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Sunflower: 2005 South Dakota Hybrid Performance Trials

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Revised
Annually

Sunflower

2005 South Dakota Hybrid Performance Trials

Oilseed

Confection

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Sunflower

2005 South Dakota Hybrid Performance Trials
Oilseed and Confection

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Sunflower production is greatly affected by choice of hybrid. When selecting a hybrid, carefully consider characteristics such as seed yield potential, oil content, oil composition, maturity, stalk strength, and disease resistance. Choose hybrids with characteristics that best suit your needs and production practices.

Yield

Evaluate as much performance information as possible when selecting a hybrid. Give more weight to information from trials close to home and look at relative performance over many locations and years. Performance averaged over many tests is called "yield stability."

Good yield stability means that a hybrid may or may not be the best yielder at all locations. It does mean that the hybrid ranks high in yielding potential at many locations. A hybrid that ranks in the upper 20% at all locations exhibits better yield stability than one that is the top yielder at two locations but ranks in the lower 40% at two other locations.

To determine if one hybrid is better than another for a given trait, use the least significant difference (LSD 5%) value at the bottom of each data column. The LSD 5% value is a statistical way to indicate if a trait like yield differs when comparing two hybrids. If two hybrids differ by more than the indicated LSD value for a given trait, they would most likely differ again when grown under similar conditions.

For example, if the Miller oilseed test (Table 6) could be repeated in 2006 exactly as it was in 2005, the yield ranking of a hybrid that yielded 3425 lb/A and one that yielded 3027 lb/A might change places since their yield difference (398 lb/A) is less than the indicated yield LSD value of 473 lb/A. Within the accuracy level of the experiment, there was no statistical difference in yield between the two hybrids when grown under the conditions that existed at Miller in 2005. In contrast, a hybrid that yielded 2805 lb/A at Miller in 2005 would likely be lower yielding than one that yielded 3425 lb/A if the two hybrids were grown again under similar conditions, because the difference between them in 2005 (3425 – 2805 = 620 lb/A) exceeded the LSD value of 473 lb/A.

The coefficient of variability (C.V.) listed at the bottom of each data column is a relative measure of the amount of variation recorded for a particular trait and is expressed as a percentage of the mean for that trait. Generally, trials with low C.V. rates are more reliable for making hybrid choices than trials with higher C.V. rates. Trials with C.V. rates not exceeding 15-20% may be considered reliable.

Look at as many trials as possible. It is unlikely that environmental conditions of any particular test will be repeated in any future year.

Oil Content and Composition

Among similar-yielding oilseed hybrids, select the one with the highest oil content. The oilseed market pays a premium for over 40% oil (at 10% moisture) and discounts for less than 40% oil.

Oil type may also be important. Hybrids are available with "traditional" (linoleic), high-oleic, and mid-oleic (NuSun) oil composition. Markets may pay a premium based on the composition of the oil produced by a particular hybrid. Some companies offer guarantees for NuSun oleic levels. Consistency of oleic levels for particular hybrids will be an important trait to evaluate, as data become available.

Maturity

Full-season hybrids generally yield higher than early hybrids.

Maturity is especially important if planting is delayed. Often, with delayed planting, only an early hybrid will mature and exhibit its full yield potential. Yield, oil content, and test weight are often reduced when a hybrid is damaged by frost before it is fully mature. An earlier hybrid will likely be drier at harvest than a later hybrid, thus reducing drying costs. To spread risk and workload, consider planting several hybrids with different maturity dates.

Moisture Content

Harvesting sunflower at moisture contents as high as 20-25% may reduce bird damage and seed shattering loss during harvest. Seed must be dried to 9.5% or less for storage.

Disease Resistance

The most economical and effective means of sunflower disease control is the planting of resistant or tolerant hybrids and a minimum of 4 years rotation between successive sunflower crops.

Most sunflower hybrids in the United States have resistance to Verticillium wilt, races 1 and 2 of downy mildew, and two or more races of rust. Consult the seed company for information on the reaction of a particular hybrid to these and other diseases that may pose a risk in your growing area.

Other Factors

Consider your contracting and marketing opportunities when selecting hybrids. Some hybrids may fit more than one market. For example, many oilseed hybrids may be equally suitable for crushing, hulling, or birdfeed.

2005 Trial Procedures

Locations and Hybrids

Oilseed hybrid sunflower trials were planted at five locations in South Dakota (Bison, Ipswich, Miller, Onida, and Reliance). Entries in the oilseed sunflower trials included traditional oil hybrids, NuSun (mid-oleic) hybrids, and high oleic hybrids. Non-oilseed (confection) sunflower trials were conducted at Miller and Onida. Trial sites are indicated on the map in Figure 1. Lists of hybrids planted at each site appear in Tables 2 and 3.

Climate

A summary of 2005 climatic conditions near the sunflower test sites is presented in Table 1. May was cooler than normal at all locations. All locations except Bison had near to above normal temperatures for the remainder of the growing season. Bison was near normal in June, warmer than normal in July, September, and October, and cooler than normal in August. There was adequate moisture at planting for stand establishment. Bison, Miller, and Reliance had above normal precipitation for much of the growing season, while Onida was drier than normal and Ipswich was near normal. The first killing frost occurred around October 7 at Bison and Reliance, but was delayed until October 23 at Miller, Ipswich, and Onida.

Experimental Methods

Plots at all locations consisted of four rows 23 or 24 feet long, spaced 30 inches apart. The center two rows of each plot were harvested. The plot layout was in a randomized complete block design with four replications at each location. The experiments were randomized for a nearest neighbors statistical analysis, which removes effects of field trends (see Crop Science 34:62-66).

All plots were overseeded and thinned, except Bison, which was not thinned. Oilseed plots were thinned to a plant population of approximately 18,000 plants/A. Confection plots at both locations were thinned to approximately 17,000 plants/A. Stands were good at Ipswich and Miller but somewhat variable at Bison, Reliance, and Onida.

Some of the hybrids entered in the trials had seed that was pretreated with an insecticide, fungicide, or both, while some were not treated. Seed treatments used on individual hybrids are listed in Tables 2 and 3. There was no major flea-beetle damage at any of the test sites.

The Reliance, Bison, and Onida trials were seeded no-till. Miller and Ipswich were planted with conventional tillage practices. Spartan, Prowl, or Sonalan herbicide was applied for weed control at all locations.

Flowering was recorded at Onida as the number of days from planting to 50% ray petals extended. Maturity at Onida was recorded as the number of days from planting to physiological maturity (backs of heads yellow and bracts turning brown). Plant height and lodging notes were taken at all locations immediately before harvest. Lodging averaged less than 5% at all locations. Plots in the fourth replication at Reliance had moderate bird damage and were excluded from statistical analyses. The first two replications at Bison were also excluded, due to variable stands and stunting from unknown causes.

Plots were harvested with a Gleaner Model K combine fitted with a two-row all row crop header. All oilseed trial seed yields were adjusted to a 10% moisture basis. Oil content was determined by NMR analysis of oven-dry samples and converted to 10% moisture. Oil values for NuSun hybrids were adjusted for oleic acid content.

Seed from the non-oilseed trials was dried before weighing. A one-pint sub-sample of seed from each plot was passed over 22/64, 20/64, and 18/64 round-hole screens to determine percent large seed. Nutmeat percent was determined by weighing 20 whole seeds, dehulling, and weighing the 20 dehulled kernels.

Results

Data from each location and combined over locations are contained in Tables 4-9 (oilseed) and 10-12 (confection). Yields of oilseed hybrids were highest at Miller and Ipswich, averaging 2812 and 2733 lb/A, respectively, over all hybrids tested. Confection seed yields averaged 1779 lb/A at Onida and 3301 lb/A at Miller. In the tables that follow, hybrids are listed in order of descending 2005 seed yield.

Presentation of data in this report on the hybrids tested does not imply approval or endorsement by SDSU to the exclusion of other varieties that may be suitable. South Dakota State University approves the reproduction of any table in this publication only if no portion is deleted.

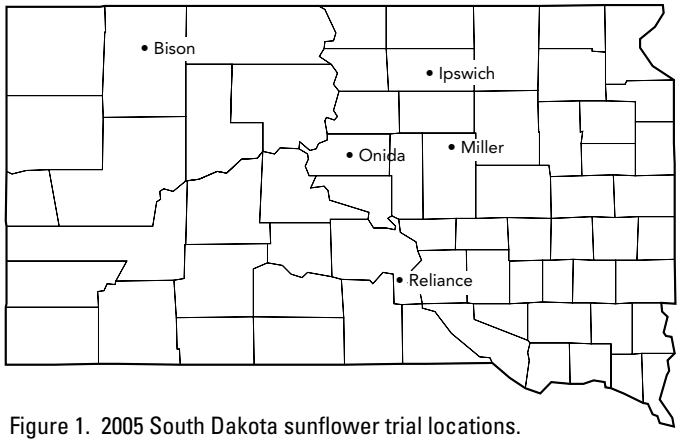

Figure 1. 2005 South Dakota sunflower trial locations.

Table 1. Climate summary for nearest weather stations to 2005 South Dakota sunflower test sites and departures from normal.

LOCATION-MONTH	2005 TEMPERATURE			TOTAL PRECIP	DEPARTURE FROM NORMAL^			
	AVG MAX.	AVG MIN.	MEAN		MAX TEMP	MIN	AVG TEMP	PRE-CIP
	----------°F----------			IN.	----------°F----------			IN.
Reliance*								
May	68	43	55	3.52	-3.0	-1.9	-2.4	-0.1
June	80	60	70	8.99	-1.1	5.8	2.3	5.6
July	91	63	77	0.92	1.8	2.8	2.3	-2.0
August	90	61	75	0.79	2.6	2.4	2.5	-1.5
September	85	55	70	2.85	7.2	6.5	6.8	0.9
October	67	37	52	0.50	4.0	1.1	2.5	-1.3
Ipswich*								
May	66	42	54	2.28	-3.7	0.8	-1.5	-0.4
June	78	58	68	5.96	-0.3	6.4	3.0	2.5
July	85	59	72	1.50	0.5	3.1	1.8	-1.5
August	82	55	69	3.02	-1.2	1.6	0.2	0.8
September	78	49	63	2.03	4.8	5.8	5.3	0.4
October	61	35	48	0.53	1.3	3.2	2.2	-1.0
Miller*								
May	66	43	55	2.87	-2.0	-3.0	-2.5	-0.3
June	78	57	68	7.95	0.2	2.1	1.1	5.1
July	87	61	74	1.73	1.5	0.1	0.7	-0.9
August	85	57	71	2.27	1.0	-0.7	0.1	0.3
September	80	53	66	2.89	5.5	5.2	5.3	1.1
October	63	36	50	0.60	2.6	1.1	1.8	-1.2
Onida 4 NW*								
May	66	42	54	3.82	-4.3	-2.2	-3.3	1.0
June	79	57	68	3.68	-1.4	3.8	1.2	0.6
July	91	60	76	1.42	3.6	1.6	2.6	-1.3
August	88	58	73	1.75	1.7	1.2	1.4	-0.4
September	83	51	67	1.03	7.1	5.1	6.1	-0.5
October	64	36	50	0.49	2.7	1.8	2.2	-1.1
Bison*								
May	65	40	53	5.32	-4.9	-3.3	-4.1	2.6
June	78	54	66	2.96	-0.8	0.9	0.0	0.1
July	90	57	74	3.26	4.2	-1.2	1.5	1.0
August	85	54	70	3.33	-1.6	-2.6	-2.1	1.9
September	81	48	65	1.11	6.3	1.8	4.0	-0.1
October	64	36	50	1.92	3.7	0.5	2.1	0.5

* Based on data from the High Plains Regional Climate Center, University of Nebraska, Lincoln. Observations are from sites as close to the actual test plot sites as available. Temperature and/or precipitation at the actual test plot sites may have differed from the values shown above.

^ Departures from normal were determined by comparing 2005 observations to 30-yr averages (1971-2000) for each site.

Table 2. Hybrids tested in the 2005 South Dakota oilseed hybrid sunflower trials.

Brand	Hybrid	Hybrid Type	Herb. Resist.	Seed* Treatmnt	Bison	Ipswich	Miller	Onida	Reliance
Advanta Pacific	AP534NS/CL	NuSun	CL	C		X	X		
Advanta Pacific	AP541NS	NuSun		C			X		
Advanta Pacific	AP561NS	NuSun		C			X		
Advanta Pacific	F10125CL	NuSun	CL			X	X		
Croplan Genetics	3080DMR	NuSun		CZ			X		
Croplan Genetics	340HO	HO		CZ				X	
Croplan Genetics	343HO,DMR	HO		CZ				X	
Croplan Genetics	345	NuSun		CZ		X		X	
Croplan Genetics	378DMR,HO	HO		CZ		X	X	X	X
Croplan Genetics	380	NuSun		CZ			X		X
Croplan Genetics	385	NuSun		CZ			X		X
Croplan Genetics	544CL	NuSun	CL	CZ		X	X		
Dahlgren & Co.	DO-4421	NuSun		yes			X	X	
Dahlgren & Co.	DO-4440	NuSun		yes			X	X	
Dahlgren & Co.	DO-4455CL	NuSun	CL	yes			X	X	
Dekalb	DKF30-33NS	NuSun		CDM	X	X	X	X	X
Dekalb	DKF33-33NS	NuSun		CDM	X	X		X	
Dekalb	DKF38-30NS	NuSun		CDM	X	X	X	X	X
Dekalb	DKF3875	Trad.		CDM	X	X	X	X	X
Dekalb	DKF38-80CL	Trad.	CL	CDM	X	X	X	X	X
Dekalb	DKF39-01	Trad.		CDM	X	X	X	X	X
Dekalb	EXP001	NuSun		CDM			X	X	X
Dekalb	EXP002	NuSun		CDM			X	X	X
Dekalb	MH4331B	NuSun		CDM	X	X	X	X	X
Dekalb	MH4435	NuSun		CDM	X	X		X	
Dekalb	MH4436	NuSun		CDM	X	X		X	
Dekalb	MH5330	NuSun		CDM	X	X		X	
Dekalb	MH5434	NuSun		CDM	X	X		X	
Dyna-Gro	91N05	NuSun				X	X	X	X
Dyna-Gro	93C05	Trad.				X	X	X	X
Dyna-Gro	93N05	NuSun				X	X	X	X
Dyna-Gro	94T90	Trad.				X	X	X	X
Garst Seed	02TH003896	NuSun				X	X	X	X
Garst Seed	03TH004205	NuSun				X	X	X	X
Garst Seed	03TH004251	NuSun				X	X	X	X
Garst Seed	4682 NC/CL	NuSun	CL			X	X	X	X
Garst Seed	4690 NS	NuSun				X	X	X	X
Interstate Seed	IS 4540NS	NuSun		C	X	X		X	
Interstate Seed	IS 4704NS	NuSun		C	X	X		X	
Interstate Seed	IS F10016	NuSun		C	X	X		X	
Interstate Seed	IS F10046	HO		C	X	X		X	
Interstate Seed	IS HyOleic 120	HO		C	X	X		X	
Interstate Seed	IS Hysun 424	NuSun		C	X	X		X	
Interstate Seed	IS Hysun 450	NuSun		C	X	X		X	
Interstate Seed	IS Hysun 525	NuSun		C	X	X		X	
Kaystar Seed	8303	Trad.		C	X	X			
Kaystar Seed	8402NS	NuSun		C		X			
Kaystar Seed	8550NS/CL	NuSun	CL	C			X		X
Kaystar Seed	9404	Trad.		C	X		X	X	
Kaystar Seed	9501	Trad.		C			X	X	X
Kaystar Seed	X5100HO	HO		C				X	

Table 2 (cont.).

Brand	Hybrid	Hybrid Type	Herb. Resist.	Seed* Treatmnt	Bison	Ipswich	Miller	Onida	Reliance
Mycogen Seeds	8D310	NuSun		CDM		X	X	X	X
Mycogen Seeds	8H350DM	HO		CDM		X	X	X	X
Mycogen Seeds	8H419CL	HO	CL	CDM	X	X	X	X	X
Mycogen Seeds	8N352	NuSun		CDM	X	X	X	X	X
Mycogen Seeds	8N386CL	NuSun	CL	CDM		X	X	X	X
Mycogen Seeds	8N429CL	NuSun	CL		X	X		X	
Mycogen Seeds	8N453DM	NuSun		CDM		X	X	X	X
Mycogen Seeds	8N510	NuSun		CDM		X	X	X	X
Mycogen Seeds	E84352	NuSun	CL		X	X		X	
Mycogen Seeds	SF187	Trad.		CDM	X	X	X	X	X
Pannar Seeds	PEX 2413	NuSun					X	X	
Pannar Seeds	PEX 2424	NuSun					X	X	
Pioneer Hi-Bred	hybrid 63M80	NuSun		C+Dyn		X	X	X	X
Pioneer Hi-Bred	hybrid 63M91	NuSun		C+Dyn		X	X	X	X
Pioneer Hi-Bred	hybrid 64H41	HO		C+Dyn		X	X	X	X
Pioneer Hi-Bred	hybrid 64H45	HO		C+Dyn		X	X	X	X
Pioneer Hi-Bred	hybrid X3425	NuSun		C+Dyn		X	X	X	X
Producers Hybrids	SF7203	Trad.				X	X	X	X
Producers Hybrids	SF7303	NuSun				X	X	X	X
Proseed	9405	NuSun			X	X	X	X	X
Proseed	9441	NuSun			X	X	X	X	X
Proseed	E-2	Trad.			X	X	X	X	X
Proseed	E-3	NuSun			X	X	X	X	X
Proseed	CL 43	NuSun	CL		X	X	X	X	X
Proseed	CL55-15	NuSun	CL		X	X	X	X	X
Proseed	E-1	HO			X	X	X	X	X
Proseed	T-1	NuSun			X	X	X	X	X
Proseed	T-5	NuSun			X	X	X	X	X
Scherr's Seed LLC	629	NuSun	CL	Met		X			
Scherr's Seed LLC	630	NuSun	CL	Met		X			
Scherr's Seed LLC	674	NuSun		Met		X			
Seeds 2000	Blazer	NuSun		Max+Met		X	X	X	X
Seeds 2000	Sierra	HO		Max+Met		X	X	X	X
Seeds 2000	Barracuda	NuSun	CL	Max+Met		X	X	X	X
Triumph Seed	645	NuSun		C+Max+Met+Reldan	X	X	X	X	X
Triumph Seed	660CL	NuSun	CL	C+Max+Met+Reldan				X	
Triumph Seed	820HO	HO		C+Max+Met+Reldan				X	
Triumph Seed	s672	NuSun		C+Max+Met+Reldan	X	X	X	X	X
Triumph Seed	s675	NuSun		C+Max+Met+Reldan		X		X	
Triumph Seed	TR620CL	NuSun	CL	C+Max+Met+Reldan				X	
Triumph Seed	TRX4240	NuSun		C+Max+Met+Reldan				X	
Triumph Seed	s678	NuSun		C+Max+Met+Reldan				X	X
USDA	894 (check)	Trad.			X	X	X	X	X
cmsHA406/RHA373	(check)	Trad.				X			X
			Total hybrids		38	72	64	80	54

* C = Cruiser, CDM = Cruiser DM Pak, Max = Maxim, Met = Metalaxyl, Dyn = Dynasty

Table 3. Hybrids tested in the 2005 South Dakota confection hybrid sunflower trials.

Brand	Hybrid	Hybrid Type	Herb. Resist.	Seed* Treatmnt	Miller	Onida
CHS Sunflower	RH112	Confect.		Apron/Maxim CDM	X	X
CHS Sunflower	RH312	Confect.		Apron/Maxim CDM	X	X
CHS Sunflower	RH316	Confect.		Apron/Maxim CDM	X	X
Croplan Genetics	130	Confect.		CZ	X	X
Croplan Genetics	135	Confect.		CZ	X	X
Dahlgren & Co.	D-9530	Confect.		yes	X	X
Dahlgren & Co.	D-9531	Confect.		yes	X	X
Garst Seed	IS8048	Confect.			X	X
Mycogen Seeds	8C416	Confect.		CDM	X	X
Mycogen Seeds	8C481	Confect.		CDM	X	X
Red River Commodities	2214	Confect.		CDM	X	X
Red River Commodities	2215	Confect.		CDM	X	X
Red River Commodities	2216	Confect.		CDM	X	X
Red River Commodities	8050	Confect.		CDM	X	X
Seeds 2000	Grizzly	Confect.			X	X
Seeds 2000	Panther	Confect.			X	X
Sigco Sun Products	SS3638	Confect.		Max+Met+C	X	X
Sigco Sun Products	SS3938	Confect.		Max+Met+C	X	X
Triumph Seed	777C	Confect.			X	(X)
Triumph Seed	767C	Confect.			X	
USDA	924 (check)	Confect.			X	X
				Total hybrids	21	20

* C = Cruiser, CDM = Cruiser DM Pak, Max = Maxim, Met = Metalaxyl

Table 4. Oilseed sunflower hybrid trial, Bison, SD - 2005.

Brand	Hybrid	Type*	Seed Yield lbs/A	Oil %	Plant Hght cm	Lodg %	Harv. Moist. %	Pop. 1000 pl/A
Kaystar Seed	8303	Trad.	1786	41.4	121	6	11.8	17.8
Triumph Seed	s672	N	1752	41.8	93	8	15.6	18.2
Dekalb	DKF3875	Trad.	1684	37.3	109	2	11.5	18.5
Mycogen Seeds	SF187	Trad.	1670	37.0	113	1	8.4	20.9
Dekalb	DKF33-33NS	N	1669	37.1	118	-0	7.4	18.6
Proseed	T-5	N	1665	40.9	96	12	12.0	16.8
Proseed	T-1	N	1642	39.3	121	9	13.8	11.9
Mycogen Seeds	8N429CL	N,CL	1609	35.8	131	1	13.3	18.0
Proseed	E-3	N	1602	38.3	118	1	13.7	16.7
Dekalb	MH4435	N	1588	40.8	119	5	10.9	18.6
Interstate Seed	IS 4540NS	N	1560	39.2	100	7	12.5	19.3
Mycogen Seeds	8N352	N	1536	41.0	111	7	12.1	21.2
Proseed	9405	N	1518	40.2	125	3	13.0	17.7
Proseed	E-2	Trad.	1488	37.6	128	2	10.7	19.4
Interstate Seed	IS HyOleic 120	HO	1443	40.5	129	3	14.2	16.4
Interstate Seed	IS Hysun 450	N	1431	38.4	104	6	16.3	17.0
Interstate Seed	IS 4704NS	N	1419	37.6	105	-0	13.6	21.4
Dekalb	DKF30-33NS	N	1410	35.8	123	4	12.8	19.0
Kaystar Seed	9404	Trad.	1396	37.7	125	2	11.8	19.7
Proseed	CL 43	N,CL	1378	35.3	115	-0	8.1	14.3
Dekalb	DKF38-30NS	N	1360	39.7	114	4	14.5	19.7
Mycogen Seeds	E84352CL	N,CL	1357	42.0	113	5	10.6	18.8
Interstate Seed	IS Hysun 424	N	1309	39.0	118	1	14.3	17.4
Proseed	CL55-15	N,CL	1307	37.6	124	0	8.8	20.4
Dekalb	MH5330	N	1291	41.0	138	1	11.4	20.0
Dekalb	DKF38-80CL	Trad,CL	1278	34.8	113	4	11.3	17.5
Dekalb	DKF39-01	Trad.	1254	40.0	114	10	8.4	15.8
Interstate Seed	IS Hysun 525	N	1232	38.0	113	6	11.3	19.6
Triumph Seed	645	N	1139	41.3	125	12	12.6	19.3
Interstate Seed	IS F10016	N	1137	38.6	115	-0	12.5	20.7
Proseed	9441	N	1106	39.1	128	3	12.4	15.9
Mycogen Seeds	8H419CL	HO,CL	1082	38.8	118	7	11.1	19.1
Interstate Seed	IS F10046	HO	1077	38.8	110	6	18.5	15.4
Dekalb	MH5434	N	1036	41.5	133	6	11.3	19.5
Dekalb	MH4331B	N	1014	40.6	114	2	11.5	18.9
Dekalb	MH4436	N	946	40.2	121	9	4.8	19.6
Proseed	E-1	HO	863	38.6	127	2	10.5	13.8
USDA	894 (check)	Trad.	828	38.3	120	8	8.5	18.9
Grand mean			1365	39.0	118	4	11.8	18.2
LSD 5%			491	1.3	11	5	3.6	3.5
C.V.			17.7	2.4	6.5	82.0	22.0	13.9

* N = NuSun, HO = High Oleic, Trad. = Traditional linoleic, CL = Clearfield.

Planted June 15, 2005. Harvested October 21, 2005.

Yield and oil % are reported at 10% moisture. Oil % is adjusted for oleic acid content.

Cooperator: Duane Shea, Bison, SD.

Table 5. Oilseed sunflower hybrid trial, Ipswich, SD - 2005.

Brand	Hybrid	Type*	Seed Yield (lbs/A) 2005	2004	2-yr	Oil %	Plant Hght cm	Lodg %	Harv. Moist. %	Test Wt. lb/bu	Pop. 1000 pl/A
Mycogen Seeds	8H350DM	HO	3718	--	--	42.0	139	2	15.2	29.5	18.2
Triumph Seed	s675	N	3606	1413	2509	41.9	98	1	18.1	28.6	18.2
Dekalb	MH4331B	N	3597	--	--	40.8	139	1	16.3	29.6	18.2
Dekalb	MH4435	N	3544	--	--	42.6	136	3	14.6	29.5	18.2
Triumph Seed	645	N	3526	1382	2454	40.9	136	2	15.5	28.9	18.2
Seeds 2000	Blazer	N	3334	1465	2399	41.6	127	1	15.7	29.8	18.2
Mycogen Seeds	SF187	Trad.	3306	1277	2291	41.2	128	0	15.3	30.2	18.2
Mycogen Seeds	8H419CL	HO,CL	3258	--	--	41.5	146	2	14.7	29.1	18.2
Mycogen Seeds	8N510	N	3226	1777	2502	40.2	142	2	14.4	29.7	18.2
Croplan Genetics	345	N	3199	1473	2336	41.7	140	2	17.3	29.2	18.2
Dekalb	DKF3875	Trad.	3169	--	--	41.4	144	1	14.4	31.1	18.2
Triumph Seed	s672	N	3134	--	--	43.5	102	-0	17.2	29.2	18.2
cmsHA406/RHA373	(check)	Trad.	3129	1395	2262	42.2	135	0	12.7	31.4	18.2
Mycogen Seeds	8N453DM	N	3093	--	--	42.0	145	2	16.4	30.4	18.2
Seeds 2000	Sierra	HO	3087	--	--	40.4	140	2	20.3	26.7	18.2
Interstate Seed	IS Hysun 525	N	3081	1074	2078	40.3	126	1	17.2	29.4	15.7
Scherr's Seed LLC	674	N	3071	--	--	41.3	130	2	16.8	29.9	18.2
Producers Hybrids	SF7303	N	3061	1527	2294	40.7	136	2	18.7	29.3	18.2
Mycogen Seeds	8D310	N	3061	1533	2297	38.9	137	1	16.7	28.9	18.2
Mycogen Seeds	8N352	N	3056	1690	2373	42.1	141	-0	16.2	29.9	18.2
Producers Hybrids	SF7203	Trad.	2943	--	--	42.2	147	4	14.2	29.6	18.2
Proseed	E-1	HO	2911	--	--	39.2	157	2	14.2	28.4	17.7
Dekalb	MH4436	N	2890	--	--	42.2	136	7	17.1	31.5	18.2
Garst Seed	4682 NC/CL	N,CL	2888	--	--	40.4	133	2	15.8	29.4	18.2
Dekalb	DKF30-33NS	N	2848	1212	2030	39.2	147	3	16.2	29.9	18.2
Interstate Seed	IS Hysun 450	N	2807	1078	1942	40.5	144	2	17.0	28.9	18.2
Mycogen Seeds	8N386CL	N,CL	2790	--	--	40.7	143	1	16.6	28.5	18.2
Advanta Pacific	F10125CL	N,CL	2789	--	--	39.2	146	2	15.7	29.7	18.2
Proseed	T-5	N	2787	--	--	39.7	138	1	17.3	28.6	16.3
Mycogen Seeds	E84352CL	N,CL	2774	--	--	41.3	140	0	13.0	29.5	18.2
Advanta Pacific	AP534NS/CL	N,CL	2771	--	--	39.9	152	2	17.4	28.4	18.2
Dekalb	MH5434	N	2740	--	--	39.6	155	3	16.7	29.8	18.2
Garst Seed	4690 NS	N	2722	--	--	41.0	114	3	16.6	30.7	18.2
Garst Seed	02TH003896	N	2720	--	--	40.9	149	8	17.3	30.8	18.2
Dekalb	DKF33-33NS	N	2712	920	1816	39.2	141	6	17.1	30.0	18.2
Proseed	9441	N	2697	1048	1873	40.4	146	3	14.3	28.9	18.2
Proseed	T-1	N	2691	1351	2021	41.0	129	5	17.6	27.8	18.2
Interstate Seed	IS F10046	HO	2662	--	--	42.2	130	3	16.9	30.9	18.2
Interstate Seed	IS Hysun 424	N	2659	887	1773	40.5	140	2	16.3	30.1	18.2
Kaystar Seed	8303	Trad.	2658	--	--	41.4	132	4	14.9	31.2	18.2
Dyna-Gro	94T90	Trad.	2657	--	--	42.0	148	4	14.2	29.7	18.2
Dekalb	DKF39-01	Trad.	2652	--	--	41.5	130	4	13.0	31.2	18.2
Croplan Genetics	378DMR,HO	HO	2646	--	--	40.2	142	1	16.2	28.6	18.2
Dekalb	MH5330	N	2635	--	--	40.8	158	0	15.8	30.1	18.2
Garst Seed	03TH004205	N	2606	--	--	39.6	146	13	17.7	29.0	18.2
Dekalb	DKF38-30NS	N	2590	1356	1973	40.3	146	1	17.2	29.7	18.2
Pioneer Hi-Bred	hybrid 64H45	HO	2575	--	--	41.4	146	2	17.4	29.3	18.2
Proseed	E-3	N	2566	--	--	40.2	134	4	14.5	29.9	18.2

Table 5 (cont.).

Brand	Hybrid	Type*	Seed Yield (lbs/A) 2005	2004	2-yr	Oil %	Plant Hght cm	Lodg %	Harv. Moist. %	Test Wt. lb/bu	Pop. 1000 pl/A
Interstate Seed	IS HyOleic 120	HO	2536	--	--	40.7	144	4	15.1	30.4	18.2
Interstate Seed	IS 4540NS	N	2534	--	--	41.3	126	1	17.1	30.2	18.2
Dyna-Gro	93C05	Trad.	2520	--	--	42.1	136	4	18.9	29.0	18.2
Garst Seed	03TH004251	N	2486	--	--	40.5	142	6	15.2	29.5	18.2
Mycogen Seeds	8N429CL	N,CL	2466	--	--	39.8	151	0	17.9	30.1	17.5
Pioneer Hi-Bred	hybrid 64H41	HO	2443	--	--	39.7	147	4	15.6	30.1	18.2
Pioneer Hi-Bred	hybrid 63M80	N	2426	942	1684	41.5	128	1	14.6	30.9	18.2
Interstate Seed	IS 4704NS	N	2385	1160	1773	40.1	127	0	20.0	27.9	18.2
Proseed	9405	N	2378	1372	1875	39.7	132	2	19.3	27.7	18.2
USDA	894 (check)	Trad.	2370	1018	1694	42.5	119	5	16.4	30.7	17.5
Dyna-Gro	93N05	N	2351	--	--	39.4	135	1	18.6	29.0	18.2
Pioneer Hi-Bred	hybrid 63M91	N	2348	1299	1824	40.7	148	2	15.0	31.3	18.2
Proseed	E-2	Trad.	2336	--	--	39.8	150	7	15.4	29.8	18.2
Dekalb	DKF38-80CL	Trad,CL	2321	1360	1841	40.2	131	2	15.6	28.7	18.2
Proseed	CL 43	N,CL	2301	--	--	39.3	132	11	16.9	29.3	18.2
Scherr's Seed LLC	630	N,CL	2300	--	--	41.0	147	5	20.8	27.9	18.2
Interstate Seed	IS F10016	N	2228	875	1552	39.8	119	1	18.6	29.1	18.2
Seeds 2000	Barracuda	N,CL	2203	1439	1821	41.4	142	5	19.2	28.7	18.2
Kaystar Seed	8402NS	N	2154	--	--	40.5	121	2	21.3	28.7	18.2
Croplan Genetics	544CL	N,CL	2113	1757	1935	39.2	142	5	18.9	28.8	18.2
Pioneer Hi-Bred	hybrid 05PI02	N	2062	--	--	38.9	129	2	15.7	30.0	18.2
Scherr's Seed LLC	629	N,CL	2061	--	--	40.4	148	0	16.8	29.1	18.2
Proseed	CL55-15	N,CL	2023	1454	1738	39.3	135	3	14.9	28.8	18.2
Dyna-Gro	91N05	N	1819	--	--	40.3	121	8	13.7	29.3	18.2
Grand mean			2733	1274	2004	40.7	137	3	16.4	29.5	18.1
LSD 5%			590	391		1.4	11	4	3.0	1.7	ns
C.V.			15.5	18.9		2.4	5.6	103.3	13.3	4.2	4.2

* N = NuSun, HO = High Oleic, Trad. = Traditional linoleic, CL = Clearfield.

Planted May 19, 2005. Harvested October 12, 2005.

Yield and oil % are reported at 10% moisture. Oil % is adjusted for oleic acid content.

Cooperator: Mark Volk, Ipswich, SD.

Table 6. Oilseed sunflower hybrid trial, Miller, SD - 2005.

Brand	Hybrid	Type*	Seed Yield (lbs/A) 2005	2004	2-yr	Oil %	Plant Hght cm	Lodg %	Harv. Moist. %	Test Wt. lb/bu	Pop. 1000 pl/A
Dekalb	EXP001	N	3425	--	--	41.0	173	1	14.3	29.1	18.2
Dekalb	DKF3875	Trad.	3335	--	--	40.9	183	2	13.3	29.6	18.2
Mycogen Seeds	8N352	N	3324	1855	2589	41.6	186	1	14.1	29.8	18.2
Dekalb	EXP002	N	3314	--	--	41.0	168	0	13.4	29.0	18.2
Seeds 2000	Blazer	N	3194	2338	2766	40.3	165	1	16.1	29.3	18.2
Mycogen Seeds	8H350DM	HO	3157	--	--	41.1	178	2	13.4	28.5	18.2
Dyna-Gro	94T90	Trad.	3156	--	--	42.1	177	0	13.2	28.8	18.2
Mycogen Seeds	8N453DM	N	3097	--	--	41.7	191	1	13.8	30.1	18.2
Mycogen Seeds	8D310	N	3096	2435	2766	38.1	166	1	13.7	29.0	18.2
Garst Seed	03TH004251	N	3092	--	--	40.3	180	1	15.5	27.8	18.2
Pioneer Hi-Bred	hybrid 63M80	N	3087	2161	2624	40.8	174	2	13.5	28.5	18.2
Kaystar Seed	9404	Trad.	3066	2372	2719	41.4	171	1	13.6	28.5	18.2
Dahlgren & Co.	DO-4440	N	3051	--	--	39.4	165	-1	14.9	29.2	18.2
Seeds 2000	Barracuda	N,CL	3050	2099	2574	40.3	171	2	15.8	29.6	18.2
Mycogen Seeds	8H419CL	HO,CL	3045	--	--	39.6	182	0	13.9	27.6	18.2
Pioneer Hi-Bred	hybrid 63M91	N	3033	2264	2649	40.3	186	1	13.6	29.5	18.2
Dekalb	DKF38-30NS	N	3027	2399	2713	39.6	172	2	14.8	29.3	18.2
Advanta Pacific	AP541NS	N	3024	--	--	39.3	157	-0	15.0	29.2	18.2
Croplan Genetics	385	N	3020	2367	2694	39.2	171	2	15.2	29.1	18.2
Dahlgren & Co.	DO-4455CL	N,CL	3017	--	--	38.6	191	3	14.2	28.8	18.2
Mycogen Seeds	8N510	N	3017	2806	2911	40.0	174	4	13.4	28.7	18.2
Producers Hybrids	SF7203	Trad.	2982	--	--	41.1	193	1	13.1	29.1	18.2
Pioneer Hi-Bred	hybrid 64H41	HO	2977	--	--	40.0	184	0	14.3	30.2	18.2
Proseed	E-1	HO	2972	--	--	39.9	200	2	13.9	27.4	18.2
Croplan Genetics	3080DMR	N	2968	2060	2514	40.3	172	1	13.4	28.4	18.2
Dekalb	DKF39-01	Trad.	2934	--	--	41.5	158	1	14.0	29.2	18.2
Seeds 2000	Sierra	HO	2932	--	--	39.6	178	2	13.8	27.8	18.2
Pannar Seeds	PEX 2413	N	2896	--	--	40.1	169	2	14.9	28.6	17.7
Triumph Seed	645	N	2888	2239	2563	40.7	180	0	15.5	28.2	18.2
Producers Hybrids	SF7303	N	2866	2245	2555	40.6	180	2	16.0	28.5	18.2
Advanta Pacific	AP534NS/CL	N,CL	2862	--	--	39.7	184	2	14.1	27.7	18.2
Mycogen Seeds	SF187	Trad.	2851	2293	2572	40.5	157	0	13.5	29.6	18.2
Dekalb	MH4331B	N	2805	--	--	41.3	164	1	14.0	29.1	18.2
Triumph Seed	s672	N	2790	--	--	41.2	109	0	13.7	29.0	18.2
Croplan Genetics	544CL	N,CL	2782	--	--	38.6	174	1	13.6	28.9	18.2
Dyna-Gro	93N05	N	2774	--	--	39.5	167	1	14.2	28.5	18.2
Kaystar Seed	9501	Trad.	2768	2168	2468	39.9	187	1	13.7	29.5	18.2
Pioneer Hi-Bred	hybrid 05PI02	N	2767	--	--	39.0	171	4	13.1	27.7	18.0
Croplan Genetics	378DMR,HO	HO	2748	--	--	39.7	182	0	15.2	27.8	18.2
Mycogen Seeds	8N386CL	N,CL	2744	--	--	40.2	177	1	14.4	27.6	18.2
Dekalb	DKF38-80CL	Trad,CL	2734	2031	2383	40.3	162	2	13.9	28.3	18.2
Garst Seed	4690 NS	N	2725	--	--	40.9	151	2	13.4	30.4	18.2
Proseed	T-1	N	2723	2015	2369	40.7	155	4	16.6	26.8	16.9
Pannar Seeds	PEX 2424	N	2720	--	--	39.2	175	0	15.2	28.7	17.1
Garst Seed	02TH003896	N	2716	--	--	40.4	181	3	15.2	30.0	18.2
Proseed	E-2	Trad.	2685	--	--	39.2	174	0	13.4	27.9	18.2
Proseed	9405	N	2640	2117	2379	41.1	151	1	14.9	27.6	18.2
Garst Seed	03TH004205	N	2638	--	--	39.4	192	5	14.1	29.7	17.3

Table 6 (cont.).

Brand	Hybrid	Type*	Seed Yield (lbs/A) 2005	2004	2-yr	Oil %	Plant Hght cm	Lodg %	Harv. Moist. %	Test Wt. lb/bu	Pop. 1000 pl/A
Advanta Pacific	AP561NS	N	2629	--	--	38.9	188	0	13.8	27.9	18.2
Advanta Pacific	F10125CL	N,CL	2624	--	--	38.6	182	1	13.9	28.1	18.2
Croplan Genetics	380	N	2566	2233	2400	39.6	186	-0	14.2	29.1	18.2
Dekalb	DKF30-33NS	N	2531	2583	2557	39.6	171	1	13.8	29.8	18.2
Dahlgren & Co.	DO-4421	N	2507	2300	2404	38.9	179	-0	12.9	28.0	18.2
Proseed	9441	N	2488	1766	2127	40.0	184	2	13.1	29.1	18.2
USDA	894 (check)	Trad.	2477	1834	2156	41.1	170	1	13.6	28.9	18.2
Proseed	E-3	N	2463	--	--	40.2	165	2	13.4	28.4	18.2
Garst Seed	4682 NC/CL	N,CL	2448	--	--	39.7	160	3	13.4	28.7	18.2
Pioneer Hi-Bred	hybrid 64H45	HO	2392	--	--	41.2	184	0	14.2	30.7	18.2
Proseed	T-5	N	2374	--	--	40.6	187	2	13.8	29.0	18.2
Dyna-Gro	91N05	N	2346	--	--	40.7	157	1	12.8	28.9	18.2
Dyna-Gro	93C05	Trad.	2276	--	--	40.2	166	0	13.1	28.5	17.3
Kaystar Seed	8550NS/CL	N,CL	2260	--	--	39.4	170	4	13.1	28.5	18.2
Proseed	CL 43	N,CL	2086	--	--	38.8	158	2	13.0	29.1	11.6
Proseed	CL55-15	N,CL	1964	1476	1720	38.9	164	0	13.2	29.0	18.2
Grand mean			2812	2151	2481	40.1	173	1	14.0	28.8	18.0
LSD 5%			473	441		1.3	13	3	0.8	0.8	1.6
C.V.			12.1	14.7		2.2	5.3	173	4.2	2.0	6.3

* N = NuSun, HO = High Oleic, Trad. = Traditional linoleic, CL = Clearfield.

Planted June 23, 2005. Harvested October 30, 2005.

Yield and oil % are reported at 10% moisture. Oil % is adjusted for oleic acid content.

Cooperator: Kelvin Grey, St. Lawrence, SD.

Table 7. Oilseed sunflower hybrid trial, Onida, SD - 2005.

Brand	Hybrid	Type*	Seed Yield (lbs/A) 2005	2004	2-yr	Oil %	Days to Flwr	Mat.	Plant Hght cm	Lodg %	Harv. Moist. %	Test Wt. lb/bu	Pop. 1000 pl/A	Hulling Quality Test
Mycogen Seeds	8D310	N	2172	1833	2002	39.7	63	99	154	0	10.8	28.4	17.6	Excel.
Croplan Genetics	378DMR,HO	HO	2154	--	--	39.2	63	102	153	2	11.9	28.4	15.2	Excel.
Triumph Seed	s675	N	2141	1899	2020	42.5	68	112	106	0	12.0	28.0	17.9	NT
Seeds 2000	Sierra	HO	2112	--	--	39.5	67	107	151	0	12.0	27.8	14.7	NT
Interstate Seed	IS Hysun 450	N	2111	2045	2078	39.6	66	106	142	0	14.0	28.8	12.6	NT
Dekalb	EXP001	N	2107	--	--	40.4	64	107	155	1	12.0	28.6	18.2	Excel.
Mycogen Seeds	8N352	N	2107	1797	1952	41.0	62	104	153	0	11.7	29.8	17.3	NT
Garst Seed	03TH004205	N	2019	--	--	40.4	62	101	151	4	11.5	29.9	18.2	NT
Mycogen Seeds	8N453DM	N	2013	--	--	43.1	62	103	154	0	11.2	30.4	18.2	NT
Mycogen Seeds	8H419CL	HO,CL	2006	--	--	40.0	64	102	149	2	9.0	28.9	18.2	NT
Seeds 2000	Blazer	N	1996	1965	1980	40.8	64	104	151	1	12.1	29.5	17.6	NT
Dyna-Gro	94T90	Trad.	1970	--	--	41.7	64	100	157	-0	10.3	30.1	18.2	NT
Pannar Seeds	PEX 2424	N	1963	--	--	40.2	65	107	147	2	13.4	28.7	13.1	NT
Interstate Seed	IS Hysun 424	N	1956	2070	2013	40.4	66	102	147	0	11.6	28.2	18.2	NT
Dekalb	MH4331B	N	1947	--	--	41.0	64	105	143	3	12.4	30.0	16.2	Excel.
Pannar Seeds	PEX 2413	N	1941	--	--	39.1	65	109	140	1	13.1	28.2	16.7	NT
Dekalb	DKF3875	Trad.	1917	--	--	41.0	64	104	152	5	11.7	28.1	13.9	Excel.
Proseed	T-5	N	1899	--	--	41.1	66	100	158	2	12.2	30.0	16.9	NT
Croplan Genetics	345	N	1892	1947	1919	40.3	62	100	150	2	10.5	29.1	18.2	Excel.
Proseed	9441	N	1887	825	1356	40.6	65	100	153	3	11.4	28.3	18.2	NT
Dekalb	EXP002	N	1885	--	--	41.8	62	100	150	2	9.9	29.7	18.2	Excel.
Mycogen Seeds	8H350DM	HO	1876	--	--	41.3	61	100	148	3	11.0	29.2	18.2	NT
Garst Seed	02TH003896	N	1875	--	--	40.6	64	104	155	5	11.8	30.7	18.2	NT
Pioneer Hi-Bred	hybrid 63M91	N	1866	2220	2043	40.9	62	98	167	3	10.5	29.4	13.6	Excel.
Pioneer Hi-Bred	hybrid 05PI02	N	1862	--	--	40.2	61	97	140	1	10.2	28.8	18.2	Excel.
Proseed	E-3	N	1859	--	--	40.5	62	98	141	5	10.5	29.0	18.2	Excel.
Kaystar Seed	9501	Trad.	1858	2261	2060	40.9	65	107	156	3	11.5	29.6	18.2	NT
Croplan Genetics	340HO	HO	1857	--	--	40.1	62	103	141	0	11.3	28.7	18.2	Excel.
Mycogen Seeds	E84352CL	N,CL	1856	--	--	41.4	62	101	144	-0	10.9	29.5	17.9	NT
Producers Hybrids	SF7303	N	1853	1978	1916	42.0	66	107	144	1	12.5	29.3	16.4	NT
Triumph Seed	660CL	N,CL	1850	--	--	40.0	67	105	158	3	12.0	28.8	17.6	NT
Dekalb	DKF30-33NS	N	1846	1624	1735	39.7	62	103	157	1	11.4	30.1	17.9	Excel.
Dekalb	MH5434	N	1841	--	--	41.7	64	100	158	3	12.5	29.1	18.2	Excel.
Proseed	T-1	N	1841	1393	1617	40.0	64	102	148	2	12.0	28.0	16.7	NT
Dahlgren & Co.	DO-4421	N	1835	2141	1988	39.1	62	99	157	0	11.9	28.2	15.1	NT
Producers Hybrids	SF7203	Trad.	1832	--	--	41.5	64	100	153	3	11.0	30.1	17.6	NT
Pioneer Hi-Bred	hybrid 63M80	N	1826	1503	1665	41.2	62	101	151	-0	11.3	28.9	18.2	Excel.
Seeds 2000	Barracuda	N,CL	1823	1626	1724	40.2	66	104	150	1	10.9	29.8	18.2	NT
Mycogen Seeds	8N510	N	1817	2082	1950	40.2	64	104	146	0	10.5	28.1	17.6	Excel.
Triumph Seed	TR620CL	N,CL	1801	--	--	38.8	62	103	159	0	11.4	28.2	18.2	NT
Croplan Genetics	343HO,DMR	HO	1797	--	--	40.2	63	105	152	2	11.9	31.1	17.9	Excel.
Triumph Seed	s672	N	1796	--	--	40.7	67	108	96	0	11.7	30.0	17.9	NT
Triumph Seed	TRX4240	N	1788	--	--	40.4	64	99	153	0	11.1	29.6	17.6	NT
Dekalb	DKF38-30NS	N	1784	1927	1856	40.4	66	107	159	0	12.1	29.3	14.7	Excel.
Kaystar Seed	9404	Trad.	1778	1626	1702	41.2	62	99	141	0	11.3	29.3	18.2	NT
Dahlgren & Co.	DO-4455CL	N,CL	1773	--	--	39.6	66	107	154	3	12.2	28.9	18.2	NT
Mycogen Seeds	SF187	Trad.	1763	1983	1873	40.0	63	97	138	1	11.7	29.2	18.2	Excel.
Mycogen Seeds	8N386CL	N,CL	1743	--	--	38.8	63	103	155	-0	11.7	29.5	17.9	NT
Dekalb	DKF38-80CL	Trad,CL	1741	1699	1720	41.4	63	100	149	0	11.0	29.1	18.2	Good

Table 7 (cont.).

Brand	Hybrid	Type*	Seed Yield (lbs/A) 2005	2004	2-yr	Oil %	Days to Flwr	Mat.	Plant Hght cm	Lodg %	Harv. Moist. %	Test Wt. lb/bu	Pop. 1000 pl/A	Hulling Quality Test
Dekalb	MH4436	N	1722	--	--	41.3	63	99	146	6	11.1	29.5	18.2	Excel.
Proseed	E-1	HO	1715	--	--	39.5	63	99	149	1	10.8	28.2	16.7	NT
USDA	894 (check)	Trad.	1709	1392	1550	40.2	62	99	150	7	10.0	28.8	14.9	NT
Dekalb	MH4435	N	1703	--	--	40.4	64	98	145	8	11.1	29.3	16.9	Excel.
Proseed	CL 43	N,CL	1699	--	--	40.1	64	98	146	1	10.8	29.3	11.8	Excel.
Triumph Seed	645	N	1690	2020	1855	42.1	65	105	146	-0	12.5	28.0	18.2	NT
Mycogen Seeds	8N429CL	N,CL	1683	--	--	40.3	63	99	156	1	11.7	28.1	17.6	NT
Proseed	9405	N	1682	1579	1631	38.8	64	103	146	1	12.1	27.9	16.3	NT
Triumph Seed	s678	N	1661	--	--	42.6	67	109	123	2	12.8	28.8	16.9	NT
Dyna-Gro	91N05	N	1660	--	--	39.9	59	96	141	7	10.7	28.6	15.0	NT
Dekalb	DKF39-01	Trad.	1651	--	--	41.0	61	102	151	2	11.4	29.7	18.2	NT
Kaystar Seed	X5100HO	HO	1644	--	--	39.8	63	100	152	-0	12.0	28.8	14.9	NT
Interstate Seed	IS 4540NS	N	1622	--	--	41.1	60	97	132	2	9.9	29.2	17.3	Excel.
Pioneer Hi-Bred	hybrid 64H41	HO	1612	--	--	40.2	63	102	160	3	11.5	31.4	18.2	Excel.
Garst Seed	03TH004251	N	1593	--	--	39.3	64	103	152	1	12.6	28.4	16.7	NT
Proseed	E-2	Trad.	1591	--	--	40.8	62	99	150	2	10.6	29.5	17.6	Excel.
Interstate Seed	IS HyOleic 120	HO	1591	--	--	39.8	62	103	150	2	11.8	29.0	17.9	NT
Dekalb	DKF33-33NS	N	1578	1579	1579	39.4	60	100	150	-0	11.3	29.7	17.6	Excel.
Garst Seed	4682 NC/CL	N,CL	1578	--	--	41.7	63	101	140	3	10.2	29.1	18.2	NT
Garst Seed	4690 NS	N	1569	--	--	38.2	60	97	128	3	11.1	28.6	18.2	NT
Triumph Seed	820HO	HO	1558	--	--	40.9	62	102	155	0	11.0	31.2	18.2	NT
Proseed	CL55-15	N,CL	1540	1250	1395	39.0	63	96	137	3	11.1	28.4	18.2	NT
Dyna-Gro	93C05	Trad.	1519	--	--	41.9	64	104	142	0	10.9	28.6	18.2	NT
Dahlgren & Co.	DO-4440	N	1509	--	--	39.2	61	98	147	0	11.7	29.2	17.3	NT
Interstate Seed	IS F10016	N	1484	1963	1723	41.0	63	98	135	1	11.6	29.2	18.2	Excel.
Interstate Seed	IS F10046	HO	1482	--	--	41.9	66	107	142	0	11.0	29.8	15.4	Excel.
Interstate Seed	IS 4704NS	N	1478	1553	1516	40.4	61	102	143	0	11.9	31.3	18.2	Excel.
Dekalb	MH5330	N	1475	--	--	40.4	61	98	160	1	10.4	29.4	18.2	Excel.
Dyna-Gro	93N05	N	1403	--	--	39.7	62	103	141	2	12.6	28.8	13.9	NT
Pioneer Hi-Bred	hybrid 64H45	HO	1368	--	--	40.8	65	100	151	4	11.7	30.2	18.2	Excel.
Interstate Seed	IS Hysun 525	N	1262	2070	1666	39.9	64	99	151	3	12.1	29.0	18.2	Excel.
Grand mean			1778	1743	1760	40.5	63	102	148	1	11.5	29.2	17.2	
LSD 5%			380	464		1.8	1	2	8	3	1.4	1.2	ns	
C.V.			13.3	19.1		2.8	1.1	1.5	3.2	120	7.8	2.5	15.8	

* N = NuSun, HO = High Oleic, Trad. = Traditional linoleic, CL = Clearfield.

Planted June 7, 2005. Harvested October 23, 2005.

Yield and oil % are reported at 10% moisture. Oil % is adjusted for oleic acid content.

Hulling quality test: NT = not tested, Excel.= >65% of seed passes over a 14/64 screen, Good = >75% of seed passes over a 13/64 screen.

Cooperator: Van and Chris Huse, Onida, SD.

Table 8. Oilseed sunflower hybrid trial, Reliance, SD - 2005.

Brand	Hybrid	Type*	Seed Yield (lbs/A) 2005	2004^	2-yr	Oil %	Plant Hght cm	Lodg %	Harv. Moist. %	Test Wt. lb/bu	Pop. 1000 pl/A
Dekalb	DKF3875	Trad.	2798	--	--	40.2	141	1	14.4	29.1	15.2
Mycogen Seeds	8D310	N	2572	1522	2047	37.6	152	0	12.5	26.7	14.3
Proseed	9405	N	2488	1464	1976	39.1	130	0	15.8	27.3	17.3
Producers Hybrids	SF7203	Trad.	2487	--	--	40.6	156	0	11.5	29.0	18.2
Seeds 2000	Sierra	HO	2455	--	--	39.1	142	0	13.9	28.1	16.7
Mycogen Seeds	8N510	N	2453	2223	2338	38.3	148	0	13.8	27.6	17.7
Garst Seed	02TH003896	N	2424	--	--	38.2	159	0	14.6	29.2	14.5
Garst Seed	4682 NC/CL	N,CL	2395	--	--	39.2	135	0	11.7	29.5	16.7
Triumph Seed	645	N	2390	1722	2056	39.4	143	0	16.0	27.0	16.7
Croplan Genetics	385	N	2310	1854	2082	39.2	131	1	15.4	28.9	18.2
Mycogen Seeds	8N386CL	N,CL	2303	--	--	37.8	161	2	14.5	27.2	16.7
Proseed	T-5	N	2293	--	--	38.4	153	0	14.0	29.2	18.2
Dyna-Gro	94T90	Trad.	2282	--	--	40.4	153	-0	12.3	28.2	17.9
Kaystar Seed	8550NS/CL	N,CL	2273	--	--	37.5	145	0	13.2	27.3	17.3
Mycogen Seeds	8N352	N	2250	1595	1922	39.0	154	2	14.3	29.3	16.9
Triumph Seed	s678	N	2200	--	--	39.7	109	-0	14.5	28.2	18.2
Croplan Genetics	380	N	2185	2016	2101	38.4	154	0	13.4	28.3	17.6
Mycogen Seeds	8H419CL	HO,CL	2174	--	--	39.5	156	-0	12.3	28.1	15.4
Proseed	E-2	Trad.	2130	--	--	35.3	151	2	14.0	28.6	14.3
Pioneer Hi-Bred	hybrid 05PI02	N	2056	--	--	38.4	130	0	12.1	28.4	18.2
Dekalb	EXP001	N	2012	--	--	37.6	147	0	14.4	29.1	17.6
Producers Hybrids	SF7303	N	2008	2041	2025	38.9	120	1	17.8	27.8	15.1
Proseed	E-1	HO	1957	--	--	38.7	167	0	13.0	27.0	18.2
cmsHA406/RHA373	(check)	Trad.	1947	--	--	39.4	156	-0	13.0	28.6	18.2
Garst Seed	4690 NS	N	1936	--	--	39.2	119	-0	13.0	29.6	15.3
Pioneer Hi-Bred	hybrid 63M80	N	1928	1659	1794	40.9	149	0	11.3	27.3	16.7
Mycogen Seeds	SF187	Trad.	1921	2015	1968	38.9	129	-0	14.0	28.5	12.8
Kaystar Seed	9501	Trad.	1916	1930	1923	38.3	153	0	14.7	29.2	18.2
Dekalb	EXP002	N	1878	--	--	39.4	138	1	13.9	28.1	16.8
Dekalb	DKF38-80CL	Trad,CL	1875	1872	1873	40.5	145	0	12.5	27.4	14.9
Croplan Genetics	378DMR,HO	HO	1863	--	--	38.5	146	1	16.6	26.2	16.9
Mycogen Seeds	8H350DM	HO	1860	--	--	39.0	154	0	13.2	27.6	14.5
Dekalb	MH4331B	N	1856	--	--	39.6	134	1	12.2	28.4	16.8
Pioneer Hi-Bred	hybrid 64H45	HO	1849	--	--	40.6	152	0	13.5	30.1	16.7
Triumph Seed	s672	N	1836	--	--	40.1	92	0	15.2	28.0	17.6
Proseed	CL55-15	N,CL	1821	795	1308	38.0	146	-0	13.6	29.1	18.2
Dekalb	DKF39-01	Trad.	1807	--	--	40.0	144	1	13.0	28.5	16.4
Proseed	9441	N	1799	1633	1716	38.0	158	0	12.7	27.8	16.7
Proseed	T-1	N	1781	1845	1813	37.9	143	0	15.6	26.5	9.6
Mycogen Seeds	8N453DM	N	1778	--	--	39.7	151	0	12.6	29.9	17.3
Proseed	CL 43	N,CL	1772	--	--	37.0	147	-0	14.0	28.1	16.3
Dyna-Gro	91N05	N	1740	--	--	38.6	123	3	11.7	28.2	16.9
Pioneer Hi-Bred	hybrid 64H41	HO	1712	--	--	38.4	151	-0	13.9	29.4	18.2
Dyna-Gro	93C05	Trad.	1712	--	--	41.2	138	0	12.1	28.3	17.3
Dekalb	DKF30-33NS	N	1710	1553	1631	39.3	145	1	13.1	27.6	17.6
Proseed	E-3	N	1667	--	--	37.6	149	1	13.0	26.7	16.7
USDA	894 (check)	Trad.	1658	1506	1582	39.2	142	1	12.1	29.5	17.6
Dyna-Gro	93N05	N	1599	--	--	37.1	133	0	13.0	28.8	11.2

Table 8 (cont.).

Brand	Hybrid	Type*	Seed Yield (lbs/A) 2005	2004^	2-yr	Oil %	Plant Hght cm	Lodg %	Harv. Moist. %	Test Wt. lb/bu	Pop. 1000 pl/A
Seeds 2000	Blazer	N	1565	1506	1535	39.1	131	1	12.9	27.9	18.2
Seeds 2000	Barracuda	N,CL	1553	1865	1709	37.0	144	-0	16.1	28.5	16.4
Pioneer Hi-Bred	hybrid 63M91	N	1481	461	971	38.6	154	0	14.5	29.2	15.4
Garst Seed	03TH004205	N	1364	--	--	38.4	151	1	14.6	29.3	11.4
Garst Seed	03TH004251	N	1260	--	--	37.9	150	0	17.2	26.2	14.9
Dekalb	DKF38-30NS	N	1251	1729	1490	38.1	145	0	14.8	29.3	15.8
Grand mean			1974	1616	1795	38.8	143	0	13.8	28.3	16.4
LSD 5%			599	406		1.6	11	ns	2.4	1.5	ns
C.V.			18.7	12.5		2.6	5.3	390.9	12.6	3.8	17.1

* N = NuSun, HO = High Oleic, Trad. = Traditional linoleic, CL = Clearfield.

^ 2004 yields are from Kennebec, SD.

Planted June 24, 2005. Harvested October 18, 2005.

Yield and oil % are reported at 10% moisture. Oil % is adjusted for oleic acid content.

Cooperator: Trent Schindler, Reliance, SD.

Table 9. Oilseed sunflower hybrid trial, averaged over Onida, Miller, Reliance, and Ipswich SD - 2005.

Brand	Hybrid	Type*	Seed Yield lbs/A	Oil %	Plant Hght cm	Lodg %	Harv. Moist. %	Test Wt. lb/bu	Pop. 1000 pl/A
Dekalb	DKF3875	Trad.	2805	40.9	155	2	13.5	29.5	16.4
Mycogen Seeds	8D310	N	2725	38.6	152	0	13.4	28.3	17.1
Mycogen Seeds	8N352	N	2684	40.9	158	0	14.1	29.7	17.7
Mycogen Seeds	8H350DM	HO	2653	40.9	155	2	13.2	28.7	17.3
Seeds 2000	Sierra	HO	2647	39.7	153	1	15.0	27.6	17.0
Mycogen Seeds	8N510	N	2628	39.7	152	1	13.0	28.5	17.9
Triumph Seed	645	N	2623	40.8	151	1	14.9	28.1	17.8
Mycogen Seeds	8H419CL	HO,CL	2621	40.2	158	1	12.5	28.4	17.5
Producers Hybrids	SF7203	Trad.	2561	41.4	162	1	12.5	29.5	18.1
Dekalb	MH4331B	N	2551	40.7	145	2	13.7	29.3	17.4
Seeds 2000	Blazer	N	2522	40.5	143	1	14.2	29.1	18.1
Dyna-Gro	94T90	Trad.	2516	41.6	159	1	12.5	29.2	18.1
Mycogen Seeds	8N453DM	N	2495	41.6	160	0	13.5	30.2	18.0
Mycogen Seeds	SF187	Trad.	2460	40.2	138	-0	13.6	29.4	16.9
Producers Hybrids	SF7303	N	2447	40.6	145	1	16.3	28.7	17.0
Garst Seed	02TH003896	N	2434	40.0	161	4	14.7	30.2	17.3
Mycogen Seeds	8N386CL	N,CL	2395	39.4	159	1	14.3	28.2	17.8
Proseed	E-1	HO	2389	39.3	168	1	13.0	27.8	17.7
Triumph Seed	s672	N	2389	41.4	100	-0	14.5	29.1	18.0
Croplan Genetics	378DMR,HO	HO	2353	39.4	156	1	15.0	27.8	17.1
Proseed	T-5	N	2338	40.0	159	1	14.3	29.2	17.4
Garst Seed	4682 NC/CL	N,CL	2327	40.3	142	2	12.8	29.2	17.8
Pioneer Hi-Bred	hybrid 63M80	N	2317	41.1	150	1	12.7	28.9	17.8
Proseed	9405	N	2297	39.7	140	1	15.5	27.6	17.5
Dekalb	DKF39-01	Trad.	2261	41.0	146	2	12.9	29.6	17.8
Proseed	T-1	N	2259	39.9	144	3	15.5	27.3	15.4
Garst Seed	4690 NS	N	2238	39.8	128	2	13.5	29.8	17.5
Dekalb	DKF30-33NS	N	2234	39.5	155	1	13.6	29.4	18.0
Proseed	9441	N	2218	39.8	160	2	12.9	28.5	17.8
Pioneer Hi-Bred	hybrid 05PI02	N	2187	39.1	143	2	12.8	28.7	18.2
Pioneer Hi-Bred	hybrid 64H41	HO	2186	39.6	161	2	13.8	30.3	18.2
Proseed	E-2	Trad.	2185	38.8	156	3	13.4	28.9	17.1
Pioneer Hi-Bred	hybrid 63M91	N	2182	40.1	163	2	13.4	29.9	16.4
Dekalb	DKF38-80CL	Trad.,CL	2168	40.6	147	1	13.3	28.4	17.4
Dekalb	DKF38-30NS	N	2163	39.6	156	0	14.7	29.4	16.7
Seeds 2000	Barracuda	N,CL	2157	39.7	152	2	15.5	29.2	17.8
Garst Seed	03TH004205	N	2157	39.5	160	6	14.5	29.4	16.3
Proseed	E-3	N	2139	39.6	147	3	12.9	28.5	17.8
Garst Seed	03TH004251	N	2108	39.5	156	2	15.1	28.0	17.0
USDA	894 (check)	Trad.	2053	40.8	145	4	13.0	29.4	17.1
Pioneer Hi-Bred	hybrid 64H45	HO	2046	41.0	158	1	14.2	30.1	17.8
Dyna-Gro	93N05	N	2032	38.9	144	1	14.6	28.8	15.4
Dyna-Gro	93C05	Trad.	2007	41.4	146	1	13.8	28.6	17.8
Proseed	CL 43	N,CL	1964	38.8	146	4	13.7	28.9	14.5
Dyna-Gro	91N05	N	1891	39.9	135	4	12.2	28.8	17.1
Proseed	CL55-15	N,CL	1837	38.8	145	1	13.2	28.8	18.2
Grand mean			2323	40.1	150	2	13.8	28.9	17.3
LSD 5%			382	1.0	8	2	1.3	0.9	1.8
C.V.			11.8	1.8	4.0	112.1	6.9	2.2	7.4

Table 10. Confection hybrid sunflower trial, Miller, SD - 2005.

Brand	Hybrid	Seed Yield (lbs/A) 2005	2004	2-yr	Plant Height cm	Lodging %	Test Wt. lb/bu	Pop. 1000 pl/A	% Seed Over Screen 22/64	20/64	18/64	Nutmeat %
Red River Commodities	2215	3828	--	--	185	1	22.5	16.7	39	75	90	54
Sigco Sun Products	SS3638	3667	1827	2747	189	1	23.3	16.7	49	80	93	51
Sigco Sun Products	SS3938	3661	1992	2826	188	2	23.9	16.7	48	77	89	51
Red River Commodities	2216	3488	--	--	190	0	24.4	16.0	48	80	93	54
Seeds 2000	Grizzly	3476	2031	2753	192	1	24.8	16.3	49	78	92	56
CHS Sunflower	RH316	3473	--	--	188	2	23.7	16.7	51	82	94	53
Mycogen Seeds	8C416	3468	1658	2563	188	0	22.9	16.7	58	80	91	53
Dahlgren & Co.	D-9530	3456	2055	2756	182	1	25.3	16.7	51	79	91	53
Red River Commodities	2214	3448	--	--	188	0	23.2	16.5	60	84	92	54
CHS Sunflower	RH112	3409	--	--	186	0	22.7	16.7	63	86	95	51
Croplan Genetics	135	3373	1466	2420	169	3	20.4	16.7	62	83	92	50
Triumph Seed	767C	3341	--	--	185	2	25.1	16.5	53	84	94	55
CHS Sunflower	RH312	3299	--	--	180	2	23.0	16.7	69	89	96	54
Red River Commodities	8050	3242	--	--	204	2	22.8	16.7	46	79	93	52
Seeds 2000	Panther	3236	--	--	160	1	21.2	15.5	54	84	92	51
Mycogen Seeds	8C481	3177	--	--	185	1	23.9	16.7	51	80	94	55
Dahlgren & Co.	D-9531	3053	--	--	198	1	23.7	16.7	44	77	91	53
Triumph Seed	777C	2987	--	--	196	2	23.2	16.7	66	86	93	54
Croplan Genetics	130	2913	--	--	181	2	23.2	16.7	62	82	90	53
USDA	924 (check)	2864	1648	2256	200	1	22.8	16.7	26	43	67	55
Garst Seed	IS8048	2460	1960	2210	185	0	25.5	16.5	45	76	90	52
Grand mean		3301	1844	2572	187	1	23.4	16.6	52	79	91	53
LSD 5%		563	464		9	ns	2.0	ns	11	6	3	3
C.V.		12.1	17.7		3.4	167.0	6.1	3.1	14.6	5.2	2.4	4.2

Planted June 23, 2005. Harvested October 30, 2005.
Cooperator: Kelvin Grey, St. Lawrence, SD.

Table 11. Confection hybrid sunflower trial, Onida, SD - 2005.

		Seed Yield (lbs/A)			Plant Height	Days to		Lodging	Test Wt.	Pop. 1000	% Seed Over Screen			Numeat
Brand	Hybrid	2005	2004	2-yr	cm		Mat.	%	lb/bu	pl/A	22/64	20/64	18/64	%
Seeds 2000	Grizzly	2217	2167	2192	163	67	108	1	24.4	16.7	45	71	87	48
Mycogen Seeds	8C481	2125	--	--	177	65	104	0	24.0	16.7	40	72	85	50
Sigco Sun Products	SS3938	2086	2009	2048	161	62	101	1	25.6	14.1	50	78	90	47
Dahlgren & Co.	D-9530	2069	2088	2079	158	65	104	2	23.5	13.9	48	72	86	49
Triumph Seed	777C	2067	--	--	163	67	106	0	23.4	16.5	43	72	87	51
CHS Sunflower	RH316	2022	--	--	158	62	100	2	24.1	14.5	41	69	87	46
CHS Sunflower	RH312	1934	--	--	156	64	105	1	23.9	13.3	53	75	88	49
Sigco Sun Products	SS3638	1863	1782	1822	158	65	103	1	23.6	14.0	57	78	89	45
Red River Commodities	8050	1808	--	--	172	66	107	2	23.9	16.5	47	72	87	48
Red River Commodities	2215	1798	1544	1671	161	65	103	3	24.2	14.6	52	78	89	49
Seeds 2000	Panther	1732	--	--	149	57	100	3	24.1	12.7	52	80	90	48
Croplan Genetics	135	1686	--	--	143	56	94	5	22.6	13.5	50	74	87	46
Red River Commodities	2214	1667	1743	1705	152	63	103	1	23.8	14.0	55	76	88	47
Dahlgren & Co.	D-9531	1608	--	--	166	65	103	2	24.7	16.5	40	69	86	47
Red River Commodities	2216	1573	--	--	163	64	103	1	24.3	14.4	50	77	89	49
USDA	924 (check)	1559	1508	1533	166	64	99	5	24.4	14.2	32	51	69	49
Croplan Genetics	130	1558	--	--	155	59	95	3	23.4	16.5	43	68	83	48
Mycogen Seeds	8C416	1509	1727	1618	167	65	102	2	23.0	15.6	44	69	85	49
Garst Seed	IS8048	1350	1385	1368	158	61	102	1	24.6	15.0	42	71	88	48
CHS Sunflower	RH112	1345	--	--	155	62	99	6	22.1	13.7	53	74	86	46
Grand mean		1779	1705	1742	160	63	102	2	23.9	14.8	47	72	86	48
LSD 5%		339	416		7	1	2	3	ns	ns	13	8	4	3
C.V.		13.4	17.1		2.9	1.0	1.3	121.8	5.1	22.6	20.0	7.6	3.2	4.1

Planted June 7, 2005. Harvested October 23, 2005.

Cooperator: Van and Chris Huse, Onida, SD.

Table 12. Confection hybrid sunflower trial, averaged over Miller and Onida, SD - 2005.

Brand	Hybrid	Seed Yield lbs/A	Plant Height cm	Lodg ing %	Test Wt. lb/bu	Pop. 1000 pl/A	% Seed Over Screen 22/64	20/64	18/64	Nutmeat %
Sigco Sun Products	SS3938	2877	175	2	24.8	15.4	49	77	90	49
Seeds 2000	Grizzly	2850	178	1	24.6	16.5	47	75	90	52
Red River Commodities	2215	2817	173	2	23.4	15.7	46	76	90	52
Sigco Sun Products	SS3638	2769	174	1	23.4	15.3	53	79	91	48
Dahlgren & Co.	D-9530	2766	170	1	24.4	15.3	49	76	89	51
CHS Sunflower	RH316	2751	173	2	23.9	15.6	46	75	91	50
Mycogen Seeds	8C481	2654	181	1	23.9	16.7	45	76	90	53
CHS Sunflower	RH312	2620	168	1	23.5	15.0	61	82	92	51
Red River Commodities	2214	2561	170	1	23.5	15.2	58	80	90	51
Red River Commodities	2216	2534	177	0	24.3	15.2	49	79	91	52
Croplan Genetics	135	2533	156	4	21.5	15.1	56	78	89	48
Triumph Seed	777C	2530	179	1	23.3	16.6	55	79	90	52
Red River Commodities	8050	2528	188	2	23.4	16.6	47	76	90	50
Mycogen Seeds	8C416	2492	178	1	22.9	16.1	51	74	88	51
Seeds 2000	Panther	2487	155	2	22.7	14.1	53	82	91	50
CHS Sunflower	RH112	2380	171	3	22.4	15.2	58	80	91	48
Dahlgren & Co.	D-9531	2334	182	1	24.2	16.6	42	73	89	50
Croplan Genetics	130	2239	168	2	23.3	16.6	53	75	87	51
USDA	924 (check)	2215	183	3	23.6	15.4	29	47	68	52
Garst Seed	IS8048	1909	172	1	25.1	15.7	44	73	89	50
Grand mean		2543	173	2	23.6	15.7	49	76	89	50
LSD 5%		484	11	ns	1.7	ns	14	9	4	2
C.V.		12.7	3.2	147	6.3	15.3	17.2	6.4	2.8	4.3

Table 13. Oilseed sunflower fatty acid profiles -- Onida, SD 2005.

Sunflower	Hybrid	Fatty Acids (%)			
Brand-Hybrid	Type	Oleic	Linoleic	Palmitic	Stearic
Croplan 340HO	High oleic	83.80	5.75	3.53	3.64
Croplan 343HO,DMR	High oleic	84.70	4.63	3.34	3.97
Croplan 378DMR,HO	High oleic	86.80	2.42	3.78	3.76
Dekalb DKF30-33NS	NuSun	68.90	19.30	3.90	4.38
Dekalb DKF33-33NS	NuSun	65.40	22.20	4.03	4.14
Dekalb DKF38-30NS	NuSun	81.40	8.62	3.52	3.46
Dekalb EXP001	NuSun	84.00	4.66	3.54	4.31
Dekalb EXP002	NuSun	87.80	2.22	3.53	2.46
Dekalb MH4331B	NuSun	75.50	12.50	3.90	3.94
Dekalb MH4435	NuSun	78.60	9.84	3.77	4.44
Dekalb MH4436	NuSun	53.60	32.40	5.20	4.52
Dekalb MH5330	NuSun	86.00	4.85	3.45	2.93
Dekalb MH5434	NuSun	82.10	8.50	3.52	2.72
Dyna-Gro 91N05	NuSun	58.60	29.10	5.32	3.34
Dyna-Gro 93N05	NuSun	51.30	35.50	4.99	4.62
Interstate IS 4540NS	NuSun	65.00	23.40	4.74	3.56
Interstate IS 4704NS	NuSun	53.40	33.80	5.02	4.23
Interstate IS F10016	NuSun	65.60	21.40	4.30	5.38
Interstate IS F10046	High oleic	85.40	2.62	3.20	4.46
Interstate IS HyOleic 120	High oleic	84.90	4.79	3.22	2.69
Interstate IS Hysun 424	NuSun	64.00	22.30	4.18	6.10
Interstate IS Hysun 450	NuSun	60.10	26.20	3.87	5.90
Interstate IS Hysun 525	NuSun	51.00	36.00	5.31	3.77
Kaystar X5100HO	High oleic	85.60	4.88	3.22	2.72
Pannar Seeds PEX 2413	NuSun	62.00	24.20	4.27	4.56
Pannar Seeds PEX 2424	NuSun	65.50	23.00	4.23	3.52
Pioneer hybrid 63M80	NuSun	58.70	27.80	4.53	4.48
Pioneer hybrid 63M91	NuSun	60.40	28.40	4.28	3.08
Pioneer hybrid 64H41	High oleic	85.60	2.98	3.46	3.26
Pioneer hybrid 64H45	High oleic	87.90	1.76	3.26	3.46
Pioneer hybrid 05PI02	NuSun	67.00	21.60	4.32	2.95
Proseed E-2	NuSun	21.20	64.20	6.67	4.30
Proseed E-3	NuSun	83.70	5.09	3.84	3.20
Proseed CL 43	NuSun	85.80	2.94	3.86	2.93
Triumph 660CL	NuSun	67.20	21.00	4.82	2.95
Triumph 820HO	High oleic	87.40	2.57	3.30	3.86
Triumph s672	NuSun	64.90	24.10	4.44	3.30