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EC86-102 Nebraska Spring Small Grain Variety Tests1986

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NEBRASKA SPRING SMALL GRAIN VARIETY TESTS 1986

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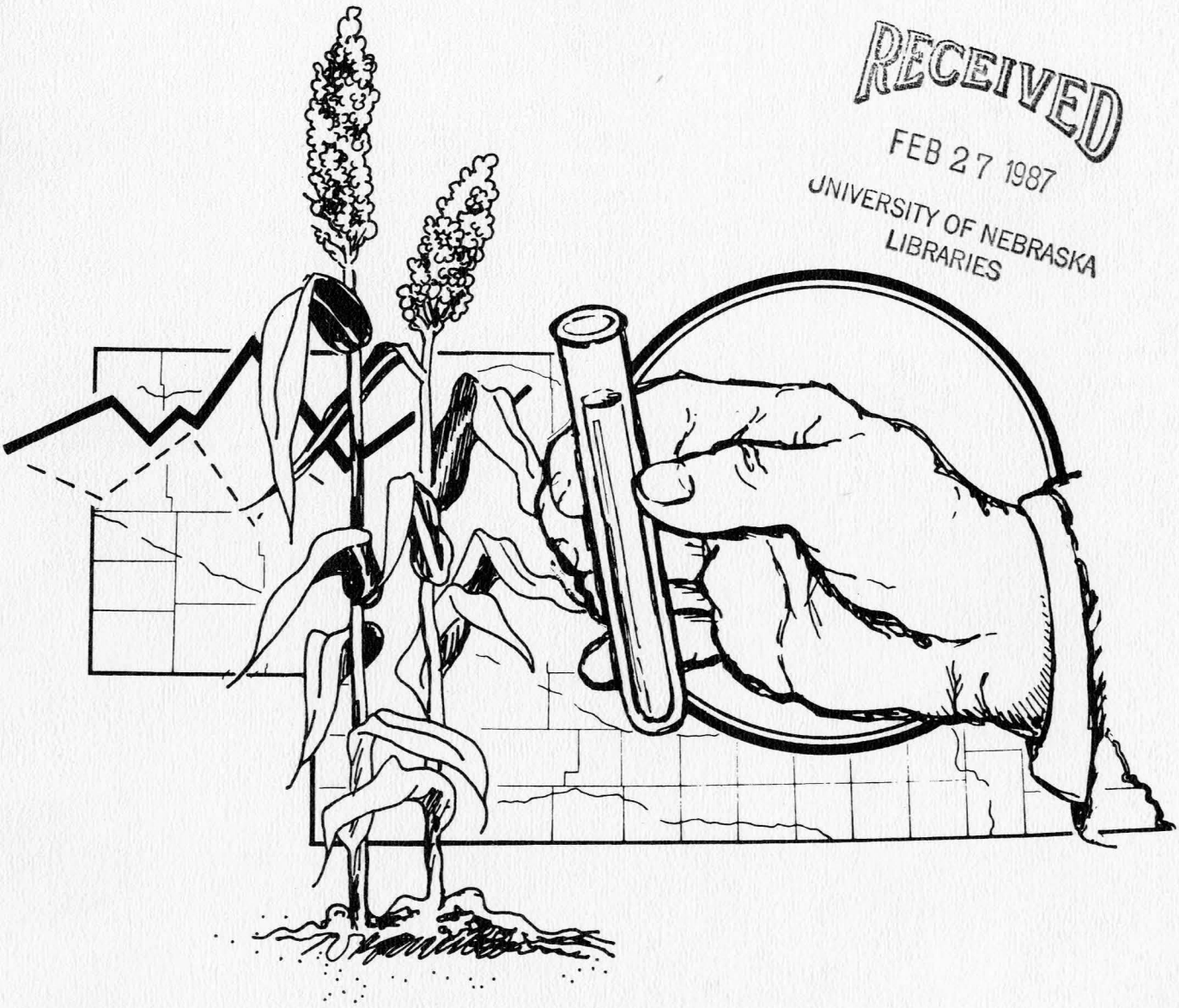

University of Nebraska–Lincoln
Institute of Agriculture and Natural Resources
Agricultural Research Division
Cooperative Extension Service

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.

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EXTENSION CIRCULAR 86-102

NEBRASKA SPRING SMALL GRAIN VARIETY TESTS

October 1986

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ACKNOWLEDGMENT

This circular is a progress report of variety trials conducted by personnel of the Agronomy Department and the Northeast and Panhandle Centers and their associated agricultural laboratories. Conduct of experiments and publication of results is a joint effort of the Agricultural Research Division and Cooperative Extension Service. Special acknowledgment is made to farmer cooperators who furnished land for experiments, and to Extension Agents and others who assisted with the tests.

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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 86-102

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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
1981	395	40.0	25	39.0
1982	460	58.0	22	50.0
1983	310	44.0	69	39.0
1984	320	49.0	78	34.0
1985	380	60.0	120	32.0
1986	360	59.0	170	41.0

1986 data are preliminary. Comparable data for spring wheat are not available.

NEBRASKA SPRING SMALL GRAIN

VARIETY TESTS

1986

Mild weather in March and early April allowed rapid seeding of spring grains. On April 6, the oats crop was 30% seeded. On April 13, 60% was seeded. Normal for this date is 38%. On April 20, 70% of the crop was seeded compared to a 5-year average of 45% for this date. Rainfall for the April 1 - July 1 period was generally above normal in the oat growing areas of Nebraska. Harvest was slightly ahead of usual.

An estimated 360,000 acres of oats were harvested with an average yield of 590 bushels per acre. Barley acreage showed a marked increase. The average yield of 41.0 bushels and the total crop was 82% above last year.

Suggested varieties and new releases

Suggested oat and barley varieties for Nebraska are shown on the map (page 4). Characteristics of oat varieties included in recent Nebraska statewide tests are shown in Table 1.

Kelly, Pierce and Steele were tested for the first time in 1984. Don, Hazel and Proat were released in 1985. Hytest, Sandy and Starter were released in 1986.

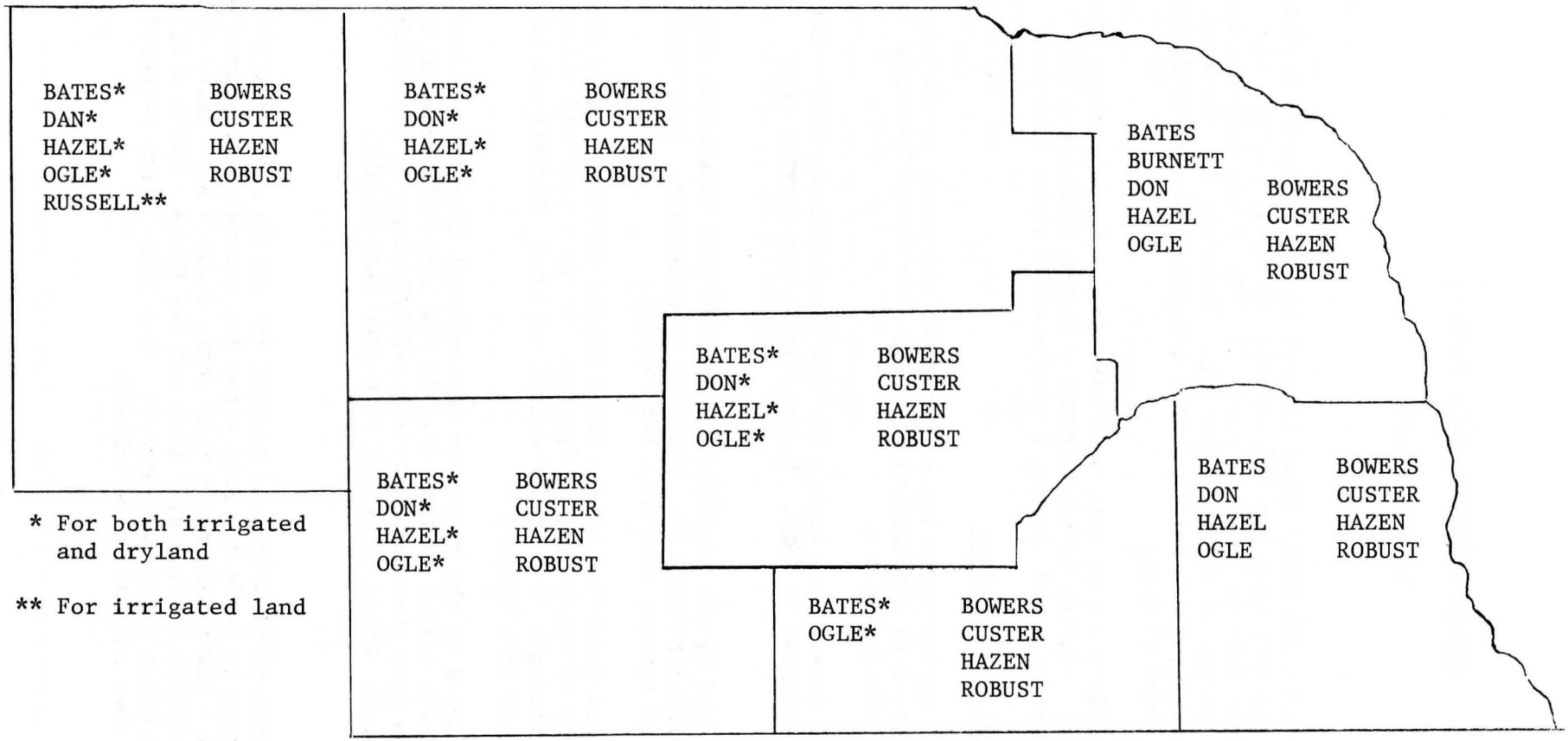
Hytest was developed by the South Dakota Agricultural Experiment Station. The pedigree is Moore//Dal/Nodaway 70. Maturity is midseason. This variety has light-cream colored kernels with high test weight.

Sandy oats also was developed by the South Dakota Station. Sandy was selected from the cross of Dal/Nodaway 70//Moore. It is a tall and relatively late variety. Straw strength is good for a tall variety. Kernels are light-cream in color with good test weight.

Starter was developed by the Minnesota Agricultural Experiment Station and the ARS/USDA. It was tested as Exp. 0-14 in the 1984-1985 Nebraska Tests. Starter is a selection from the cross Dal/3/Mn 67231/2/Diana/CI 18344/Noble. It is an early short oat. Grain is yellow with good test weight.

1986 tests

Locations and dates of planting and harvest for spring small grain variety trials are shown in Table 3. Soil types for harvested locations were as follows: Saunders - Sharpsburg silty clay loam; Dixon - Nora silty clay loam (0-6% slope); Cheyenne - Keith silt loam and Box Butte - Keith silt loam. The Nora silt loam in Dixon County was eroded. This land is now terraced and is a productive soil when adequately fertilized.



SUGGESTED OAT AND BARLEY VARIETIES FOR NEBRASKA

1987

Table 1. Characteristics of oat varieties in Nebraska tests.

Variety	Origin	Released	Maturity	Height	Straw strength	Grain color
Bates	Missouri	1976	Early	Short	Strong	Dark
Benson	Minnesota	1979	Medium	Med-tall	Medium	White
Burnett	Iowa	1957	Medium	Medium	Medium	Ivory
Don	Illinois	1985	Early	Short	Strong	White
Hazel	Illinois	1985	Early	Short	Strong	Ivory
Hytest	South Dakota	1986	Medium	Tall	Medium	Lt. Cream
Kelly	South Dakota	1984	Early	Medium	Strong	White
Kelsey	Canada	1976	Med-late	Tall	Medium	White
Kherson	Russia	1986	Med-late	Tall	Weak	Pale brown
Lancer	South Dakota	1979	Medium	Medium	Strong	White
Lang	Illinois	1976	Early	Short	Strong	Yellow
Larry	Illinois	1981	Early	Short	Strong	Yellow
Nodaway 70	Missouri	1970	Early	Medium	Medium	White
Ogle	Illinois	1981	Medium	Short	Strong	Yellow
Otee	Illinois	1973	Early	Short	Strong	Ivory
Pierce	North Dakota	1983	Late	Medium	Medium	White
Preston	Minnesota	1982	Early	Short	Strong	Ivory
Proat	Minnesota	1985	Late	Tall	Strong	Ivory
Russell	Canada	1960	Late	Tall	Medium	White
Sandy	South Dakota	1986	Late	Tall	Strong	Lt. Cream
Starter	Minnesota	1986	Early	Short	Strong	Yellow
Steele	North Dakota	1984	Med-late	Tall	Medium	Lt. Tan
Stout	Indiana	1973	Early	Short	Strong	Ivory
Webster	Iowa	1984	Early	Short	Strong	Yellow

Grain color varies with environment.

Table 2. Location and dates of planting and harvest. Nebraska spring small grain variety tests. 1986.

County	Cooperator	Planted	Harvested
	Oats		
Saunders	Agricultural Res. & Dev. Center	March 26	1/
Dixon	Northeast Res. & Dev. Center	April 8	July 18
Cedar	Charles Foxhoven, Wynot, NE	April 8	2/
Cheyenne	High Plains Ag. Laboratory	March 28	July 28
Scotts Bluff (irr.)	Panhandle Res. & Dev. Center	March 29	3/
Box Butte (irr.)	Northwest Ag. Laboratory	April 1	July 31
	Barley		
Saunders	Agricultural Res. & Dev. Center	March 6	July 1
Dixon	Northeast Res. & Dev. Center	April 8	July 10
Cheyenne	High Plains Ag. Laboratory	March 28	July 28
Scotts Bluff (irr.)	Panhandle Res. & Dev. Center	March 29	3/
Box Butte (irr.)	Northwest Ag. Laboratory	April 1	July 31
	Spring Wheat		
Saunders	Agricultural Res. & Dev. Center	March 26	July 22
Dixon	Northeast Res. & Dev. Center	April 8	July 18
Cheyenne	High Plains Ag. Laboratory	March 28	July 28
Scotts Bluff (irr.)	Panhandle Res. & Dev. Center	March 29	3/
Box Butte (irr.)	Northwest Ag. Laboratory	April 1	July 31

1/ Severe lodging and shattering. Data discarded.
2/ Early severe lodging. Test abandoned.
3/ Hailed June 12. Data discarded.

The 1986 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 Agricultural Research and Development Center at Mead are shown in Table 3. Severe storms preceding harvest caused severe lodging and shattering and the 1986 data are not reported.

The Northeast District trial in Cedar County was abandoned because of early severe lodging and poor grain fill. Results from Dixon County are shown in Table 4. Yields and bushel weights were high. Protein content of the grain was lower than normal. Results of 1979-1986 tests in this area are shown in Table 5.

Excellent yields were obtained in Cheyenne County (Table 6). West District nonirrigated are summarized in Table 7.

The irrigated oat trial in Scotts Bluff County was hailed in June and no data are reported. Results from Box Butte County are shown in Table 8. Irrigated oat variety data for the 1979-1986 period are shown in Table 9.

Barley

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

Location	Barley % of Oats									
	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986
Saunders	147	102	89	95	---	79	73	80	114	---
Dixon	85	117	134	117	---	123	73	136	118	90
Cheyenne	114	91	107	121	73	133	101	143	105	95
Scotts Bluff (irr.)	99	89	95	141	---	125	125	101	132	---
Box Butte (irr.)	108	---	136	112	127	106	121	107	148	114
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.

The NutriGold barley varieties were entered by Busch Agricultural Resources of Berthoud, Colorado. Questions about these entries should be addressed to the seed supplier.

Barley yield and other data from the Southeast, Northeast and West Nonirrigated and West Irrigated Districts are shown in Tables 10 through 15. The number of entries in barley tests was small.

Spring Wheat

Spring wheat data are shown in Tables 16 through 19. Oslo and Tammy are privately developed spring wheat varieties. These were entered by the Agricultural Research Division to provide information about their performance. Three spring triticale varieties were included. These were Marval, from South Dakota and Karl and Kramer, released by North Dakota. These yields are reported on a 60-pound bushel basis for ease in making direct comparisons with spring wheat on an equivalent basis. Triticale has a bushel weight of 48 pounds.

Table 3. Southeast District oat variety tests. 1978-1985. No 1986 data.

Variety	Grain yield bu/A										Weight lb/bu	
	1978	1979	1980	1981	1982	1983	1984	1985	1980-85 average	1978-85 average	1980-85 average	1978-85 average
Bates	43	26	85	38	67	78	78	100	74	64	34.0	32.3
Benson	32	24	77	27	60	75	80	100	70	59	32.2	30.6
Burnett	43	20	73	34	59	70	66	96	66	58	31.1	29.7
Don	--	--	--	--	72	80	89	120	--	--	----	----
Hazel	--	--	--	--	--	--	--	126	--	--	----	----
Kelly	--	--	--	--	--	43	78	79	--	--	----	----
Kelsey	47	18	91	27	64	38	89	99	68	59	32.9	31.2
Kherson	29	22	81	25	58	59	47	51	54	47	27.6	27.0
Lancer	44	25	86	32	72	43	78	93	67	59	33.1	31.7
Lang	61	16	72	45	66	69	78	--	--	--	----	----
Larry	--	--	78	48	74	60	78	121	77	--	33.1	----
Ogle	--	--	68	39	89	107	89	127	87	--	31.7	----
Otee	41	22	82	30	65	74	73	---	--	--	----	----
Pierce	--	--	--	--	--	--	--	79	--	--	----	----
Preston	--	--	76	25	69	70	75	---	--	--	----	----
Proat	--	--	--	--	--	--	--	91	--	--	----	----
Russell	40	24	74	21	57	48	57	81	56	50	32.1	30.7
Starter	--	--	--	--	--	--	87	107	--	--	----	----
Steele	--	--	--	--	--	--	--	99	--	--	----	----
Stout	43	10	55	27	62	43	73	---	--	--	----	----
Webster	--	--	--	--	--	--	82	112	--	--	----	----
Dif. req. sig.	10.9	6.8	11.7	8.0	10.2	14.0	12.8	5.3	14.5	9.8	1.4	1.3

Tests on Agricultural Research and Development Center, Mead.

Table 4. Northeast District oat variety test. Dixon County. 1986.

Variety	Flower June	Height inches	Lodging %	Grain bu/A	Weight lb/bu	Protein %	Straw cwt/A
Bates	12	37	23	96	35.3	12.4	32.6
Burnett	12	41	70	91	32.0	11.7	33.1
Don	9	36	20	93	36.7	11.8	27.4
Hazel	13	37	18	94	35.6	13.7	31.2
Hytest	16	41	19	79	39.5	14.4	34.3
Kelly	12	41	58	70	35.9	14.9	27.0
Kherson	18	41	60	69	25.5	12.6	37.2
Nodaway 70	11	42	62	78	37.3	12.4	29.0
Ogle	13	39	38	96	33.5	12.1	31.4
Pierce	19	37	11	96	35.5	14.8	38.0
Proat	18	38	41	99	34.0	13.7	34.1
Russell	18	40	10	95	32.1	11.3	40.0
Sandy	18	42	6	89	33.6	12.2	36.6
Starter	12	38	26	93	37.6	12.8	32.6
Steele	17	41	2	89	33.3	14.5	38.8
Webster	12	37	21	86	34.8	14.1	31.6
Dif. req. sig.	0.7	2.3	16	14.5	----	1.3	7.1

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

Table 5. Northeast District oat variety tests. 1979-1986.

Variety	Grain yield bu/A										Weight lb/bu	
	1979	1980	1981	1982	1983	1984	1985	1986	1984-86 average	1982-86 average	1986	1984-86 average
Bates	95	115	52	108	80	80	76	96	84	88	35.3	35.6
Benson	104	107	36	88	62	83	80	--	--	--	----	----
Burnett	94	112	49	92	55	74	77	91	81	78	32.0	33.6
Don	--	--	--	115	85	85	85	93	88	93	36.7	36.2
Hazel	--	--	--	--	--	--	87	94	--	--	35.6	----
Hytest	--	--	--	--	--	--	--	79	--	--	39.5	----
Kelly	--	--	--	--	--	60	76	70	69	--	35.9	37.3
Kelsey	108	108	35	89	53	91	89	--	--	--	----	----
Kherson	75	95	37	68	42	74	64	69	69	63	25.5	29.9
Lancer	103	110	44	86	59	68	81	--	--	--	----	----
Larry	--	120	61	106	62	58	84	--	--	--	----	----
Nodaway 70	--	--	--	--	--	--	--	78	--	--	37.3	----
Ogle	110	122	54	114	81	88	92	96	92	94	33.5	34.1
Pierce	--	--	--	--	--	--	74	96	--	--	35.5	----
Proat	--	--	--	--	--	--	82	99	--	--	34.0	----
Russell	101	--	--	95	56	77	70	95	81	79	32.1	33.9
Sandy	--	--	--	--	--	--	--	89	--	--	33.6	----
Starter	--	--	--	--	--	64	79	93	79	--	37.6	37.6
Steele	--	--	--	--	--	--	81	89	--	--	33.3	----
Webster	--	--	--	--	--	53	80	86	73	--	34.8	32.7
Dif. req. sig.	7.7	N.S.	10.7	11.8	N.S.	24.1	16.4	14.5	13.5	9.5	----	2.9

Location of tests (counties): 1979-1980 Dixon and Cedar; 1981 Cedar; 1982 Dixon; 1983-1984 Dixon and Cedar; 1985 Thurston and Dixon; 1986 Dixon.

Table 6. West District nonirrigated oat variety test. Cheyenne County. 1986.

Variety	Height inches	Yield bu/A	Weight lb/bu
Bates	30	86	34.7
Don	28	87	34.9
Hazel	28	86	33.7
Hytest	36	79	39.0
Kelly	34	67	34.7
Kherson	36	60	27.7
Nodaway 70	34	79	35.8
Ogle	31	97	31.4
Pierce	32	81	33.9
Proat	36	78	33.2
Russell	38	77	30.5
Sandy	38	85	32.7
Starter	32	82	35.1
Steele	36	79	31.2
Webster	32	86	33.1
Average all entries	33.4	80.6	33.4
Dif. req. sig.	1.6	18.2	1.5

Test on High Plains Agricultural Laboratory.

Table 7. West District nonirrigated oat variety tests. 1979-1986.

Variety	Grain yield bu/A										Weight lb/bu	
	1979	1980	1981	1982	1983	1984	1985	1986	1984-86 average	1982-86 average	1986	1984-86 average
Bates	81	40	109	98	78	59	62	86	69	77	34.7	35.2
Benson	92	35	83	108	77	62	55	--	--	--	----	----
Don	--	--	--	115	79	64	72	87	74	83	34.9	35.3
Hazel	--	--	--	--	--	--	70	86	--	--	33.7	----
Hytest	--	--	--	--	--	--	--	79	--	--	39.0	----
Kelly	--	--	--	--	--	58	48	67	58	--	34.7	35.6
Kelsey	103	38	88	83	52	82	62	--	--	--	----	----
Kherson	92	27	72	73	59	72	50	60	61	63	27.7	29.6
Lancer	93	38	91	111	77	59	65	--	--	--	----	----
Larry	--	44	97	111	81	56	77	--	--	--	----	----
Nodaway 70	--	--	--	--	--	--	--	79	--	--	35.8	----
Ogle	105	42	110	131	81	87	77	97	87	95	31.4	32.6
Pierce	--	--	--	--	--	67	62	81	70	--	33.9	34.7
Proat	--	--	--	--	--	--	63	78	--	--	33.2	----
Russell	85	36	--	90	73	71	61	77	70	74	30.5	33.0
Sandy	--	--	--	--	--	--	--	85	--	--	32.7	----
Starter	--	--	--	--	--	62	62	82	69	--	35.1	35.6
Steele	--	--	--	--	--	76	60	79	72	--	31.2	33.2
Webster	--	--	--	--	--	55	73	86	71	--	33.1	33.6
Dif. req. sig.	12.7	N.S.	21.3	16.4	6.2	7.8	9.3	18.2	12.5	11.8	1.5	1.3

Location of tests (counties): 1979-1986 Cheyenne.

Table 8. West District irrigated oat variety test. Box Butte County. 1986.

Variety	Flower June	Height inches	Yield bu/A	Weight lb/bu
Bates	23	34	92	38.1
Don	23	31	88	38.2
Hazel	23	33	92	38.8
Hytest	23	38	70	42.7
Kelly	19	37	66	39.5
Kherson	23	42	63	34.1
Nodaway 70	19	38	57	41.0
Ogle	23	35	113	36.0
Pierce	23	38	89	39.3
Proat	24	41	87	38.7
Russell	22	45	99	38.5
Sandy	23	45	85	38.2
Starter	22	34	84	38.2
Steele	23	41	93	37.4
Webster	20	35	94	37.3
Average all entries	22.2	37.8	84.8	38.4
Dif. req. sig.	1.8	3.3	14.3	1.1

Test on Northwest Agricultural Laboratory.

Table 9. West District irrigated oat variety tests. 1979-1986.

Variety	Grain yield bu/A										Weight lb/bu	
	1979	1980	1981	1982	1983	1984	1985	1986	1984-86 average	1982-86 average	1986	1984-86 average
Bates	70	81	102	98	84	102	117	92	104	99	38.1	36.2
Benson	66	84	109	72	86	102	108	--	--	--	----	----
Don	--	--	--	100	81	105	112	88	102	97	38.2	35.9
Hazel	--	--	--	--	--	--	120	92	--	--	38.8	----
Hytest	--	--	--	--	--	--	--	70	--	--	42.7	----
Kelly	--	--	--	--	--	92	87	66	82	--	39.5	36.6
Kelsey	82	96	127	101	87	119	131	--	--	--	----	----
Kherson	60	74	112	95	74	100	100	63	88	86	34.1	32.5
Lancer	79	70	116	79	77	96	115	--	--	--	----	----
Larry	--	73	130	91	76	92	116	--	--	--	----	----
Nodaway 70	--	--	--	--	--	--	--	57	--	--	41.0	----
Ogle	94	93	129	106	95	123	131	113	122	114	36.0	34.7
Pierce	--	--	--	--	--	123	112	89	108	--	39.3	37.3
Proat	--	--	--	--	--	--	107	87	--	--	38.7	----
Russell	83	89	118	89	85	114	113	99	109	100	38.5	36.6
Sandy	--	--	--	--	--	--	--	85	--	--	38.2	----
Starter	--	--	--	--	--	88	118	84	97	--	38.2	36.6
Steele	--	--	--	--	--	125	112	93	110	--	37.4	35.3
Webster	--	--	--	--	--	95	112	94	100	--	37.3	34.4
Dif. req. sig	15.7	16.7	20.2	N.S.	12.1	20.6	N.S.	14.3	14.0	9.0	1.1	----

Location of tests (counties): 1979-1980 Scotts Bluff and Box Butte; 1981 Box Butte; 1982-1985 Scotts Bluff and Box Butte; 1986 Box Butte.

Table 10. Southeast District barley variety test. Saunders County. 1986.

Variety	Flower date	Height inches	Lodging %	Yield bu/A	Weight lb/bu
Bowers	6/2	40	48	74	46.0
Custer	5/31	42	88	58	44.5
Hazen	6/2	41	11	93	45.2
Robust	6/2	41	31	86	46.5
Dif. req. sig.	0.7	1.5	19.4	6.6	----

Test on Agricultural Research and Development Center, Mead.

Table 11. Northeast District barley variety test. Dixon County. 1986.

Variety	Flower June	Height inches	Lodging %	Yield bu/A	Weight lb/bu
Bowers	10	35	6	59	48.3
Custer	9	35	6	56	47.8
Hazen	10	34	5	59	48.2
Robust	10	35	6	52	49.2
Dif. req. sig.	0.7	N.S.	N.S.	N.S.	----

Test on Northeast Research and Extension Center, Concord.

Table 12. Southeast District barley variety tests. 1977-1986. No 1981 data.

Variety	Grain yield bu/A										Weight lb/bu	
	1977	1978	1979	1980	1982	1983	1984	1985	1986	1984-86 average	1986	1984-86 average
Azure	--	--	15	39	40	36	45	85	--	--	----	----
Beacon	40	32	10	--	--	--	--	--	--	--	----	----
Bowers	46	42	14	57	37	34	46	71	74	64	46.0	46.2
Custer	43	38	12	53	32	26	43	68	58	56	44.5	44.2
Hazen	--	--	--	--	--	41	47	90	93	77	45.2	46.8
Morex	44	38	11	45	36	28	--	--	--	--	----	----
Primus II	41	--	--	--	--	--	--	--	--	--	----	----
Robust	--	--	--	--	--	42	43	81	86	70	46.5	46.7
Steptoe	40	33	16	50	31	14	19	55	--	--	----	----
Dif. req. sig.	9.5	8.8	2.9	N.S.	8.2	6.5	5.0	5.2	6.6	N.S.	----	N.S.

Tests on Agricultural Research and Development Center. Mead.

Table 13. Northeast District barley variety tests. 1977-1986. No 1981 data.

Variety	Grain yield bu/A										Weight lb/bu	
	1977	1978	1979	1980	1982	1983	1984	1985	1986	1984-86 average	1986	1984-86 average
Azure	--	--	77	79	83	36	72	62	--	--	----	----
Beacon	39	42	62	--	--	--	--	--	--	--	----	----
Bowers	53	52	81	85	91	40	82	62	59	68	48.3	49.4
Custer	50	56	78	75	76	40	62	63	56	60	47.8	47.5
Hazen	--	--	--	--	--	39	78	62	59	66	48.2	49.3
Lud	47	40	73	--	--	--	--	--	--	--	----	----
Morex	50	48	72	78	73	33	--	--	--	--	----	----
Nordic	42	44	75	--	--	--	--	--	--	--	----	----
Primus II	42	--	--	--	--	--	--	--	--	--	----	----
Robust	--	--	--	--	--	--	74	59	52	62	49.2	50.5
Steptoe	52	48	83	68	81	24	57	69	--	--	----	----
Dif. req. sig.	8.2	4.7	7.3	N.S.	8.1	5.4	6.5	5.2	N.S.	N.S.	N.S.	N.S.

Tests on Northeast Research and Extension Center. Dixon County.

Table 14. West District nonirrigated barley variety tests. Cheyenne County. 1979-1986.

Variety	Grain yield bu/A									Weight lb/bu		1986
	1979	1980	1981	1982	1983	1984	1985	1986	1983-86 average	1986	1983-86 average	Height inches
Azure	74	26	45	93	57	64	42	--	--	----	----	--
Bowers	70	27	38	94	49	65	40	50	51	44.2	44.3	36
Bumper	--	--	--	--	37	59	--	--	--	----	----	--
Custer	67	41	66	88	50	72	39	60	55	44.8	43.5	34
Hazen	--	--	--	--	58	63	47	46	54	45.2	44.9	33
Klages	--	--	--	--	--	52	--	--	--	----	----	--
Lindy	--	--	--	--	--	53	--	--	--	----	----	--
Piston	--	--	--	--	--	57	--	--	--	----	----	--
Premier	--	--	--	--	--	60	--	--	--	----	----	--
Robust	--	--	--	--	--	--	41	40	--	45.9	----	35
Steptoe	73	35	56	100	45	65	54	58	56	42.4	41.3	32
Teton	--	--	--	--	42	--	49	--	--	----	----	--
Dif. req. sig.	6.3	6.0	11.4	6.7	6.3	7.5	5.9	5.8	N.S.	1.3	2.4	1.8

Tests on High Plains Agricultural Laboratory, Sidney.

Table 15. West District irrigated barley variety tests. 1980-1986.

Variety	Grain yield bu/A								Weight lb/bu		1986	
	1980	1981	1982	1983	1984	1985	1986	1983-86 average	1986	1983-86 average	Flower June	Height inches
Azure	64	99	73	76	79	102	--	--	----	----	--	--
Bowers	65	102	72	72	80	103	62	79	48.5	47.4	18	37
Bumper	--	--	--	53	80	--	--	--	----	----	--	--
Custer	60	83	72	61	73	81	69	71	46.6	44.6	16	36
Hazen	--	--	--	72	81	106	64	81	48.3	47.1	18	36
Klages	--	--	--	--	75	106	--	--	----	----	--	--
Morex	61	95	64	62	--	--	--	--	----	----	--	--
NutriGold B1201	--	--	--	--	--	--	62	--	48.9	----	20	37
NutriGold B1202	--	--	--	--	--	--	64	--	49.5	----	20	32
Premier	--	--	--	--	--	101	--	--	----	----	--	--
Robust	--	--	--	--	--	94	61	--	48.8	----	17	37
Steptoe	76	124	81	57	83	111	68	80	45.9	44.2	18	34
Teton	--	--	--	60	--	128	--	--	----	----	--	--
Dif. req. sig.	N.S.	16.0	13.8	N.S.	N.S.	19.1	N.S.	N.S.	1.2	1.2	1.2	2.7

Location of tests (counties): 1980 Scotts Bluff and Box Butte; 1981 Box Butte; 1982-1985 Scotts Bluff and Box Butte; 1986 Box Butte.

Table 16. Southeast District spring wheat variety tests. Saunders County. 1980-1986.

Variety	Grain yield bu/A								Weight lb/bu		1986	
	1980	1981	1982	1983	1984	1985	1986	1984-86 average	1986	1984-86 average	Flower June	Height inches
Butte	23	13	17	21	18	24	32	25	54.4	54.6	3	41
Butte 86	--	--	--	--	--	--	39	--	54.8	----	3	39
Guard	--	--	--	21	28	37	41	35	56.1	56.3	5	38
James	23	13	10	21	25	24	--	--	----	----	-	--
Len	23	14	14	13	18	22	--	--	----	----	-	--
Marshall	27	6	12	21	23	20	28	24	52.3	55.1	8	32
Olso	--	--	11	14	24	38	36	33	52.0	52.7	2	33
Stoa	--	--	--	--	32	33	--	--	----	----	-	--
Tammy	--	--	--	--	--	--	24	--	51.7	----	5	37
Wheaton	--	--	--	--	25	29	32	29	50.8	51.4	6	33
Karl Triticale	--	--	--	--	--	--	25	--	41.2	----	4	37
Kramer Triticale	--	--	--	--	--	--	34	--	40.1	----	4	40
Marval Triticale	--	--	--	--	--	--	24	--	39.7	----	5	46
Dif. req. sig.	5.6	5.6	2.6	4.5	4.0	3.6	2.6	6.5	----	N.S.	0.6	2.9

Triticale yields on 60 lb/bu basis. For yield at 48 lb/bu, multiply x 1.25.
Tests on Agricultural Research and Development Center, Mead.

Table 17. Northeast District nonirrigated spring wheat variety tests. Dixon County. 1980-1986. No 1981 data.

Variety	Grain yield bu/A							Weight lb/bu		1986		
	1980	1982	1983	1984	1985	1986	1984-86 average	1986	1984-86 average	Flower June	Height inches	Lodging %
Butte	40	36	15	42	43	24	36	57.7	59.3	12	40	3
Centa	--	41	17	42	41	--	--	----	----	--	--	-
Guard	--	--	--	47	45	32	41	57.5	58.8	12	34	1
James	44	35	18	44	35	--	--	----	----	--	--	-
Len	36	30	17	37	36	--	--	----	----	--	--	-
Marshall	--	29	25	42	40	28	37	57.5	58.3	17	31	0
Oslo	--	28	17	40	43	26	36	51.3	54.9	12	31	0
Stoa	--	--	--	47	44	35	42	59.2	59.7	15	40	Tr.
Tammy	--	--	--	--	--	28	--	57.1	----	12	35	2
Wheaton	--	--	--	48	43	32	41	55.6	57.0	16	31	0
Karl Triticale	--	--	--	--	--	28	--	44.7	----	10	32	0
Kramer Triticale	--	--	--	--	--	34	--	45.1	----	10	27	0
Marval Triticale	--	--	--	--	--	30	--	43.5	----	15	43	1
Dif. req. sig.	4.8	4.8	1.9	4.0	4.3	3.3	3.8	----	1.8	1.2	2.5	1.7

Triticale yields on 60 lb/bu basis. For yield at 48 lb/bu, multiply x 1.25.
Tests on Northeast Research and Extension Center, Concord.

Table 18. West District nonirrigated spring wheat variety tests. Cheyenne County. 1979-1986.

Variety	Grain yield bu/A									Weight lb/bu		1986
	1979	1980	1981	1982	1983	1984	1985	1986	1984-86 average	1986	1984-86 average	Height inches
Butte	46	17	22	45	28	34	28	28	30	53.5	55.8	37
Centa	--	--	--	45	27	33	29	--	--	----	----	--
Guard	--	--	--	--	--	35	29	33	32	56.6	56.6	33
James	--	16	28	53	28	38	33	--	--	----	----	--
Len	47	16	16	48	28	36	32	--	--	----	----	--
Marshall	--	--	11	44	31	38	29	29	32	54.8	55.4	29
Oslo	--	--	--	46	27	30	30	34	31	53.9	54.8	29
Stoa	--	--	--	--	--	41	32	27	33	52.8	55.4	39
Tammy	--	--	--	--	--	--	--	34	--	56.5	----	34
Wheaton	--	--	--	--	--	36	36	34	35	53.8	54.5	31
Karl Triticale	--	--	--	--	--	--	--	34	--	47.5	----	32
Kramer Triticale	--	--	--	--	--	--	--	34	--	44.7	----	33
Marval Triticale	--	--	--	--	--	--	--	27	--	42.2	----	43
Dif. req. sig.	4.3	N.S.	9.0	4.6	3.5	5.1	N.S.	5.0	N.S.	1.1	N.S.	2.3

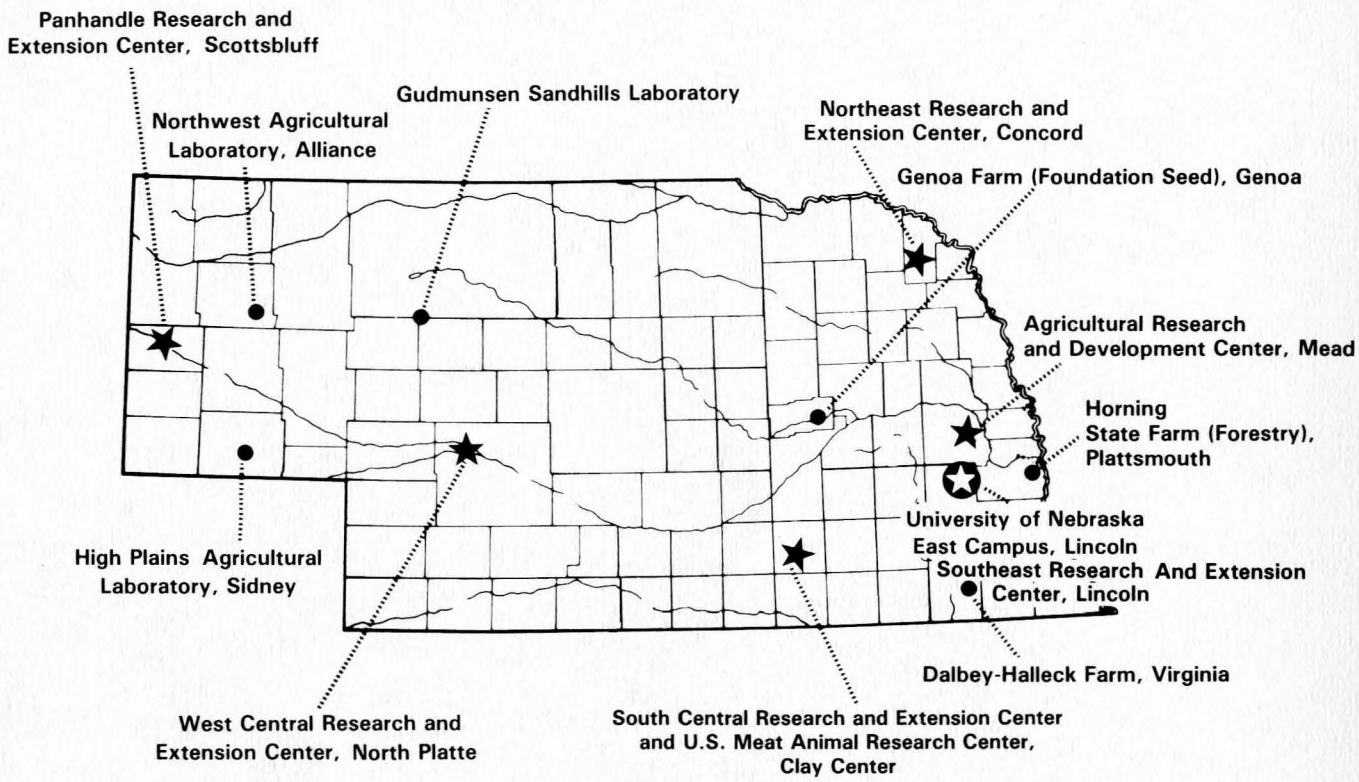
Triticale yields on 60 lb/bu basis. For yield at 48 lb/bu, multiply x 1.25.
Tests on High Plains Agricultural Laboratory, Sidney.

Table 19. West District irrigated spring wheat variety tests. 1980-1986.

Variety	Grain yield bu/A								Weight lb/bu		1986	
	1980	1981	1982	1983	1984	1985	1986	1984-86 average	1986	1984-86 average	Flower June	Height inches
Butte	41	60	38	38	60	60	39	53	60.6	60.1	19	38
Centa	--	--	45	36	52	65	--	--	----	----	---	--
Guard	--	--	--	--	51	71	40	54	59.7	59.2	18	31
James	42	63	44	38	57	76	--	--	----	----	--	--
Len	37	64	43	37	51	73	--	--	----	----	--	--
Marshall	--	61	43	40	62	80	42	61	60.2	59.4	20	30
Olso	--	--	46	35	63	75	42	60	57.6	57.3	18	29
Stoa	--	--	--	--	57	77	43	59	58.8	59.0	20	40
Tammy	--	--	--	--	--	--	44	--	59.8	----	19	33
Wheaton	--	--	--	--	55	81	40	59	57.5	57.2	20	29
Kramer Triticale	--	--	--	--	--	--	44	--	46.6	----	18	33
Marval Triticale	--	--	--	--	--	--	41	--	48.3	----	18	40
Dif. req. sig.	N.S.	N.S.	N.S.	N.S.	N.S.	9.8	N.S.	N.S.	1.0	1.3	0.7	2.5

Triticale yields on 60 lb/bu basis. For yield at 48 lb/bu multiply x 1.25.
Location of tests (counties): 1980 Scotts Bluff and Box Butte; 1981 Box Butte; 1982-1985 Scotts Bluff and Box Butte; 1986 Box Butte.

AGRICULTURAL RESEARCH AND EXTENSION FOR ALL OF NEBRASKA



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