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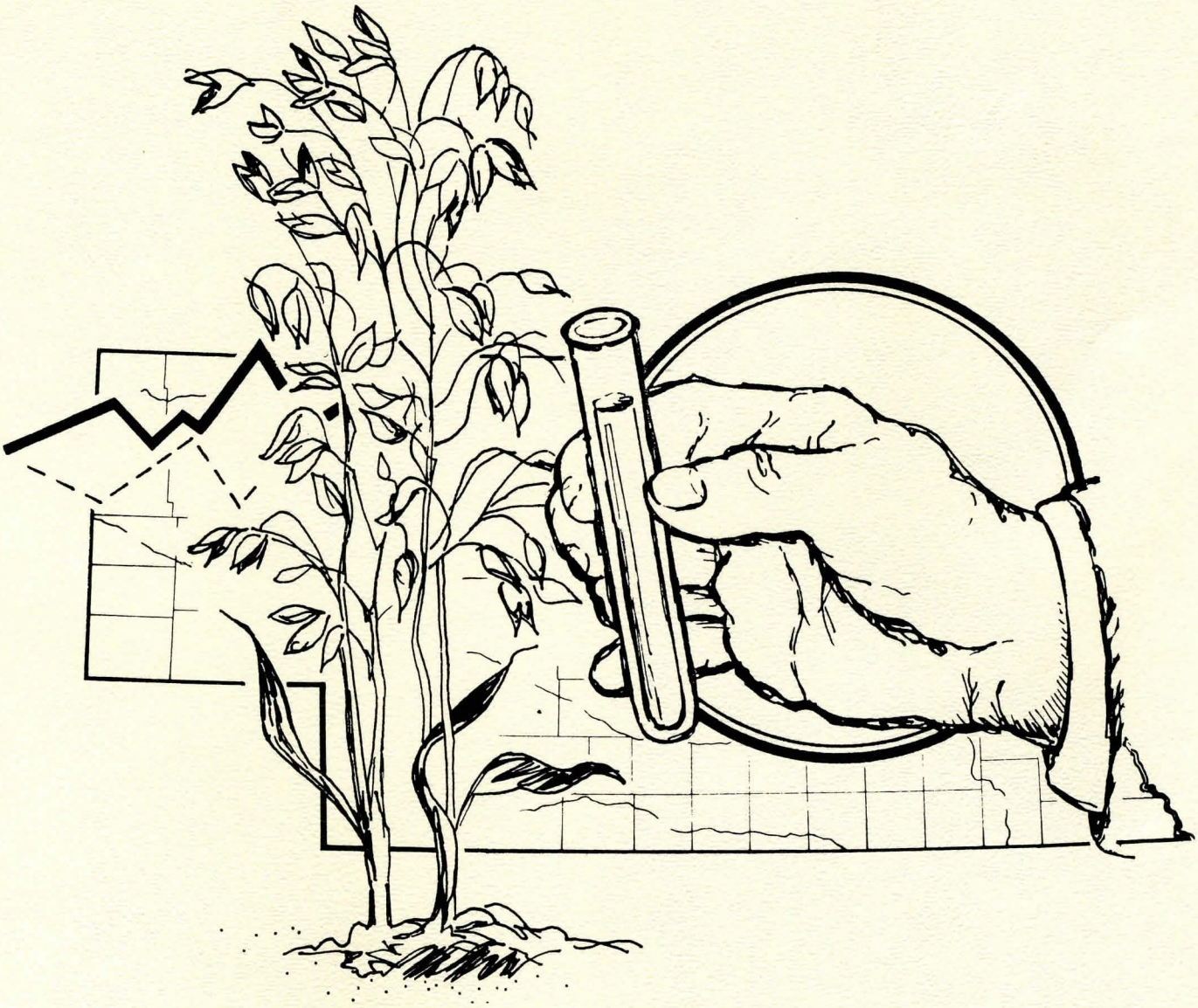
NEBRASKA SPRING SMALL GRAIN VARIETY TESTS 1990



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EXTENSION CIRCULAR 90-102

NEBRASKA SPRING SMALL GRAIN

VARIETY TESTS

OCTOBER 1990

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All tests were conducted on University owned land.

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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 90-102

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NEBRASKA OATS AND BARLEY PRODUCTION

	Oats		Barley	
Year	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
1982	460	58.0	22	50.0
1984	320	49.0	78	34.0
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 [1]	300	48.0	22	35.0

[1] 1990 data are preliminary. Comparable data for spring wheat are not available.

NEBRASKA SPRING SMALL GRAIN

VARIETY TESTS

1990

Favorable weather in the spring of 1990 allowed for normal planting of spring grain throughout the state. Most of the state got adequate rains after planting to keep the crop going. High temperatures and dry conditions throughout the early summer reduced yields and decreased the test weight of the grain as well. The Russian Wheat Aphid was a problem in western Nebraska. In addition to the hot dry weather, one of the western locations also had hail.

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 1.

Horicon was released from Wisconsin in 1989. It is a medium maturity tall oat with tan grain color.

Monida is a 1985 release from Idaho. It has white seed. It is included for the first time in Nebraska tests because of it's performance in the western regions. It was only tested in the Panhandle.

Valley is a 1988 release from North Dakota. It has ivory seed, is late maturing, has moderate tolerance to barley yellow dwarf mosaic, and good rust resistance. It's parentage is Froker/RL3038//Hudson/3/Porter.

Newdak 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.

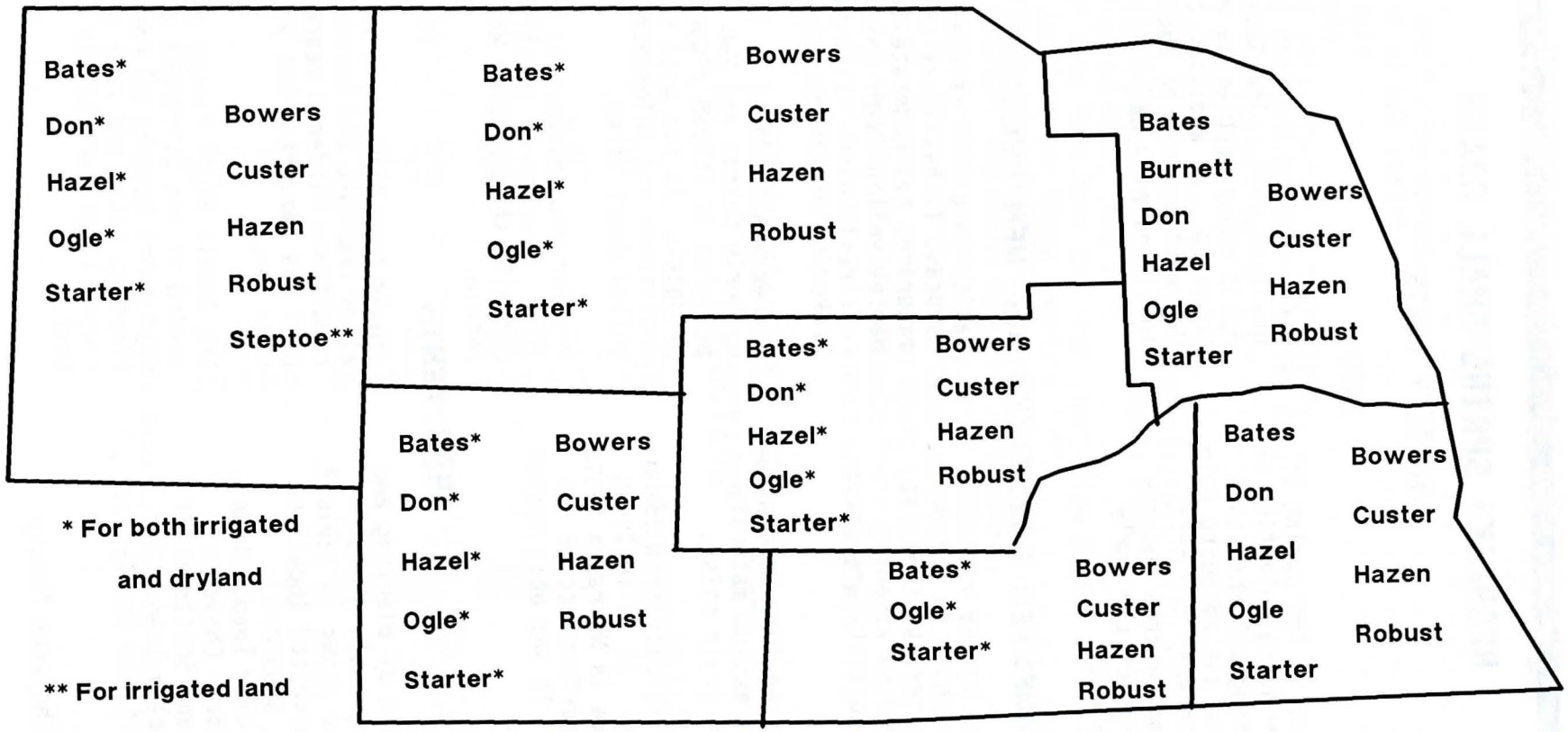
Premier was released by Minnesota in 1990. Premier is a yellow, plump oat with the pedigree Wisc1961-1 /Noble.

1990 TESTS

Locations and dates of planting and harvest for spring small grain variety trials are shown in Table 2. Soil types for harvested locations were as follows: Saunders - Sharpsburg silty clay loam; Dixon - Nora silty clay loam; Cheyenne - Keith silt loam; and Scotts Bluff - Tripp fine sandy clay loam. The Nora silt loam in Dixon County was eroded.

A June 2 hail in Cheyenne County should have been early enough to allow regrowth and harvest, but dry conditions hindered regrowth. The plot was harvested but yields were very low.

The Scotts Bluff County plot was seeded at two different dates ten days apart because of rain. Planting dates and soil variability caused large variability in that test.



Suggested Oat and Barley varieties for Nebraska
1990

Table 1. Characteristics of oat varieties in Nebraska tests.

Variety	Origin	Year released	Maturity	Plant height	Straw strength	Grain color
Bates	Missouri	1975	Early	Short	Strong	Dark
Burnett	Iowa	1957	Medium	Medium	Medium	Ivory
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
Kherson	Russia	1986	Med-late	Tall	Weak	Pale Brown
Newdak	North Dakota	1990	Medium	Medium	Medium	White
Nodaway 70	Missouri	1970	Early	Medium	Weak	White
Ogle	Illinois	1981	Medium	Short	Strong	Yellow
Pierce	North Dakota	1983	Late	Medium	Medium	White
Premier	Minnesota	1990	Medium	Short	Medium	Yellow
Proat	Minnesota	1985	Late	Tall	Strong	Ivory
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
Trucker	South Dakota	1988	Medium	Tall	Medium	White
Valley	North Dakota	1988	Late	Medium	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 grain tests - 1990

County	Cooperator	Planted	Harvested
	Oats		
Saunders	Agricultural Res. & Dev. Center	March	Aug 1
Dixon	Northeast Res. & Ext. Center	April 3	July 16
Cheyenne	High Plains Ag. Laboratory	April 12	Aug 6 1/
Scotts Bluff (irr.)	Panhandle Res. & Ext. Center	April 4 & 14	July 30
	Barley		
Saunders	Agricultural Res. & Dev. Center	March	Aug 1
Dixon	Northeast Res. & Ext. Center	April 3	July 12
Cheyenne	High Plains Ag. Laboratory	April 12	Aug 6 1/
Scotts Bluff (irr.)	Panhandle Res. & Ext. Center	April 14	July 30
	Spring Wheat		
Saunders	Agricultural Res. & Dev. Center	March	Aug 1
Dixon	Northeast Res. & Ext. Center	April 3	July 17
Cheyenne	High Plains Ag. Laboratory	April 12	Aug 6 1/
Scotts Bluff (irr.)	Panhandle Res. & Ext. Center	April 14	July 30

1/ Hailed June 2. Regrowth harvested.

Oats

The results from the Saunders County test are shown in Table 3. These plots were quite dry and the heat was above normal most of the summer. The results of 1986-1990 oat tests are shown in Table 4.

Results from Dixon County are shown in Table 5. Yields had a wide range with early maturing varieties having the highest yields. Barley Yellow Dwarf Virus was very prevalent but was quite variable so results are not shown. Protein content of the grain was good and included in Table 5. Results of 1986-1990 oat tests in this area are shown in Table 6.

A dryland oat test was conducted in Cheyenne County. Although the plot was hailed on June 2, there was time for regrowth. Yields were low because of the small rainfall amounts. Yields from that test are shown in Table 7. The 1986 - 1990 data for West dryland oats is shown in Table 8.

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 9. Irrigated oat variety data for the 1986-1990 period are shown in Table 10.

Two additional oat tests were conducted in Knox and Boyd Counties by Moomaw, Watkins, Gompert and Kulm to study barley yellow dwarf mosaic virus. Data from these tests and a description is included on page 18. Yield and bushel weight were highly correlated with BYDMV severity.

Barley

Four spring barley varieties were tested in the eastern tests and five in the western tests. None of these varieties are new entries.

Barley yield and other data from the Southeast, and Northeast non irrigated, and West Irrigated and dryland Districts are shown in Tables 11 through 17.

Spring Wheat

Spring wheat data are shown in Tables 18 through 25. Oslo is a privately developed spring wheat variety. It was entered by the Agricultural Research Division to provide information about its performance.
Prospect and Shield are varieties that have been tested for three years and Amidon is a new release from North Dakota tested for the second time.

Two spring triticale varieties were included. These were Marval, from South Dakota 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. The inclusion of triticale lowers the bushel weight averages in period of years.

Table 3. Saunders County oat variety test - 1990

Variety	Yield bu/a	Heading Date[1]	Lodging %	Height inches
Ogle	66.7	8	5	39
O-21	52.1	9	3	39
O-22	47.2	8	7	39
Webster	46.8	5	12	39
O-20	36.6	9	10	40
O-23	36.3	7	3	36
Horicon	31.9	8	25	40
Bates	29.8	4	20	37
Starter	25.3	5	7	38
Valley (ND 820603)	24.8	13	5	37
Hazel	22.9	8	7	35
Premier	22.4	8	13	37
Don	20.5	6	15	35
Steele	20.1	11	10	41
Trucker	18.6	11	17	38
Hytest	18.2	9	18	43
Nodaway 70	18.0	5	8	41
Newdak	17.7	10	8	38
Burnett	13.4	5	37	38
Proat	12.2	13	22	40
Sandy	11.0	12	15	44
Kherson	6.6	12	50	41
Pierce	4.6	13	50	36
Average	26.3	9	16	39
LSD (0.10)	9.7	0.8	8	2
C.V. (%)	27.0	7	37	3

[1] Heading date is represented in days after June 1, 1990.

Table 4. Southeast Distict oat variety tests. Yield and bushel weight.
Over years 1985 – 1990 (1986 missing).

	Five Years		Four Years		Three Years		Two Years	
Variety	Yield bu/a	Bushel weight	Yield bu/a	Bushel weight	Yield bu/a	Bushel weight	Yield bu/a	Bushel weight
Bates	60	34.0	50	33.0	47	33.3	40	35.0
Burnett	54	31.6	44	31.0	37	31.0	32	32.0
Don	63	34.4	48	33.5	40	34.0	33	35.0
Hazel	62	32.6	46	31.5	38	31.6	32	33.0
Horicon	--	---	58	30.5	50	30.3	41	31.0
Hytest	--	---	47	34.5	40	34.0	35	36.0
Kherson	33	26.8	28	26.3	23	25.7	21	27.0
Nodaway 70	--	---	35	33.8	34	33.7	31	34.5
Ogle	83	31.8	72	30.8	68	31.0	65	32.0
Pierce	42	30.8	33	29.5	27	28.7	24	31.0
Proat	49	31.0	39	29.3	31	28.7	31	31.0
Sandy	--	---	38	30.8	32	30.3	31	33.0
Starter	55	34.2	42	33.3	35	33.3	35	35.0
Steele	54	30.4	42	29.0	33	28.3	33	30.0
Trucker	--	---	41	33.3	33	32.7	34	36.0
Webster	63	31.2	51	30.0	45	30.0	43	31.0
O-20	--	---	--	---	--	---	47	32.0
O-21	--	---	--	---	--	---	52	31.0
O-22	--	---	--	---	--	---	51	31.0
Average	56	31.7	45	31.2	38	31.0	37	32.4
L.S.D. .05	6	0.8	6	1.0	7	1.1	11	0.5

Table 5. Dixon County Oat variety test - 1990

Variety	Yield bu/a	Heading June	Height inches	Lodging %	Bushel weight	Straw T/a	Protein %
Don	84	14	27	4	32.2	0.90	14.43
Ogle	82	15	28	3	29.2	1.08	14.89
Premier	81	15	29	10	30.4	1.41	13.99
O-22	80	16	26	1	28.8	1.08	14.15
Starter	78	14	28	5	31.6	1.04	14.99
Webster	76	13	29	1	30.2	1.30	16.71
Hazel	75	15	26	2	32.6	1.42	17.18
Bates	75	11	27	7	32.4	1.06	17.38
O-21	73	16	27	2	28.4	1.14	15.54
O-23	72	15	25	1	32.4	1.28	13.97
Horicon	71	17	28	4	28.6	1.33	15.30
Burnett	69	14	29	8	29.6	1.07	16.13
Nodaway 70	62	13	30	12	31.4	1.18	15.80
O-20	59	18	30	1	23.6	1.26	13.71
Newdak	58	16	30	4	29.6	1.17	14.75
Valley	51	19	27	0	27.0	1.28	13.96
Steele	48	18	32	7	24.0	1.31	12.91
Hytest	47	16	34	3	30.8	1.66	15.32
Trucker	44	16	32	3	27.8	1.51	14.95
Pierce	44	21	31	8	25.4	1.46	16.63
Proat	43	20	32	2	25.2	1.39	14.92
Kherson	36	19	32	14	18.8	1.45	12.64
Sandy	35	21	34	3	23.6	1.62	12.85
Average	63	16	29	5	28.4	1.28	14.96
Dif Req for Sig	12	1	2	5	2.4	0.40	1.69

Table 6. Northeast District oat variety tests. Yield and bushel weight.
Over years 1986 - 1990.

	Five Years		Four Years		Three Years		Two Years	
Variety	Yield bu/a	Bushel weight	Yield bu/a	Bushel weight	Yield bu/a	Bushel weight	Yield bu/a	Bushel weight
Bates	72	32.4	66	31.8	62	31.1	63	32.1
Burnett	65	31.5	58	31.3	56	29.8	57	30.2
Don	74	33.3	72	32.4	70	31.8	72	33.3
Hazel	72	32.6	67	31.7	63	30.6	62	32.0
Horicon	--	---	--	---	63	29.1	65	30.2
Hytest	49	34.8	42	33.5	44	31.7	44	33.1
Kherson	45	24.7	39	24.4	35	22.5	34	22.8
Nodaway 70	55	33.6	49	32.8	48	31.7	52	34.0
Ogle	77	30.7	73	29.9	69	28.9	69	29.9
Pierce	53	30.2	42	28.8	38	26.7	36	26.5
Proat	54	29.7	43	28.7	38	26.9	41	27.4
Sandy	47	29.9	36	28.9	34	26.8	38	27.8
Starter	70	34.4	64	33.5	63	32.7	65	33.6
Steele	57	29.4	50	28.5	44	26.6	45	27.0
Trucker	--	---	40	31.3	39	29.8	47	32.2
Webster	66	31.0	61	30.0	62	29.0	63	30.0
O-20	--	---	--	---	--	---	54	27.8
O-21	--	---	--	---	--	---	63	29.2
O-22	--	---	--	---	--	---	70	29.7
Average	61	31.3	53	30.5	52	29.1	54	29.9
L.S.D. .05	5	1.1	5	1.4	6	1.7	8	2.3

Table 7. Cheyenne County dryland oat test - 1990.

Variety	Yield bu/a	Heading June	Height inches	Lodging %	Bushel weight
Ogle	31	19	25	13	22.8
Webster	28	18	28	10	25.4
O-21	27	20	24	10	21.7
O-22	26	20	24	10	22.3
Horicon	23	20	25	23	23.5
Premier	23	19	27	18	29.4
O-20	23	24	25	15	23.7
Bates	20	18	25	25	25.6
FL501	20	16	21	15	28.0
Newdak	18	21	25	10	22.5
Don	16	17	24	20	25.5
Monida	16	26	21	8	23.0
Burnett	15	18	27	33	22.6
O-23	15	20	23	8	27.1
Starter	15	17	27	15	26.3
Hytest	14	22	29	25	28.1
Trucker	14	21	28	28	28.9
Hazel	14	19	23	8	24.7
Valley	14	21	24	10	25.4
Pierce	12	28	25	5	24.7
Proat	11	24	24	11	21.0
Nodaway 70	10	18	28	67	27.7
FL502	10	17	20	0	30.3
Steele	9	22	25	8	21.4
Sandy	8	25	27	18	21.9
Kherson	5	25	26	88	21.8
Average	17	21	25	19	24.8
Dif Req for Sig 5%	5	1	2	11	3.2

Plot was hailed severely on June 2.

Table 8. West District Dryland Oat variety tests. Yield and bushel weight. Over years 1986 - 1990 (1988 missing).

	Four Years		Three Years		Two Years	
Variety	Yield bu/a	Bushel weight	Yield bu/a	Bushel weight	Yield bu/a	Bushel weight
Bates	58	32.5	48	31.8	31	29.4
Burnett	--	---	--	---	27	26.4
Don	56	32.1	45	31.2	27	28.6
Hazel	59	31.9	50	31.2	27	29.0
Horicon	--	---	53	30.1	30	27.5
Hytest	50	35.1	40	33.8	22	30.7
Kherson	44	27.1	38	26.9	20	24.3
Nodaway 70	45	34.0	34	33.3	20	30.8
Ogle	71	30.2	62	29.8	37	27.0
Pierce	57	32.2	48	31.6	20	28.5
Proat	53	31.2	45	30.5	22	26.5
Sandy	53	31.0	42	30.4	20	26.9
Starter	54	33.3	45	32.7	24	30.3
Steele	53	29.3	44	28.6	18	25.6
Trucker	--	---	40	33.8	22	30.8
Webster	60	31.3	52	30.7	32	28.3
O-20 PA 84	--	---	--	---	31	27.6
O-21 P7869	--	---	--	---	33	26.3
O-22 MO 805	--	---	--	---	33	26.4
FL501	--	---	--	---	22	28.3
FL502	--	---	--	---	16	31.9
Average	55	31.6	46	31.1	25	28.1
L.S.D. .05	5	1.2	6	1.5	NS	N.S.

Table 9. Scotts Bluff County Irrigated Oat variety test. 1990

Variety	Yield bu/a	Bushel weight	Height inches	Lodging %
FL501	77	33.6	29	30.0
Horicon	75	28.3	35	50.0
O-23	68	31.1	29	45.0
Newdak	67	26.3	34	37.5
Webster	65	26.7	32	35.0
Ogle	61	29.6	35	30.0
Valley	56	27.8	31	42.5
O-21	56	28.3	34	30.0
O-22	56	23.3	31	70.0
Starter	54	26.2	29	90.0
Bates	54	30.1	33	55.0
Don	53	30.0	33	80.0
Monida	53	27.7	31	15.0
Premier	53	30.1	34	60.0
Pierce	52	27.3	29	18.8
FL502	52	33.0	24	10.0
Hytest	51	28.2	33	62.5
O-20	50	24.4	32	55.0
Proat	49	27.8	31	50.0
Steele	49	23.8	29	52.5
Sandy	46	23.5	29	25.0
Trucker	44	28.3	35	77.5
Burnett	42	26.3	34	82.5
Hazel	42	29.7	31	55.0
Nodaway 70	40	30.7	42	60.0
Kherson	30	23.5	37	27.5
Average	57	27.9	32	47.9
L.S.D. 5%	NS	5.1	7	39.8

Table 10. West District Irrigated Oat variety tests. Yield and bushel weight Over years 1986 - 1990.

	Five Years		Four Years		Three Years		Two Years	
Variety	Yield bu/a	Bushel weight	Yield bu/a	Bushel weight	Yield bu/a	Bushel weight	Yield bu/a	Bushel weight
Bates	79	34.1	76	33.1	65	32.5	56	31.8
Burnett	--	---	--	---	--	---	52	29.1
Don	81	34.1	80	33.1	67	32.1	54	31.2
Hazel	81	34.3	78	33.2	70	31.9	56	31.4
Horicon	--	---	82	31.2	72	30.0	62	29.5
Hytest	67	35.6	66	33.8	56	31.4	44	29.6
Kherson	61	29.0	60	27.7	51	26.3	39	25.9
Nodaway 70	59	34.6	59	33.0	51	32.4	42	31.6
Ogle	92	32.5	86	31.6	73	30.8	62	30.8
Pierce	78	33.0	75	31.6	64	29.7	51	28.6
Proat	73	33.4	70	32.0	60	30.3	49	29.9
Sandy	73	31.7	71	30.1	63	27.4	50	26.2
Starter	73	33.7	71	32.6	63	31.1	51	29.7
Steele	76	30.4	72	28.8	60	26.7	50	25.6
Trucker	--	---	62	32.9	57	30.8	45	30.3
Webster	77	31.6	73	30.3	65	29.3	54	28.0
O-20	--	---	--	---	--	---	58	27.5
O-21	--	---	--	---	--	---	69	29.8
O-22	--	---	--	---	--	---	63	27.7
FL501	--	---	--	---	--	---	61	32.3
FL502	--	---	--	---	--	---	48	33.6
Average	75	32.9	72	31.7	63	30.2	53	29.5
L.S.D. 5%	4	1.0	5	1.1	6	0.9	NS	1.7

Table 10A. Oat Data Boyd and Knox County - 1990

Knox County

Variety	Yield bu/a	Bushel weight	Height inches	Lodging %	Protein %	BYDMV rating
Ogle	89	29.2	31	2.5	14.19	1.0
Don	87	31.5	30	2.5	14.08	1.5
Hazel	86	32.2	28	0.0	15.45	1.5
Settler	76	29.0	32	20.0	15.19	2.3
Otee	72	30.5	31	0.0	16.31	3.0
Bates	68	30.5	30	2.5	16.70	2.3
Starter	62	31.2	31	2.5	16.28	2.0
Hytest	54	29.5	35	2.5	15.90	4.0
Kelly	50	27.5	31	5.0	16.53	4.3
Burnett	41	26.5	32	7.5	14.13	5.0
Trucker	38	27.0	32	2.5	16.41	4.7
Average	66	29.5	31	4.3	15.56	2.9
L.S.D. 5%	13	2.2	2	4.7	1.43	0.6

Boyd County

Variety	Yield bu/a	Bushel weight	Height inches	Lodging %	Straw T/a	Protein %	BYDMV rating
Hazel	81	26.8	33	4.0	1.53	15.11	1.3
Starter	75	28.5	36	11.0	1.41	15.22	2.3
Don	75	28.3	32	10.0	1.20	13.67	1.5
Bates	75	28.3	35	9.0	1.52	16.57	1.7
Ogle	73	25.8	35	8.0	1.79	13.69	1.3
Settler	72	27.0	41	30.0	1.85	14.78	2
Otee	66	27.3	36	6.0	1.89	16.92	2.3
Kelly	62	27.3	37	15.0	1.54	15.61	3.5
Hytest	54	29.5	41	9.0	2.17	16.43	3.7
Burnett	47	23.8	38	15.0	1.85	14.00	4.5
Trucker	37	25.5	36	6.0	1.76	15.20	4.5
Average	65	27.1	36	11.0	1.69	15.20	2.6
L.S.D. 5%	13	1.8	3	5.0	0.38	1.72	0.6

Table 11. Dryland Spring Barley Test - 1990
Dixon and Saunders Counties.

Variety	Dixon County Yield bu/a	Dixon County Bushel weight	Saunders County Yield bu/a	Saunders County Flowering June 1	Saunders County Height inches
Custer	67	44.6	28.5	6	32
Bowman	61	47.8	38.2	6	34
Hazen	60	43.4	33.6	8	35
Robust	55	45.0	38.2	8	34
Average	61	45.2	34.6	7	34
L.S.D. 5%	6	2.9	17.4	1	3

Table 12. Cheyenne County Spring Barley Test
Dryland - 1990

Variety	Yield bu/a	Heading June	Height inches	Lodging %	Bushel weight
Steptoe	24	17	27	30	33.3
Bowman	22	17	25	45	38.7
Custer	21	18	24	50	31.0
Hazen	16	18	26	20	30.6
Robust	15	18	25	50	32.4
Average	20	18	25	39	33.2
L.S.D. 5%	2	1	2	28	4.2

Table 13. Scotts Bluff County Barley
Irrigated - 1990

Variety	Yield bu/a	Height inches	Lodging %	Bushel weight
Steptoe	79	36	61.3	43.1
Bowman	75	36	20.0	48.4
Hazen	74	40	8.8	45.7
Robust	61	40	26.3	46.6
Custer	57	38	67.5	45.1
Average	69	38	36.8	45.8
L.S.D. 5%	12	3	27.6	1.0

Table 14. Northeast Nebraska dryland spring barley.
Yield and bushel weight. 1986 - 1990

	Five Years		Four Years		Three Years		Two Years	
Variety	Yield bu/a	Bushel weight	Yield bu/a	Bushel weight	Yield bu/a	Bushel weight	Yield bu/a	Bushel weight
Bowman	49	47.0	48	46.7	44	48.3	44	49.4
Custer	52	45.3	51	44.7	49	45.6	49	45.0
Hazen	49	45.8	47	45.2	43	45.9	43	44.4
Robust	45	47.3	43	46.8	41	47.8	40	46.2
Average	49	46.4	47	45.9	44	46.9	44	46.2
L.S.D. .05	2	N.S.	2	N.S.	2	N.S.	3	1.2

Table 15. Southeast District Spring Barley variety tests. Yields and bushel weights over years 1986 - 1990.

	Five Years		Four Years		Three Years		Two Years	
Variety	Yield bu/a	Bushel weight	Yield bu/a	Bushel weight	Yield bu/a	Bushel weight	Yield bu/a	Bushel weight
Bowman	40	47.8	32	48.3	30	50.0	24	53
Custer	41	48.2	37	49.0	37	50.3	33	51
Hazen	47	47.4	35	48.0	35	49.3	28	51
Robust	46	49.2	36	49.8	36	51.0	32	53
Average	44	48.2	35	48.8	35	50.2	29	52
L.S.D. .05	NS	N.S.	NS	N.S.	2	N.S.	2	N.S.

Table 16. West District Irrigated Barley variety tests. Yield and bushel weight. Over years 1986 - 1990

	Five Years		Four Years		Three Years		Two Years	
Variety	Yield bu/a	Bushel weight	Yield bu/a	Bushel weight	Yield bu/a	Bushel weight	Yield bu/a	Bushel weight
Bowman	70	45.6	72	44.7	72	43.9	84	50.9
Custer	67	43.6	67	42.8	66	41.0	68	46.5
Hazen	69	44.7	70	43.9	72	42.2	83	47.8
Robust	59	44.6	58	43.5	59	41.6	66	47.0
Steptoe	77	42.4	80	41.5	80	39.9	91	45.4
Average	68	44.2	69	43.3	70	41.7	78	47.5
L.S.D. .05	4	0.9	5	N.S.	NS	N.S.	5	N.S.

Table 17. West District Dryland Spring Barley variety test. Yield and bushel weight. Over years 1985 - 1990 (1988 missing).

	Five Years		Four Years		Three Years		Two Years	
Variety	Yield bu/a	Bushel weight	Yield bu/a	Bushel weight	Yield bu/a	Bushel weight	Yield bu/a	Bushel weight
Bowman	45	43.8	46	44.1	45	44.1	38	42.8
Custer	46	41.3	47	41.1	43	39.8	37	36.3
Hazen	41	42.2	39	41.6	37	40.4	29	36.7
Robust	36	42.9	34	42.2	32	40.9	25	37.1
Steptoe	49	40.5	48	40.3	48	39.6	39	36.8
Average	43	42.2	43	41.8	41	41.0	34	37.9
L.S.D. .05	3	N.S.	3	N.S.	3	N.S.	NS	2

Table 18. Dixon County Spring Wheat Variety Test - 1990

Variety	Yield bu/a	Heading June	Height inches	Lodging %	Bushel weight
Amidon	14	17	23	0	46.6
Butte 86	26	13	27	4	51.6
Guard	25	14	24	0	48.8
Oslo	27	13	26	2	48.6
Prospect	21	14	25	1	49.2
Shield	31	13	26	5	51.2
Stoa	16	18	25	0	48.2
Kramer	21	13	29	1	36.8
Marval	16	15	32	3	34.0
Average	22	14	26	2	46.1
Dif Req for Sig 5%	3	1	NS	3	1.9

Table 19. Saunders County Spring Wheat variety test - 1990

Variety	Yield bu/a	Flowering June	Height inches
Prospect	13.9	12	30
Shield	13.8	11	31
Amidon	12.8	13	34
Guard	12.6	13	29
Butte 86	9.1	11	29
Stoa	9.1	14	32
Oslo	5.2	8	26
Kramer Triticale	3.2	8	36
Marvel Triticale	1.4	12	33
Average	9.0	11	31
LSD (0.10)	3.2	1	3

Table 20. Cheyenne County Spring Wheat variety test - 1990

Variety	Yield bu/a	Heading June	Height inches	Lodging %	Bushel weight
Prospect	10	21	24	5.0	49.1
Shield	9	21	25	10.0	47.4
Guard	8	21	21	2.5	45.9
Butte 86	8	20	26	7.5	47.0
Oslo	8	21	23	5.0	44.4
Amidon	7	22	23	6.3	47.1
Kramer	5	21	23	22.5	36.4
Stoa	5	24	21	25.0	47.0
Marval	4	21	27	32.5	34.1
Average	7	21	24	12.9	44.2
Dif Req for Sig 5%	1	1	2	14.1	2.9

Table 21. Scotts Bluff County Spring Wheat variety test Irrigated - 1990

Variety	Yield bu/a	Height inches	Lodging %	Bushel weight
Amidon	26	38	5.0	50.1
Butte 86	30	36	2.5	52.8
Guard	21	32	0.0	49.6
Oslo	21	30	0.0	47.9
Prospect	25	34	0.0	52.5
Shield	32	36	2.5	52.1
Stoa	21	37	0.0	51.8
Kramer	31	37	7.5	40.9
Marval	18	39	17.5	37.9
Average	25	35	3.9	48.3
Dif Req for Sig 5%	6	3	5.7	3.2

Table 22. Northeast Nebraska Spring Wheat variety test. Yield and bushel weight. Over years 1986 – 1990.

	Five Years		Four Years		Three Years		Two Years	
Variety	Yield bu/a	Bushel weight	Yield bu/a	Bushel weight	Yield bu/a	Bushel weight	Yield bu/a	Bushel weight
Amidon	--	---	--	---	--	---	14	50.8
Butte 86	--	---	25	54.9	20	54.4	22	54.8
Guard	25	53.8	23	52.8	19	52.0	20	51.4
Oslo	24	51.4	23	51.4	20	51.2	21	51.3
Prospect	--	---	--	---	17	52.2	17	52.1
Shield	--	---	--	---	24	53.8	26	53.6
Stoa	25	54.4	22	53.2	15	51.8	15	51.1
Kramer	23	42.9	21	42.4	16	42.1	17	41.9
Marval	21	41.0	19	40.4	14	39.3	14	38.5
Average	23	48.7	22	49.2	18	49.6	18	49.5
L.S.D. .05	NS	1.1	NS	1.1	3	1.0	NS	1.6

Table 23. Southeast District Spring Wheat variety tests. Yield and bushel weight. Over year 1986 – 1990.

	Five Years		Four Years		Three Years		Two Years	
Variety	Yield bu/a	Bushel weight	Yield bu/a	Bushel weight	Yield bu/a	Bushel weight	Yield bu/a	Bushel weight
Amidon	--	---	--	---	--	---	11	55.0
Butte 86	22	56.0	18	56.3	16	56.5	11	58.0
Guard	22	54.4	17	53.9	15	53.3	11	54.0
Oslo	19	53.0	15	53.3	14	53.7	8	54.0
Prospect	--	---	--	---	16	54.0	11	55.0
Shield	--	---	--	---	19	54.3	13	56.0
Stoa	--	---	17	52.9	15	52.7	10	54.0
Kramer	17	42.4	13	43.0	11	44.0	6	47.0
Marval	14	39.9	12	39.9	9	40.5	5	43.0
Average	19	49.1	15	49.9	14	51.1	10	52.9
L.S.D. .05	2	1.3	2	1.4	2	1.4	NS	1.0

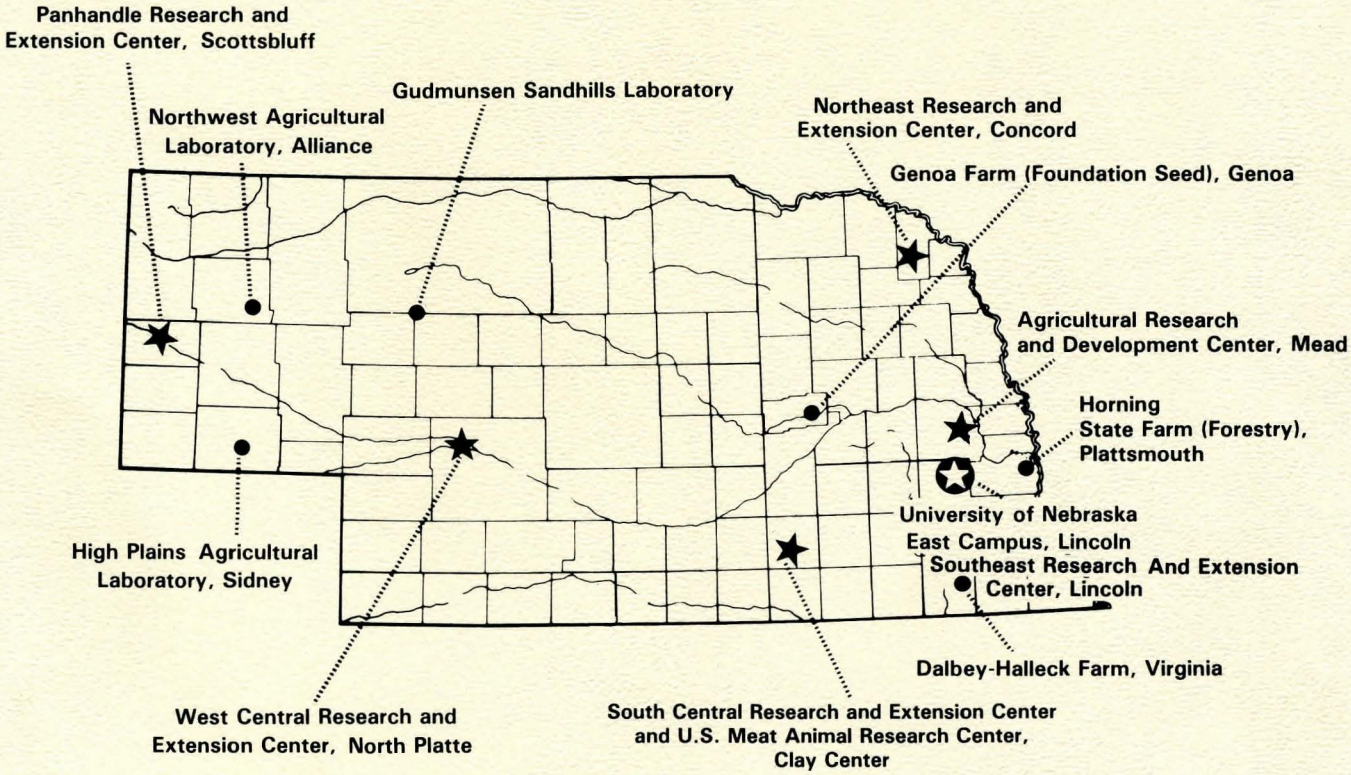
Table 24. West District Irrigated Spring Wheat variety tests. Yield and bushel weight. Over years 1986 – 1990.

	Five Years		Four Years		Three Years		Two Years	
Variety	Yield bu/a	Bushel weight	Yield bu/a	Bushel weight	Yield bu/a	Bushel weight	Yield bu/a	Bushel weight
Amidon	--	--	--	--	--	--	42	53.5
Butte 86	--	--	41	55.2	38	54.2	41	55.3
Guard	39	55	39	53.8	35	52.2	38	52.7
Oslo	38	53.2	38	51.5	33	50.2	35	51.1
Prospect	--	--	--	--	39	53.3	42	54.5
Shield	--	--	--	--	38	54.2	42	55.9
Stoa	37	54.3	36	53.2	33	52.2	36	53.7
Kramer	--	--	44	44.4	38	41.9	41	42.1
Marval	37	42.9	36	41.6	32	39.3	35	39.9
Average	38	51.4	39	49.9	36	49.7	39	50.9
L.S.D. .05	NS	0.9	3	1.2	NS	1.1	NS	1.4

Table 25. West District Dryland Spring Wheat variety tests. Yield and bushel weight. Over years 1985 – 1990 (1988 missing).

	Five Years		Four Years		Three Years		Two Years	
Variety	Yield bu/a	Bushel weight	Yield bu/a	Bushel weight	Yield bu/a	Bushel weight	Yield bu/a	Bushel weight
Amidon	--	--	--	--	--	--	13	50.6
Butte 86	--	--	--	--	12	52.8	12	50.7
Guard	19	53.6	17	53.1	11	51.9	13	50.3
Oslo	20	52.5	18	51.7	13	50.9	12	49.6
Prospect	--	--	--	--	--	--	14	52.2
Shield	--	--	--	--	--	--	15	50.7
Stoa	18	52.5	14	51.5	10	51.0	10	49.7
Kramer	--	--	16	41.7	12	41.5	7	38.7
Marval	--	--	19	41.4	14	40.3	9	37.1
Average	19	52.9	17	47.9	12	48.1	11	47.7
L.S.D. .05	NS	N.S.	NS	1.4	NS	1.6	2	1.4

AGRICULTURAL RESEARCH AND EXTENSION FOR ALL OF NEBRASKA



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The Cooperative Extension Service transmits data and provides interpretation to users through Extension Agents and Specialists. Extension Agents may be contacted through 85 local Extension offices for additional information and more specific recommendations.

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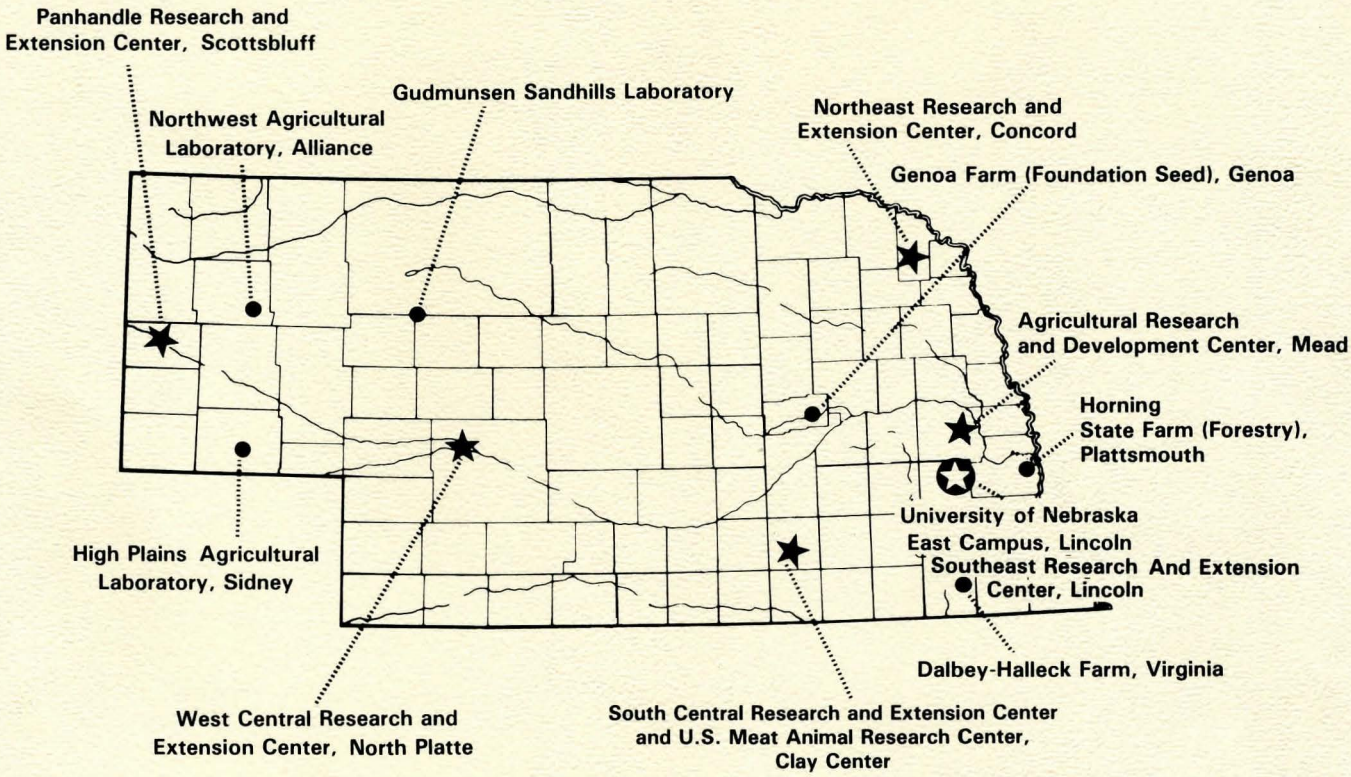

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