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EC02-107 Nebraska Proso, Sunflower, Pulse Crop Amaranth, Oat and Barley Variety Tests, 2002

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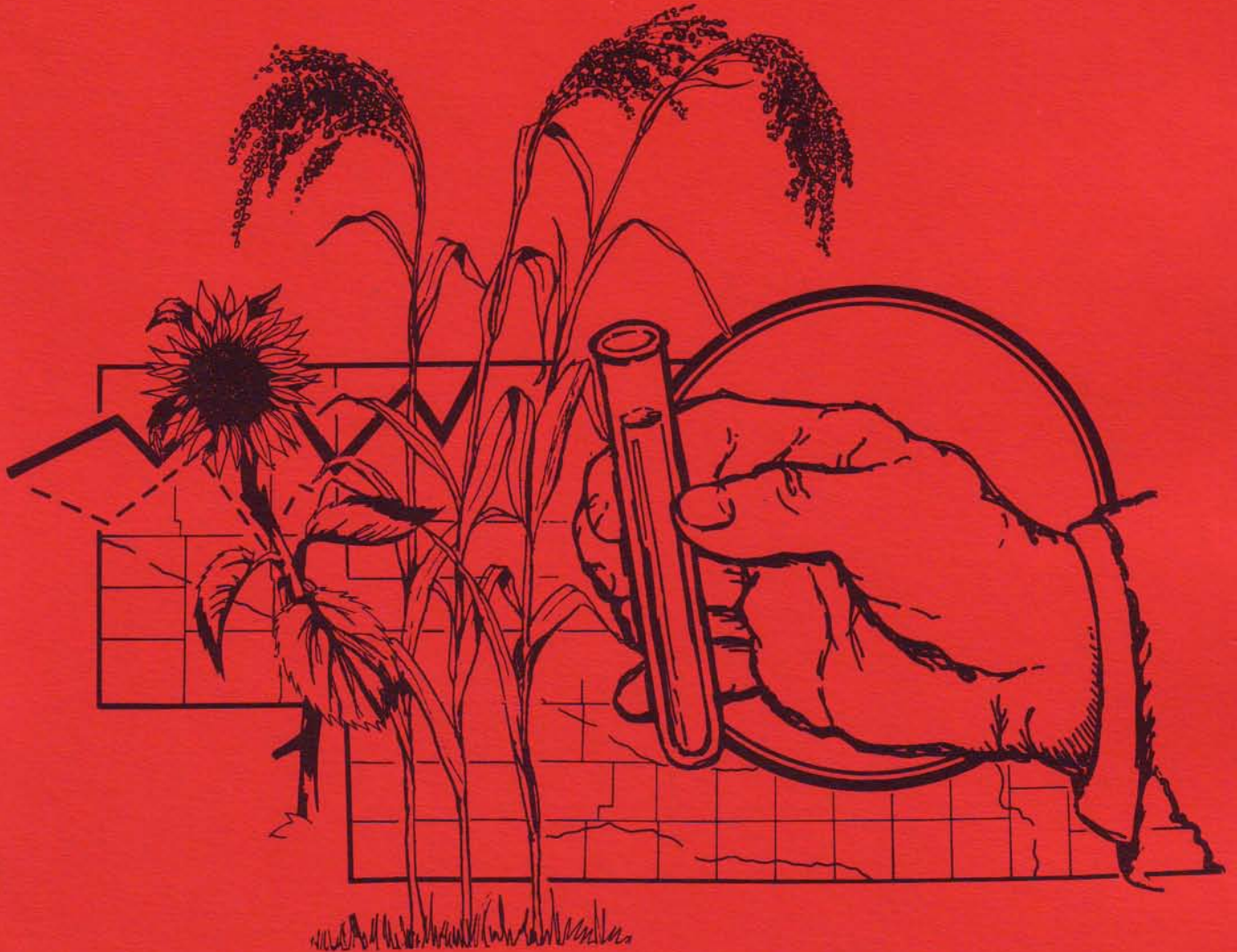
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NEBRASKA PROSO, SUNFLOWER, PULSE CROP AMARANTH, OAT AND BARLEY VARIETY TESTS

2002

UNIVERSITY OF
Nebraska
Lincoln



**University of Nebraska—Lincoln
Institute of Agriculture and Natural Resources
Agricultural Research Division
Cooperative Extension**

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EXTENSION CIRCULAR 2002-107

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This circular is a progress report of spring small grain trials grown throughout Nebraska, and proso, amaranth, sunflower, and pulse crop variety trials conducted by the Panhandle Research and Extension Center, Scottsbluff, and the High Plains Agricultural Laboratory, Sidney. Conduct of the experiments and publication of results is a

joint effort of the Agricultural Research Division and the Cooperative Extension Service.

Thanks to Eric Nielsen, Jim Margheim, Jeff Golus, John Eis, and Greg Dorn for their assistance on trial maintenance and data analysis.

Variety testing results can be found on the web at [HTTP://VARIETYTEST.UNL.EDU](http://VARIETYTEST.UNL.EDU)

METRIC EQUIVALENTS

1 centimeter = 0.394 inches	cm = inches x 2.541
1 hectare = 2.471 acres	ha = acres x 0.405
1 kilogram = 2.205 pounds	kg = pounds x 0.454
1 hectoliter = 2.838 bushels	hl = bushels x 0.352
kg/hl = lb/bu x 1.287	kg/ha = bu/A x 62.71 (56# bu)

DEFINITIONS

CWT = hundred weight

L.S.D. (.05) = A statistic (calculated at the 5% probability level in this book) used to compare the difference between two entries for significance. If the difference between two entries is larger than the LSD value at the bottom of each table, it is assumed significant.

N.S. = not significant. The differences between entries were not statistically significant.

EXTENSION CIRCULAR 2002-107

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Proso Millet Prices 2002: Another Volatile Year

Paul A. Burgener

With proso millet production at a record high level in 2001, the 2002 crop season began with prices in the \$3.50 per cwt range. These prices do not usually influence planting high numbers of acres. Just prior to planting, the dry weather prompted a slight increase in price to influence a increase in planted acres for the 2002 crop.

As the crop season progressed, it became apparent that the lack of moisture in the region was going to have a significant negative impact on the production. As the days without rainfall moved forward, the price increased dramatically until it reached a high of nearly \$13.00 per cwt prior to harvest (figure 1). With little prospect of adequate proso millet yields, the prices remained high throughout the harvest season and continue to be at \$13.00 per cwt in January 2003.

If prices remain at present levels, and adequate moisture is available, producers are expected to increase planted acres. The potential also exists for a significant increase in irrigated acres throughout the region with the need for alternative crops on some of the irrigated acres that may have a reduced water supply. Proso millet will offer the opportunity for a low water use crop that has low production costs and the potential for high returns if the price remains strong.

The proso millet market is driven by the actual production and the demand for bird seed in the market. The large fluctuations in price levels over the past 30 months show the influence that supply has on the price of this commodity. The 2000 growing season produced a short crop and increased prices. The response in 2001 was to produce large crop and watch prices drop. With these low prices, planted acres fell in 2002 and the drought limited production, pushing the price back up as we head into 2003.

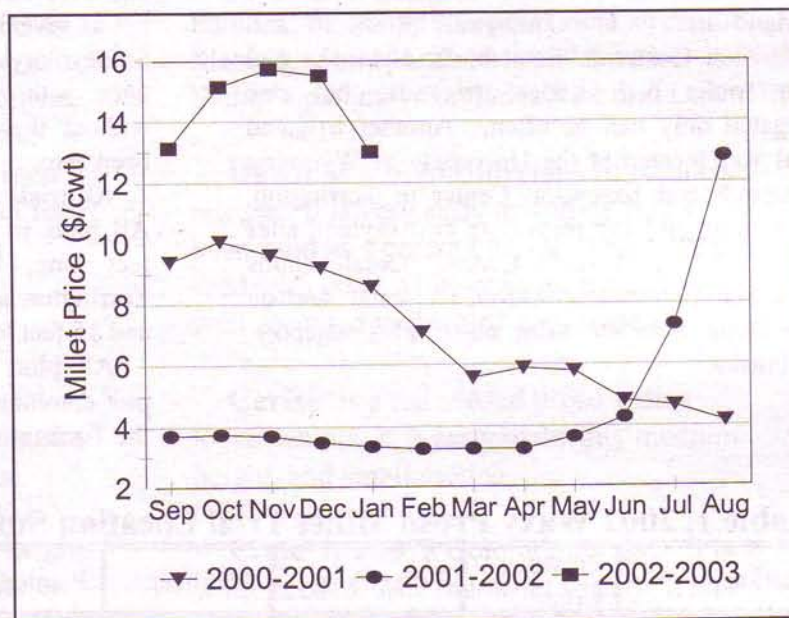


Figure 1. Proso millet prices by crop year from September 2000 through January 2003.

Proso Variety Trials 2002

The 2002 proso millet variety trials contained a total of 60 entries. Five of these were the familiar, white seeded releases Huntsman, Earlybird, Sunup, Sunrise, and Dawn. There were five advanced white-seeded experimental lines, one of which —'9217'— will be released this year as 'Horizon'. Three 'waxy' types were included that have been evaluated over the past three years: PI 436623, PI 436625, and

PI 436626. These come to us from China via the North Central Plant Introduction Station in Ames, Iowa. They require a longer growing season to mature, and as a result have not yielded well in past trials. The remaining forty-seven lines were experimental 'waxy' lines developed from a cross of Huntsman and PI 436626.

Plot Techniques

Seven proso millet trials were planted in 2002, four of which were grown under irrigation, three under dryland conditions. High Plains Agricultural Lab (HPAL) near Sidney, Nebraska, contained one irrigated and one dryland trial. The Panhandle Research and Extension Center in Scottsbluff, Nebraska had two trials: both under irrigation, but one irrigated only half as often. Another irrigated trial was located at the University of Wyoming Research and Extension Center in Torrington, Wyoming, and the remaining two dryland sites were on the USDA Central Great Plains Research Center near Akron, Colorado, and on the Doug Schmale farm north of Lodgepole, Nebraska.

All dryland sites were affected by severe drought and intense heat, and the Lodgepole and Akron sites were completely hailed out late in the season. Both Sidney trials were also hailed, but were harvested anyhow as the damage was not as severe as that seen at other locations. The Sidney dryland plot was artificially watered once with approximately one inch of water, without this the yields would have essentially been zero.

All trials were planted with small plot drills. All plots in Nebraska were 4 feet wide by 17 feet long, with 12 inch row spacing. In Torrington and Akron, plots were 5 feet wide and 15 feet long, with 10 inch row spacing.

All plots were direct harvested with small plot combines. Lodging was a problem only at the Torrington location.

Table 1. 2002 Waxy Proso Millet Trial Location Summary

Location	Previous Crop	Tillage	Fertilizer	Planted	Weed Control	Harvested
Sidney Dryland	Wheat	Conventional	50 lb/A N	May 30 12 in. spacing	2,4-D	Sept 21
Sidney Irrigated	Corn	Conventional	50 lb/A N	May 31 12 in. spacing	Peak 2,4-D	Sept 5
Scottsbluff Irrigated	Dry Beans	Conventional	75 lb/A N 50 lb/A P	May 23 12 in spacing	Peak 2,4-D	Aug 30
Scottsbluff Semi-Irrigated	Dry Beans	Conventional	75 lb/A N 50 lb/A P	May 23 12 in. spacing	Peak 2,4-D	Aug 29
Torrington Irr.	Potato	Conventional	None	June 6 10 in. spacing	Peak 2,4-D	Sept 11
Akron Dryland	Wheat	No-till	None	June 10 10 in. spacing	Pre-plant Roundup	Hailed out
Lodgepole Dryland	Wheat	Conventional	40 lb/A N	June 13 12 in. spacing	Peak 2,4-D	Hailed out

DESCRIPTION OF VARIETIES

Horizon is a high yielding, large seeded, mid-early maturing line developed by the University of Nebraska Agricultural Research Division. This is a new release, and foundation seed will be available after this growing season. It was previously tested as 9217. It has fair straw strength, short plant height, and good test weight. It has a white seed coat. It is expected to be a replacement for Sunrise and Sunup where they have been grown successfully.

Sunrise is a high yielding, large seeded, mid-maturing line developed cooperatively by the University of Nebraska Agricultural Research Division and the USDA/ARS. It was previously tested as NE860053. It has good straw strength, short plant height, and good test weight. The parentage of Sunrise includes Sunup, Rise, Dawn, Panhandle, Minco, and Minn 402. It has a white seed coat. It is expected to be a replacement for Rise and Sunup where they have been grown successfully.

Huntsman is a large seeded, moderately late variety developed cooperatively by the University of Nebraska Agricultural Research Division and the USDA/ARS. It was tested as NE870063. Yield performance, test weight, plant height, and straw strength have all been similar to Sunup. Huntsman's parentage includes Cope, Sunup, Rise, Dawn, and Minn 402. It has a white seed coat. Huntsman is expected to be best adapted to production systems where Cope has done well.

Earlybird is a large seeded, early maturing variety developed by the University of Nebraska Agricultural Research Division. Plant height is slightly shorter than Sunup with good straw strength. It has a white seed coat and larger seed size than most other varieties. Earlybird's parentage includes Rise, Dawn, Panhandle, and Minco. Earlybird is not as early maturing as Dawn, but should be early enough to replace it in most systems.

Sunup is a 1989 release from the University of Nebraska. It is a white seeded variety with good yield potential. Its height is greater than Rise but not as tall as Panhandle. Sunup has good stem strength. Maturity is similar to Rise and Sunrise. Sunup's parentage includes Rise and Dawn.

Dawn is a 1976 University of Nebraska release. It is very early maturing. It has been used as a parent because it has a large seed with good white color that has been well accepted in the bird seed trade.

Cerise is a red seeded proso with a loose panicle. It is early maturing, medium height, and small seeded.

Cope is a 1978 Colorado release. It is a white seeded, late maturing variety. It has yielded well in Nebraska, especially when planted early, but can have severe lodging problems.

Snowbird is a Minnesota release. It is a white seeded variety with an open panicle and early maturity. Yields have been poor in Nebraska.

Table 2. Proso yields for five variety trials, 2002.

Entry	Average	Torrington, WY	Sidney, NE		Scottsbluff, NE		
		Irrigated	Irrigated	Dryland	Irrigated	Semi-Irrigated	
		CWT/ACRE					
Huntsman	25.7	43.4	6.7	4.5	31.0	42.8	
Horizon	23.2	37.4	5.7	4.0	31.4	37.4	
9668-17	22.7	37.1	5.0	3.7	35.9	31.8	
Earlybird	22.3	43.4	5.7	5.2	26.1	31.2	
9308	21.3	32.9	5.9	4.7	30.7	32.4	
Sunrise	20.1	39.1	4.0	5.7	24.8	26.7	
9217-L	19.8	36.8	5.0	3.5	24.4	29.5	
Sunup	19.5	40.7	5.4	5.2	25.0	21.0	
9213	19.2	29.7	4.7	6.4	24.3	30.9	
Dawn	17.0	31.5	5.0	2.5	26.0	20.3	
Average	21.1	37.2	5.3	4.5	28.0	30.4	
L.S.D. (.05)	5.1	8.2	1.7	1.1	7.3	7.1	

Table 3. Agronomic traits for proso averaged over five locations, 2002.

Entry	Testweight (Lbs/Bu)	Mositure (%)	Height (Inches)	Lodging (1-10)	Days to heading	Wt grams/ 1000 seeds
9213	50.4	24.4	33	2	67	5.7
Horizon	53.1	15.4	29	1	59	6.1
9217-L	53.3	15.4	30	2	61	6.1
9308	52.6	17.3	31	1	59	6.0
9668-17	53.5	14.0	30	1	55	5.9
Dawn	50.6	14.5	29	1	52	5.8
Earlybird	53.0	16.3	31	1	60	5.9
Huntsman	60.0	17.9	33	1	62	5.7
Sunrise	54.3	16.8	32	2	60	5.9
Sunup	53.8	18.3	31	1	60	5.6
Average	53.5	17.0	31	1	60	5.8
L.S.D. (.05)	4.4	1.4	2	NS	3	9

Table 4. Five year yield summary of proso varieties.

Variety	5 yr Average	2002	2001	2000	1999	1998
(CWT/ACRE)						
Huntsman	21.0	25.7	20.3	11.1	31.4	16.5
Horizon	20.9	23.2	19.7	12.6	31.7	17.2
9668-17	20.8	22.6	18.4	11.8	30.5	-
Sunrise	19.9	20.1	19.9	11.5	30.1	17.8
Earlybird	19.8	22.3	19.2	10.5	30.5	16.7
Sunup	19.8	19.5	20.6	11.5	30.3	17.0
9308	19.4	21.3	18.7	11.7	29.7	15.8
9213	19.2	19.2	19.5	10.5	31.5	15.4
Dawn	14.6	17.0	15.4	9.1	20.8	10.7
PI 436623	12.6	14.5	11.4	6.5	18.1	-
PI 436625	11.7	10.7	12.5	6.1	17.5	-
PI 436626	10.2	8.1	12.2	5.5	15.1	-
Average	17.5	18.7	17.3	9.9	26.4	15.9

Table 5. Agronomic characteristics of proso millet varieties.

VARIETY	Seed Size	Maturity	Straw Strength	Panicle Type	Height	Test Weight
HORIZON	Large	Mid	Fair	Compact	Short	Good
SUNRISE	Large	Mid	Good	Compact	Short	Good
HUNTSMAN	Large	Mid	Good	Open	Average	Good
EARLYBIRD	Large	Early	Good	Compact	Short	Fair
SUNUP	Small	Mid	Good	Compact	Average	Good
DAWN	Large	V. Early	Good	Compact	V. Short	Good
CERISE (red)	V. Small	Early	Poor	Loose	Average	Good
9239 (red)	Small	Mid	Poor	Compact	Tall	Good
9241 (red)	Small	Late	Poor	Open	Tall	Good
436623 (waxy)	V. Small	V. Late	Poor	Compact	Average	Fair
436625 (waxy)	Small	V. Late	Fair	Open	V. Tall	Fair
436626 (waxy)	V. Small	V. Late	Poor	Open	V. Tall	Low
NE1	Small	Mid	Good	Compact	Short	Good
RISE	Small	Mid	Good	Compact	Average	Fair
COPE	Average	Late	Fair	Compact	Tall	Good
MINCO	Average	Early	Poor	Open	Tall	Good
PANHANDLE	Average	Early	Poor	Open	Tall	Good
MINSUM	Large	Early	Poor	Loose	Average	Fair
ABARR	Large	Mid	Poor	Open	Tall	Fair
SNOWBIRD	Large	Early	Good	Open	Tall	Good

Table 6. Waxy proso yields for five dryland variety trials, 2002

Entry	Average	Torrington, WY	Sidney, NE		Scottsbluff, NE	
		Irrigated	Irrigated	Dryland	Irrigated	Semi-irrigated
CWT/ACRE						
172-2-9	22.5	38.3	5.7	4.5	30.4	33.7
182-4-24	21.4	39.6	5.2	5.7	33.9	22.8
182-7-20	20.8	39.2	9.4	6.2	27.0	22.0
174-7-13	20.4	31.9	6.9	5.7	25.5	31.9
177-7-5	20.2	37.8	5.2	8.9	27.7	21.3
177-3-13	20.0	35.3	5.0	8.2	30.9	20.8
177-9-13	19.9	30.8	5.0	7.9	26.2	29.5
172-7-B	19.8	29.0	6.2	3.0	30.2	30.7
177-5-13	19.8	35.8	4.5	7.4	26.2	25.0
182-5-18	19.8	25.4	4.0	3.7	34.4	31.4
177-9-12	19.7	30.2	4.7	5.2	30.7	27.5
177-9-14	19.6	34.4	4.7	9.4	29.2	20.0
177-8	19.4	36.7	4.0	5.7	23.5	27.0
182-6-15	19.3	31.1	4.7	3.0	30.7	27.0
177-1-18	18.9	34.3	6.2	8.2	25.2	20.8
177-9-2	18.9	37.9	6.4	8.9	22.0	19.1
177-9-11	18.6	33.6	7.7	8.7	24.3	18.8
10113	18.5	29.5	5.0	12.1	24.8	21.3
177-1-15	18.0	32.3	6.2	8.2	20.0	23.5
175-4	17.7	33.8	4.5	3.0	22.0	25.0
10097	17.7	34.6	4.2	2.2	24.5	22.8
10110	17.6	31.8	4.5	2.5	26.7	22.5
10135	17.4	30.8	5.9	2.5	25.0	22.8
10118	17.4	29.5	4.7	1.7	28.1	23.0
170-1-B	17.3	29.2	3.2	3.2	25.5	25.5
177-4	17.3	23.6	6.7	7.7	28.2	20.3
175-6-10	17.1	30.9	5.9	2.2	22.5	23.8
175-6-12	17.0	33.6	3.2	2.0	22.8	23.3
182-6-17	17.0	24.2	5.4	3.2	22.8	29.2
177-10-2	16.7	33.6	5.0	6.4	21.8	16.8
173-2	16.5	31.9	6.4	5.2	20.8	18.3
10137	16.5	30.8	2.5	2.0	21.8	25.4
10124	16.3	30.2	4.0	2.7	24.8	20.0
10114	16.2	30.0	4.2	2.5	24.3	20.0
169-6	16.1	37.5	3.7	2.5	21.8	15.1
175-8	16.1	27.0	2.5	2.2	23.8	25.1
10142	15.8	28.3	4.0	2.5	22.8	21.5
10140	15.7	26.3	3.5	2.0	21.8	25.0
10119	15.6	28.6	3.0	1.7	24.0	20.5
175-7	15.4	24.5	2.7	2.7	23.8	23.5
175-5	15.2	26.7	2.2	2.0	22.8	22.5
10098	14.9	22.7	2.2	2.0	25.0	22.5
175-6-17	14.7	27.1	3.5	2.0	19.8	21.3
170-3-B	14.7	34.4	4.5	5.4	16.1	13.1
PI436623	14.5	22.6	2.2	4.2	30.2	13.4
175-9	14.3	26.1	4.5	2.0	18.6	20.5
PI436625	10.8	20.3	6.2	5.7	13.9	7.7
10107	10.5	26.7	2.7	2.0	.	.
10127	8.7	21.8	2.7	1.7	.	.
PI436626	8.1	23.3	4.0	4.0	5.9	3.5
Averages	17.0	30.5	4.6	4.5	24.5	22.2
L.S.D. (.05)	4.3	5.9	1.7	2.5	6.1	5.3

Table 7. Agronomic traits for waxy proso averaged over five locations, 2002.

Entry	Test Weight (Lbs/Bu)	Moisture (%)	Height (Inches)	Lodging (1-10)	Days to heading	Wt grams/ 1000 seeds
10097	51.9	12.8	28	2	51	4.9
10098	47.4	12.8	27	1	51	5.2
10107	42.1	14.8	24	2	47	4.8
10110	51.6	13.5	27	1	50	5.0
10113	49.8	14.6	26	1	53	5.0
10114	40.9	12.4	27	3	52	5.0
10118	50.0	13.7	27	3	52	4.8
10119	50.8	13.2	26	1	49	5.0
10124	49.6	13.5	27	1	52	5.0
10127	34.8	13.5	23	1	47	4.8
10135	48.1	13.1	27	1	49	4.9
10137	50.7	13.3	26	1	50	5.0
10140	44.1	13.4	28	1	50	5.0
10142	48.6	13.3	27	2	50	5.1
169-6	52.9	23.1	32	0	67	4.9
170-1-B	49.5	14.3	34	2	53	5.1
170-3-B	51.7	25.0	34	0	76	4.4
172-2-9	51.4	14.8	28	1	57	5.1
172-7-B	49.1	12.9	27	1	51	4.9
173-2	50.6	19.2	32	1	66	4.9
174-7-13	48.9	16.5	32	2	66	5.0
175-4	50.9	13.9	28	1	53	4.9
175-5	43.3	13.4	27	1	48	4.8
175-6-10	51.0	15.8	28	2	58	5.3
175-6-12	51.7	14.4	28	2	54	5.3
175-6-17	48.5	14.9	28	3	56	5.2
175-7	46.0	14.2	26	2	52	4.8
175-8	49.5	13.6	26	1	51	4.9
175-9	45.7	13.3	25	1	51	4.8
177-1-15	48.3	24.2	32	2	60	5.0
177-1-18	51.2	23.4	33	2	67	5.0
177-10-2	34.5	13.6	34	2	72	5.0
177-3-13	52.3	20.7	34	2	64	5.3
177-4	47.7	23.1	32	2	64	5.2
177-5-13	50.0	21.3	34	1	63	5.1
177-7-5	52.1	23.5	32	2	67	5.1
177-8	51.1	16.2	31	1	54	5.3
177-9-11	52.5	26.1	35	2	63	5.4
177-9-12	51.6	20.6	33	2	62	5.3
177-9-13	50.5	23.9	33	3	65	5.3
177-9-14	52.4	22.4	33	1	63	5.3
177-9-2	50.7	21.2	33	2	64	5.2
182-4-24	52.7	20.6	35	0	69	5.3
182-5-18	47.4	13.4	31	2	58	5.4
182-6-15	51.6	17.3	30	2	58	5.0
182-6-17	48.7	17.2	31	3	59	5.2
182-7-20	50.9	20.2	32	0	64	5.4
PI436623	38.6	23.5	32	1	71	4.1
PI436625	34.1	27.2	37	0	82	4.7
PI436626	35.6	34.8	34	0	83	4.0
Averages	48.1	17.6	30	1	59	5.0
L.S.D. (.05)	3.8	1.4	2	NS	3	0.3

AMARANTH TRIALS

One amaranth variety trial was planted at the Panhandle Research and Extension Center at Scottsbluff, Nebr. Another plot was planned for a dryland location at Sidney, but was not planted because of extremely dry conditions at planting time. The Scottsbluff plot was

planted on June 10 into a tilled seedbed, and was sprinkler irrigated. Row spacing was 30 inches. Twenty-seven varieties and lines were planted. The Scottsbluff plot suffered severe seedling stress, which delayed maturity. It was harvested on October 17.

Table 8. Scottsbluff Amaranth Yields 2002

ENTRY	Yield Lbs./Acre	Ht inches	Wt grams/ 10,000 seeds
F62	445	54	8.1
F108	419	52	8.1
1998 Dry Population	372	51	8.0
F57	342	55	8.1
F20	334	54	7.9
B222	332	52	8.0
K593	327	52	7.6
1998 Irrigated Population	303	55	8.1
B224	301	52	8.4
F15	294	52	8.0
F52	294	50	8.2
B226	291	52	8.0
F4	287	55	8.1
Plainsman	279	45	8.3
F79	265	52	8.1
PI 7	236	56	7.6
F36	202	55	8.1
B329	194	55	7.9
B223	184	50	8.4
B232	181	53	8.2
K432	164	38	7.4
B207	155	56	7.9
K433	105	35	8.0
B289	95	61	8.1
B337	81	60	7.9
B202	73	64	7.6
B286	56	54	8.2
AVERAGES	245	53	8.0
LSD .05	152	11	0.3

PULSE CROP TRIALS 2002

Pulses are the seeds of legumes that are used as food. Pulse crops include pea, lentil, chickpeas (garbanzo's), and fababean.

Yield trials of grain peas, lentils, and chickpeas were conducted at several locations in the Nebraska Panhandle and Wyoming. 8 grain peas (green and yellow), 15 lentils, and 8 chickpeas (Kabuli and Desi types) were tested.

Peas and lentils were planted in a dryland trial on the Brad Hansen farm southeast of Hemingford. Planting was delayed by snow. This plot had enough moisture to get stands established, but there was no significant rainfall during the growing season. The crop also suffered from above average temperatures, and yields were very low.

An irrigated pea and lentil trial was planted on the Hansen farm southwest of Hemingford. This plot suffered from weed competition and high temperatures at flowering time.

Irrigated and dryland chickpea plots were planted at the Watson farm east of Berea. The dryland plot was abandoned because of drought, and irrigated yields were poor, mainly because of

heat.

Trials were planted in dryland and irrigated conditions at the High Plains Ag Lab north of Sidney. These plots also suffered from delayed planting due to snow, followed by drought and heat. High temperatures, especially at flowering time, caused irrigated yields also to be low. The dryland lentil plot was not harvested.

Peas, lentils, and chickpeas were planted in a dryland trial at the Wyoming Research Center at Archer. There was not enough moisture to germinate the seeds, and the plot was abandoned. These same trials were planted under a sprinkler system at the University of Wyoming Research Center at Torrington. Again, high temperatures, especially at flowering time, caused yields of irrigated lentils and peas to be low. However, the chickpea plot missed some of heat problems at flowering time, and yields were good.

Plots were planted with a small plot drill. Row spacing was 12" at Sidney and Hemingford, and 9" at the Wyoming plots.

"Grams/100 seeds" is an indication of seed size, larger number is larger seed.

Table 9. 2002 PULSE PLOTS

Location & Tillage Practices	Crop	Previous Crop	Plant Date	Harvest Date	Fertilizer
Hemingford Dryland No Till	Peas & Lentils	winter wheat	April 17	July 23	20#N 20# P ₂ O ₅
Hemingford Irrigated No till	Peas & Lentils	winter wheat	April 11	July 30	20#N 20# P ₂ O ₅
Berea Dryland and Irrigated No till	Chickpeas	corn	April 23	Sept. 5	8# N 28# P ₂ O ₅
Torrington Irrigated Plowed	Peas	winter wheat	April 9	July 19	30#N 50# P ₂ O ₅
	Lentils	cotton	April 9	Aug 16	30#N 50# P ₂ O ₅
	Chickpeas	dry beans	April 17	Sept 24	30#N 50# P ₂ O ₅
Archer Dryland Fallow	Peas Lentils	fallow	April 10	-	none
	Chickpeas	fallow	April 18	-	none
Sidney Irrigated Plowed	Peas	sunflowers	April 11	July 24	20#N 30# P ₂ O ₅
	Lentils	sunflowers	April 11	August 2	20#N 30# P ₂ O ₅
	Chickpeas	sunflowers	April 25	August 14	20#N 30# P ₂ O ₅
Sidney Dryland No Till	Peas & Lentils	corn	April 10	July 23	20#N 20# P ₂ O ₅
	Chickpeas	corn	April 25	August 14	8# N 28# P ₂ O ₅

Table 14. Lentil yields for four variety trials 2002

ENTRY	Average	Hemingford Dryland	Hemingford Irrigated	Torrington Irrigated	Cheyenne Irrigated
LC8601847E	420	197	481	420	598
LC99602477E	400	169	423	410	611
Eston RS000001	400	97	423	630	429
LC99602427P	310	152	341	380	364
LC8601787P	300	81	500	350	275
Pardina LC920001	300	141	343	400	319
LC99602972T	270	135	355	300	287
LC760139L	230	128	226	300	269
LC8602303T	230	119	176	320	306
Crimson LC800024	220	96	194	260	334
Merrit LC460266B	210	80	252	190	326
LC760209C	200	112	144	240	320
LC860616L	190	77	199	250	251
LC860359L	160	81	219	190	152
Pennell LC460197L	160	99	156	190	190
AVERAGE	260	118	295	320	336
L.S.D. (.05)		62	141	20	151

Table 15. Lentil seed size for two variety trials 2002

ENTRY	Average	Hemingford Irrigated	Cheyenne Irrigated
-----Grams/100 seeds-----			
LC8601847E	3.8	3.5	4.2
LC99602477E	3.6	3.5	3.6
Eston RS000001	3.3	3.3	3.3
LC99602427P	4.1	4.1	4.1
LC8601787P	3.8	3.7	3.9
Pardina LC920001	3.5	3.5	3.5
LC99602972T	3.5	3.4	3.5
LC760139L	5.1	4.9	5.3
LC8602303T	3.2	3.0	3.4
Crimson LC800024	3.4	3.5	3.4
Merrit LC460266B	5.4	5.3	5.5
LC760209C	5.3	4.9	5.8
LC860616L	5.4	5.1	5.7
LC860359L	4.8	4.3	5.4
Pennell LC460197L	5.7	5.4	6.0
AVERAGE	4.1	3.9	4.2
L.S.D. (.05)		0.7	0.4

Table 16. THREE YEAR AVERAGE HEMINGFORD DRYLAND PEAS

Variety	Three Year Ave	YIELD LBS/ACRE		
		2001	2000	1999
Wirrega	1740	780	2130	2320
Majoret	1520	620	1770	2160
WyoDun	1490	670	2020	1770
Carneval	1470	440	1730	2230
Average	1560	630	1900	2120

*2003 yields not included in this table due to very poor yields

Table 17. TWO YEAR AVERAGE SIDNEY IRRIGATED PEAS

Variety	Two Year Ave	YIELD LBS/ACRE	
		2002	2001
Salute	2310	1160	3450
Cruiser	2260	720	3800
Lifter	2135	1140	3130
Majoret	2100	860	3340
Carneval	1810	860	2760
WyoDun	1295	820	1770
Average	1985	925	3040

Table 18. CHARACTERISTICS OF GRAIN PEA VARIETIES.

Variety	Type	Growth habit	Seed color	Seed size	Maturity
Pro 2100	food	viney	green	small	late
Columbian	food	viney	green	medium	early
WyoDun	feed	viney	dull green	medium	early
Integra	food	semi-leafless	yellow	large	early
Highlight	food	semi-leafless	yellow	medium	early
Wirrega	food	viney	white	small	late
Trapper	feed	viney	yellow	small	late
Alma	feed	viney	dull green	medium	late
Grande	food	viney	white	large	mid
Profi	food/feed	semi-leafless	yellow	large	early
Majoret	food	semi-leafless	green	medium	mid
Early Dun	feed	viney	dull green	medium	late
Carneval	food	semi-leafless	yellow	medium	mid
Austrian	feed	viney	dark green,	small	late
Arvika	feed	viney	grey-slate,	medium	late
Miranda	feed	viney	yellow	large	mid-early

SUNFLOWER TRIALS - 2002

The 2002 dryland sunflower tests were conducted in Cheyenne County, NE; Hitchcock County, NE; Perkins County, NE; and Goshen County, WY. An irrigated sunflower trial was also planted in Cheyenne County.

All of these plots were severely affected by record drought and high temperatures. However, late August rains came in time to give good yields in several plots, especially where maturity had been delayed by dry conditions. The Hitchcock Co plot was abandoned due to drought.

All plots were planted with 30 inch row spacing. Plots were approximately 30 feet long. Each hybrid was replicated four times.

Cheyenne County dryland trials were planted at the University of Nebraska High Plains Agriculture Laboratory (HPAL) near Sidney, Nebraska. Planting was delayed by rain. There was enough moisture to get a good stand, but then it was very dry until plentiful late season rains and a warm September allowed the crop to mature, and mostly yield well. These yields were not typical of the area. There was some lodging due to seed weevils. These plots were sprayed once with Asana in August to control head moth and seed weevils. One trial of NuSun hybrids was planted in cooperation with the National Sunflower Association. Also planted were trials with oil and confection varieties. These plots were direct seeded into wheat stubble. Prowl, Roundup, and Spartan were applied preemergence. The only fertilizer was a starter of 7 lbs. N and 24 lbs. P_2O_5 per acre. Harvest stand was approximately 15,000 plants per acre for oil types, and 12000 for confections

The Cheyenne County irrigated sunflower trial was planted into a conventional prepared seedbed. Herbicide was 2.4 pints/acre Prowl 3.3, incorporated. Fertilizer consisted of 50# N, and a starter containing 7 lbs. N and 24 lbs. P_2O_5 . Seeding rate was 23,000 seeds per acre for oil types, and 20,000 for confections. This plot was hailed shortly after flowering, and yields were reduced by approximately half.

The Hitchcock County sunflower trial was planted on Chad Nordhausen's farm near Wauneta, Nebraska. This plot was planted into a conventional tilled field. It was very dry when planted, and then very little rain, and this plot was abandoned.

The Perkins County sunflower trial was planted on Mike McArtor's farm near Grant, Nebraska. The plot was direct seeded into corn stalks. Lorsban was applied with the seed. Seventy lbs. of N was applied to the field. Herbicides were Dual II and Spartan.

Conditions were very dry at this site, except for a very heavy rain on July 6 that eroded parts of the plot. This caused a lot of variability in this plot. Confection size was not measured.

The Goshen County sunflower trial was planted at the University of Wyoming Research Center at Torrington. This was planted into a plowed seedbed, where wheat had been grown in 2001. Herbicides were Eptam and Sonalan. Due to extremely dry conditions, this plot area was irrigated to fill the profile before planting, with no further irrigation. This plot received very little rainfall.

EXPLANATION OF TABLES

In the following tables, "Flwr" refers to the days after Aug 1 that the variety was judged to have half of the flowers open. "Ht" is the height of the neck or the head, whichever is greatest, at harvest time.

"%>20/64" refers to confection seed size. This is the total percentage of seed that passes over a 20/64 sieve.

Oil percentage is based on 10% moisture. Analysis was provided by Dr. J.F. Miller, USDA-ARS in Fargo, North Dakota. Thanks to Dr. Miller and all of his assistants for their contributions to these tests.

Multiple year averages are shown for those hybrids that the seed companies entered in the tests year after year.

Companies Entering the 2002 Sunflower Test

Agway, Inc.	Grandin, ND
Croplan Genetics	Minot, ND
Monsanto	Dekalb, IL
Interstate Seed Co.	West Fargo, ND
Kaystar Seed	Huron, SD
Mycogen Seeds	Indianapolis, IN
Pioneer Hi-Bred Int., Inc.	Johnston, IA
Red River Commodities	Colby, KS
Seeds 2000	Breckenridge, MN
Sigco Sun Products, Inc.	Breckenridge, MN
Triumph Seed Co., Inc.	Ralls, TX

Table 19. 2002 Sunflower Variety Trial Summary.

Location	Rotation	Plant Date	Harvest Date	Yield Lbs/A	Oil % / Conf > 20/64
NuSun Hybrids Cheyenne County, NE	Wheat- Sunflower- Fallow	June 10	Oct. 15	1340	44.9
Cheyenne County, NE	Wheat- Sunflower- Fallow	June 10	Oct 14	Oils 1050 Conf 1550	47.5 60
Cheyenne County, NE	Irrigated Turf - Sunflower	June 11	Oct. 1	Oils 1120 Conf 1320	41.5 37
Hitchcock County, NE	Wheat- Sunflower- Fallow	June 24	--	--	--
Perkins County, NE	Corn-Sunflower- Fallow	June 7	October 15	Oils 1080 Conf 590	41.8 -
Goshen County, WY	Wheat- Sunflower- Fallow	June 6	Oct. 8	1160	39.3

Table 20. 2002 CHEYENNE CO NEBRASKA NuSun HYBRIDS DRYLAND

BRAND	HYBRID	YIELD LBS/A	OIL Pct	TEST WT Lbs/Bu	HT Inches	FLWR Aug	LODG Pct
NuSun Hybrids							
	PIONEER XF4735	1800	42.4	24.9	36	17	8
	CROPLAN CL 380	1620	42.7	26.8	35	15	14
	SEEDS 2000 BRONCO	1590	44.3	28.4	34	16	8
	MYCOGEN 8488NS	1580	42.3	28.3	39	14	8
	INTERSTATE F90430NS	1570	45.0	25.8	30	19	8
	INTERSTATE 971136NS	1570	45.1	30.0	36	15	13
	INTERSTATE HYSUN 450	1560	44.8	28.0	32	16	9
	MYCOGEN 8N421	1530	45.8	27.5	33	15	8
	LEGEND LSF 142N	1530	43.8	28.3	34	17	9
	PIONEER 63M91	1500	45.3	28.6	37	15	10
	MYCOGEN 8377NS	1470	45.6	28.4	35	11	8
	CROPLAN CL 385	1420	44.2	28.1	34	17	7
	TRIUMPH 636	1410	46.2	25.0	35	16	19
	TRIUMPH 665	1400	45.9	27.1	37	17	13
	CROPLAN CL 308	1400	49.1	30.2	33	10	6
	LEGEND LSF 124N	1390	43.8	31.1	32	16	15
	PIONEER XF3119	1370	45.5	28.4	35	13	18
	TRIUMPH 658	1360	46.2	26.2	35	18	22
	MYCOGEN 8N327	1350	47.3	30.1	31	11	14
	LEGEND LSF 126N	1330	42.1	27.7	33	17	7
	INTERSTATE F63105NS	1320	42.6	27.0	37	16	7
	SEEDS 2000 BLAZER	1310	45.2	28.8	33	15	12
	INTERSTATE HYSUN 530	1300	43.0	30.0	38	13	10
	INTERSTATE 990213NS	1290	44.1	28.6	35	18	15
	PIONEER 63M80	1210	47.1	27.2	34	13	21
	CROPLAN CL 322	1150	42.5	30.2	36	13	7
	INTERSTATE HYSUN 521	1140	44.7	30.8	33	11	25
	PIONEER 63M52	1030	46.3	27.4	31	14	35
	PIONEER XF3120	1030	42.8	27.1	36	14	14
	MONSANTO DKF 33-33NS	990	41.9	32.4	37	12	23
	INTERSTATE 982727NS	990	43.9	30.2	35	15	18
	MONSANTO DKF 31-01NS	830	42.1	32.4	39	15	37
Traditional Hybrids							
	INTERSTATE 4049	1510	46.0	25.6	38	17	11
	MYCOGEN 260	1400	46.9	28.2	33	15	11
	CROPLAN 803	1190	50.9	31.4	33	11	16
	PIONEER 63A81	1120	45.6	24.6	35	17	15
	MYCOGEN 270	1030	46.5	31.1	31	10	17
	Averages	1340	44.9	28.4	35	15	14
	LSD (.05)	360	1.4	1.8	5	1	11

Table 21. 2002 CHEYENNE CO NEBRASKA SUNFLOWER HYBRIDS

DRYLAND		OIL TYPES				
BRAND	HYBRID	YIELD LBS/A	OIL Pct	TEST WT Lbs/Bu	HT Inches	FLWR Aug
Kaystar Seed	9501	1450	43.6	28.8	46	16
Pioneer	63M91	1320	49.6	29.1	43	14
Pioneer	XF4735	1310	46.7	25.1	43	16
Garst/Interstate	IS5331	1280	45.4	27.5	35	14
Garst/Interstate	IS4340	1250	47.2	26.3	38	20
Garst/Interstate	IS6767	1170	48.2	29.3	42	15
Mycogen Seeds	8488NS	1150	47.9	29.7	39	16
Garst/Interstate	IS4049	1140	47.9	27.9	46	15
Mycogen Seeds	8N421	1080	49.2	28.7	41	14
Pioneer	63A70	1040	51.9	29.6	41	12
Pioneer	63M80	1040	49.4	27.8	45	14
Mycogen Seeds	SF187	960	45.7	28.1	36	15
Garst/Interstate	PAC1298	940	45.6	26.9	40	18
Mycogen Seeds	SF260	900	47.8	28.1	35	14
Mycogen Seeds	8N327	880	51.2	29.6	39	13
Dekalb	DK3900	770	48.0	31.8	40	15
Dekalb	DKF33-33NS	660	45.6	31.6	41	11
Dekalb	DKF36-40NS	570	43.4	31.8	45	12
Average		1050	47.5	28.8	41	15
LSD (.05)		403	1.5	1.6	4	2

Table 22. 2002 CHEYENNE CO NEBRASKA SUNFLOWER HYBRIDS

DRYLAND		CONFECTION TYPES					
BRAND	HYBRID	YIELD LBS/A	SEED SIZE		TEST WT Lbs/Bu	HT Inches	FLWR Aug
			%>22/64	%>20/64			
Red River Commoc	RRC EX2215	1920	48	81	17.3	42	16
Sigco	GOLIATH	1750	38	74	19.5	43	19
Garst/Interstate	IS33139	1610	38	71	17.5	41	19
Red River Commoc	RRC 2213	1570	19	47	19.9	43	15
Garst/Interstate	IS8048	1550	32	60	21.4	41	13
Red River Commoc	RRC EX2418	1540	11	45	17.8	41	16
Sigco	RUSTLER	1270	21	54	20.2	41	15
Red River Commoc	RRC 2582	1200	21	48	20.9	40	16
Average		1553	28	60	19.3	42	16
LSD (.05)		N.S.	16	16	1.8	N.S.	1.5

Table 23. 2002 CHEYENNE CO NEBRASKA SUNFLOWER HYBRIDS

IRRIGATED		OIL TYPES				
BRAND	HYBRID	YIELD LBS/A	OIL Pct	TEST WT Lbs/Bu	HT Inches	FLWR Aug
Dekalb	DK3900	1500	41.2	22.0	48	11
Garst/Interstate	IS4049	1430	43.8	22.1	51	12
Dekalb	DKF33-33NS	1370	40.2	22.0	54	9
Garst/Interstate	IS4340	1260	45.7	20.8	46	16
Garst/Interstate	HYSUN 450	1230	41.6	19.6	43	13
Mycogen Seeds	SF260	1180	41.6	20.9	46	11
Pioneer	63A70	1120	42.0	20.2	51	9
Mycogen Seeds	SF187	1120	39.8	21.0	45	12
Garst/Interstate	971136NS	1110	41.7	22.1	56	11
Mycogen Seeds	8488NS	1100	39.8	20.2	55	12
Pioneer	XF4735	1100	39.9	19.5	56	14
Garst/Interstate	HYSUN 521	1090	40.7	20.9	50	8
Garst/Interstate	IS5331	1070	40.1	19.8	45	11
Mycogen Seeds	8377NS	1020	39.6	19.6	51	10
Garst/Interstate	IS6767	1020	43.3	24.7	52	11
Pioneer	63M80	1020	42.4	21.1	49	11
Pioneer	63M91	940	44.1	23	54	12
Dekalb	DKF36-40NS	920	38.9	23.9	56	10
Triumph	658	910	43.2	18.2	52	12
Mycogen Seeds	8N421	860	41.1	19.4	53	12
	Average	1120	41.5	21.1	51	11
	LSD (.05)	312	1.7	2.2	6	1

Table 24. 2002 CHEYENNE CO NEBRASKA SUNFLOWER HYBRIDS

IRRIGATED		CONFECTION TYPES					
BRAND	HYBRID	YIELD LBS/A	SEED SIZE		TEST WT Lbs/Bu	HT Inches	FLWR Aug
			%>22/64	%>20/64			
Garst/Interstate	IS 8048	1520	9	37	18.7	55	9
Sigco	GOLIATH	1460	1	26	16.1	53	15
Seeds 2000	GRIZZLY	1420	6	33	17.8	55	14
Triumph	757C	1410	25	66	14.6	53	10
Red River Commodities	RRC EX2418	1360	2	20	16.2	58	11
Red River Commodities	RRC 2213	1350	2	14	17.3	57	10
Mycogen Seeds	X91459	1350	14	55	14.3	56	11
Red River Commodities	RRC EX2215	1340	14	62	14.8	55	12
Seeds 2000	X3987	1320	5	35	16.6	54	16
Mycogen Seeds	9338.0	1280	4	33	18.0	57	9
Garst/Interstate	IS 33139	1250	20	52	13.8	57	14
Red River Commodities	RRC 2582	1160	2	19	19.3	53	11
Agway Royal Hybrid	RH 118	1120	4	15	15.5	60	14
Triumph	777C	1090	12	46	15.2	56	13
	Average	1320	9	37	16.3	56	12
	LSD (.05)	N.S.	8.5	13	1.1	N.S.	1

Table 25. 2002 PERKINS CO NEBRASKA SUNFLOWER HYBRIDS

DRYLAND		OIL TYPES				
BRAND	HYBRID	YIELD LBS/A	OIL Pct	TEST WT Lbs/Bu	HT Inches	LODGE Pct
Pioneer	63M91	1500	44.4	25.2	51	6
Pioneer	63A70	1450	43.0	22.9	48	6
Dekalb	DK3900	1240	41.0	24.8	50	4
Mycogen Seeds	8N327	1190	41.8	23.5	49	8
Mycogen Seeds	8377NS	1180	41.4	24.7	49	12
Kaystar Seed	9501	1150	40.6	24.1	44	8
Dekalb	DKF33-33NS	1150	42.1	23.8	45	4
Mycogen Seeds	SF 260	1070	39.6	23.4	45	6
Pioneer	XF4735	1060	41.1	22.3	49	8
Dekalb	DKF36-40NS	1050	40.8	24.7	50	6
Pioneer	63M80	990	43.2	23.3	48	4
Croplan Genetics	CL322	960	42.2	23.7	49	9
Croplan Genetics	CL380	940	42.8	25.1	48	4
Mycogen Seeds	8488NS	770	39.9	25.0	51	18
Triumph	665	540	42.7	24.0	45	13
Average		1080	41.8	24.0	48	8
LSD (.05)		430	N.S.	1.5	5	N.S.

Table 26. 2002 PERKINS CO NEBRASKA SUNFLOWER HYBRIDS

DRYLAND		CONFECTION TYPES			
BRAND	HYBRID	YIELD LBS/A	TEST WT Lbs/Bu	HT Inches	LODGE Pct
Sigco	GOLIATH	700	18.2	43	8
Red River Commodities	RRC EX2215	680	17.1	42	4
Sigco	RUSTLER	610	19.2	41	5
Red River Commodities	RRC 2213	520	17.7	41	6
Red River Commodities	RRC 2582	500	19.9	41	10
Red River Commodities	RRC EX2418	500	18.0	40	9
Average		590	18.3	41	7
LSD (.05)		N.S.	N.S.	N.S.	N.S.

Table 27. 2002 GOSHEN CO WYOMING SUNFLOWER HYBRIDS

DRYLAND		OIL TYPES		
BRAND	HYBRID	YIELD LBS/A	OIL Pct	TEST WT Lbs/Bu
Dekalb	DK3900	1560	41.1	23.1
Mycogen Seeds	8242NS	1280	37.5	20.2
Pioneer	XF4735	1240	41.3	20.8
Garst/Interstate	971136NS	1230	38.4	20.9
Pioneer	63A70	1220	39.3	19.6
Garst/Interstate	IS5331	1210	39.5	20.8
Mycogen Seeds	SF187	1170	37.3	21.3
Pioneer	63M80	1110	41.2	20.5
Garst/Interstate	HYSUN 521	1100	37.4	21.2
Garst/Interstate	IS4049	1100	40.0	20.7
Garst/Interstate	HYSUN 450	1090	39.8	18.6
Dekalb	DKF36-40NS	1080	37.0	20.0
Dekalb	DKF33-33NS	1060	37.6	20.8
Garst/Interstate	IS6767	1010	41.2	22.5
Pioneer	63M91	890	41.4	21.9
Average		1160	39.3	20.9
LSD (.05)		414	1.9	1.8

**Table 28. CHEYENNE CO NEBRASKA NuSun HYBRIDS
DRYLAND AVERAGED OVER TWO YEARS**

BRAND	HYBRID	YIELD LBS/ACRE			OIL %		
		AVERAGE	2002	2001	AVERAGE	2002	2001
NuSun Hybrids							
	INTERSTATE 971136NS	2045	1570	2520	45.4	45.1	45.6
	MYCOGEN 8488NS	1945	1580	2310	42.3	42.3	42.2
	PIONEER 63M80	1875	1210	2540	45.9	47.1	44.7
	SEEDS 2000 BRONCO	1865	1590	2140	45.0	44.3	45.7
	INTERSTATE HYSUN 450	1840	1560	2120	44.7	44.8	44.6
	CROPLAN CL 385	1810	1420	2200	44.4	44.2	44.6
	INTERSTATE HYSUN 521	1795	1140	2450	42.4	44.7	40.1
	TRIUMPH 658	1760	1360	2160	46.1	46.2	46.0
	INTERSTATE 990213NS	1710	1290	2130	44.7	44.1	45.3
	TRIUMPH 665	1710	1400	2020	45.3	45.9	44.6
	TRIUMPH 636	1685	1410	1960	46.0	46.2	45.8
	CROPLAN CL 322	1665	1150	2180	42.5	42.5	42.5
	MYCOGEN 8377NS	1655	1470	1840	44.7	45.6	43.7
	SEEDS 2000 BLAZER	1635	1310	1960	44.6	45.2	44.0
	INTERSTATE HYSUN 530	1635	1300	1970	42.3	43.0	41.5
	PIONEER 63M91	1500	1500	1500	45.3	45.3	45.3
	INTERSTATE 982727NS	1315	990	1640	43.1	43.9	42.2
	MONSANTO DKF 31-01NS	1260	830	1690	41.2	42.1	40.2
Traditional Hybrids							
	INTERSTATE 4049	1890	1510	2270	46.8	46.0	47.6
	CROPLAN 803	1705	1190	2220	47.7	50.9	44.4
	PIONEER 63A81	1715	1120	2310	45.0	45.6	44.4
	Averages	1720	1330	2100	44.5	45.0	44.0

Table 29. Cheyenne County Sunflower Hybrids
DRYLAND AVERAGED OVER THREE YEARS

BRAND	HYBRID	YIELD LBS/ACRE					OIL %				
		AVERAGES					AVERAGES				
		00-02	01-02	2002	2001	2000	00-02	01-02	2002	2001	2000
Oil Types											
Pioneer	63M91	1520	1920	1320	2520	710	47.0	49.3	49.6	48.9	42.5
Garst	IS4340	1510	1950	1250	2650	630	45.8	48.2	47.2	49.1	41.2
Garst/Interstate	IS4049	1440	1825	1140	2510	670	46.6	48.8	47.9	49.7	42.2
Pioneer	63M80	1370	1685	1040	2330	740	46.1	47.8	49.4	46.1	42.7
Pioneer	63A70	1350	1675	1040	2310	710	48.1	50.8	51.9	49.7	42.7
DeKalb	DK3900	1270	1570	770	2370	670	46.5	49.2	48.0	50.4	41.0
Kaystar Seed	9501	-	1925	1450	2400	-	-	44.1	43.6	44.5	-
Garst/Interstate	IS5331	-	1855	1280	2430	-	-	46.5	45.4	47.5	-
Mycogen Seeds	8488NS	-	1785	1150	2420	-	-	47.1	47.9	46.3	-
Garst/Interstate	IS6767	-	1755	1170	2340	-	-	48.8	48.2	49.3	-
Mycogen Seeds	SF 187	-	1660	960	2360	-	-	46.1	45.7	46.5	-
Mycogen Seeds	SF 260	-	1640	900	2380	-	-	48.2	47.8	48.5	-
Dekalb	DKF36-40NS	-	1325	570	2080	-	-	43.9	43.4	44.4	-
Oil Averages		1410	1740	1080	2400	690	46.7	47.6	47.4	47.8	42.1
Confection Types							% over 20/64				
Garst	IS 8048	1410	1690	1550	1830	850	55	63	60	66	40
Red River	RRC2213	-	1830	1570	2090	-	-	53	47	58	-
Red River	RRC2582	-	1710	1200	2220	-	-	55	48	61	-
Confection Averages			1740	1440	2050			57	52	62	

Table 30. Perkins County Sunflower Hybrids
DRYLAND AVERAGED OVER THREE YEARS

BRAND	HYBRID	YIELD LBS/ACRE					OIL %				
		AVERAGES					AVERAGES				
		00-02	01-02	2002	2001	2000	00-02	01-02	2002	2001	2000
Oil Types											
Mycogen Seeds	8377NS	1080	1310	1180	1440	630	41.7	41.4	41.4	41.3	42.5
Pioneer	63M91	1020	1295	1500	1090	480	43.0	43.7	44.4	42.9	41.7
DeKalb	DK3900	1000	1390	1240	1540	210	41.8	41.8	41.0	42.5	41.9
Pioneer	63A70	990	1275	1450	1100	420	42.7	42.9	43.0	42.7	42.3
Pioneer	63M80	920	1240	990	1490	270	42.4	42.5	43.2	41.7	42.2
Kaystar Seed	9501	910	1225	1150	1300	290	41.0	41.2	40.6	41.7	40.6
Mycogen Seeds	8488NS	-	1165	770	1560	-	-	41.3	39.9	42.7	-
Triumph	665	-	905	540	1270	-	-	42.7	42.7	42.6	-
Dekalb	DKF36-40NS	-	895	1050	740	-	-	41.9	40.8	42.9	-
Oil Averages		990	1190	1100	1280	380	42.1	42.1	41.9	42.3	41.9
Confection Types							% over 20/64				
Red River	RRC2213	-	905	520	1290				-	36	-
Red River	RRC2582	-	875	500	1250				-	41	-
Sigco	Rustler	-	810	610	1004				-	39	-
Confection Averages			860	540	1180				-	39	

SPRING GRAIN TRIALS - 2002

Spring grain trials were conducted in both eastern and western Nebraska in 2002. Only oats were planted in the eastern test while both oats and barley were planted in the western test. The western test included both irrigated and dryland tests.

Spring barley and oat variety trials were planted in Cheyenne County, Nebraska at the High Plains Ag Lab north of Sidney. Trials of each crop were planted in dryland, and oats and barley were also planted in an irrigated field. These plots were planted with a 6' drill, 12" spacing.

The barley variety emphasis was on Russian Wheat Aphid (RWA) resistance. Aphid populations were low in 2002. "% Plump" is a rating of seed size, and is important to the brewing industry.

Light rains delayed planting of the Sidney dryland plots. The dryland plots were planted April 5 into a minimum tillage field where dryland corn had been grown the year

before. A starter containing 8 lbs. N and 28 lbs. P₂O₅ was applied. Forty lbs. of N was topdressed. Heat and drought, especially at flowering and filling time, caused very poor yields. The barley plots were not harvested. Oats and spring wheat were harvested on Aug. 1.

The irrigated plots were planted on April 5 in a field that had been plowed. A starter containing 8 lbs. N and 28 lbs. P₂O₅ was applied. Ninety lbs. of N was top-dressed. High temperatures at critical times resulted in poor yields. Barley plots were harvested on July 25 and oats on July 31.

The oat test in eastern Nebraska was planted at the Agricultural Research and Development Center near Ithica in Saunders County. In spite of the dryer than average summer, the yields averaged 75 bushels per acre. The test was planted on April 10 and harvested on July 22. The previous crop was oats cut for hay in 2001. Fertilizer was 50 pounds/a N.

Brand	Hybrid	Averages			
		2001	2002	2003	2004
Mountain Dew	2002	1080	1710	1580	1480
Frontier	2002	1020	1500	1500	1500
Okavaya	2002	1000	1300	1400	1300
Plum	2002	920	1270	1480	1500
Plum	2002	920	1240	1480	1500
Kayak	2002	910	1220	1480	1500
Kayak	2002	910	1220	1480	1500
Plum	2002	910	1220	1480	1500
Plum	2002	910	1220	1480	1500
Oil Averages		920	1200	1480	1500
Red River	FR2310	908	1200	1480	1500
Red River	FR2320	875	1200	1480	1500
Bliss	Fusion	810	1200	1480	1500
Continental Average		860	1180	1480	1500
% over 2004					
		36	-	-	-
		41	-	-	-
		38	-	-	-
		30	-	-	-

Cheyenne Co. Irrigated Oat Variety Test - 2002

VARIETY	Yield (bu/acre)	Test weight (lb/bu)	Plant height (inches)
Ogle	59	25.7	25
IL95-1241	59	31.9	25
Don	58	28.7	25
Jerry	54	30.1	27
P971A9-7-4-1	52	31.7	26
Wabasha	52	30.4	26
Richard	49	26.8	24
P973A38-3-6	48	30.9	26
Blaze	48	28.5	25
Russell	43	29.5	23
Mean	52	29.4	25
LSD (0.05)	10	NS	NS

Cheyenne Co. Dryland Oat Variety Test - 2002

VARIETY	Yield (bu/acre)	Plant height (inches)
P973A38-3-6	8	24
Wabasha	7	25
P971A9-7-4-1	7	24
Don	6	27
IL95-1241	6	28
Jerry	5	24
Ogle	5	24
Richard	4	24
Russell	4	25
Blaze	4	26
Mean	6	25
LSD (0.05)	2	2

Saunders Co. Dryland Oat Variety Test - 2002

VARIETY	Yield (bu/acre)	Test weight (lb/bu)	Flower Date (June)
P971A9-7-4-1	83	30.8	10
P973A38-3-6	82	32.0	10
IL95-1241	78	29.2	10
Wabasha	78	28.6	11
Don	77	30.2	11
Blaze	75	27.3	12
Ogle	70	26.5	10
Jerry	68	30.1	10
Richard	61	25.7	11
Mean	75	28.9	11
LSD (0.05)	12	1.3	NS

**CHEYENNE CO NEBRASKA SPRING BARLEY - 2002
IRRIGATED**

VARIETY	YIELD BU/A	TEST WT Lbs/Bu	HT Inches	% PLUMP
Otis	34	50	19	68
98BX28-44A	30	48	19	79
Otis+Gaucho	28	50	19	71
Bowman	25	50	18	69
98ID251	24	49	17	75
98BX28-22B	24	48	19	75
98ID242	23	50	18	81
96RWA1194	20	49	17	58
Conlon	20	49	20	89
Baronesse	19	49	17	73
Stander	19	48	18	59
Steptoe	19	45	19	77
98BX27-15B	18	48	19	70
97ID1269B	17	47	17	61
Crystal	15	48	18	57
98ID196	15	48	17	78
97ID1270	14	46	20	71
Averages	21	48	18	71
LSD (.05)	7	1	2	10

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