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EC92-102-A Nebraska Spring Wheat, Oats, Barley, Canola and Crambe Variety Tests 1992

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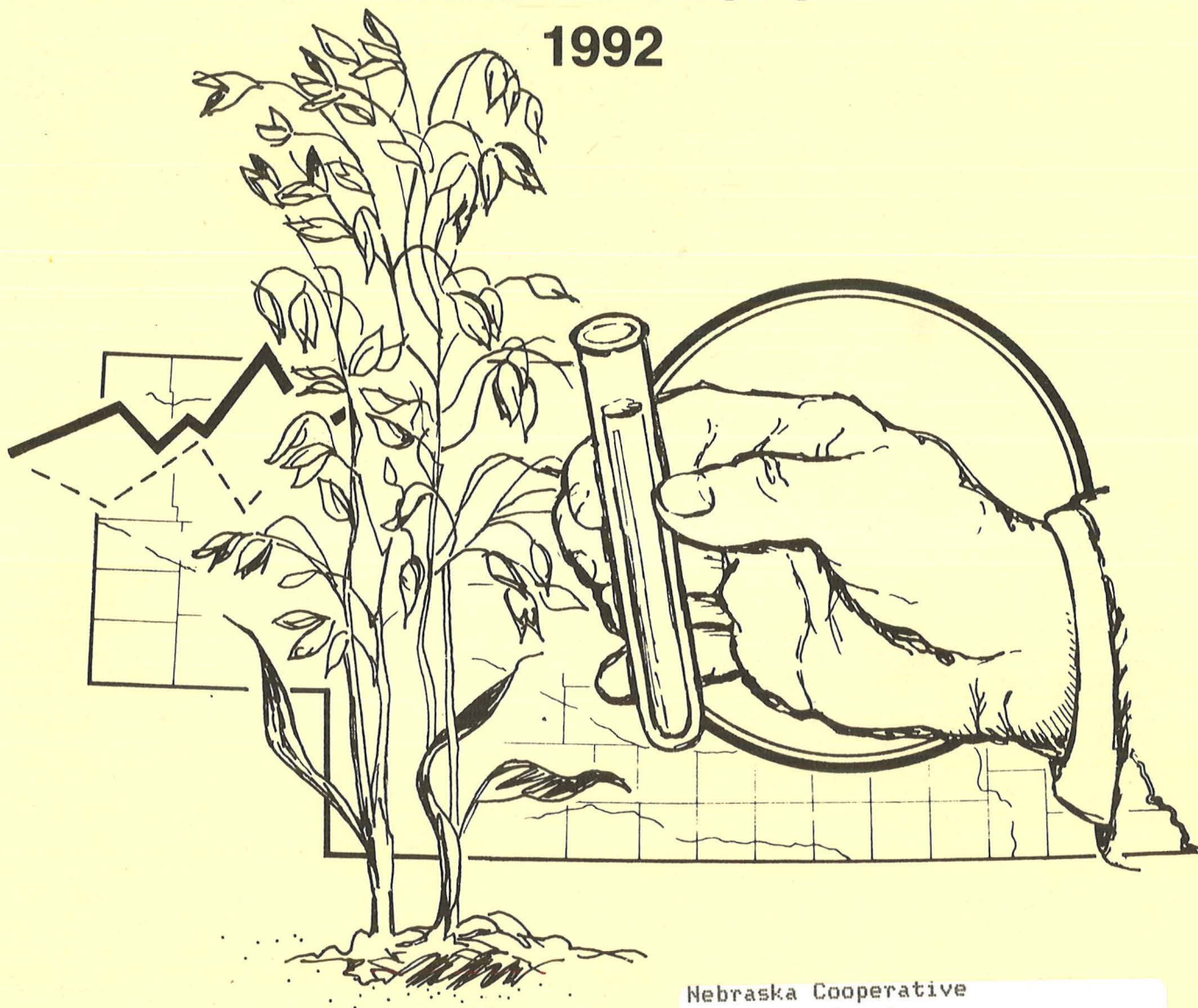
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NEBRASKA SPRING WHEAT, OATS, BARLEY, CANOLA AND CRAMBE VARIETY TESTS

1992



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EXTENSION CIRCULAR 92-102

NEBRASKA SPRING WHEAT, OATS, BARLEY CANOLA, AND CRAMBE VARIETY TESTS

October 1992

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METRIC EQUIVALENTS

1 centimeter = 0.394 inches	cm = inches x 2.54
1 hectare = 2.471 acres	ha = acres x 0.045
1 kilogram = 2.205 pounds	kg = pounds x 0.454
1 hectoliter = 2.838 bushels	hl = bushels x 0.352

Kilogram/hectoliter = lb/bu x 1.287
 Kilogram/hectare = bu/A x 35.87 (32#bushel) oats
 Kilogram/hectare = bu/A x 53.81 (48#bushel) barley
 Kilogram/hectare = bu/A x 67.26 (60#bushel) wheat

EXTENSION CIRCULAR 92-102

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NEBRASKA OATS AND BARLEY PRODUCTION

Year	Oats		Barley	
	Harv. acres 000	Yield bu/A	Harv. acres 000	Yield bu/A
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
1960	1,213	35.5	225	29.0
1970	573	42.0	45	36.0
1980	380	41.0	25	38.0
1985	420	61.0	120	32.0
1986	360	59.0	135	40.0
1987	360	48.0	75	36.0
1988	300	37.0	60	34.0
1989	310	31.0	30	23.0
1990	280	48.0	22	40.0
1991	210	54.0	27	45.0
1992 ¹	220	70.0	30	50.0

¹ 1992 data are preliminary. Comparable data for spring wheat are not available. Data furnished by Nebraska Agricultural Statistics Service.

NEBRASKA SPRING WHEAT, OATS, BARLEY CANOLA, AND CRAMBE VARIETY TESTS 1992 LOCATIONS

Favorable weather in the spring of 1991 allowed for normal planting of spring grain throughout the state. Most of the state got adequate rains after planting to keep the crop going. Temperatures were cooler than normal for much of the spring and rainfall was normal or above normal. Locations and dates of planting and harvest for spring small grain variety trials are shown in Table B. Soil types for harvested locations were as follows: Saunders - Sharpsburg silty clay loam; Dixon - Nora silty clay loam; Cheyenne - Keith silt loam. The Nora silt loam in Dixon County was eroded. Temperature and rainfall deviations from the 30 year average are shown at the end of this booklet.

The Saunders County location summary for spring barley, spring wheat, and spring oat variety trials is listed in Tables 2, 6, and 10. Three new spring oat varieties were tested in 1992. 'Armor' was released by Ohio Foundation Seeds, Inc, 'Troy' was released by South Dakota Foundation Seed Stock Division, and 'Prairie' was released by the University of Wisconsin Agronomy Department. Four experimental spring oat lines were also tested.

Moist conditions in April allowed good establishment of wheat and oat crops. Spring barley establishment was poor. Chinch bug infestations were again seen in spring barley and spring wheat plots. Four replications of each

trial were planted and harvested. Heading date is listed as days after June 1, 1992. Harvest was delayed by summer rains. One and two year analysis was conducted on data. LSD (Least Significant Difference) was calculated for $\alpha = 4\%$. No test weights were calculated.

The Dixon County location included oats, barley, and wheat. Moisture was good at planting and conditions were favorable throughout the spring for good spring grain yields. Some Barley Yellow Dwarf was again present and lowered yields of oats.

The plots in Lancaster County were located on the Agronomy Farm at 84th and Havlock and consisted of crambe and canola. Yields of both were above expected levels. The canola was harvested while it was quite green because of shattering problems.

Plots of canola and crambe were planted on demonstration land furnished by the First National Bank at West Point in Cuming County. A crop of volunteer canola invaded the crambe plots and made them unusable. Thus only the canola yields are reported. The spring canola yields were better than expected based on previous years experience.

Cheyenne County test plots located at the High Plains Ag Lab consisted of oats, barley, spring wheat, crambe and canola. The spring was well suited to spring grain production because of cooler

than average temperatures and higher than average rainfall. The good conditions are demonstrated by oat yields of over 100 bushels per acre.

Panhandle irrigated plots were grown under a lateral move irrigation system at the High Plains

Ag Lab near Sidney. They consisted of oats, barley, spring wheat, rapeseed, canola, and crambe. Since this plot was irrigated, the lack of rainfall was not detrimental to yield, but warm temperatures held yields from reaching their potential.

SUGGESTED VARIETIES AND NEW RELEASES

Suggested oat and barley varieties for Nebraska are shown on the map (page 6). Characteristics of oat varieties included in recent Nebraska statewide tests are shown in Table A. Recent releases of oat, barley, and spring wheat include the following:

NEWDAK oat was released in 1990 jointly by North Dakota and New York. It's pedigree is RL3038 /'Goodland' //'Ogle'. It has good rust resistance and tolerance to barley yellow dwarf virus.

DANE oat is a yellow grained variety with good agronomic performance potential and high milling yield. Grain yields are comparable to Don and Ogle. Grain has above average test weight and percent of groat protein. It is an early to medium maturing variety with very good straw strength. Dane is resistant to smut, moderately resistant to barley yellow dwarf virus, stem rust, and crown rust. Dane was developed by the Wisconsin Ag Experiment Station.

PREMIER oat is a moderately short, mid-season maturing yellow oat variety. Yield tests show Premier to be competitive with Hazel and Starter. Grain is very plump with high test weight and high milling yield. Premier is similar to Ogle and Hazel for heading date and plant

height. Straw strength is very good. It has moderate resistance to smut, crown rust, stem rust and barley yellow dwarf virus. Premier was developed by the Minnesota Ag Experiment Station.

SETTLER oat is a midseason variety with improved resistance to crown rust and more tolerance to barley yellow dwarf virus. It has white colored kernels with medium-high groat protein, high test weight, and good milling yield. It is a medium height variety with good straw strength, and good yield potential. It was developed by the South Dakota Ag Experiment Station.

STARK barley is a two-rowed feed barley released in 1991 by North Dakota State University. It is slightly later and taller than Bowman with better yield potential and disease resistance. It has had good yield record under dryland conditions of North and South Dakota.

SHARP hard red spring wheat is an early maturing, conventional height variety which is most comparable to Butte 86 in agronomic characteristics, milling and baking properties, yield, and adaptation. It is moderately resistant to leaf rust and resistant to stem rust. Sharp was developed by the South Dakota Agricultural Experiment Station and released in 1991.

1992

CROPS**Oats**

Results from Dixon County are shown in Table 1. Yields had a wide range with early maturing varieties having the highest yields. Results of 1988-1992 oat tests in this area are shown also in Table 1.

The results from the Saunders County test are shown in Table 2. These plots were quite dry and the heat was above normal most of the summer. The results of 1988-1992 oat tests are shown also in Table 2.

The irrigated oat trial in Scotts Bluff County had lower yields than previous years and had much variability. Results from Scotts Bluff County are shown in Table 3. Irrigated oat variety data for the 1988-1992 period are shown also in Table 3.

A dryland oat test was conducted in Cheyenne County. Yields were very good because of the above average rainfall amounts and cooler than average temperatures. Yields from that test are shown in Table 4. The 1988 - 1992 data for West dryland oats is shown also in Table 4.

Barley

Five spring barley varieties were tested in the eastern tests and six in the western tests. One of these varieties, Stark, is a new entry. Barley yield and other data are shown in Tables 5 through 8.

Spring Wheat

Spring wheat data are shown in Tables 9 and 12. Nine varieties were tested in 1992 and the spring

triticales were dropped from the test. Amidon is a recent release from North Dakota tested for the third time. Sharp is a new variety released by North Dakota in 1990. The newest entry in the spring wheat test is Klassic, a white wheat.

Spring Rape/Canola

Twelve canola varieties were planted in four replicated trials in Cheyenne County, Cuming County, and Lancaster County. Cheyenne County had dryland and irrigated sites. The stands were poor in the Cheyenne County irrigated trials due to crusting of the field in an attempt to aid germination. The Lancaster County site had 23 lb.s of ammonium nitrate applied to the field in addition to 12 lb.s of residual nitrogen. The Cuming County site had 50 lb.s of residual nitrogen and 98 lb.s of nitrogen applied as anhydrous ammonia. Cheyenne County irrigated had 50 lb.s of nitrogen applied as preplant and 8 lb.s nitrogen and 28 lb.s of phosphorus applied at planting. Cheyenne County dryland had 8 lb.s nitrogen and 28 lb.s of phosphorus applied at planting. Planting depth at all locations was a 0.5 inch. Treflan rates were one pint at the Cheyenne County locations and 2 pints at Cuming County. False Chinch bugs were seen in the Cuming County and Lancaster County fields. It is believed that they appear to late in the season to be a major problem in the eastern tests.

The 1992 eastern locations had yields higher than those in 1991. Cool wet weather and the higher rates of nitrogen at Cuming County helped create a situation that on

the average resulted in taller, later, and higher yielding plants. Canola yields are reported in Tables 13 through 17.

Crambe

Twelve lines and one variety were planted in four replicated sites in Cheyenne County, Cuming County, and Lancaster County. Cheyenne County had dryland and irrigated sites. Cool and wet weather created high yielding conditions at the three dryland sites. Crusting problems created

germination problems that resulted in reduced stands. Nitrogen and herbicide application rates were the same as in the canola trials.

The Cuming County trial showed the same agronomic trends as the rapeseed/canola trials due the weather and nitrogen levels. The crambe yields were lower than those in 1991, but the 1992 yields were on the higher end of the yield spectrum. 1992 crambe yields are reported in Table 18 - 22, and the two-, three-, four-, and five-year average yields are reported in Table 23.

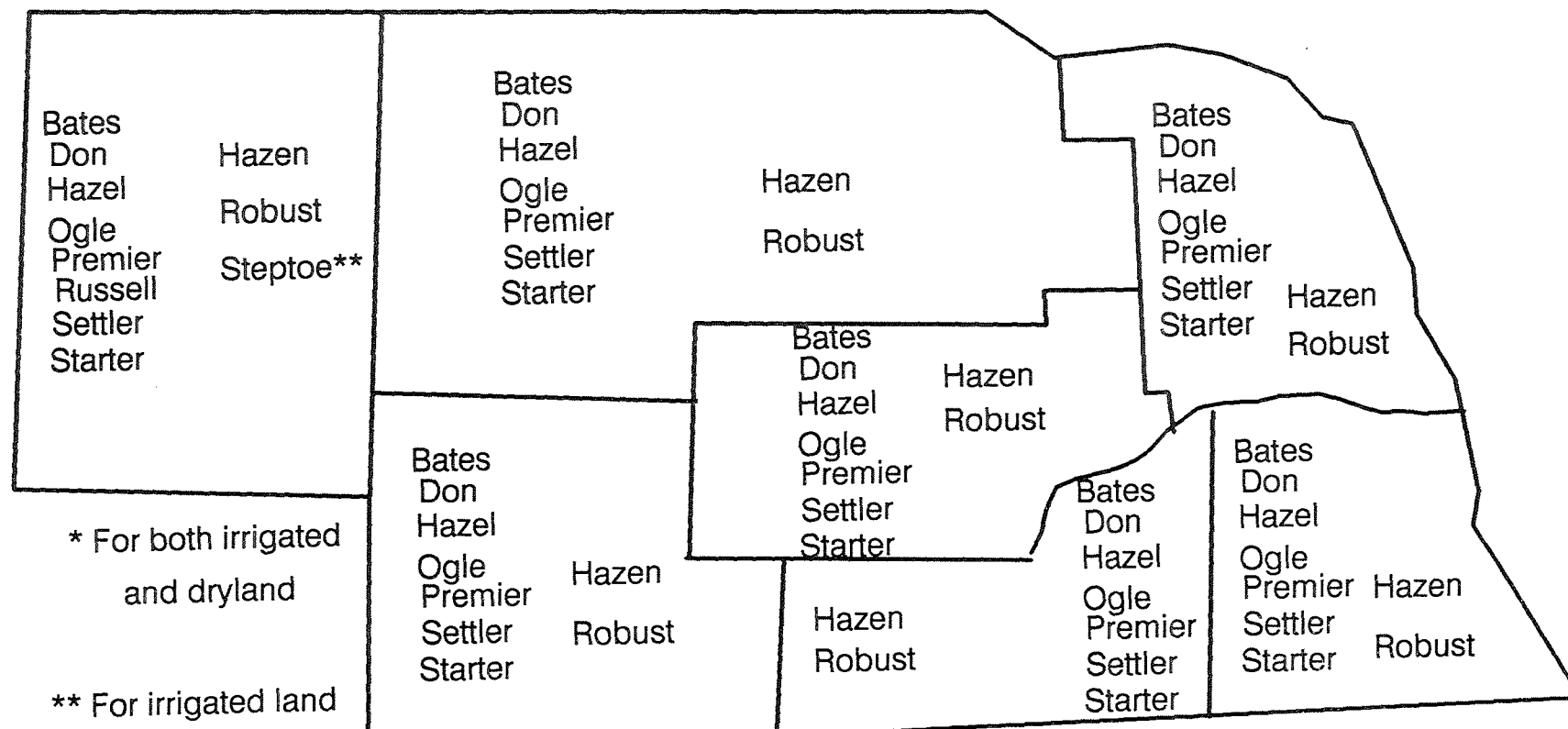
Table A. Characteristics of oat varieties in Nebraska tests.

Variety	Origin	Year released	Maturity	Plant height	Straw strength	Grain color
Armor	Ohio	1992	Medium	Short	Strong	White
Bates	Missouri	1975	Early	Short	Strong	Dark
Burnett	Iowa	1957	Medium	Medium	Medium	Ivory
Dane	Wisconsin	1990	Medium	Medium	Strong	Yellow
Don	Illinois	1985	Early	Short	Strong	White
Hazel	Illinois	1985	Early	Short	Strong	Ivory
Horicon	Wisconsin	1989	Medium	Tall	Strong	Tan
Hytest	South Dakota	1986	Medium	Tall	Medium	Lt. Cream
Newdak	North Dakota	1990	Medium	Medium	Medium	White
Ogle	Illinois	1981	Medium	Short	Strong	Yellow
Prairie	Wisconsin	1991	Medium	Short	Strong	Tan
Premier	Minnesota	1990	Medium	Short	Medium	Yellow
Settler	South Dakota	1989	Medium	Medium	Medium	White
Starter	Minnesota	1986	Early	Short	Strong	Yellow
Troy	South Dakota	1991	Medium	Tall	Strong	White
Valley	North Dakota	1988	Late	Medium	Strong	Ivory
Webster	Iowa	1984	Early	Short	Strong	Yellow

Grain color varies with environment.

Table B. Location and dates of planting and harvest of Nebraska spring grain tests – 1992

County	Cooperator	Planted	Harvested
Oats			
Saunders	Agricultural Res. & Dev. Center	March 31	July 23
Dixon	Northeast Res. & Ext. Center	March 26	July 31
Cheyenne dryland	High Plains Ag. Laboratory	April 2	Aug 10
Cheyenne irrigated	High Plains Ag. Laboratory	April 1	Aug 10
Barley			
Saunders	Agricultural Res. & Dev. Center	March 31	July 23
Dixon	Northeast Res. & Ext. Center	March 26	July 27
Cheyenne dryland	High Plains Ag. Laboratory	April 2	Aug 5
Cheyenne irrigated	High Plains Ag. Laboratory	April 1	Aug 5
Spring Wheat			
Saunders	Agricultural Res. & Dev. Center	March 31	July 23
Dixon	Northeast Res. & Ext. Center	March 26	Aug 14
Cheyenne dryland	High Plains Ag. Laboratory	April 2	Aug 10
Cheyenne irrigated	High Plains Ag. Laboratory	April 1	Aug 7
Spring Canola			
Lancaster	Agronomy Farm	April 3	July 8 – 28
Cuming	First National Bank Demo Area	April 13	Jul 15–Aug 3
Cheyenne dryland	High Plains Ag. Laboratory	April 6	Aug 5
Cheyenne irrigated	High Plains Ag. Laboratory	April 6	Aug 5
Crambe			
Lancaster	Agronomy Farm	April 3	July 16
Cuming	First National Bank Demo Area	April 13	July 31
Cheyenne dryland	High Plains Ag. Laboratory	April 6	Aug 5
Cheyenne irrigated	High Plains Ag. Laboratory	April 6	Aug 6



Suggested Oat and Barley varieties for Nebraska 1992

Table 1. Dixon County oat variety test – 1992

Brand	Grain yield bu/a	Bushel weight lb/bu	Plant height inches	Disease rating	Plant lodging %	Heading date May
Newdak	146	31.4	34	1.6	0	15
Valley	144	34.8	33	1.7	0	16
Ogle	143	31.8	34	1.7	0	15
Prairie	141	32.0	33	1.3	0	17
O-25	138	29.2	32	1.7	0	20
O-22	136	32.0	36	1.5	0	15
Troy	135	34.4	39	1.4	0	18
Horicon	132	31.8	34	1.8	0	15
O-28	131	33.2	32	1.7	0	13
Armor	128	32.2	33	1.0	0	15
Hazel	122	32.8	29	1.6	0	12
Settler	120	35.4	35	2.0	12	13
Premier	118	36.8	35	1.5	2	14
O-27	117	35.0	29	1.6	3	11
Dane	114	32.4	34	2.0	3	12
Don	111	34.0	30	1.9	6	10
Starter	110	34.6	33	1.9	3	11
Hytest	108	37.6	37	2.8	5	15
Burnett	102	33.4	35	3.8	14	12
Bates	102	34.6	32	1.9	12	6
FL 502	72	33.2	25	1.4	2	-1
AVERAGE	122	33.5	33	1.8	3	13
SIG. 5%	17	1.7	2	0.6	4	4
25%	10	1.0	1	0.4	3	3

Northeast District oats tests 1988 – 1992.

Variety	Two year average		Three year average		Four year average		Five year average	
	Yield	Bushel wt	Yield	bushel wt	Yield	bushel wt	Yield	bushel wt
Bates	95.0	31.8	88.3	32.0	79.0	32.0	75.4	31.4
Burnett	81.3	29.8	77.2	29.7	68.9	30.0	66.1	29.8
Don	108.9	30.9	100.6	31.3	90.4	32.1	85.7	31.4
Hazel	111.8	30.0	99.5	30.9	86.6	31.0	82.5	30.4
Horicon	119.9	29.5	103.6	29.2	92.2	29.9	85.7	29.3
Hytest	87.6	33.4	74.1	32.5	65.6	33.2	61.4	32.4
Newdak	116.9	28.1	97.2	28.6	---	---	---	---
Ogle	124.6	28.0	110.4	28.4	96.6	28.9	91.0	28.5
Premier	108.6	32.9	99.4	32.1	---	---	---	---
Starter	100.9	31.1	93.2	31.2	82.7	32.3	78.1	32.0
Valley	123.6	30.0	99.4	29.0	---	---	---	---
O-22	117.9	28.0	105.2	28.3	93.7	28.9	---	---
FL 502	86.6	30.5	---	---	---	---	---	---
Dane	110.6	28.5	---	---	---	---	---	---
Settler	105.6	30.5	---	---	---	---	---	---
Prairie	121.8	28.9	---	---	---	---	---	---
O-25	115.6	26.2	---	---	---	---	---	---
Average	108.0	29.9	95.7	30.3	84.0	30.9	78.3	30.7
Diff Req 5%	N.S.	1.1	10.6	1.1	6.4	0.8	5.4	0.7
25%	8.6	0.6	6.0	0.6	3.6	0.5	3.1	0.4

Table 2. Saunders Co. oat test 1988–1992

VARIETY	1992 Yield bu/a	Heading date June 1	Two year bu/a	Three year bu/a	Four year bu/a	Five year bu/a
Prairie	102.3	10	87.0	---	---	---
Horicon	99.4	8	81.3	64.8	61.4	62.5
Armor	96.1	10	---	---	---	---
Ogle	95.5	8	85.1	78.9	75.2	74.8
O-22	95.4	8	86.6	73.4	68.6	---
Dane	91.9	2	68.6	---	---	---
O-25	87.1	17	65.1	---	---	---
Valley	87.0	15	70.6	55.3	---	---
O-28	85.1	7	70.6	---	---	---
Newdak	84.1	9	68.7	51.7	---	---
Settler	83.2	10	67.3	---	---	---
Premier	80.2	9	64.2	50.2	---	---
Troy	79.4	16	---	---	---	---
Starter	79.1	5	69.3	54.7	52.0	48.6
Hazel	76.0	6	68.5	53.3	50.2	50.4
Hytest	75.7	10	52.3	40.9	43.5	44.8
O-27	74.4	4	---	---	---	---
Bates	69.3	5	56.7	47.7	48.3	50.8
Don	63.4	4	61.8	48.0	47.5	48.4
FL 502	55.4	2	56.4	---	---	---
AVERAGE	83.0	8.0	69.4	56.3	55.8	54.3
C.V.	11.1	12.3	N.S.	7.0	6.5	5.9
LSD (4%)	13.7	1.5	5.7	4.0	3.7	3.4

Table 3. Cheyenne Co. irrigated oat test – 1992

Brand	Grain yield bu/a	Bushel weight lb/bu	Plant height inches
Prairie	126	34.4	35
Ogle	116	35.0	36
Newdak	112	33.8	38
O-22	112	33.8	34
Russell	102	35.5	45
O-28	101	34.0	34
O-25	97	33.3	35
O-27	96	36.2	34
Armor	95	33.9	35
Troy	94	35.6	45
Horicon	94	34.6	39
Don	91	34.5	34
Valley	87	36.1	38
Hazel	81	34.1	32
Dane	79	31.2	33
Settler	79	36.3	37
Hyttest	73	39.0	42
Bates	72	35.6	35
Premier	71	36.7	33
Starter	69	35.2	34
FL 501	67	35.5	31
FL 502	57	34.7	26
Average	89	34.9	36
DIF. REQ. 5%	16	1.4	4
25%	9	0.8	2

Panhandle irrigated oat tests 1988 – 1992

Variety	Two year average		Three year average		Four year average		Five year average	
	Yield	Bushel wt	Yield	Bushel wt	Yield	Bushel wt	Yield	Bushel wt
Bates	80.4	36.8	71.6	34.5	67.9	34.3	71.3	34.2
Don	89.3	36.5	77.2	34.3	71.6	33.8	76.1	33.8
Hazel	84.1	35.3	70.1	33.4	69.8	33.3	75.6	33.2
Horicon	69.8	33.7	71.5	31.9	65.6	31.6	71.3	31.5
Hyttest	50.9	36.6	50.9	33.8	47.4	33.1	53.9	33.5
Newdak	86.1	34.1	79.7	31.5	---	---	---	---
Ogle	86.6	35.3	78.1	33.4	74.1	33.0	78.6	32.6
Premier	76.0	38.0	68.3	35.4	---	---	---	---
Starter	71.9	36.2	65.9	32.9	61.2	32.9	66.7	33.1
Valley	92.5	38.1	80.3	34.7	---	---	---	---
O-22	96.6	35.0	83.1	31.1	79.8	31.3	---	---
FL 501	69.4	36.9	71.9	35.8	64.9	34.6	---	---
FL 502	57.9	35.9	55.9	34.9	52.9	34.7	---	---
Dane	74.3	32.7	---	---	---	---	---	---
Settler	65.0	36.0	---	---	---	---	---	---
Prairie	99.8	34.1	---	---	---	---	---	---
O-25	91.1	33.7	---	---	---	---	---	---
Russell	61.5	34.1	---	---	---	---	---	---
Average	77.9	35.5	71.1	33.7	65.5	33.3	70.5	33.1
Dif Req 5%	N.S.	N.S.	N.S.	N.S.	9.2	N.S.	N.S.	N.S.
25%	8.9	1.0	N.S.	0.9	5.3	0.8	4.4	0.5

Table 4. Cheyenne County dryland oat test — 1992

Variety	Grain yield bu/a	Bushel weight lb/bu	Plant height inches
Prairie	113	33.4	39
O-25	112	32.3	36
O-22	108	34.2	37
Troy	107	35.9	46
Ogle	101	33.1	37
Newdak	101	33.9	40
O-28	96	34.1	35
Russell	94	34.1	44
Armor	91	32.7	37
Horicon	90	33.2	38
Hytest	81	36.9	46
Bates	80	34.4	36
Settler	75	36.1	37
Valley	74	34.1	36
Dane	72	30.4	33
Hazel	71	32.6	32
Premier	70	34.5	36
O-27	70	34.1	32
Don	66	33.5	33
Starter	58	34.1	34
FL 501	49	33.5	29
FL 502	41	33	26
Average	83	33.8	36
DIF. REQ. 5%	13	1.5	2
25%	7	0.9	1

Panhandle Dryland Oat tests 1988 — 1992.

Variety	Two Year Average		Three year average		Four year average		Five Year Average	
	Yield	Bushel wt	Yield	Bushel wt	Yield	Bushel wt	Yield	Bushel wt
Bates	66.7	34.6	51.1	31.6	48.8	32.0	55.7	32.9
Don	65.4	33.5	48.9	30.8	46.0	31.1	53.4	32.1
Hazel	69.2	32.2	50.8	29.7	47.8	30.6	57.5	31.6
Horicon	73.5	32.3	56.7	29.4	51.8	29.9	61.2	31.0
Hytest	58.3	37.7	43.5	34.5	40.1	34.2	47.3	35.3
Newdak	71.9	32.0	53.9	28.8	---	---	---	---
Ogle	85.5	32.2	67.3	29.1	61.0	29.6	71.2	30.7
Premier	66.5	34.4	52.0	32.7	---	---	---	---
Starter	68.4	34.6	50.6	31.8	46.2	32.4	54.4	33.5
Valley	68.7	33.2	50.4	30.6	---	---	---	---
O-22	84.9	32.6	65.3	29.1	58.7	29.5	---	---
FL 501	60.4	33.6	46.9	31.7	41.2	31.0	---	---
FL 502	64.3	34.2	46.2	32.9	40.1	33.0	---	---
Dane	67.3	30.8	---	---	---	---	---	---
Settler	58.3	34.5	---	---	---	---	---	---
Prairie	77.5	30.7	---	---	---	---	---	---
O-25	75.4	29.6	---	---	---	---	---	---
Russell	55.2	31.0	---	---	---	---	---	---
Average	68.7	33.0	52.6	31.0	48.2	31.3	57.2	32.4
Dif Req 5%	N.S.	N.S.	6.7	1.2	5.4	1.1	4.3	0.6
25%	N.S.	1.1	3.9	0.7	3.1	0.6	2.5	0.3

Table 5. Dixon Co. dryland barley test – 1992

Brand	Grain yield	Bushel weight	Plant height	Disease rating	Plant lodging	Flower date
Hazen	113	38.8	35	2.7	0	12
Robust	106	40.4	35	2.6	6	13
Stark	82	44.4	32	4.3	10	13
Custer	80	36.8	36	2.6	35	12
Bowman	79	45	32	4.4	12	13
AVERAGE	93	41.3	12	3.3	12	13
SIG. 5%	14	2.7	12	0.7	12	0.6
25%	8	1.5	7	0.4	7	0.3

Northeast district barley 1988 – 1992.

Variety	Two year avg		Three year avg		Four year avg		Five year avg	
	Yield	Bushl wt	Yield	Bushl wt	Yield	Bushl wt	Yield	Bushl wt
Bowman	58.0	43.9	59.0	45.2	51.0	46.7	49.8	46.5
Custer	63.5	36.1	64.7	38.9	56.3	40.5	55.0	41.8
Hazen	85.4	37.4	76.9	39.4	63.9	40.9	59.7	42.5
Robust	78.9	39.2	70.9	41.1	59.4	42.7	56.1	44.3
Stark	63.5	42.6	---	---	---	---	---	---
Average	69.8	39.8	67.9	41.1	57.7	42.7	55.2	43.8
Diff Req 5%	N.S.	0.8	N.S.	1.1	N.S.	0.4	N.S.	1.4
25%	4.8	0.4	N.S.	0.6	N.S.	0.2	N.S.	0.8

Table 6. Saunders Co. barley variety test 1988 – 1992

VARIETY	1992 yield bu/a	Plant stand (%)	Heading date June 1	Two year average bu/a	Three year average bu/a	Four year average bu/a	Five year average bu/a
Robust	36.6	92	3	27.6	31.1	29.6	32.7
Hazen	29.5	86	8	25.0	27.9	26.7	30.9
Stark	26.2	91	6	21.7	---	---	---
Bowman	24.1	88	5	16.0	20.2	20.1	24.3
Custer	21.9	79	10	18.3	25.0	25.5	29.8
AVERAGE	27.7	87	6	21.7	26.0	25.5	29.4
Dif Req 5%	11.2	6.2	1.8	N.S.	N.S.	3.0	2.4
25%	6.2	3.4	1	2.3	2.0	1.6	1.3

Table 7. Cheyenne Co. irrigated barley test – 1992.

Variety	Grain yield bu/a	Bushel weight lb/bu	Plant height inches
Steptoe	77	41.9	32
Stark	74	47.9	37
Bowman	69	47.4	35
Custer	49	41.7	39
Hazen	40	43.7	36
Robust	33	44.4	34
Average	58	44.5	35
DIF. REQ. 5%	12	1.4	3
25%	7	0.8	2

Panhandle irrigated spring barley tests 1988 – 1992

Variety	Two year average		Three year average		Four year average		Five year average	
	bu/a	bu wt	bu/a	bu wt	bu/a	bu wt	bu/a	bu wt
Bowman	70.0	49.2	71.7	48.9	77.0	50.1	71.4	46.0
Custer	46.8	43.1	50.2	43.7	57.4	44.8	58.3	41.8
Hazen	54.0	45.3	60.7	45.4	68.3	46.5	64.6	43.4
Robust	48.0	45.6	52.3	45.9	56.8	46.3	54.4	43.2
Steptoe	62.8	41.7	68.2	42.2	76.6	43.6	72.9	40.6
Stark	71.5	49.1	---	---	---	---	---	---
Average	58.8	45.7	60.6	45.2	67.2	46.2	64.3	43.0
Dif Req 5%	N.S.	1.3	N.S.	0.9	6.5	0.9	6.1	0.9
25%	N.S.	0.7	4.8	0.5	3.6	0.5	3.4	0.5

Table 8. Cheyenne Co. dryland barley test – 1992.

Variety	Grain yield bu/a	Bushel weight lb/bu	Plant height inches
Steptoe	67	40.2	30
Bowman	58	46.0	30
Stark	58	46.4	31
Custer	48	39.4	31
Robust	48	45.5	34
Hazen	42	44.7	34
Average	53	43.7	32
DIF. REQ. 5%	14	1.3	2
25%	8	0.7	1

Panhandle dryland spring barley tests 1988 – 1992.

Variety	Two year average		Three year average		Four year average		Five year average	
	Yield	Bushel wt	Yield	Bushel wt	Yield	Bushel wt	Yield	Bushel wt
Bowman	68.4	47.3	52.9	44.4	53.2	45.0	54.3	45.4
Custer	58.4	41.7	45.9	38.1	47.7	39.0	49.1	40.6
Hazen	51.1	45.5	39.4	40.5	40.1	41.1	42.4	42.5
Robust	49.6	44.6	38.1	40.5	37.3	40.9	39.2	42.4
Steptoe	69.8	40.2	54.5	37.9	54.4	38.5	56.5	39.8
Stark	67.5	47.4	---	---	---	---	---	---
Average	60.8	44.4	46.2	40.3	46.5	40.9	48.3	42.1
Dif Req 5%	7.2	2.0	4.9	2.1	3.6	1.4	2.8	1.3
25%	3.7	1.0	2.6	1.1	2.0	0.8	1.6	0.7

Table 9. Dixon Co. spring wheat test – 1992

Variety	Grain yield bu/a	Bushel weight lb/bu	Plant height inches	Plant lodging %	Heading date May
Sharp	54	40.8	36	10	12
Shield	54	42.6	36	12	13
Butte 86	49	38.2	36	8	12
Prospect	48	41.6	33	6	13
Stoa	48	39.2	38	15	16
Guard	45	39.8	32	7	15
Amidon	45	35.6	37	5	16
Oslo	34	35	30	11	10
Klassic	25	27.2	24	28	10
AVERAGE	45	37.8	34	11	13
SIG. 5%	10	5.7	3	9	1
25%	6	3.3	2	5	1

Northeast district spring wheat tests – 1988 – 1992.

Variety	Two year average		Three year average		Four year average		Five year average	
	Yield	bushel wt	Yield	bushel wt	Yield	bushel wt	Yield	bushel wt
Amidon	31.4	42.8	25.6	44.1	21.7	46.8	---	---
Butte 86	39.8	44.1	35.2	46.6	29.6	49.5	27.1	50.3
Guard	35.8	44.9	32.2	46.2	26.4	48.2	24.9	49.2
Oslo	28.1	42.5	27.7	44.5	23.3	46.9	22.4	47.7
Prospect	37.6	45.8	32.1	46.9	26.3	49.0	24.6	49.7
Shield	43.4	46.3	39.2	47.9	32.7	50.0	30.1	50.8
Stoa	36.1	44.6	29.4	45.8	24.8	47.9	23.0	48.9
Sharp	41.9	45.4	---	---	---	---	---	---
Average	36.7	44.6	31.6	46.0	26.4	48.3	25.4	49.4
Dif Req 5%	3.9	N.S.	3.7	N.S.	3.0	N.S.	2.4	0.9
25%	2.1	N.S.	2.1	0.8	1.7	0.7	1.4	0.5

Table 10. Saunders Co. spring wheat test 1988 – 1992

VARIETY	1992 YIELD bu/A	HEADING DATE June 1	2 yr avg bu/a	3 yr avg bu/a	4 yr avg bu/a	5 yr avg bu/a
Shield	36.1	6	24.4	20.9	18.9	20.9
Amidon	32.0	11	19.4	17.2	15.4	---
Stoa	31.4	15	19.5	16.0	14.8	16.6
Butte 86	28.0	7	18.8	15.6	14.9	17.1
Sharp	27.6	6	17.6	---	---	---
Guard	27.6	10	19.5	17.2	15.1	16.9
Prospect	27.4	8	17.2	16.1	14.3	16.7
Oslo	19.8	3	11.9	9.7	9.8	13.2
Klassic	12.6	1	---	---	---	---
AVERAGE	26.9	8	18.5	16.1	14.7	16.9
Dif Req 5%	5.6	1.2	2.9	2.2	1.9	1.7
25%	3.2	0.7	1.5	1.2	1.1	1.0

**Table 11. Cheyenne Co. irrigated
spring wheat test – 1992.**

Variety	Grain yield bu/a	Bushel weight lb/bu	Plant height inches
Oslo	52	57.0	31
Sharp	50	62.1	36
Prospect	48	58.7	31
Stoa	47	60.3	38
Klassic	45	57.6	24
Butte 86	44	60.2	36
Guard	44	59.8	32
Amidon	44	59.8	38
Shield	33	59.0	38
AVERAGE	45	59.4	34
DIF. REQ. 5%	9	1.9	3
25%	5	1.1	2

Panhandle irrigated spring wheat tests 1988 – 1992

Variety	Two year average		Three year average		Four year average		Five year average	
	Yield	Bushel wt	Yield	Bushel wt	Yield	Bushel wt	Yield	Bushel wt
Amidon	47.9	59.1	40.6	56.1	44.9	56.3	---	---
Butte 86	47.4	59.8	41.6	57.4	43.9	57.5	41.7	56.4
Guard	46.8	59.9	38.2	56.4	42.4	56.3	39.9	55.3
Oslo	51.6	56.8	41.4	53.8	43.1	53.9	40.2	52.8
Prospect	52.4	58.7	43.2	56.6	47.2	56.6	44.1	55.4
Shield	45.8	60.0	41.2	57.4	43.9	57.9	41.1	56.5
Stoa	51.3	59.6	41.2	57.0	43.4	56.6	40.5	55.1
Sharp	53.3	61.6	---	---	---	---	---	---
Average	19.5	59.4	41.0	56.4	44.1	56.4	41.3	55.3
Dif Req 5%	N.S.	0.9	N.S.	0.9	N.S.	0.7	N.S.	0.7
25%	N.S.	0.5	N.S.	0.5	N.S.	0.4	N.S.	0.4

**Table 12. Cheyenne Co. dryland
spring wheat test – 1992**

Variety	Yield bu/a	Bushel weight lb/bu	Height inches
Amidon	47	58.9	38
Prospect	46	59.0	29
Oslo	40	54.4	27
Sharp	39	61.1	33
Guard	37	59.9	30
Stoa	34	57.4	36
Shield	33	59.2	36
Butte 86	31	58.2	34
Klassic	31	55.7	21
AVERAGE	38	58.2	31
DIF. REQ. 5%	4	0.8	1
25%	2	0.5	1

Panhandle dryland spring wheat tests 1988 – 1992.

Variety	Two year average		Three year average		Four year average		Five year average	
	Yield	Bushel wt	Yield	Bushel wt	Yield	Bushel wt	Yield	Bushel wt
Amidon	42.9	57.4	30.9	54.0	27.7	54.0	---	---
Butte 86	35.1	57.4	26.1	53.9	23.6	54.0	21.0	54.7
Guard	40.8	58.9	29.8	54.5	26.6	54.6	23.1	54.7
Oslo	40.1	53.9	29.4	50.7	26.1	51.7	23.6	52.1
Prospect	45.0	57.8	33.3	54.9	29.3	55.0	---	---
Shield	37.8	58.0	28.2	54.4	26.1	54.3	---	---
Stoa	34.6	55.6	24.7	52.7	22.3	52.6	19.8	52.9
Sharp	42.3	60.6	---	---	---	---	---	---
Average	39.8	57.4	28.9	53.6	25.9	53.7	21.9	53.6
Dif Req 5%	N.S.	0.7	N.S.	0.8	N.S.	0.8	N.S.	0.9
25%	N.S.	0.4	1.8	0.5	1.4	0.5	0.9	0.5

Table 13. Lancaster Co. rape/canola test—1992.

Variety	Yield lb/a	Height inches	Bushelwt lb/bu	Lodging %	Shat. %	Stand %	Flower June
Legend	1393.4	51.5	40.3	32.5	10.5	78.1	30.0
Westar	1318.5	49.0	40.5	22.5	8.8	75.0	30.0
Celebra	1221.4	53.5	39.7	20.0	9.3	87.5	39.0
Lethbridge	1055.3	56.0	48.8	28.8	3.5	71.9	28.5
Common Brown	1025.6	56.0	48.4	38.8	3.3	90.6	27.0
Horizon	920.7	43.5	44.1	43.8	7.8	65.6	19.0
Tilney	850.6	45.0	52.6	17.5	6.3	78.1	27.0
Parkland	826.5	40.0	41.4	78.8	4.0	81.3	19.0
Gilsilba	810.1	45.5	53.3	15.0	6.5	84.4	25.0
Forage	793.8	54.0	47.6	36.3	6.0	100.0	31.5
Tobin	687.3	41.0	39.9	68.8	6.5	71.9	19.0
Ochre	657.5	48.5	53.4	26.8	5.5	81.3	27.0
Average	963.4	48.6	45.8	35.8	6.5	80.5	26.8
Dif Req for 5%	229.5	2.8	3.4	24.1	2.8	17.0	3.2
Dif req for 25%	132.0	1.6	1.9	13.9	1.5	9.8	1.8

Table 14. Cuming Co. rape/canola test — 1992.

Variety	Yield lb/a	Height inches	Bushelwt lb/bu	Lodging %	Shat. %	Stand %	Flower June
Tilney	2698.6	50.5	52.7	67.5	15.0	59.4	34.0
Legend	2682.0	57.5	45.8	71.3	11.8	46.9	44.5
Westar	2485.3	57.8	47.9	90.0	11.5	56.3	41.5
Celebra	2168.2	60.3	47.4	42.5	6.5	62.5	46.0
Lethbridge	2053.6	60.3	52.0	88.8	28.8	53.1	35.5
Gilsilba	1980.7	49.5	52.8	98.5	15.0	87.5	34.0
Ochre	1874.0	55.0	50.9	85.0	12.3	68.8	34.0
Common Brown	1804.5	62.5	52.0	76.3	32.5	71.9	35.5
Forage	1726.2	67.0	52.8	75.0	32.5	71.9	43.0
Horizon	1132.3	46.0	52.0	91.3	20.0	71.9	34.0
Tobin	711.5	53.0	52.0	91.3	21.8	87.5	34.0
Parkland	708.5	52.3	48.7	86.3	25.5	84.4	34.0
Average	1839.5	55.5	50.6	80.3	19.0	68.5	37.3
Dif Req for 5%	713.5	5.1	1.3	19.9	5.8	15.6	2.9
Dif req for 25%	409.2	2.9	0.8	11.4	3.3	9.0	1.7

Table 15. Cheyenne Co. dryland rape/canola test – 1992.

Variety	Yield lb/a	Height inches	Stand %	Flower June
Common Brown	1370.2	45.3	40.0	37.5
Forage	1293.9	46.8	60.0	38.3
Tobin	998.5	32.8	75.0	36.5
Westar	895.3	35.5	35.0	40.0
Legend	878.4	38.5	35.0	42.5
Gilsilba	837.8	30.3	50.0	28.8
Horizon	834.6	30.5	40.0	36.0
Lethbridge	832.1	38.5	25.0	37.3
Celebra	799.0	41.5	60.0	44.0
Ochre	793.3	28.8	55.0	31.5
Tilney	790.2	32.5	25.0	31.3
Parkland	789.6	32.8	35.0	36.5
Average	926.1	36.1	44.6	36.7
Dif Req for 5%	221.4	4.4	19.6	3.2
Dif req for 25%	127.3	2.5	11.3	1.5

Table 16. Cheyenne Co. irrigated rape/canola test – 1992

Variety	Yield lb/a	Height inches	Stand %	Flower June
Forage	1626.3	60.0	20.0	48.0
Common Brown	1362.7	49.0	40.0	42.0
Celebra	808.2	41.0	60.0	44.0
Tobin	793.2	37.0	40.0	37.0
Lethbridge	758.4	40.0	20.0	42.0
Legend	688.8	38.0	40.0	44.0
Westar	596.8	35.0	40.0	43.0
Gilsilba	571.9	30.0	40.0	42.0
Tilney	300.9	31.0	20.0	43.0
Horizon	278.5	35.0	20.0	42.0
Parkland	226.3	29.0	20.0	43.0
Ochre	141.7	36.0	20.0	43.0
Average	679.5	38.4	31.7	42.8
Dif Req for 5%	N.A.	N.A.	N.A.	N.A.
25%	N.A.	N.A.	N.A.	N.A.
Only one replicate was harvested				

Table 17. Average of four spring rape/canola tests – 1992.

Variety	Yield lb/bu	Height inches	Stand %	Flower June
Legend	1577.2	48.3	52.3	39.4
Westar	1491.8	46.5	54.2	37.6
Common Brown	1397.2	54.1	65.4	34.0
Tilney	1358.3	41.8	51.5	31.7
Celebra	1350.9	50.9	69.2	43.1
Lethbridge	1271.0	50.7	47.7	34.4
Forage	1220.8	54.3	72.9	37.5
Gilsilba	1160.5	40.8	71.3	30.2
Ochre	963.9	42.5	64.6	31.6
Horizon	909.9	39.6	56.2	30.6
Tobin	798.7	41.8	75.2	30.4
Parkland	732.6	40.7	63.3	30.8
Average	1187.1	45.9	62.0	34.3
Dif Req for 5%	371.3	4.8	11.0	4.3
Dif req for 25%	217.7	1.7	7.1	1.5

Table 18. Lancaster Co. crambe test 1992

Variety	Yield lb/a	Height inches	Bushelwt lb/bu	Stand %	Flower Date
NM#89	1332.4	37.5	26.8	90.6	5/31.3
NM#2	1276.1	38.0	27.3	84.3	6/1.8
NM#33	1264.3	38.0	27.5	78.1	5/31
NM#28	1262.6	36.5	28.0	87.5	5/27.8
NM#55	1254.7	35.8	26.5	96.9	5/27.8
NM#98	1224.6	40.3	27.8	90.6	5/29.5
NM#97	1222.5	36.8	26.8	87.5	5/27.8
Meyer	1207.2	37.5	25.8	75.0	6/3.3
NM#65	1198.5	36.0	28.3	90.6	5/29.3
NM#41	1196.7	36.3	27.0	81.3	6/3.3
NM#61	1174.0	34.8	27.0	93.8	6/1.8
NM#100	1132.2	36.3	26.8	90.6	5/31
NM#1	1070.3	36.8	26.8	53.1	6/1.8
Average	1216.6	36.9	27.1	84.6	5/30.9
Dif Req for Sig 5%	184.3	2.0	1.6	16.1	NS
Dif Req for Sig 25%	106.3	1.2	0.9	9.3	4.3

Table 19. Cuming Co. crambe test – 1992.

Variety	Yield lb/a	Height inches	Lodging %	Shat. %	Bushelwt lb/bu	Stand %	Flower June
NM#65	2065.9	42.5	21.3	8.0	24.4	53.1	9.0
NM#61	2061.1	41.5	6.3	8.0	26.8	40.6	9.0
NM#89	2018.1	44.5	5.0	8.8	24.6	65.6	9.0
NM#2	2015.3	42.5	17.5	6.8	25.8	43.8	9.0
NM#41	1973.8	40.5	16.3	7.8	25.7	59.4	9.0
NM#98	1968.5	43.5	7.5	7.0	26.3	53.1	9.0
NM#100	1934.0	43.5	25.0	9.3	24.8	65.6	9.0
Meyer	1706.9	39.5	50.0	3.0	20.5	40.6	10.5
NM#33	1628.4	43.0	6.3	8.0	22.1	43.8	9.0
NM#28	1624.7	43.0	36.3	9.3	20.8	62.5	10.5
NM#55	1601.0	42.5	5.0	6.3	22.4	62.5	9.0
NM#1	1561.1	43.5	31.3	10.0	23.4	37.5	9.0
NM#97	1432.2	44.5	56.3	8.0	22.3	59.4	10.5
Average	1811.6	42.7	21.8	7.7	23.8	52.9	9.3
Dif Req for Sig 5%	523.9	3.1	31.0	6.4	3.4	32.5	NS
Dif Req for Sig 25%	444.5	1.8	17.9	3.7	1.9	18.8	1.2

**Table 20. Cheyenne Co.
dryland crambe test – 1992.**

Variety	Yield lb/a	Height inches	Stand %	Flower June
NM#2	1678.6	27.0	40.0	11.8
NM#28	1552.1	29.0	65.0	10.8
NM#97	1431.1	30.3	60.0	11.8
NM#100	1393.9	27.0	55.0	11.3
NM#98	1351.1	29.0	60.0	10.5
NM#33	1348.0	25.8	30.0	11.8
NM#89	1287.8	27.5	35.0	10.5
NM#41	1236.3	26.0	65.0	10.8
NM#65	1218.9	24.5	65.0	10.8
NM#61	1155.0	26.3	60.0	10.8
Meyer	1144.5	27.3	45.0	12.3
NM#55	1034.7	25.0	75.0	10.0
NM#1	689.2	25.3	25.0	12.3
Average	1270.9	26.9	52.3	11.1
Dif Req for Sig 5%	265.8	3.6	21.7	1.1
Dif Req for Sig 25%	153.3	2.1	12.4	0.7

**Table 21. Cheyenne Co.
irrigated crambe test – 1992.**

Variety	Yield lb/a	Height inches	Stand %	Flower Date
NM#89	1032.5	27.8	25.0	10.5
NM#97	992.9	30.3	25.0	14.0
NM#2	979.9	30.5	25.0	15.5
NM#100	883.9	28.5	35.0	14.3
NM#55	872.8	30.0	30.0	10.3
NM#28	820.8	30.3	40.0	13.5
NM#33	762.0	30.5	20.0	16.8
NM#61	698.2	26.0	30.0	12.8
NM#65	684.6	30.0	25.0	11.8
NM#41	680.9	26.8	25.0	11.8
NM#98	617.1	29.3	20.0	15.0
Meyer	451.9	28.5	20.0	16.0
NM#1	351.6	27.5	20.0	16.8
Average	765.1	28.9	26.2	13.8
Dif Req for Sig 5%	237.9	3.4	15.0	2.1
Dif Req for Sig 25%	137.2	2.0	8.7	1.2

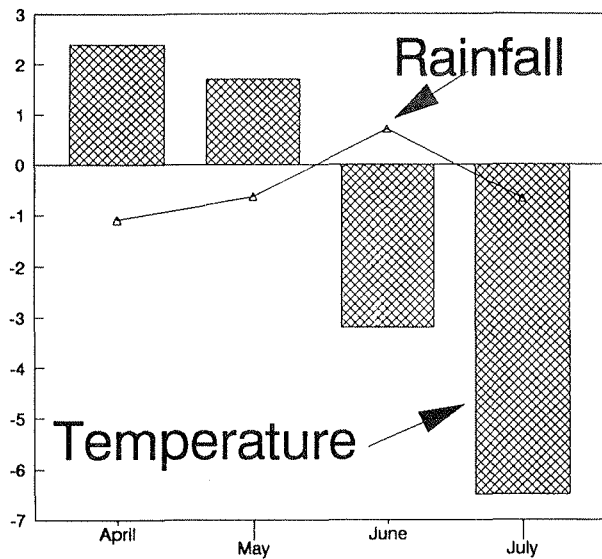
Table 22. Combined crambe tests – 4 locations – 1992.

Variety	Yield lb/a	Height inches	Stand %	Flower June
NM#2	1487.5	34.5	48.3	9.5
NM#89	1417.7	34.3	54.1	7.6
NM#100	1336.0	33.8	61.6	8.6
NM#28	1315.0	34.7	63.8	7.9
NM#65	1292.0	33.3	58.4	7.3
NM#98	1290.3	35.5	55.9	8.3
NM#61	1272.1	32.1	56.1	8.5
NM#97	1269.6	35.4	58.0	8.3
NM#33	1250.7	34.3	43.0	9.4
NM#41	1225.1	32.4	57.7	8.7
NM#55	1190.8	33.3	66.1	6.5
Meyer	1127.6	33.2	45.2	10.5
NM#1	918.0	33.3	33.9	9.9
Average	1261.1	33.9	54.0	8.5
Dif Req for Sig 5%	352.7	1.6	10.9	2.0
Dif Req for Sig 25%	104.7	0.9	6.4	1.2

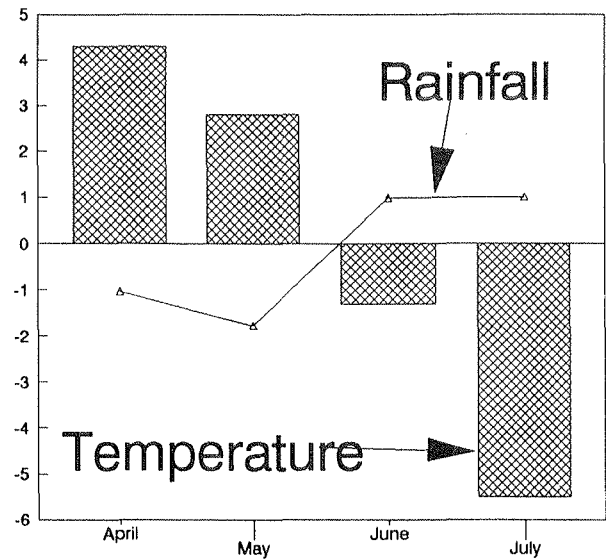
Table 23. Crambe yields at all Nebraska locations 1988–1992.

Variety	2 Yr 7 loc.	3 Yr 11 loc.	4 Yr 12 loc.	5 yr 13 loc.
NM#2	1640.0	1252.3	1242.9	1270.1
NM#89	1611.2	1262.3	1234.0	1256.2
NM#100	1553.5	1225.5	—	—
NM#28	1550.0	—	—	—
NM#98	1547.6	1120.5	1106.7	1129.0
NM#97	1461.2	1099.1	1084.6	1108.5
NM#33	1457.1	—	—	—
NM#65	1455.2	1064.3	—	—
NM#41	1438.2	1118.0	—	—
NM#61	1431.3	1094.6	—	—
Meyer	1403.0	1083.4	1070.4	1088.2
NM#55	1245.4	962.7	—	—
NM#1	1154.1	909.7	928.4	964.4
Average	1458.1	1108.6	1111.7	1136.7
Dif Req for Sig 5%	156.3	120.7	119.6	114.9
Dif Req for Sig 25%	91.5	71.0	69.2	66.5

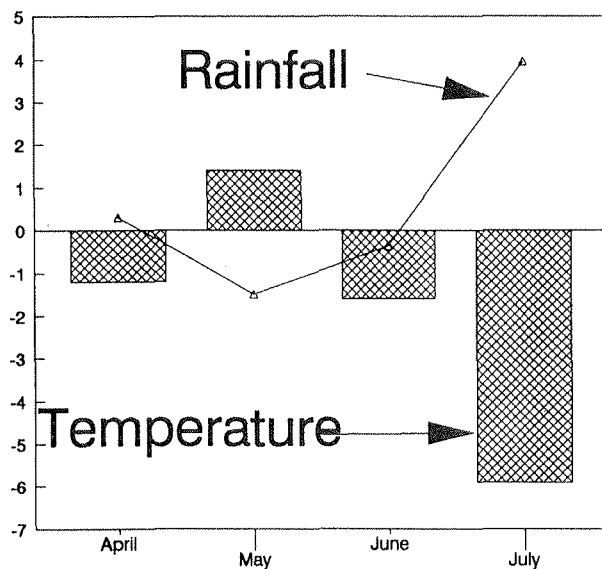
Departure from 30 year average of rainfall (inches) and temperature (F).



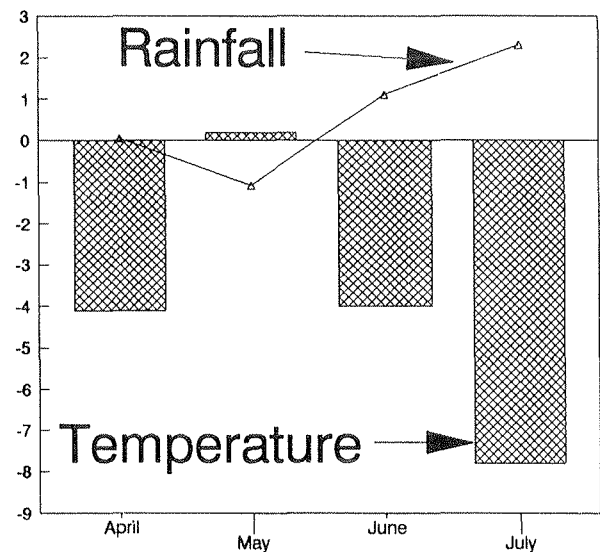
Cheyenne County



Scotts Bluff County

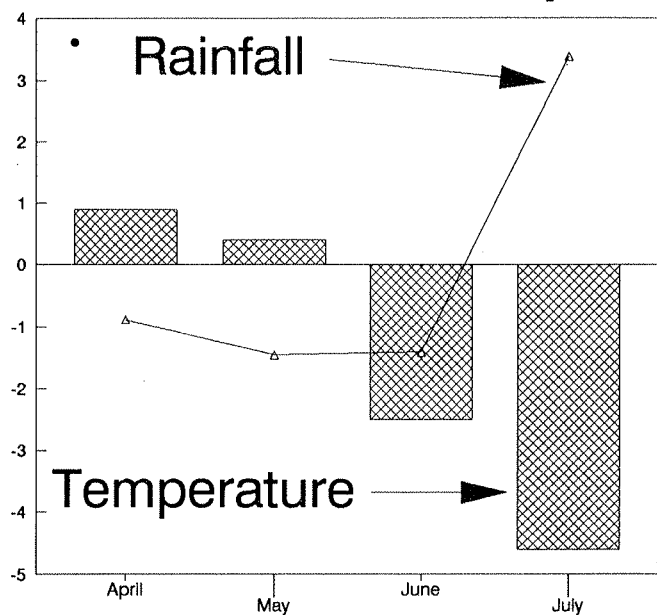


Dixon County

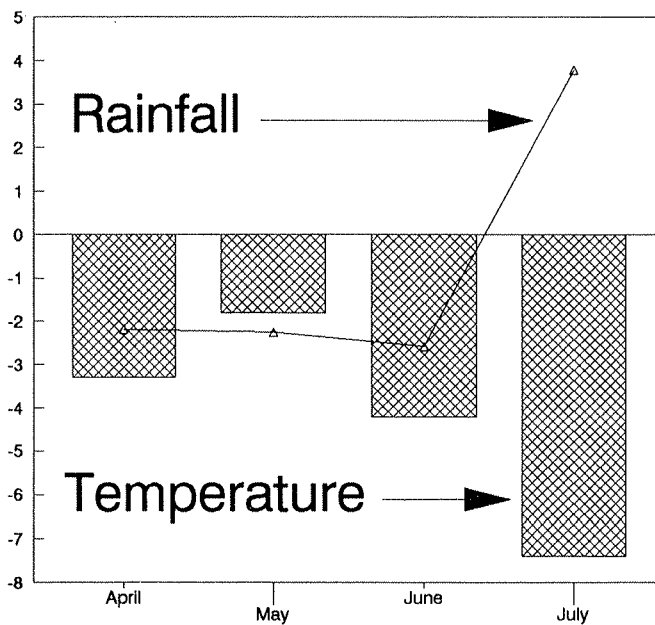


Cuming County

Departure from 30 year average of rainfall (inches) and temperature (F).



Lancaster County



Saunders County



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