (1940)	33.0 (42.5)
Pettis	14	36 (91)	58 (2080)	36.4 (46.8)	34 (1220)	33.8 (43.5)	46 (1650)	35.1 (45.2)
Russell	22	37 (94)	88 (3160)	32.9 (42.3)	48 (1720)	31.3 (40.3)	68 (2440)	32.1 (41.3)
Spear	18	34 (86)	76 (2730)	34.1 (43.9)	42 (1510)	31.3 (40.3)	59 (2120)	32.7 (42.1)
Stout	16	28 (71)	58 (2080)	32.4 (41.7)	37 (1330)	31.8 (40.9)	48 (1720)	32.1 (41.3)
Trio	15	37 (94)	59 (2120)	34.5 (44.4)	47 (1690)	32.0 (41.2)	53 (1900)	33.3 (42.9)
Wright	19	37 (94)	69 (2480)	35.9 (46.2)	45 (1610)	33.8 (43.5)	57 (2040)	34.9 (44.9)
Exp. 0-5	21	37 (94)	73 (2620)	33.8 (43.5)	55 (1970)	31.3 (40.3)	64 (2330)	32.6 (42.0)
Lancer	20	32 (81)	68 (2440)	33.3 (42.9)	42 (1510)	31.5 (40.5)	55 (1970)	32.4 (41.7)
Dif. req. sig.	0.9	3 (7.6)	11.3 (405)	1.9 (2.4)	13.0 (466)	1.6 (2.1)	14.9 (534)	1.3 (1.7)

Table 12. West District irrigated oat variety tests. 1973-1978.

Variety	Grain yield bu/A (kg/ha)							Weight lbs/bu (kg/hl)
	1973	1974	1975	1976	1977	1978	1975-78 average	1975-78 average
Kelsey	99 (3550)	99 (3550)	95 (3410)	104 (3730)	106 (3800)	71 (2550)	94 (3370)	32.9 (42.3)
Garry	92 (3300)	90 (3300)	80 (2870)	99 (3550)	122 (4380)	71 (2550)	93 (3340)	30.7 (39.5)
Russell	96 (3440)	90 (3230)	85 (3050)	100 (3590)	114 (4090)	68 (2440)	92 (3300)	31.9 (41.1)
Colorado 37	107 (3840)	82 (2940)	81 (2910)	108 (3870)	102 (3660)	70 (2510)	90 (3230)	32.2 (41.4)
Lodi	120 (4300)	81 (2910)	82 (2940)	93 (3340)	109 (3910)	65 (2330)	87 (3120)	31.0 (39.9)
Burnett	92 (3300)	85 (3050)	80 (2870)	97 (3480)	102 (3660)	60 (2150)	85 (3050)	32.9 (42.3)
Bates	-- ----	-- ----	77 (2760)	91 (3260)	104 (2730)	65 (2330)	84 (3010)	32.7 (42.1)
Kherson	92 (3300)	86 (3090)	84 (3010)	98 (3520)	98 (3520)	56 (2010)	84 (3010)	29.8 (38.4)
Kota	80 (2870)	92 (3300)	70 (2510)	101 (3620)	104 (3730)	52 (1870)	82 (2940)	33.8 (43.5)
Wright	-- ----	-- ----	81 (2910)	93 (3340)	89 (3190)	57 (2040)	80 (2870)	33.6 (43.2)
Lang	-- ----	-- ----	71 (2550)	76 (2730)	105 (3770)	63 (2260)	79 (2830)	30.6 (39.4)
Trio	90 (3230)	77 (2760)	63 (2260)	89 (3190)	97 (3480)	53 (1900)	76 (2730)	33.4 (43.0)
Stout	68 (2440)	65 (2330)	72 (2580)	93 (3340)	89 (3190)	48 (1720)	76 (2730)	32.6 (42.0)
Otee	66 (2370)	68 (2440)	64 (2300)	87 (3120)	90 (3230)	54 (1940)	74 (2650)	33.0 (42.5)
Pettis	71 (2550)	84 (3010)	62 (2220)	83 (2980)	94 (3380)	46 (1650)	71 (2550)	34.5 (44.4)
Allen	-- ----	-- ----	57 (2040)	87 (3120)	80 (2870)	52 (1870)	69 (2480)	32.4 (41.7)
Spear	-- ----	83 (2980)	78 (2800)	-- ----	91 (3260)	59 (2120)	-- ----	---- ----
Lyon	-- ----	-- ----	-- ----	98 (3520)	113 (4050)	56 (2010)	-- ----	---- ----
Dal	-- ----	-- ----	-- ----	--- ----	102 (3660)	65 (2330)	-- ----	---- ----
Exp. 0-5	-- ----	-- ----	-- ----	--- ----	98 (3520)	64 (2300)	-- ----	---- ----
Lancer	-- ----	-- ----	-- ----	--- ----	--- ----	55 (1970)	-- ----	---- ----
Dif. req. sig.	16.6 (595)	11.7 (420)	9.5 (341)	N.S.	N.S.	13 (466)	7.9 (283)	1.8 (2.3)

Location of tests (counties): 1973-1976 Scotts Bluff County; 1977 Scotts Bluff and Box Butte; 1978 Scotts Bluff and Dawes.

Table 13. Southeast District barley variety test. 1978.

Variety	Saunders County				
	Flower June	Height in (cm)	Lodging score 1/	Yield bu/A (kg/ha)	Weight lbs/bu (kg/hl)
Beacon	14	34 (86)	5	32 (1720)	47.1 (60.6)
Custer	13	35 (89)	7	38 (2040)	45.4 (58.4)
Lud	16	30 (76)	1	36 (1940)	45.4 (58.4)
Manker	15	32 (81)	7	26 (1400)	45.0 (57.9)
Morex	14	32 (81)	5	38 (2040)	47.0 (60.5)
Nordic	16	33 (84)	5	28 (1510)	46.1 (59.3)
Steptoe	15	32 (81)	8	33 (1780)	42.7 (55.0)
Exp. B-8	16	30 (76)	2	22 (1180)	47.5 (61.0)
Bowers	15	32 (81)	5	42 (2260)	45.6 (58.7)
Dif. req. sig.	2.1	2.3 (6)	1.5	8.8 (474)	---- ----

1/ Scored 0-9: 0 = erect, 9 = flat.

Table 14. Northeast District barley variety test. 1978.

Variety	Dixon County				
	Flower June	Height in (cm)	Lodging %	Yield bu/A (kg/ha)	Weight lbs/bu (kg/hl)
Beacon	17	28 (71)	7	42 (2260)	46.5 (59.8)
Custer	15	28 (71)	7	56 (3010)	47.8 (61.5)
Lud	20	24 (61)	5	40 (2150)	48.3 (62.2)
Manker	16	27 (69)	9	41 (2210)	47.8 (61.5)
Morex	17	28 (71)	8	48 (2580)	47.5 (61.1)
Nordic	18	28 (71)	9	44 (2370)	46.6 (60.0)
Steptoe	17	24 (61)	7	48 (2580)	42.7 (55.0)
Exp. B-8	20	26 (66)	7	38 (2040)	49.8 (64.1)
Bowers	17	26 (66)	7	52 (2800)	46.7 (60.1)
Dif. sig.	1.0	1.9 (4.8)	1.9	4.7 (253)	---- ----

Table 15. Southeast District barley variety tests. 1970-1978.

Variety	Acre grain yield bu/A (kg/ha)										Weight lbs/bu (kg/hl)
	1970	1971	1972	1973	1974	1975	1976	1977	1978	1973-78 average	1973-78 average
Custer	30 (1610)	41 (2210)	35 (1880)	42 (2260)	26 (1400)	29 (1560)	46 (2480)	43 (2310)	38 (2040)	37 (1990)	46.9 (60.4)
Nordic	-- ----	39 (2100)	35 (1880)	48 (2580)	19 (1020)	44 (2370)	27 (1450)	48 (2580)	28 (1510)	36 (1940)	48.4 (62.3)
Steptoe	-- ----	-- ----	-- ----	50 (2690)	17 (920)	23 (1240)	49 (2640)	40 (2150)	33 (1780)	35 (1880)	44.2 (56.9)
Primus II	26 (1400)	40 (2150)	35 (1880)	37 (1990)	26 (1400)	25 (1350)	33 (1780)	41 (2210)	-- ----	-- ----	---- ----
Beacon	-- ----	37 (1990)	30 (1610)	32 (1720)	25 (1350)	26 (1400)	30 (1610)	40 (2150)	32 (1720)	31 (1670)	46.6 (60.0)
Manker	-- ----	-- ----	-- ----	-- ----	-- ----	34 (1830)	27 (1450)	31 (1670)	26 (1400)	-- ----	---- ----
Summitt	-- ----	-- ----	-- ----	-- ----	-- ----	-- ----	-- ----	46 (2480)	-- ----	-- ----	---- ----
Bowers	-- ----	-- ----	-- ----	-- ----	-- ----	-- ----	-- ----	46 (2480)	42 (2260)	-- ----	---- ----
Morex	-- ----	-- ----	-- ----	-- ----	-- ----	-- ----	-- ----	44 (2370)	38 (2040)	-- ----	---- ----
Lud	-- ----	-- ----	-- ----	-- ----	-- ----	-- ----	-- ----	42 (2260)	36 (1940)	-- ----	---- ----
Exp. B-8	-- ----	-- ----	-- ----	-- ----	-- ----	-- ----	-- ----	33 (1780)	22 (1180)	-- ----	---- ----
Klages	-- ----	-- ----	-- ----	-- ----	-- ----	-- ----	-- ----	24 (1290)	-- ----	-- ----	---- ----
Dif. sig.	7.8 (420)	N.S.	4.4 (237)	8.6 (463)	5.9 (317)	6.1 (328)	9.9 (533)	9.5 (511)	8.8 (474)	N.S.	1.6 (2.1)

Location of tests (counties): 1970 Saunders; 1971 Lancaster and Saunders; 1972-1978 Saunders.

Table 16. Northeast District barley variety tests. 1970-1978.

Variety	Acre grain yield bu/A (kg/ha)										Weight lbs/bu (kg/hl)
	1970	1971	1972	1973	1974	1975	1976	1977	1978	1973-78 average	1973-78 average
Custer	37 (1990)	31 (1670)	54 (2910)	79 (4250)	69 (3710)	49 (2640)	16 (860)	50 (2690)	56 (3010)	53 (2850)	44.7 (57.5)
Primus II	21 (1130)	48 (2580)	53 (2850)	70 (3770)	60 (3230)	59 (3180)	12 (650)	42 (2260)	-- ----	-- ----	---- ----
Steptoe	-- ----	-- ----	-- ----	84 (4520)	56 (3010)	44 (2370)	10 (540)	52 (2800)	48 (2580)	49 (2640)	41.8 (53.8)
Nordic	-- ----	40 (2150)	47 (2530)	69 (3710)	62 (3340)	52 (2800)	11 (590)	42 (2260)	44 (2370)	47 (2530)	46.1 (59.3)
Beacon	-- ----	38 (2050)	48 (2580)	71 (3820)	60 (3230)	58 (3120)	13 (700)	39 (2100)	42 (2260)	47 (2530)	44.4 (57.1)
Manker	-- ----	-- ----	-- ----	-- ----	-- ----	57 (3070)	13 (700)	29 (1560)	41 (2210)	-- ----	---- ----
Bowers	-- ----	-- ----	-- ----	-- ----	-- ----	-- ----	-- ----	53 (2850)	52 (2800)	-- --	---- ----
Morex	-- ----	-- ----	-- ----	-- ----	-- ----	-- ----	-- ----	50 (2690)	48 (2580)	-- ----	- -- ----
Exp. B-8	-- ----	-- ----	-- ----	-- ----	-- ----	-- ----	-- ----	53 (2850)	38 (2040)	-- ----	---- ----
Lud	-- ----	-- ----	-- ----	-- ----	-- ----	-- ----	-- ----	47 (2530)	40 (2150)	-- ----	---- ----
Klages	-- ----	-- ----	-- ----	-- ----	-- ----	-- ----	-- ----	25 ((1350)	-- ----	-- ----	---- ----
Dif. req. sig.	5.7 (307)	7.6 (409)	5.8 (312)	6.0 (323)	9.1 (490)	8.0 (430)	N.S.	8.2 (441)	4.7 (253)	N.S.	2.1 (2.)

Location of tests (counties): 1970-1978 Dixon.

Table 17. West District nonirrigated barley variety tests. 1973-1978.

Variety	Grain yield, bu/A (kg/ha)							1978			
	1973	1974	1975	1976	1977	1978	1973-78 average	Flower June	Height in (cm)	Lodging of	Weight lbs/bu (kg/hl)
Steptoe	26	32	60	32	78	25	42	20	32	28	31.5
	(1400)	(1720)	(3230)	(1720)	(4200)	(1350)	(2260)		(81)	--	(40.5)
Custer	26	28	51	29	58	28	37	18	35	35	34.0
	(1400)	(1510)	(2740)	(1560)	(3120)	(1510)	(1990)		(89)	--	(43.8)
Primus II	23	35	54	22	51	--	--	--	---	--	----
	(1240)	(1880)	(2900)	(1180)	(2740)	--	--		--	--	----
Nordic	20	29	56	22	50	13	32	21	35	58	32.0
	(1080)	(1560)	(3010)	(1180)	(2690)	(700)	(1720)		(89)	--	(41.2)
Beacon	20	26	52	20	45	16	30	20	33	43	33.0
	(1080)	(1400)	(2800)	(1080)	(2420)	(860)	(1610)		(84)	--	(42.5)
Manker	--	--	46	25	39	18	--	18	32	55	36.0
	----	----	(2480)	(1350)	(2100)	(970)	----		(81)	--	(46.3)
Lud	--	--	--	--	68	21	--	26	27	8	34.5
	----	----	----	----	(3660)	(1130)	----		(69)	--	(44.4)
Bowers	--	--	--	--	58	19	--	20	32	48	33.0
	----	----	----	----	(3120)	(1020)	----		(81)	--	(42.5)
Kombar	--	--	--	--	54	23	--	24	24	3	29.0
	----	----	----	----	(2900)	(1240)	----		(61)	--	(37.3)
Exp. B-8	--	--	--	--	52	25	--	23	31	8	39.0
	----	----	----	----	(2800)	(1350)	----		(79)	--	(50.2)
Kombyne	--	--	--	--	52	29	--	18	23	3	31.0
	----	----	----	----	(2800)	(1560)	----		(58)	--	(39.9)
Klages	--	--	--	--	48	--	--	--	--	--	----
	----	----	----	----	(2580)	----	----		--	--	----
Morex	--	--	--	--	46	16	--	20	32	83	35.0
	----	----	----	----	(2480)	(860)	----		(81)	--	(45.0)
Dif. sig.	N.S.	N.S.	N.S.	5.1	10.5	5.5	6.6	1.1	2.5	22	1.6
				(274)	(865)	(296)	(355)		(6.4)		(2.1)

Location of tests (counties): 1973-1975 Cheyenne and Box Butte; 1976 Cheyenne and Sheridan; 1977-1978 Cheyenne.

Table 18. West District irrigated barley variety tests.

Variety	Scotts Bluff County				Dawes County		1978 average	
	Flower June	Height in (cm)	Yield bu/A (kg/ha)	Weight lbs/bu (kg/hl)	Yield bu/A (kg/ha)	Weight lbs/bu (kg/hl)	Yield bu/A (kg/ha)	Weight lbs/bu (kg/hl)
Beacon	13	39 (99)	44 (2370)	45.8 (58.9)	28 (1510)	38.8 (49.9)	36 (1940)	42.3 (54.4)
Custer	12	37 (94)	38 (2040)	44.5 (57.3)	29 (1560)	41.3 (53.2)	34 (1830)	42.9 (55.2)
Klages	21	33 (84)	46 (2480)	47.3 (60.9)	35 (1880)	42.5 (54.7)	41 (2210)	44.9 (57.8)
Kombar	20	25 (64)	42 (2260)	39.0 (50.2)	20 (1080)	36.0 (46.3)	31 (1670)	37.5 (48.3)
Kombyne	12	21 (53)	54 (2910)	43.0 (55.3)	27 (1450)	39.5 (50.0)	41 (2210)	41.3 (53.2)
Lud	18	30 (76)	46 (2480)	47.3 (60.9)	24 (1290)	42.3 (54.4)	35 (1880)	44.8 (57.7)
Manker	13	33 (84)	36 (1940)	45.5 (58.6)	22 (1180)	42.0 (54.1)	29 (1560)	43.8 (56.4)
Morex	14	37 (94)	28 (1510)	46.5 (59.8)	26 (1400)	39.5 (50.8)	27 (1450)	43.0 (55.3)
Nordic	14	38 (97)	35 (1880)	45.5 (58.6)	32 (1720)	40.8 (52.5)	34 (1830)	43.2 (55.6)
Steptoe	14	32 (81)	52 (2800)	45.3 (58.3)	37 (1990)	40.8 (52.5)	45 (2420)	43.1 (55.5)
Exp. B-8	16	32 (81)	33 (1780)	49.8 (64.1)	27 (1450)	45.0 (57.9)	30 (1610)	47.4 (61.0)
Bowers	14	35 (89)	45 (2420)	46.5 (59.8)	29 (1560)	43.0 (55.3)	37 (1990)	44.8 (57.7)
Dif. req. sig.	0.7	2.2 (5.6)	11.6 (624)	3.1	12.0 (646)	1.9 (2.4)	N.S.	2.1 (2.7)

Table 19. West District irrigated barley variety tests. 1972-1978.

Variety	Grain yield bu/A (kg/ha)								Weight lbs/bu (kg/hl)
	1972	1973	1974	1975	1976	1977	1978	1973-78 average	1973-78 average
Steptoe	---	56 (3010)	60 (3230)	85 (4570)	83 (4470)	84 (4520)	45 (2420)	69 (3710)	43.4 (55.9)
Nordic	59 (3170)	56 (3010)	57 (3070)	81 (4360)	91 (4900)	64 (3440)	34 (1830)	64 (3440)	43.7 (56.2)
Custer	56 (3010)	50 (2690)	68 (3660)	52 (2800)	87 (4680)	67 (3600)	34 (1830)	60 (3230)	43.5 (56.0)
Beacon	61 (3280)	47 (2530)	46 (2480)	79 (4250)	63 (3390)	72 (3870)	36 (1940)	57 (3070)	43.3 (55.7)
Primus II	50 (2690)	44 (2370)	50 (2690)	80 (4300)	58 (3120)	63 (3390)	-- ----	-- ----	-- -----
Manker	--	--	--	78 (4200)	85 (4570)	61 (3280)	29 (1560)	-- ----	-- ----
Lud	--	--	--	--	90 (4840)	83 (4470)	35 (1880)	--	--
Bowers	--	--	--	--	--	78 (4200)	37 (1990)	--	-
Kombyne	--	--	--	--	--	72 (3880)	41 (2210)	--	--
Klages	--	--	--	--	--	64 (3440)	41 (2210)	--	--
Exp. B-8	--	--	--	--	--	66 (3550)	30 (1610)	--	--
Morex	--	--	--	--	--	66 (3550)	27 (1450)	--	--
Kombar	--	--	--	--	--	62 (3340)	31 (1670)	--	--
Dif. req. sig.	--	--	--	17.1 (920)	17.0 (915)	N.S.	N.S.	N.S.	N.S.

Location of tests (counties): 1972 Scotts Bluff and Box Butte; 1973-76 Scotts Bluff; 1977 Scotts Bluff and Box Butte; 1978 Scotts Bluff and Dawes.

Table 20. Southeast District spring wheat--triticale variety tests. 1974-1978.

Variety	Grain yield, lbs/A (kg/ha)					1978		
	1974	1975	1976	1977	1978	Flower June	Height in (cm)	Weight lbs/bu (kg/hl)
Spring Wheat								
Angus	--- ----	---- ----	---- -----	---- -----	690 (770)	21	27 (69)	50.0 (64.4)
Bounty 309	--- ----	1380 (1550)	780 (870)	1860 (2090)	840 (940)	17	27 (69)	52.5 (67.6)
Butte	--- ----	---- ----	--- ---	1860 (2090)	1280 (1430)	15	32 (81)	54.0 (69.5)
Eureka	--- ----	---- ----	--- ---	---- ----	1020 (1140)	19	32 (81)	48.0 (61.8)
Fielder (white)	--- ----	---- ----	--- ---	1560 (1750)	930 (1040)	17	28 (71)	45.5 (58.6)
Jupatico 73	--- ----	---- ----	--- ----	---- ----	800 (900)	15	26 (66)	53.0 (68.2)
Kitt	--- ----	---- ----	--- ----	1680 (1880)	880 (990)	21	26 (66)	48.0 (61.8)
Marquis	420 (470)	960 (1080)	540 (610)	1020 (1140)	330 (370)	23	34 (86)	48.0 (61.8)
Olaf	900 (1010)	1260 (1410)	1260 (1410)	1680 (1880)	950 (1060)	20	29 (74)	52.0 (66.9)
Prodax	--- ----	1560 (1750)	840 (940)	1440 (1610)	830 (930)	18	26 (66)	48.0 (61.8)
Rugby (durum)	--- ----	---- ----	---- ----	2280 (2560)	1350 (1510)	19	34 (86)	51.1 (65.8)
Waldron	840 (940)	1500 (1680)	1440 (1610)	1560 (1750)	1160 (1300)	19	32 (81)	48.0 (61.8)
Exp. SW-7	--- ----	---- ----	---- ----	---- ----	1230 (1380)	16	31 (79)	53.0 (68.2)
Exp. SW-8	--- ---	---- ----	---- ----	---- ----	900 (1010)	17	27 (69)	52.0 (66.9)
Triticale								
Bacum	--- ---	---- ----	---- ----	---- ----	980 (1100)	15	32 (81)	40.8 (52.5)
FasGrow 419	--- ---	---- ----	---- ----	380 (430)	410 (460)	22	39 (99)	35.0 (45.0)
Rahum	--- ---	---- ----	---- ----	---- ----	1290 (1450)	15	33 (85)	37.6 (48.4)
Dif. req. sig.	144 (161)	186 (209)	564 (632)	312 (350)	316 (354)	1.5	2.7 (6.9)	--- ----

Tests on Mead Field Laboratory Saunders County.

Table 21. Northeast District spring wheat triticale variety tests. 1975-1978.

Variety	1975		1976		1977		1978				
	Yield lbs/A (kg/ha)	Weight lbs/bu (kg/hl)	Yield lbs/A kg/ha)	Weight lbs/bu (kg/hl)	Yield lbs/A (kg/ha)	Weight lbs/bu (kg/hl)	Flower June	Ht. in (cm)	Lodging %	Yield lbs/A (kg/ha)	Weight lbs/bu (kg/hl)
Spring wheat											
Bounty 309	1620 (1820)	51.8 (66.7)	840 (940)	56.0 (72.1)	2460 (2760)	54.5 (70.1)	18	23 (58)	5	1040 (1170)	52.3 (67.3)
Butte	----	----	----	----	1980 (2220)	56.7 73.0	18	28 (71)	5	1090 (1220)	55.5 (71.4)
Fielder (white)	----	----	----	----	1860 (2090)	56.8 (73.1)	20	24 (61)	6	740 (830)	48.0 (61.8)
Jupatico 73	----	----	----	----	----	----	18	21 (53)	4	1210 (1360)	53.4) (68.7)
Kitt	----	----	----	----	2040 (2290)	55.2 (71.0)	23	24 (60)	5	900 (1010)	51.8 (66.7)
Marquis	540 (610)	52.0 (66.9)	480 (540)	59.0 (75.9)	1140 (1280)	59.6 (76.7)	26	29 (74)	6	540 (610)	53.0 (68.2)
Olaf	1380 (1550)	51.3 (66.0)	960 (1080)	58.0 (74.6)	2340 (2620)	55.8 (71.8)	22	24 (61)	4	980 (1100)	54.0 (69.5)
Prodax	----	----	720 (810)	55.0 (70.8)	1980 (2220)	53.7 (69.1)	19	24 (61)	6	930 (1040)	49.9 (64.2)
Rugby (durum)	----	----	---	----	1860 (2090)	59.8 (77.0)	20	28 (71)	6	1170 (1310)	54.5 (70.1)
Waldron	1620 (1820)	52.2 (67.2)	900 (1010)	54.0 (69.5)	2160 (2420)	52.4 (67.4)	--	--	-	----	----
Triticale											
Bacum	----	----	----	----	----	----	17	25 (64)	5	1000 (1120)	44.5 (57.3)
FasGro 419	----	----	----	----	1560 (1750)	44.2 (56.9)	27	30 (76)	16	530 (590)	42.5 (54.7)
Rahum	----	----	----	----	----	----	17	27 (69)	5	1070 (1200)	43.0 (55.3)
Dif. req. sig.	----	----	19.8 (222)	----	288 (323)	----	1.6	2.3 (5.8)	1.6	127 (142)	----

Tests on Northeast Station. Dixon County.

Table 22. West District nonirrigated spring wheat-triticale variety tests. 1973-1978.

Variety	Grain yield lbs/A (kg/ha)						1978		
	1973	1974	1975	1976	1977	1978	Flower June	Height in(cm)	Weight lbs/bu(kg/hl)
Spring wheat									
Bounty 309	----	----	2400 (2690)	1860 (2090)	2040 (2290)	1510 (1690)	25	28 (71)	47.0 (60.5)
Butte	----	----	----	----	2160 (2420)	1330 (1490)	25	35 (89)	47.0 (60.5)
Fielder (white)	----	----	----	2240 (2290)	2340 (2620)	1280 (1430)	25	28 (71)	45.0 (57.9)
Jupatico 73	----	----	----	----	----	1390 (1560)	21	29 (74)	50.0 (64.4)
Kitt	----	----	----	----	2040 (2290)	1210 (1360)	26	28 (71)	45.5 (58.6)
Marquis	600 (670)	1080 (1210)	1620 (1820)	960 (1080)	1260 (1410)	940 (1050)	29	35 (89)	52.5 (67.6)
Olaf	840 (1940)	1320 (1480)	2460 (2760)	1620 (1820)	2220 (2490)	1260 (1410)	25	30 (76)	48.0 (61.8)
Prodax	----	----	2340 (2620)	1800 (2020)	1980 (2220)	1240 (1390)	25	28 (71)	45.5 (58.6)
Waldron	960 (1080)	1440 (1610)	2220 (2490)	1620 (1820)	1800 (2020)	----	--	--	----
Triticale									
Bacum	----	----	----	----	----	1260 (1410)	18	34 (86)	43.0 (55.3)
FasGro 419	----	----	----	----	1620 (1820)	770 (860)	25	40 (102)	42.0 (54.1)
Rahum	----	----	----	----	----	1300 (1460)	19	35 (89)	41.5 (53.4)
Dif. req. sig.	N.S.	N.S.	222 (249)	270 (303)	234 (262)	359 (402)	0.7	1.9 (4.8)	1.8 (2.3)

Location of tests (counties): 1973-1974 Cheyenne and Box Butte; 1975-1978 Cheyenne.

Table 23. West District irrigated spring wheat-triticale tests. 1978.

Variety	Scotts Bluff County				Dawes County		1978 average	
	Flower June	Height in (cm)	Yield lbs/A (kg/ha)	Weight lbs/bu (kg/hl)	Yield lbs/A (kg/ha)	Weight lbs/bu (kg/hl)	Yield lbs/A (kg/ha)	Weight lbs/bu (kg/hl)
Spring wheat								
Bounty 309	17	30 (76)	2770 (3110)	58.0 (74.6)	1290 (1450)	52.8 (67.9)	2030 (2280)	55.4 (71.3)
Butte	15	39 (99)	2810 (3150)	59.0 (75.9)	1300 (1460)	56.0 (72.1)	2060 (2310)	57.5 (74.0)
Fielder (white)	19	33 (84)	3450 (3870)	56.3 (72.5)	1090 (1220)	50.0 (64.4)	2270 (2540)	53.2 (68.5)
Jupatico 73	15	30 (76)	2920 (3270)	56.3 (72.5)	1150 (1290)	53.5 (68.9)	2040 (2290)	54.9 (70.7)
Kitt	18	31 (79)	2750 (3080)	55.3 (71.2)	870 (980)	49.5 (63.7)	1810 (2030)	52.4 (67.4)
Marquis	21	43 (109)	2090 (2340)	57.8 (74.4)	660 (740)	50.0 (64.4)	1380 (1550)	53.9 (69.4)
Olaf	17	31 (79)	2580 (2890)	57.0 (73.4)	1180 (1320)	55.0 (70.8)	1880 (2110)	56.0 (72.1)
Prodax	17	29 (74)	3050 (3420)	56.0 (72.1)	1230 (1380)	51.8 (66.7)	2140 (2400)	53.9 (69.4)
Triticale								
Bacum	14	35 (89)	3420 (3830)	47.5 (61.1)	960 (1080)	46.0 (59.2)	2190 (2450)	46.8 (60.2)
FasGro 419	19	51 (130)	2650 (2970)	45.8 (58.9)	1170 (1310)	39.5 (50.8)	1910 (2140)	42.7 (55.0)
Rahum	14	33 (84)	2650 (2970)	44.0 (56.6)	1070 (1200)	45.0 (57.9)	1860 (2090)	44.5 (57.2)
Dif. req. sig.	1.1	2.8 (7.1)	649 (728)	1.0 (1.3)	364 (408)	1.4 (1.8)	N.S.	4.1 (5.3)

Table 24. West District irrigated spring wheat-triticale tests. 1974-1978.

Variety	1974		1975		1976		1977		1978	
	Yield lbs/A (kg/ha)	Weight lbs/bu (kg/hl)	Yield lbs/A (kg/ha)	Weight lbs/bu (kg/hl)	Yield lbs/A (kg/ha)	Weight lbs/bu (kg/hl)	Yield lbs/A (kg/ha)	Weight lbs/bu (kg/hl)	Yield lbs/A (kg/ha)	Weight lbs/bu (kg/hl)
Spring wheat:										
Bounty 309	----	----	2880 (3230)	60.5) (77.9)	2580 (2890)	56.5 (72.7)	3600 (4040)	56.2 (72.3)	2030 (2280)	55.4 (71.3)
Butte	----	----	----	----	----	----	2940 (3300)	57.3 (73.7)	2055 (2300)	57.5 (74.0)
Fielder (white)	----	----	----	----	3060 (3430)	55.8 (71.8)	3420 (3830)	56.2 (72.3)	2270 (2540)	53.2 (68.5)
Jupatico 73	----	----	----	----	----	----	----	----	2035 (2280)	54.9 (70.7)
Kitt	----	----	----	----	----	----	3360 (3370)	55.1 (70.9)	1810 (2030)	52.4 (67.4)
Marquis	1740 (1950)	54.0 (69.5)	2160 (2420)	57.5 (74.0)	2220 (2490)	56.5 (72.7)	2340 (2620)	56.3 (72.5)	1375 (1540)	53.9 (69.4)
Olaf	1860 (2090)	53.8 (69.2)	2820 (3160)	59.2 (76.2)	2760 (3090)	57.0 (73.4)	3540 (3970)	56.6 (72.8)	1880 (2110)	56.0 (72.1)
Prodax	----	----	3180 (3560)	59.2 (76.2)	2880 (3230)	57.3 (73.7)	3840 (4300)	55.8 (71.8)	2140 (2400)	53.9 (69.4)
Waldron	1920 (2150)	53.9 (69.4)	2520 (2820)	56.3 (72.5)	2580 (2890)	56.5 (72.7)	2700 (3030)	55.9 (71.9)	----	----
Triticale										
Bacum	----	----	----	----	----	----	----	----	2190 (2450)	46.8 (60.2)
FasGro 419	----	----	----	----	----	----	2700 (3030)	43.1 (55.5)	1910 (2140)	42.7 (55.0)
Rahum	----	----	----	----	----	----	----	----	1860 (2090)	44.5 (57.3)
Dif. req. sig.	510 (572)	1.5 (1.9)	N.S.	3.4 (4.4)	168 (188)	N.S.	N.S.	3.5. (4.5)	N.S.	4.1 (5.3)

Location of tests (counties): 1974 Banner; 1975, Scotts Bluff and Box Butte; 1976, Scotts Bluff and Morrill; 1977 Scotts Bluff and Box Butte; 1978 Scotts Bluff and Dawes.

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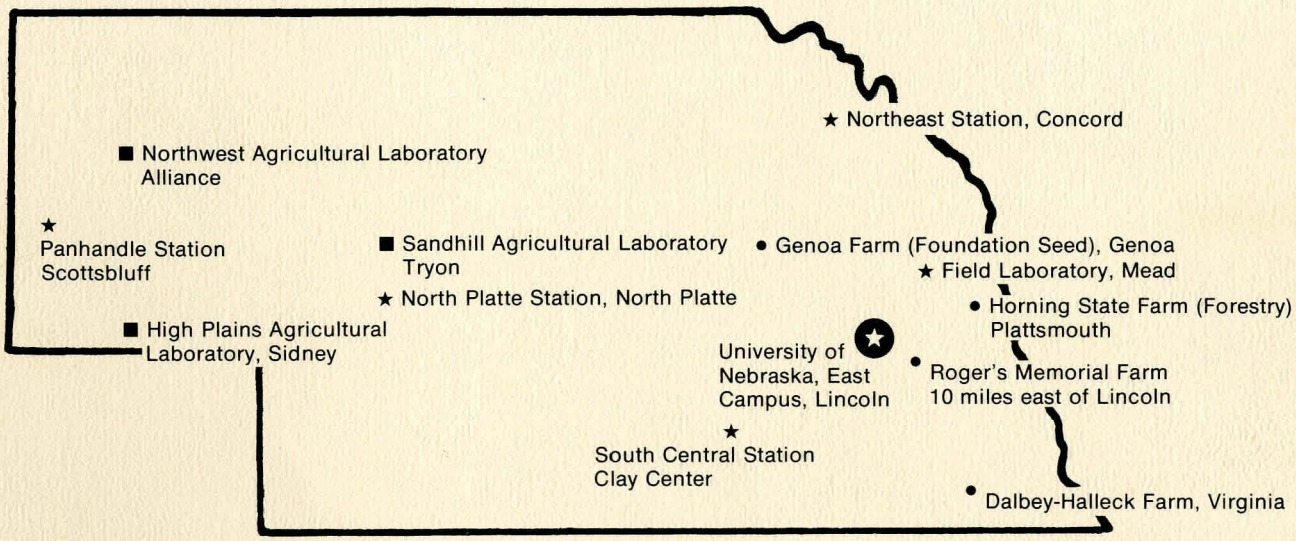

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