

North Dakota and South Dakota Sunflower Hybrid Trial Results for 2013 and Selection Guide

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Introduction

In North Dakota, an estimated 486,000 acres of sunflowers were harvested in 2013. This was only about 60 percent of the acres planted in 2012. Table 1 contains acreage data for the past 14 years as reported by the North Dakota Agricultural Statistics Service, U.S. Department of Agriculture.

Table 1. Harvested Sunflower Acreage in North Dakota and Yield Per Acre 2000-2013.

Year	Oil Type (1,000 acres)	Yield (lb/a)	Non-oil Type (1,000 acres)	Yield (lb/a)
2000	965	1,410	300	1,260
2001	835	1,440	215	1,260
2002	1,105	1,310	210	1,200
2003	1,020	1,300	145	1,330
2004	660	1,040	130	810
2005	885	1,610	220	1,490
2006	740	1,260	120	1,520
2007	895	1,450	160	1,270
2008	930	1,430	150	1,210
2009	760	1,520	108	1,500
2010	685	1,460	177	1,440
2011	495	1,380	66	1,250
2012	755	1,750	85	1,580
2013	415	-----	71	-----

Source: National Agricultural Statistics Service.

2013 Sunflower Performance Trials

Information about sunflower hybrid performance can be accessed on the Web at www.ag.ndsu.edu/varietytrials/. This site has variety trial data from all NDSU Research Extension Centers for all crops.

The agronomic data presented in this publication are from replicated research plots using experimental designs that enable the use of statistical analysis. The LSD (least significant difference) numbers beneath the columns in tables are derived from the statistical analyses and apply only to the numbers in the column in which they appear. If the difference between two hybrids exceeds the LSD value, it means that with 95 percent probability (0.05 level) or 90 percent probability (0.10 level), the higher-yielding hybrid has a significant yield advantage. If the difference between two hybrids is less than the LSD value, then the hybrid yields are considered similar.

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The abbreviation NS is used to indicate no significant difference for that trait among any of the hybrids. The coefficient of variation (CV) is a measure of variability in the trial and is expressed as a percentage. Large CVs mean a large amount of variation that could not be attributed to differences in the hybrids. In the tables, the “mean” indicates the average of the observations in the trial. Only compare values within the table and look for trends for the desired trait among different experimental sites and years.

Oil and harvest yields were adjusted to 10 percent moisture. Oil values for NuSun and high-oleic hybrids were adjusted for oleic acid content.

In the tables, the sunflower hybrids are arranged in alphabetical order of the company/brand. Most of the tables have footnotes explaining, in more detail, information in the table under which they appear. Traits to evaluate for selecting a sunflower hybrid include yield potential in your area, oil content (for the oil types), test weight, reaction to problematic diseases and insects, maturity date and the weed control system. When selecting a confection sunflower hybrid, the seed size also is of importance.

When selecting a high-yielding and good-quality hybrid, use data that summarizes several years and locations. Choose the hybrid that, on average, performs the best at multiple locations near you during several years.

The oilseed and non-oilseed sunflower hybrid trials in Wyndmere (ARS, Brent Hulke) were hailed out during flowering and the crop was not harvested.

The presentation of data for the entries tested does not imply approval or endorsement by the authors or agencies conducting the tests. A listing of seed companies entering hybrids and their brand name is provided in Table 2.

Research specialists and technicians helped with the field work and data compilation. The assistance given by many secretaries in typing portions of this document is much appreciated. A special thank you goes to Lisa Johnson, Extension Plant Sciences secretary, for assisting in the compilation of this publication.

Table 2. Full Company Name, Abbreviated Name Used in Tables and Website.

Company	Abbreviated	Website
Advanta/Nutrisun	Advanta	www.advantaus.com
Agricol	Agricol	www.agricol.co.za/home.asp
AgVenture, Inc.	AgVenture	www.agventure.com
CHS Inc.	CHS	www.chssunflower.com
Croplan by Winfield	Croplan	www.winfield.com
Dahlgren and Co.	Sunopta/Dahlgren	www.sunflowerseed.com
DuPont Pioneer	Pioneer	www.pioneer.com
Genosys Global LLC	Genosys	www.genosysglobal.com
Integra Fortified Seed	Integra	www.integraseed.com
Legend Seeds	Legend	www.legendseeds.net
Mycogen Seeds	Mycogen	www.mycogen.com
Nuseed Global	Nuseed	www.nuseed.com/US/Home
Proseed Inc.	Proseed	www.proseed.net
Red River Commodities	Red River Comm.	www.redriv.com
Seeds 2000	Seeds 2000	www.seeds2000.net
Syngenta Seeds	Syngenta	www.syngenta.com/en/products_brands/fieldcrops.html
U.S. Department of Agriculture	USDA	www.ars.usda.gov/Main/docs.htm?docid=3562

2013 Growing Season Weather Summary for North Dakota

Table 3. April-September 2013 Average Temperature and Precipitation Rankings for Selected North Dakota Locations.

City	Temperature Ranking	Precipitation Ranking
Bowman	49th Warmest	The Wettest
Bismarck	67th Coolest	8th Wettest
Cavalier	21st Warmest	38th Wettest
Fargo	37th Warmest	4th Wettest
Minot Exp. Station	23rd Warmest	The Wettest
Williston Exp. Station	37th Coolest	3rd Wettest
North Dakota Average	45th Coolest (119 years)	8th Wettest (119 years)

Source: Adnan Akyüz, NDSU, North Dakota state climatologist.

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Table 4. 2013 Sunflower - Non-oilseed Hybrids With Traits and Locations Where Tested.

Company/ Brand	Hybrid	Hybrid Type ¹	Location in which the hybrid has been tested					
			Carrington	Langdon	Minot	Williston	Harrold	Onida
CHS	10EXP01	CL	--	--	--	--	X	X
CHS	12EXP01	EX	--	--	X	--	X	X
CHS	13EXP02	CL	--	--	--	--	X	X
CHS	13EXP03	EX	--	--	--	--	X	X
CHS	13EXP04	--	--	--	X	--	--	--
Genosys	12GCF05	--	X	X	X	X	X	X
Genosys	12GCF12	--	X	X	X	X	X	X
Mycogen	8C451CP	CL	X	X	X	--	X	X
Nuseed Global	5009	--	X	X	X	--	X	X
Nuseed Global	11921	--	X	--	--	--	--	--
Nuseed/Seeds 2000	Jaguar	CL	X	X	X	--	X	X
Nuseed/Seeds 2000	Jaguar II	CL	X	--	--	--	X	X
Nuseed/Seeds 2000	Jaguar DMR	CL,DM	X	X	X	--	X	X
Nuseed/Seeds 2000	Jaguar XL	CL	X	--	--	--	X	X
Nuseed/Seeds 2000	Panther DMR	DM	--	--	X	--	--	--
Nuseed/Seeds 2000	Sundance DMR	DM	--	--	X	--	--	--
Nuseed/Seeds 2000	6949 DMR	DM	--	--	X	--	--	--
Nuseed/Seeds 2000	X4434	CL	X	--	--	--	X	X
Nuseed/Seeds 2000	X9180	EX	X	--	X	--	--	--
Nuseed/Seeds 2000	NSK12M048	CL,DM	X	--	--	--	X	X
Nuseed/Seeds 2000	NSK12M045	CL	X	--	--	--	--	--
Nuseed/Seeds 2000	NSK12M047	CL	X	--	--	--	--	--
Red River Comm.	2215	--	X	X	X	--	X	X
Red River Comm.	8015	--	X	X	X	--	X	X
Red River Comm.	2215-CL	CL	X	X	X	--	X	X
Red River Comm.	2217-CP	CP	X	X	X	--	X	X
Sunopta/Dahlgren	9506CL	CL	--	--	--	--	X	X
Sunopta/Dahlgren	9521	--	X	X	X	--	X	X
Sunopta/Dahlgren	9589CL	CL	X	--	X	--	X	X
Sunopta/Dahlgren	9579	--	X	--	X	--	X	X
Sunopta/Dahlgren	EX22	--	--	--	X	--	--	--
Sunopta/Dahlgren	9592CL+	CP	X	--	X	--	X	X
Sunopta/Dahlgren	9530CL	CL	X	--	X	--	X	X
USDA	924	--	--	X	X	--	X	X

¹Hybrid type provided by companies.

CL = Clearfield, CP = Clearfield plus, EX = ExpressSun, DM = downy mildew resistant, and -- = data not provided by company.

Table 5. 2013 Sunflower - Oilseed Hybrids With Traits and Locations Where Tested (Page 1 of 2).

Company/ Brand	Hybrid	Hybrid Type ¹	Location in which the hybrid has been tested								
			Carrington	Hettinger	Langdon	Minot	Williston	Bison	Harrold	Onida	Presho
Advanta/Nutrisun	MS9024	HS,DM	X	--	--	X	--	X	--	X	X
AgVenture	3H93	HO,CL,DM	X	X	--	X	--	X	--	--	--
AgVenture	3H94	NS,CL,DM	X	X	--	--	--	X	X	X	--
AgVenture	3H95	HO,CL	X	X	--	X	--	X	X	X	--
AgVenture	3N94	--	--	--	--	X	--	--	--	--	--
AgVenture	3N97	NS,CL	--	--	--	--	--	X	X	X	--
Croplan	3080	NS,DM	--	--	--	--	--	X	X	X	X
Croplan	432 E	NS,EX,DM	X	X	--	X	X	X	X	X	X
Croplan	460 E	NS,EX	X	X	--	X	X	X	X	X	X
Croplan	545 CL	NS,CL,DM	X	X	X	X	X	X	X	X	X
Croplan	548 CL	NS,CL,DM	X	X	X	X	X	X	X	X	X
Croplan	559 CL	NS,CL,DM	X	X	X	X	X	X	X	X	X
Genosys	11G08	NS	X	X	X	--	X	--	--	X	--
Genosys	12E06	HO,DM	X	X	X	X	--	--	--	X	--
Genosys	12E12	HO,CL,DM	X	X	X	X	X	--	--	X	--
Genosys	12E13	HO,CL,DM	X	X	X	X	X	--	--	X	--
Genosys	12E14	HO,CL,DM	X	X	X	X	X	--	--	X	--
Genosys	12G20	CL	X	X	X	X	X	--	--	X	--
Legend Seeds	LSF 318NCL	NS,CL	--	--	--	--	--	X	X	X	X
Legend Seeds	LSF 9302HOCL	HO,CL	--	--	--	--	--	X	X	X	X
Legend Seeds	LSF 9418HOCL	HO,CL	--	--	--	--	--	X	X	X	X
Legend Seeds	LSF 9426NCL	NS,CL	--	--	--	--	--	X	X	X	X
Legend Seeds	LSF 9468NCL	NS,CL	--	--	--	--	--	X	X	X	X
Legend Seeds	LSF 9501	Trad.	--	--	--	--	--	X	X	X	X
Legend Seeds	LSF 9505NCL	NS,CL	--	--	--	--	--	X	X	X	X
Legend Seeds	LSF 9534NCL	NS,CL	--	--	--	--	--	X	X	X	X
Legend Seeds	LSF 9536HOCL	HO,CL	--	--	--	--	--	X	X	X	X
Legend Seeds	LSF 9801NCL	NS,CL	--	--	--	--	--	X	X	X	X
Mycogen	8D310CL	NS,CL	X	X	X	X	--	--	--	X	--
Mycogen	8D417	NS,dehull	--	--	--	X	--	--	X	X	--
Mycogen	8H288CLDM	HO,CL,DM	--	--	X	X	--	--	--	--	--
Mycogen	8H449CLDM	HO,CL,DM	X	X	--	X	--	X	X	X	X
Mycogen	8N270CLDM	NS,CL,DM	X	X	X	X	X	--	--	--	--
Mycogen	8N358CLDM	NS,CL,DM	X	X	X	X	X	X	--	X	--
Mycogen	8N421CLDM	NS,CL,DM	X	X	--	X	--	X	X	X	X
Mycogen Seeds	8N510	NS	--	--	--	--	--	--	X	X	X
Mycogen Seeds	8N668S	NS,SS	--	--	--	--	--	--	X	X	X
Mycogen Seeds	E82558CP	NS,CP	--	--	--	--	--	--	X	X	X
NuSeed/Seed 2000	Badger	CL	X	--	--	--	--	X	X	X	X
NuSeed/Seed 2000	Badger DMR	CL,DM	X	--	--	--	--	X	X	X	X
NuSeed/Seed 2000	Badger HO	HO,CL	X	--	--	--	--	X	X	X	X
NuSeed/Seed 2000	Camaro II	NS,CL,DM	X	X	X	X	X	X	X	X	X
NuSeed/Seed 2000	Cobalt II	HO,CL,DM	X	X	X	X	X	X	X	X	X
NuSeed/Seed 2000	Daytona	HO,CL	X	X	--	X	--	X	X	X	X
NuSeed/Seed 2000	Durango	NS,EX	--	X	--	--	--	X	X	X	X

Table 5. 2013 Sunflower - Oilseed Hybrids With Traits and Locations Where Tested (Page 2 of 2).

Company/ Brand	Hybrid	Hybrid Type ¹	Location in which the hybrid has been tested								
			Carrington	Hettinger	Langdon	Minot	Williston	Bison	Harrold	Onida	Presho
NuSeed/Seed 2000	Falcon	NS,EX	X	X	--	X	X	X	X	X	X
NuSeed/Seed 2000	Hornet	HO,CL,DM	--	--	--	--		X	X	X	X
NuSeed/Seed 2000	NHK12M011	HO	X	--	--	--	--	--	--	--	--
NuSeed/Seed 2000	NLK12M008	NS	X	--	--	--	--	X	X	X	X
NuSeed/Seed 2000	NLK12M010	HO,CL	X	X	--	X	X	--	--	--	--
NuSeed/Seed 2000	NLK12M178	NS	X	--	--	X	--	--	--	--	--
NuSeed/Seed 2000	NHK12M140	HO	X	--	--	X	--	X	X	X	X
NuSeed/Seed 2000	NHK12M141	HO	X	--	--	X	--	X	X	X	X
NuSeed/Seed 2000	NLK12M006	NS	X	--	--	X	--	--	--	--	--
NuSeed/Seed 2000	Torino	NS,CL	X	X	--	X	--	X	X	X	X
Pioneer	63ME80	NS,EX,DM	--	--	--	--	--	X	X	X	X
Proseed	E- 362436	HO,DM	X	X	X	X	--	X	X	X	X
Proseed	E-21 CL	HO,CL,DM	X	X	X	X	--	X	X	X	X
Proseed	E-31 CL	HO,CL,DM	X	X	X	X	--	X	X	X	X
Proseed	E-85 CL	HO,CL,DM	X	X	X	X	--	X	X	X	X
Sunopta/Dahlgren	4421	HO	X	--		X	--	X	X	X	X
Sunopta/Dahlgren	4421CL	HO,CL	X	--	X	X	--	X	X	X	X
Syngenta	3158 NS/CL/DM	NS,CL,DM		--	--	--	--	X	X	X	X
Syngenta	3733 NS/DM	NS,DM	X	X	X	--	--	X	X	X	X
Syngenta	3845 HO	HO	X	X	X	--	--	X	X	X	X
Syngenta	7111 HO/CL/DM	HO,CL,DM	X	X	X	--	--	--	--	--	--
USDA	894	Trad.	--	--	X	X	--	X	X	X	X

¹Hybrid type provided by companies.

HO = high oleic, NS = NuSun, HS = high stearic, Trad. = traditional (linoleic),

EX = ExpressSun, CL = Clearfield, CP = Clearfield plus, DM = downy mildew resistant, SS = short stature.

Table 6. 2013 Sunflower - Oilseed - Carrington N.D. - Authors, B. Schatz, M. Ostlie, J. Berg and T. Ingebretson.

Company/ Brand	Hybrid	Days to Flower	Plant Height	Plant Lodge ¹	Days to PM	Harvest Moist.	Test Weight	Oil Content	Seed Yield
		(DAP) ²	(inch)	(0-9)	(DAP) ²	(%)	(lb/bu)	(%)	(lb/a)
Advanta/Nutrisun	MS9024	73	56	2.3	125	15	27.3	42.1	1,535
AgVenture	3H93	68	52	1.8	122	15	28.6	36.6	1,468
AgVenture	3H94	68	54	0.3	121	15	29.9	39.4	1,763
AgVenture	3H95	70	50	0.8	127	19	29.2	40.8	1,611
Croplan	432 E	66	56	1.0	128	13	29.4	37.1	1,912
Croplan	460 E	71	57	0.3	127	15	29.0	42.3	1,820
Croplan	545 CL	70	51	1.3	121	16	28.6	39.6	1,511
Croplan	548 CL	71	56	0.8	118	15	28.9	39.7	1,602
Croplan	559 CL	71	57	1.0	118	15	28.4	41.0	1,728
Genosys	11G08	70	56	0	112	13	28.6	38.5	1,361
Genosys	12E06	68	61	1.0	121	14	29.1	35.8	1,803
Genosys	12E12	70	60	0.8	128	16	28.3	36.4	1,273
Genosys	12E13	71	61	1.3	128	14	26.7	35.8	2,252
Genosys	12E14	71	61	1.3	127	17	27.6	36.1	1,955
Genosys	12G20	69	52	0.5	117	13	28.6	36.8	1,451
Legend	LSF 318NCL	70	55	1.8	122	14	28.2	36.9	1,475
Legend	LSF 9302HOCL	70	51	0.8	127	17	29.0	39.2	1,642
Mycogen	8D310CL	71	60	0.3	128	15	26.7	35.8	1,771
Mycogen	8H449CLDM	71	48	0.5	128	18	30.6	41.4	1,664
Mycogen	8N421CLDM	70	58	1.0	124	19	28.9	40.4	1,784
Mycogen	8N270CLDM	64	50	1.0	119	13	29.4	39.9	1,399
Mycogen	8N358CLDM	68	52	1.5	121	14	28.5	40.3	1,399
Nuseed/Seeds 2000	Badger	69	54	1.5	126	13	28.2	37.6	1,620
Nuseed/Seeds 2000	Badger DMR	68	51	0	123	12	27.3	37.1	1,484
Nuseed/Seeds 2000	Badger HO	66	55	0.3	116	11	26.4	35.7	1,492
Nuseed/Seeds 2000	Camaro II	68	54	0.8	118	15	30.0	38.8	1,857
Nuseed/Seeds 2000	Cobalt II	70	49	1.3	122	14	28.5	38.0	1,352
Nuseed/Seeds 2000	Daytona	70	48	0.5	128	19	29.3	38.4	2,038
Nuseed/Seeds 2000	Falcon	71	51	1.0	128	16	30.4	40.7	1,827
Nuseed/Seeds 2000	Hornet	70	51	1.5	118	15	28.5	38.2	1,571
Nuseed/Seeds 2000	NHK12M011	71	54	1.5	123	15	26.6	37.8	1,514
Nuseed/Seeds 2000	NHK12M140	71	54	1.5	122	15	26.5	37.6	1,602
Nuseed/Seeds 2000	NHK12M141	73	54	0.5	125	18	27.0	37.3	1,519
Nuseed/Seeds 2000	NLK12M006	71	57	0.8	123	18	28.4	39.8	1,541
Nuseed/Seeds 2000	NLK12M008	70	51	0.5	117	16	28.6	39.9	1,579
Nuseed/Seeds 2000	NLK12M178	71	53	1.8	126	16	27.3	38.2	1,639
Nuseed/Seeds 2000	Torino	72	53	1.0	127	20	30.4	39.8	1,853
Proseed	E-362436	67	62	0.8	116	15	29.2	36.6	1,658
Proseed	E-21 CL	70	61	0.8	128	15	28.2	35.5	1,551
Proseed	E-31 CL	70	59	0.8	128	14	27.1	36.3	1,724
Proseed	E-85 CL	70	62	0.8	120	14	27.2	36.2	1,703
Sunopta/Dahlgren	4421	68	57	0.3	125	13	26.8	34.6	1,379
Sunopta/Dahlgren	4421CL	71	57	0.5	126	14	26.9	33.7	1,742
Syngenta	3733 NS/DM	71	52	0	118	14	29.2	39.7	1,639
Syngenta	3845 HO	70	50	1.0	126	13	29.0	37.9	1,222
Syngenta	7111 HO/CL/DM	66	52	1.0	120	14	28.8	37.4	1,386
Mean		70	55	0.9	123	15	28.4	38.1	1,623
CV %		1.3	5.6	105	3	13.4	1.9	3.2	14.8
LSD 0.10		1.0	3.6	NS	4	2.4	0.6	1.4	277

Planted: June 6, Harvested: Oct. 25, Previous Crop: spring wheat.

¹Lodging: 0 = perfectly upright and 9 = all plants lodged severely.²Days after planting.

Table 7. 2013 Sunflower - Non-Oilseed - Carrington N.D. - Authors, B. Schatz, M. Ostlie, J. Berg and T. Ingebretson.

Company/ Brand	Hybrid	Days to Flower	Plant Height	Plant Lodge ¹	Days to PM	Seed Over Screen			Harvest	Test	Seed Yield	
		(DAP) ²	(inch)	(0 to 9)	(DAP) ²	22/64	20/64	18/64	Moist.	Weight	2013	2-yr. Avg.
						(%)	(%)	(%)	(%)	(lb/bu)	(lb/a)	(lb/a)
Genosys	12GCF05	73	66	0.8	120	60	79	89	14	22.1	1,584	1,396
Genosys	12GCF12	72	72	0.8	116	67	81	88	12	20.8	1,794	--
Mycogen	8C451CP	73	69	0.8	119	53	77	91	12	21.1	2,042	1,969
Nuseed Global	5009	72	70	0.5	119	42	65	86	14	22.7	1,620	--
Nuseed Global	11921	73	73	0.8	120	48	72	88	17	22.8	1,433	--
Nuseed/Seeds 2000	Jaguar	64	57	0.3	106	50	74	90	11	21.6	1,442	1,896
Nuseed/Seeds 2000	Jaguar DMR	62	59	0	106	51	78	91	10	21.8	2,030	2,212
Nuseed/Seeds 2000	Jaguar II	64	59	0	107	55	75	87	11	21.3	1,543	1,897
Nuseed/Seeds 2000	Jaguar XL	68	66	0	113	46	69	87	13	20.9	1,198	--
Nuseed/Seeds 2000	NSK12M045	64	58	0	106	74	90	96	10	19.8	1,522	--
Nuseed/Seeds 2000	NSK12M047	68	63	0.8	114	65	85	93	11	22.7	1,847	--
Nuseed/Seeds 2000	NSK12M048	65	61	0.5	108	80	89	95	12	19.3	1,299	--
Nuseed/Seeds 2000	X4334	71	61	0.3	117	56	79	91	12	21.3	1,478	1,642
Nuseed/Seeds 2000	X9180	66	64	0	109	30	64	85	11	22.2	1,742	--
Red River Comm.	2215	68	69	0.5	110	42	74	92	12	23.2	2,532	2,338
Red River Comm.	8015	71	64	0.3	117	64	81	92	13	19.3	2,016	--
Red River Comm.	2215CL	73	69	1.5	119	49	78	93	13	23.1	1,558	2,005
Red River Comm.	2217CP	73	66	1.8	118	52	76	91	15	21.0	1,548	1,468
Sunopta/Dahlgren	9521	71	67	1.0	117	54	82	93	14	23.3	2,531	--
Sunopta/Dahlgren	9579	71	64	1.0	117	71	86	95	13	19.2	1,934	--
Sunopta/Dahlgren	9530CL	73	68	1.3	119	59	81	91	15	22.5	1,890	2,104
Sunopta/Dahlgren	9589CL	69	64	0.5	113	32	59	84	12	21.8	1,251	--
Sunopta/Dahlgren	9592CL+	74	62	1.0	119	64	83	94	14	21.2	1,671	--
Mean		69	65	0.6	114	55	77	91	13	21.5	1,718	1,893
CV (%)		1.7	5.6	115	1.7	22.1	10.4	4.5	12.3	3.1	17.2	--
LSD 0.10		1.3	4.1	0.7	2.3	13.6	9.3	4.7	1.8	0.8	340	--

Planted: June 6, Harvested: Nov. 13. Previous crop: spring wheat.

¹Lodging: 0 = perfectly upright and 9 = all plants lodged severely.²Days after planting.

Table 8. 2013 Sunflower - Oilseed - Langdon, N.D. - Authors, B. Hanson and T. Hakanson.

Company/ Brand	Hybrid	Days to Flower (DAP) ¹	Plant Height (inch)	Test Weight (lb/bu)	Oil Content (%)	Seed Yield		
						2013	2-yr. Avg. (lb/a)	3-yr. Avg.
Croplan	432 E	81	65	30.6	35.7	3,827	3,006	--
Croplan	460 E	88	75	30.6	40.9	3,329	2,582	2,282
Croplan	545 CL	85	59	31.4	39.2	3,700	--	--
Croplan	548 CL	86	72	30.6	37.3	3,336	2,356	2,118
Croplan	559 CL	88	75	30.9	40.0	3,736	2,752	2,215
Genosys	11G08	87	73	30.2	37.4	3,268	2,455	--
Genosys	12E06	84	79	31.9	35.7	3,714	--	--
Genosys	12E12	84	76	28.8	32.6	3,243	2,332	--
Genosys	12E13	87	72	29.4	34.3	3,577	2,783	--
Genosys	12E14	88	79	27.7	33.4	3,437	2,479	--
Genosys	12G20	85	68	28.1	37.1	3,812	--	--
Mycogen	8D310CL	87	70	27.4	33.8	3,775	--	--
Mycogen	8H288CLDM	83	65	30.0	41.5	3,362	2,440	2,131
Mycogen	8N270CLDM	80	60	30.9	39.7	3,190	2,485	2,315
Mycogen	8N358CLDM	86	68	30.4	39.2	3,308	2,415	2,184
NuSeed/Seeds 2000	Camaro II	85	69	32.9	36.9	3,841	3,001	--
NuSeed/Seeds 2000	Cobalt II	86	64	32.4	37.2	3,127	2,522	--
NuSeed/Seeds 2000	Falcon	87	61	31.8	40.6	2,984	2,305	1,963
NuSeed/Seeds 2000	Hornet	88	68	30.2	39.1	3,532	--	--
Proseed	E-362436	84	78	31.6	36.8	4,070	3,029	--
Proseed	E-21 CL	85	73	29.2	33.5	3,230	2,371	--
Proseed	E-31 CL	87	74	29.6	36.0	3,540	--	--
Proseed	E-85 CL	87	78	28.1	34.4	3,618	--	--
Sunopta/Dalhgren	4421CL	87	66	27.3	33.3	3,646	--	--
Syngenta	3733 NS/DM	88	61	31.3	39.4	3,190	2,590	2,316
Syngenta	3845 HO	87	65	30.6	38.3	2,922	2,188	1,935
Syngenta	7111 HO/CL/DM	81	55	30.8	38.2	3,059	--	--
USDA ²	894	84	66	29.8	36.7	3,443	2,553	2,131
Mean		86	69	30.1	37.1	3,458	2,560	2,159
CV %		1.2	5.7	1.9	2.8	9.0	--	--
LSD 0.10		1.4	5.4	0.8	1.4	430	--	--

Planted: May 17. Harvested: Oct. 21.

¹Days after planting.²Long term hybrid check.

Table 9. 2013 Sunflower - Non-oilseed - Langdon, N.D. - Authors, B. Hanson and T. Hakanson

Company/ Brand	Hybrid	Days to Flower (DAP) ¹	Plant Height (inch)	Test Weight (lb/bu)	Seed Over Screen			Seed Yield	
					22/64	20/64	18/64	2013	3-yr. Avg.
					------(%)-----			----- (lb/a) -----	
Genosys	12GCF05	91	71	25.8	85	92	94	4,084	--
Genosys	12GCF12	91	94	21.6	93	95	95	4,266	--
Mycogen	8C451CP	87	72	21.8	84	92	93	3,306	2,510
NuSeed Global	5009	88	74	22.4	88	96	96	3,592	--
NuSeed/Seeds 2000	Jaguar DMR	78	67	22.6	88	94	94	3,595	3,025
NuSeed/Seeds 2000	Jaguar	82	68	21.7	83	91	93	3,208	2,847
Red River Comm.	2215	85	73	24.0	85	92	93	4,552	3,027
Red River Comm.	2215-CL	87	74	24.2	81	90	91	4,003	2,870
Red River Comm.	2217-CP	87	70	22.1	83	92	93	3,542	--
Red River Comm.	8015	83	67	20.0	90	94	95	3,670	--
Sunopta/Dahlgren	9521	87	72	24.5	85	91	93	4,683	--
USDA ²	924	81	73	25.5	17	74	90	3,666	2,600
Mean		86	73	23.0	80	91	94	3,847	2,813
CV %		1.3	5.8	3.5	--	--	--	8.3	--
LSD 0.10		1.5	5.9	1.1	--	--	--	414	--

Planted: May 17. Harvested: Oct. 21.

¹Days after planting.²Long term hybrid check.

Table 10. 2013 Sunflower - Oilseed - Minot, N.D. - Authors, E. Eriksmoen and J. Tarasenko.

Company/ Brand	Hybrid	Days to	Days to	Plant	Test	Oil	Seed Yield		
		Flower (DAP) ¹	Maturity (DAP) ¹	Height (inch)	Weight (lb/bu)	Content (%)	2013	2-yr. Avg.	3-yr. Avg.
							------(lb/a)-----		
Advanta/Nutrisun	MS9024	69	107	76	24.6	42.3	2,991	--	--
AgVenture	3H95	68	109	63	24.6	40.8	2,163	--	--
AgVenture	3N94	66	107	75	25.5	40.8	2,468	--	--
AgVenture	3H93	64	110	66	26.3	41.2	2,381	--	--
Croplan	432 E	61	107	69	22.9	37.0	2,091	--	--
Croplan	460 E	66	109	73	25.1	45.0	2,352	2,390	2,026
Croplan	545 CL	67	111	65	26.5	41.4	2,396	--	--
Croplan	548 CL	66	106	74	24.8	43.9	2,454	2,293	--
Croplan	559 CL	66	108	70	26.6	42.8	2,483	2,761	2,656
Genosys	11G08	66	104	82	28.0	43.6	2,904	2,581	--
Genosys	12E06	65	107	81	25.8	42.1	2,715	--	--
Genosys	12E12	65	107	75	23.9	38.2	2,599	2,335	--
Genosys	12E13	65	104	75	22.0	39.6	1,902	2,237	--
Genosys	12E14	68	108	80	22.3	39.6	2,541	2,760	--
Genosys	12G20	65	106	71	23.1	41.9	2,744	--	--
Mycogen	8D417	68	112	55	21.4	37.2	1,655	2,111	--
Mycogen	8H288CLDM	63	107	64	24.1	44.8	2,134	2,319	1,985
Mycogen	8H449CLDM	68	108	67	24.8	45.5	1,975	2,761	2,322
Mycogen	8N270CLDM	61	104	63	24.3	42.8	1,830	2,435	2,102
Mycogen	8N310CL	67	106	77	23.4	38.4	2,599	--	--
Mycogen	8N358CLDM	66	106	65	24.1	43.7	2,294	2,646	2,258
Mycogen	8N421CLDM	67	106	73	23.7	42.3	1,946	2,736	2,417
Nuseed/Seeds 2000	Camaro II	66	109	70	26.1	42.8	2,280	2,671	--
Nuseed/Seeds 2000	Cobalt II	67	108	66	25.3	42.3	1,844	1,887	--
Nuseed/Seeds 2000	Daytona	67	111	63	24.6	42.6	2,236	2,348	--
Nuseed/Seeds 2000	Falcon	66	107	63	25.7	43.8	1,960	2,210	2,103
Nuseed/Seeds 2000	NHK12M010	68	110	71	23.5	42.7	2,657	--	--
Nuseed/Seeds 2000	NHK12M140	68	110	71	21.9	42.1	2,033	--	--
Nuseed/Seeds 2000	NHK12M141	69	105	77	23.4	41.4	2,991	--	--
Nuseed/Seeds 2000	NLK12M006	66	107	67	25.5	41.2	2,396	--	--
Nuseed/Seeds 2000	NLK12M178	68	110	71	23.4	39.2	2,265	--	--
Nuseed/Seeds 2000	Torino	69	110	70	25.8	42.3	1,931	2,476	2,299
Proseed	E-21 CL	65	108	78	23.1	39.8	2,120	2,103	1,991
Proseed	E-31 CL	65	106	77	23.2	38.9	2,222	--	--
Proseed	E-362436	61	108	74	24.6	36.9	2,933	2,790	--
Proseed	E-85 CL	66	104	78	23.4	40.4	2,004	2,315	--
Sunopta/Dahlgren	4421	64	106	78	22.6	41.5	2,410	2,121	--
Sunopta/Dahlgren	4421CL	66	106	72	23.3	38.9	2,614	2,492	--
USDA ²	894	64	105	76	24.2	42.6	2,396	--	--
Mean		66	107	71	24.3	41.4	2,331	2,425	2,216
CV %		1.9	1.9	6.8	5.1	5.8	9.5	--	--
LSD 0.10		2.0	2.0	6.0	1.4	2.8	259	--	--

Planted: June 13. Harvested: Nov. 12.

¹Days after planting.

²Long term hybrid check.

Table 11. 2013 Sunflower - Non-oilseed - Minot, N.D. - Authors, E. Eriksmoen and J. Tarasenko.

Company/ Brand	Hybrid	Days to Flower (DAP) ¹	Days to Maturity (DAP) ¹	Plant Height (inch)	Test Weight (lb/bu)	Seed Over Screen			Seed Yield	
						22/64	20/64	18/64	2013	3-Yr. Avg.
						------(%)-----			------(lb/a)-----	
CanSun	EX5255	63	102	73	20.4	87	92	96	1,958	--
CanSun	EX753	62	102	73	21.0	85	92	96	1,525	--
CanSun	EX8253	61	104	66	19.5	86	91	94	1,540	--
CanSun	EX8255	63	102	71	20.1	82	91	95	1,912	--
CHS	12EXP01	67	105	76	18.9	95	97	98	1,417	--
CHS	13EXP04	68	106	77	18.7	87	94	97	1,919	--
Genosys	12GCF05	69	100	71	19.2	85	90	94	1,909	--
Genosys	12GCF12	68	100	85	16.6	90	93	94	2,572	--
Mycogen	8C451CP	68	102	73	19.4	90	95	97	1,962	--
Nuseed Global	5009	67	104	76	20.8	86	94	97	2,022	--
Nuseed/Seeds 2000	6946 DMR	63	99	65	21.6	56	79	90	1,784	1,964
Nuseed/Seeds 2000	Jaguar	60	99	63	21.7	82	91	95	1,724	1,879
Nuseed/Seeds 2000	Jaguar DMR	60	98	69	21.9	87	95	97	1,940	1,978
Nuseed/Seeds 2000	Panther DMR	61	98	62	21.5	88	93	96	1,909	--
Nuseed/Seeds 2000	Sundance DMR	62	101	70	21.2	77	91	95	1,792	--
Nuseed/Seeds 2000	X9180	62	100	60	21.5	67	82	91	1,519	1,830
Red River Comm.	2215	63	102	71	21.9	88	96	97	1,702	2,040
Red River Comm.	8015	65	104	64	17.7	89	92	93	1,314	--
Red River Comm.	2215-CL	68	103	74	21.3	90	95	96	1,562	2,012
Red River Comm.	2217-CP	67	104	65	18.8	91	95	97	1,731	1,647
Sunopta/Dahlgren	9521	65	105	78	21.3	93	97	98	2,217	--
Sunopta/Dahlgren	9579	65	100	70	17.9	88	92	95	1,696	--
Sunopta/Dahlgren	9530CL	68	104	73	21.2	86	92	94	1,817	2,077
Sunopta/Dahlgren	9589CL	65	102	77	16.4	89	94	96	1,806	--
Sunopta/Dahlgren	9592CL+	69	105	72	19.5	87	93	96	1,496	--
Sunopta/Dahlgren	EX22	61	99	70	16.9	90	94	96	1,588	--
Mean		64	102	71	19.9	85	92	95	1,782	1,928
CV %		1.4	1.3	3.7	3.8	4.9	2.9	1.8	17.8	--
LSD 0.10		1.0	2.0	3.0	0.9	5.0	3.0	2.0	369	--

Planted: June 19. Harvested: Nov. 12.

¹Days after planting.

Table 12. 2013 Sunflower - Oilseed and Non-oilseed - Williston, N.D. - Authors, J. Bergman, C. Penuel and D. Amiot.

Company	Hybrid	Days to Flower	Plant Height	Oil Content	Test Weight	Seed Yield
Oilseed		(DAP) ¹	(inch)	(%)	(lb/bu)	(lb/a)
Croplan	432 E	69	55	38.0	31.4	1,847
Croplan	460 E	77	56	42.9	31.3	1,823
Croplan	545 CL	75	54	41.5	31.2	2,034
Croplan	548 CL	76	57	40.4	31.1	1,414
Croplan	559 CL	75	61	44.2	32.8	1,759
Genosys	11G08	74	64	37.0	31.0	1,533
Genosys	12E12	74	65	38.0	31.2	1,956
Genosys	12E13	75	67	39.3	29.5	1,801
Genosys	12E14	76	71	40.4	29.1	1,591
Genosys	12G20	74	58	41.9	29.1	2,064
Mycogen	8N270CLDM	69	54	40.0	30.8	1,350
Mycogen	8N358CLDM	73	56	43.8	30.3	1,850
Nuseed/Seeds 2000	Camaro II	74	58	40.7	32.7	1,745
Nuseed/Seeds 2000	Cobalt II	75	55	43.1	32.4	1,959
Nuseed/Seeds 2000	Falcon	75	51	40.0	31.4	1,735
Nuseed/Seeds 2000	Hornet	76	54	42.4	30.3	1,701
Non-oilseed						
Genosys	12GCF05	83	63	25.4	25.8	1,219
Genosys	12GCF12	79	72	26.1	22.8	1,320
Mean		75	60	39.2	30.2	1,705
CV %		2.3	7.8	4.5	3.7	22.3
LSD 0.10		2.0	5.5	2.1	1.3	460

Planted: May 24, Harvested: Oct. 15, Previous crop: spring wheat.

¹Days after planting.

Table 13. 2013 Sunflower - Oilseed - Hettinger N.D. - Authors, J. Rickertsen and R. Olsen.

Company	Hybrid	Flower Date	Plant Height	Plant Lodge	Test Weight	Oil Content	Seed Yield
		(DAP)	(inch)	(%)	(lb/bu)	(%)	(lb/ac)
AgVenture	3H93	75	73	13	27.4	34.1	1,417
AgVenture	3H94	78	77	3	27.9	34.3	2,593
AgVenture	3H95	77	74	6	26.8	33.7	1,486
Croplan	432 E	74	75	12	28.0	32.5	1,979
Croplan	460 E	79	79	11	26.3	34.6	1,783
Croplan	545 CL	80	78	7	26.0	33.0	2,407
Croplan	548 CL	78	82	6	28.8	34.5	2,057
Croplan	559 CL	79	83	8	27.0	35.1	1,773
Genosys	11G08	80	82	10	28.0	34.6	1,966
Genosys	12E06	75	86	10	28.3	33.3	2,101
Genosys	12E12	77	87	3	26.6	33.0	1,868
Genosys	12E13	77	80	4	25.4	32.4	1,635
Genosys	12E14	80	88	6	24.7	32.1	1,924
Genosys	12G20	76	74	14	27.4	34.6	2,153
Mycogen	8D310CL	80	83	19	24.3	32.4	1,636
Mycogen	8H449CLDM	78	72	24	31.2	38.6	1,928
Mycogen	8N270CLDM	74	74	30	27.4	35.0	828
Mycogen	8N421CLDM	78	77	5	27.3	34.0	1,807
Mycogen	8N358CLDM	76	79	10	28.8	37.1	1,310
Nuseed/Seeds 2000	Camaro II	78	79	8	27.7	33.5	2,047
Nuseed/Seeds 2000	Cobalt II	76	73	12	28.1	34.1	1,614
Nuseed/Seeds 2000	Daytona	78	75	3	27.3	34.4	1,655
Nuseed/Seeds 2000	Durango	81	71	7	27.8	34.5	1,885
Nuseed/Seeds 2000	Falcon	77	73	3	28.5	33.4	2,392
Nuseed/Seeds 2000	Hornet	80	80	18	26.8	33.4	2,399
Nuseed/Seeds 2000	Torino	81	74	5	28.6	34.3	2,147
Proseed	E-21 CL	77	82	10	26.5	33.0	1,646
Proseed	E-31 CL	79	83	6	25.8	32.5	1,908
Proseed	E-362436	75	88	13	28.7	33.2	1,946
Proseed	E-85 CL	78	85	10	25.4	33.7	1,646
Syngenta	3733 NS/DM	80	75	40	26.2	35.7	1,098
Syngenta	3845 HO	77	78	14	26.3	34.8	1,906
Syngenta	7111 HO/CL/DM	74	72	24	27.9	34.2	1,438
Mean		78	79	11	27.2	34.0	1,830
CV %		1.5	3.7	89	2.4	4.2	15.6
LSD 0.10		1.0	3.0	12	0.8	1.7	345

2013 SOUTH DAKOTA HYBRID SUNFLOWER TRIALS

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Locations and Hybrids

Oilseed hybrid sunflower trials were planted at four locations in South Dakota (Bison, Harrold, Onida and Presho) in 2013. Entries in the oilseed sunflower trials included traditional linoleic oil hybrids, NuSun (mid-oleic) hybrids, high oleic, high stearic and ConOil hybrids. Non-oilseed (confection) sunflower trials were conducted at Harrold and Onida. Test locations are indicated on the map in Figure 1. Trial sites for each of the hybrids tested in 2013 appear in Tables 4 and 5.

Experimental Methods

Plots at all locations consisted of four rows 30 feet long, with a 30-inch row spacing. The plot layout was in a randomized complete block design with four replications at each location. The experiments were randomized for a nearest neighbor's statistical analysis, which removes effects of field trends (see Crop Science 34:62-66).

Seed of most of the hybrids entered in the trials was sent pretreated with Cruiser insecticide and at least one fungicide. All trials were seeded no-till. Seeding date at Bison was June 5. Presho and Harrold were planted on June 14 and Onida on June 15. The previous crop at Harrold was corn. At all other locations, the previous crop was wheat. Plots were overseeded and thinned to approximately 18,000 plants/acre. Stands were good at all locations.

Areas of stunted plants (from unknown causes) in the oilseed trial at Onida became obvious as the plants approached flowering. Stunting was most severe in the first replication, so that rep was excluded from all analyses, as were any plots that appeared stunted in the other three replications. Hybrids that did not have at least two good reps of data also were excluded.

Flowering was recorded at Onida as the number of days from planting to 50 percent ray petals extended. Plant height and lodging notes were taken at all locations immediately before harvest. At all locations except Bison, the center two rows of each four-row plot were harvested with a Kincaid 8-XP plot combine fitted with a two-row all-row crop header and HarvestMaster High Capacity GrainGage HM-800 HarvestData System. Plots at Bison were harvested with a Wintersteiger Delta plot combine fitted with a HarvestMaster GrainGage. Seed yields were adjusted to a 10 percent moisture basis. A seed sample was collected from each plot for oil analysis.

Oil content of oilseed hybrids was determined by NMR analysis, using a Bruker minispec. Oil values for NuSun and high-oleic hybrids were adjusted for oleic acid content. Hulling quality was measured at Onida on selected hybrids by passing a 1-pint seed sample over 14/64 and 13/64 round-hole screens. A 1-pint subsample of seed from each plot of the Harrold and Onida confection trials was passed over 22/64, 20/64 and 18/64 round-hole screens to determine the percent of large seed. Nutmeat percent was determined by weighing 20 whole seeds from each plot, dehulling and weighing the 20 dehulled kernels.

Climate

A summary of climate conditions near the sunflower test sites is presented in Table 14. The closest weather station to the Presho sunflower plots was at Kennebec, and the station closest to Harrold was one mile west of Highmore. The 2013 growing season was generally cooler than the 30-year average in May through July at all locations. August had a cooler maximum temperature but a warmer minimum temperature than normal, and September was much warmer than normal at all sites, while October was cooler (Table 14). All locations had above-normal precipitation in May but below-normal precipitation in June. Bison remained drier than average in July but then was wetter than average for the remainder of the season. July and August were wetter than normal at Onida, Presho and Harrold, while September was drier. October was extremely wet at all locations. Several of the storm systems in September, October and early November brought wind gusts close to 50 or 60 mph at some locations. The first killing frost (≤ 24 F) occurred about Oct. 24 at all locations.

Results

Considerable lodging occurred at all sites, probably due to a combination of stalk disease (Phomopsis and Phoma), wind and snow. Seed yields at Bison were too variable to report due to a combination of lodging and bird damage, but other data collected at that location are presented in Table 15. Oilseed yields were highest at Harrold, where 51 hybrids averaged 2,006 pounds per acre, with 42.2 percent oil (Table 16). The lowest oilseed yields - 1,648 pounds per acre - were recorded at Onida (Table 18). Confection hybrid yields were slightly higher at Harrold than at Onida, averaging 1,689 pounds per acre across the 37 hybrids tested (Table 17). In the tables hybrids are listed alphabetically by brand.

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.
2013 South Dakota
sunflower trial
locations.

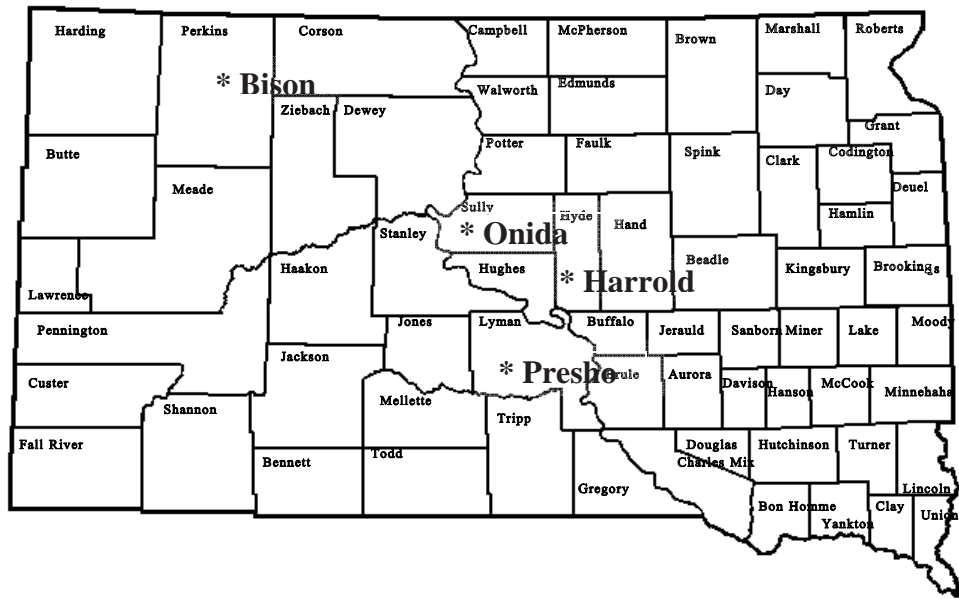


Table 14. 2013 Climate Summary for Weather Stations Nearest to South Dakota Sunflower Test Sites and Departures From Normal.

Location- Month	2013 Temperature			Total Precip. (inch)	Departure from Normal ¹			Precip. (%)
	Avg. Max.	Avg. Min.	Mean		Max. Temp	Min. Temp	Avg. Temp	
	------(°F)-----				------(°F)-----			
<u>Bison²</u>								
May	66.9	42.1	54.6	6.03	-1.9	-1.2	-1.5	195
June	74.0	51.3	63.1	1.84	-4.0	-1.1	-2.1	63
July	84.4	56.7	70.3	1.04	-2.1	-2.0	-2.3	44
August	83.6	58.0	69.9	2.70	-2.8	1.0	-1.8	167
September	75.7	50.7	62.3	2.82	0.4	4.1	1.3	222
October	48.9	30.5	39.7	3.21	-11.3	-4.4	-7.9	218
<u>Onida 4 NW²</u>								
May	70.4	43.4	56.9	6.26	0.4	-0.7	-0.2	205
June	77.8	54.4	66.1	1.54	-1.9	0.4	-0.7	46
July	85.3	58.8	72.0	4.92	-2.6	-1.0	-1.8	186
August	84.4	60.1	72.2	2.54	-1.5	2.3	0.3	108
September	80.5	53.6	67.1	0.83	4.4	6.4	5.4	46
October	54.1	34.5	44.3	6.64	-6.4	-0.1	-3.3	398
<u>Kennebec</u>								
May	72.9	43.4	58.2	4.27	0.0	-2.5	-1.2	135
June	81.0	54.7	67.9	2.30	-0.9	-1.1	-0.9	69
July	85.9	60.0	72.9	5.03	-3.8	-2.0	-3.0	202
August	85.6	62.4	74.0	4.15	-2.8	2.4	-0.2	215
September	83.9	54.2	69.1	1.35	4.7	4.9	4.8	76
October	59.7	35.2	47.4	4.07	-4.1	-0.8	-2.5	264
<u>Highmore 1 W</u>								
May	70.8	43.5	57.2	4.79	0.6	-0.9	-0.1	174
June	78.8	54.8	66.8	1.94	-0.2	0.5	0.2	64
July	85.8	59.6	72.7	4.02	-1.0	-0.6	-0.8	148
August	85.3	61.2	73.3	3.02	-0.1	2.7	1.3	135
September	82.5	54.4	68.4	1.02	7.0	5.8	6.3	62
October	56.0	35.0	45.5	5.12	-4.8	-1.1	-3.0	366

¹Departures from normal were determined by comparing 2013 observations to 30-yr averages (1981-2010) for each site.

²2013 climate observations are 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.

Table 15. 2013 Sunflower - Oilseed - Bison, S.D.

Company/ Brand	Hybrid	Plant Height (inch)	Harvest Moisture (%)	Plant Lodge (%)	Test Weight (lb/bu)	Oil Content (%)
Advanta/Nutrisun	MS9024	56	11	18	28.0	44.9
AgVenture	3H93	51	9	0	29.5	45.4
AgVenture	3H94	53	11	16	28.2	47.0
AgVenture	3H95	48	10	6	28.0	45.6
AgVenture	3N97	56	13	27	28.7	47.4
Croplan	3080	50	10	7	27.7	48.2
Croplan	432 E	50	11	16	29.7	43.4
Croplan	460 E	54	10	20	27.3	48.0
Croplan	545 CL	48	13	22	25.8	46.7
Croplan	548 CL	55	10	14	27.4	45.0
Croplan	559 CL	57	10	15	26.4	47.7
Legend	LSF 318NCL	47	9	10	28.2	43.9
Legend	LSF 9302HOCL	52	10	12	28.1	45.3
Legend	LSF 9418HOCL	52	11	0	27.7	45.7
Legend	LSF 9426NCL	56	12	17	28.1	46.3
Legend	LSF 9468NCL	48	15	36	23.7	44.5
Legend	LSF 9501	52	14	60	28.6	45.1
Legend	LSF 9505NCL	54	12	28	27.3	47.1
Legend	LSF 9534NCL	56	10	11	28.4	45.7
Legend	LSF 9536HOCL	51	13	23	27.3	45.3
Legend	LSF 9801NCL	53	9	36	26.2	47.0
Mycogen	8H449CLDM	51	15	37	29.6	50.3
Mycogen	8N358CLDM	48	10	11	26.2	47.9
Mycogen	8N421CLDM	56	14	14	26.7	48.4
Nuseed/Seeds 2000	Badger	55	10	24	28.1	41.9
Nuseed/Seeds 2000	Badger DMR	51	10	20	26.2	40.5
Nuseed/Seeds 2000	Badger HO	54	10	16	26.3	39.0
Nuseed/Seeds 2000	Camaro II	48	12	8	29.0	46.1
Nuseed/Seeds 2000	Cobalt II	51	10	19	28.2	45.4
Nuseed/Seeds 2000	Daytona	49	9	7	29.3	45.8
Nuseed/Seeds 2000	Durango	46	11	45	27.3	44.8
Nuseed/Seeds 2000	Falcon	53	13	45	28.7	46.6
Nuseed/Seeds 2000	Hornet	50	10	11	27.2	47.4
Nuseed/Seeds 2000	NHK12M140	50	9	23	23.5	44.1
Nuseed/Seeds 2000	NHK12M141	54	9	8	25.2	44.3
Nuseed/Seeds 2000	NLK12M008	50	12	11	26.6	46.8
Nuseed/Seeds 2000	Torino	53	13	28	27.2	47.2
Pioneer	63ME80	52	10	12	27.1	47.3
Proseed	E-21 CL	56	13	24	27.9	43.3
Proseed	E-31 CL	59	9	13	26.3	41.9
Proseed	E-362436	61	10	43	28.1	45.9
Proseed	E-85 CL	59	9	11	26.1	44.7
Sunopta/Dahlgren	4421	54	10	18	25.8	42.6
Sunopta/Dahlgren	4421CL	53	10	0	25.3	42.6
Syngenta	3158 NS/CL/DM	50	13	28	27.5	47.1
Syngenta	3733 NS/DM	48	11	25	27.8	46.5
Syngenta	3845 HO	45	10	12	27.1	47.0
USDA ¹	894	49	10	16	27.6	46.4
Mean		52	11	19	27.3	45.6
CV %		6.1	12.9	69	5.7	2.6
LSD 0.05		4.4	2.0	19	2.2	1.7

Planted: June 5. Harvested: Nov. 1. Previous crop: wheat.

Yields are not reported due to excessive variability in the data (30-40% bird damage, lodging).

¹Long term hybrid check.

Table 16. 2013 Sunflower - Oilseed - Harrold, S.D.

Company/Brand	Hybrid	Plant	Harvest	Plant	Oil	Seed Yield	
		Height	Moisture	Lodge	Content	2013	2-yr Avg
		(inch)	(%)	(%)	(%)	-----lb/a-----	
AgVenture	3H94	65	12	8	43.6	2,356	--
AgVenture	3H95	66	11	6	41.4	1,821	--
AgVenture	3N97	65	12	8	42.8	2,004	--
Croplan	3080	67	10	8	45.8	1,913	--
Croplan	432 E	65	11	10	40.0	2,049	2,304
Croplan	460 E	73	11	21	44.6	1,847	2,303
Croplan	545 CL	62	12	6	43.0	2,522	--
Croplan	548 CL	72	11	12	42.8	1,700	2,153
Croplan	559 CL	75	10	8	43.9	2,130	2,304
Legend	LSF 318NCL	65	11	10	39.8	2,092	2,325
Legend	LSF 9302HOCL	64	11	8	41.8	1,607	2,206
Legend	LSF 9418HOCL	60	11	6	42.1	2,148	--
Legend	LSF 9426NCL	68	12	7	43.9	2,340	--
Legend	LSF 9468NCL	64	12	2	44.0	2,204	--
Legend	LSF 9501	76	11	13	39.9	2,590	2,713
Legend	LSF 9505NCL	69	12	4	43.5	2,226	2,329
Legend	LSF 9534NCL	71	11	1	43.2	2,477	--
Legend	LSF 9536HOCL	64	11	5	43.9	2,066	--
Legend	LSF 9801NCL	67	11	10	43.3	1,757	--
Mycogen	8D417	51	11	2	42.4	2,240	2,291
Mycogen	8H449CLDM	68	12	11	46.1	2,221	2,323
Mycogen	8N421CLDM	65	11	4	42.0	2,037	2,289
Mycogen	8N510	66	11	7	43.1	2,116	2,347
Mycogen	8N668S	45	12	4	46.8	2,507	--
Mycogen	E82558CP	45	11	5	46.9	2,152	--
Nuseed/Seeds 2000	Badger	75	10	15	39.0	1,535	2,113
Nuseed/Seeds 2000	Badger DMR	73	9	12	36.0	1,603	--
Nuseed/Seeds 2000	Badger HO	67	10	11	34.8	1,420	2,060
Nuseed/Seeds 2000	Camaro II	66	12	7	43.8	2,305	--
Nuseed/Seeds 2000	Cobalt II	65	10	11	42.6	1,677	--
Nuseed/Seeds 2000	Daytona	65	11	5	42.6	1,929	2,449
Nuseed/Seeds 2000	Durango	61	11	6	42.7	1,680	2,103
Nuseed/Seeds 2000	Falcon	65	11	12	42.5	2,040	2,324
Nuseed/Seeds 2000	Hornet	67	11	23	43.0	2,011	--
Nuseed/Seeds 2000	NHK12M140	71	11	6	40.7	2,009	--
Nuseed/Seeds 2000	NHK12M141	68	11	10	42.3	1,897	--
Nuseed/Seeds 2000	NLK12M008	66	12	9	43.9	2,766	--
Nuseed/Seeds 2000	Torino	67	12	10	44.1	2,111	2,404
Pioneer	63ME80	70	11	5	42.3	1,754	1,826
Proseed	E-21 CL	73	11	11	38.8	2,107	2,321
Proseed	E-31 CL	73	10	11	41.0	1,867	--
Proseed	E-362436	76	11	25	40.4	1,908	--
Proseed	E-85 CL	73	10	17	40.8	1,748	--
Sunopta/Dahlgren	4421	68	11	10	40.1	1,884	--
Sunopta/Dahlgren	4421CL	72	11	9	39.0	2,065	--
Syngenta	3158 NS/CL/DM	61	11	17	42.4	1,969	2,482
Syngenta	3733 NS/DM	65	10	7	42.1	2,058	2,466
Syngenta	3845 HO	64	10	9	45.6	1,919	2,520
USDA ¹	894	58	11	13	42.8	1,818	2,179
Mean		66	11	9	42.3	2,024	2,297
CV %		5.0	3.5	78	2.7	11.3	11.5
LSD 0.05		4.6	0.5	11.2	1.6	315	261

Planted: June 14. Harvested: Nov. 10. Previous crop: corn.

¹Long term hybrid check.

Table 17. 2013 Sunflower - Non-oilseed - Harrold, S.D.

Company/Brand	Hybrid	Plant	Harvest	Plant	Seed Over Screen			Nut-	Seed Yield	
		Height	Moisture	Lodge	22/64	20/64	18/64	meat	2013	2-yr Avg.
		(inch)	(%)	(%)	------(%)-----			(%)	------(lb/a)-----	
CHS	10EXP01	69	10	14	51	77	88	49	1,416	1,876
CHS	12EXP01	74	10	8	74	87	92	52	1,699	2,016
CHS	13EXP02	81	10	15	45	71	87	52	1,560	--
CHS	13EXP03	82	11	8	69	84	90	51	2,498	--
Genosys	12GCF05	73	11	2	67	84	91	53	1,340	--
Genosys	12GCF12	83	11	40	68	82	87	55	1,413	--
Mycogen	8C451CP	74	9	7	62	84	91	56	1,634	1,848
Nuseed Global	5009	72	11	9	65	86	93	51	1,834	1,999
Nuseed/Seeds 2000	Jaguar	65	9	16	59	79	91	51	1,764	1,939
Nuseed/Seeds 2000	Jaguar DMR	65	9	13	53	74	84	50	1,707	1,781
Nuseed/Seeds 2000	Jaguar II	70	9	12	58	76	87	53	1,545	1,868
Nuseed/Seeds 2000	Jaguar XL	81	10	15	58	80	92	54	1,373	--
Nuseed/Seeds 2000	NSK12M048	74	10	13	81	90	94	55	1,670	--
Nuseed/Seeds 2000	X4334	74	9	40	55	81	91	54	1,050	1,644
Red River Comm.	2215	70	8	11	59	78	88	54	2,095	2,162
Red River Comm.	2215-CL	75	10	17	59	80	87	54	1,514	1,755
Red River Comm.	2217	69	9	13	62	82	88	56	1,448	--
Red River Comm.	8015	63	10	13	72	86	90	52	1,641	--
Sunopta/Dahlgren	9506CL	72	12	21	85	91	93	53	1,644	--
Sunopta/Dahlgren	9521	75	10	21	69	85	91	53	1,461	--
Sunopta/Dahlgren	9530CL	74	9	19	50	74	86	56	1,497	--
Sunopta/Dahlgren	9579	68	11	17	82	91	94	56	2,114	--
Sunopta/Dahlgren	9589CL	80	10	11	46	69	84	54	1,781	--
Sunopta/Dahlgren	9592CL+	66	10	13	69	82	87	54	1,574	--
USDA ¹	924	79	8	37	9	25	57	61	1,175	1,275
Mean		73	10	16	61	79	88	54	1,618	1,833
CV %		6.1	5.9	84	11.4	6.2	4.9	3.5	16.5	14.2
LSD 0.05		7.3	0.8	16.6	14.2	10.2	8.8	3.8	390	256

Planted: June 14. Harvested: Nov. 10. Previous crop: corn.

¹Long term hybrid check.

Table 18. 2013 Sunflower - Oilseed - Onida, S.D.

Company/Brand	Hybrid	Days					Seed Yield			Hulling Screen Test ¹
		To Flower (DAP)	Plant Height (inch)	Harvest Moisture (%)	Plant Lodge (%)	Oil Content (%)	2-yr. Avg. 2013	3-yr. Avg.		
Advanta/Nutrisun	MS9024	66	68	8	51	39.4	1,084	--	--	NT
AgVenture	3H94	62	64	10	10	41.1	2,305	--	--	NT
AgVenture	3N97	66	57	9	10	41.3	1,816	--	--	NT
AgVenture	3H95	64	52	9	9	42.0	1,726	--	--	NT
Croplan	3080	60	57	8	35	39.6	1,445	--	--	NT
Croplan	432 E	59	63	9	33	37.8	1,622	1,993	--	Good
Croplan	545 CL	65	59	9	27	42.4	1,485	--	--	NT
Croplan	548 CL	61	64	9	63	39.4	1,334	1,643	1,731	NT
Genosys	11G08	64	69	8	33	39.8	1,294	1,459	--	NT
Genosys	12E12	63	69	9	38	38.3	1,306	1,682	--	NT
Genosys	12E13	62	66	9	23	39.0	1,739	1,839	--	NT
Genosys	12E14	63	65	9	17	38.1	2,115	2,183	--	NT
Genosys	12G20	61	52	9	55	38.6	1,267	--	--	NT
Legend Seeds	LSF 318NCL	61	58	9	21	39.7	1,497	1,664	--	Excel
Legend Seeds	LSF 9302HOCL	63	51	9	21	40.4	1,681	2,095	--	Fail
Legend Seeds	LSF 9418HOCL	59	54	9	7	40.1	1,849	--	--	Good
Legend Seeds	LSF 9426NCL	61	60	10	19	41.4	2,369	--	--	Excel
Legend Seeds	LSF 9468NCL	65	56	10	14	41.6	1,843	--	--	NT
Legend Seeds	LSF 9501	64	64	9	11	37.9	1,983	2,184	--	Good
Legend Seeds	LSF 9505NCL	64	65	10	25	42.9	1,877	1,936	--	Fail
Legend Seeds	LSF 9534NCL	64	61	9	25	42.1	1,909	--	--	Fail
Legend Seeds	LSF 9536HOCL	66	58	9	19	42.1	2,108	--	--	Fail
Legend Seeds	LSF 9801NCL	66	59	9	71	41.7	1,274	--	--	Fail
Mycogen Seeds	8D310CL	64	68	9	15	37.0	1,995	--	--	NT
Mycogen Seeds	8D417	62	49	9	9	41.1	2,061	2,270	--	NT
Mycogen Seeds	8N358CLDM	61	56	8	14	40.5	1,608	1,823	1,861	NT
Mycogen Seeds	8N421CLDM	63	63	9	17	42.6	2,004	2,111	1,940	NT
Mycogen Seeds	8N510	64	59	8	11	40.7	1,811	2,036	2,094	NT
Mycogen Seeds	E82558CP	67	35	9	18	42.5	1,736	--	--	NT
Nuseed/Seeds 2000	Badger	63	57	8	62	35.0	1,124	1,681	1,709	Excel
Nuseed/Seeds 2000	Badger DMR	62	62	8	35	30.6	1,302	--	--	Excel
Nuseed/Seeds 2000	Badger HO	59	61	9	39	32.5	1,215	1,647	--	Excel
Nuseed/Seeds 2000	Camaro II	63	70	10	22	42.8	2,209	--	--	NT
Nuseed/Seeds 2000	Cobalt II	62	57	9	14	39.4	1,748	--	--	NT
Nuseed/Seeds 2000	Daytona	64	58	9	10	40.4	1,822	1,930	1,859	NT
Nuseed/Seeds 2000	Falcon	62	54	9	28	40.9	1,540	1,779	1,946	NT
Nuseed/Seeds 2000	Hornet	63	56	8	30	40.6	1,654	--	--	NT
Nuseed/Seeds 2000	NHK12M140	65	56	9	10	39.6	1,992	--	--	NT
Nuseed/Seeds 2000	NHK12M141	66	59	9	25	40.8	1,423	--	--	NT
Nuseed/Seeds 2000	NLK12M008	62	53	8	19	40.4	1,801	--	--	NT
Nuseed/Seeds 2000	Torino	65	59	9	33	42.3	1,602	1,835	1,821	NT
Pioneer	63ME80	60	70	10	32	40.2	1,789	1,985	2,073	Excel
Proseed	E-21 CL	62	67	9	35	40.4	1,213	1,807	--	NT
Proseed	E-31 CL	63	67	9	40	40.3	1,454	--	--	NT
Proseed	E-362436	62	70	9	66	40.6	1,107	--	--	NT
Proseed	E-85 CL	64	70	8	18	38.2	1,772	--	--	NT
Sunopta/Dahlgren	4421	60	62	9	46	38.6	1,694	1,874	1,815	NT
Sunopta/Dahlgren	4421CL	66	67	9	19	37.7	2,120	1,932	--	NT
Syngenta	3733 NS/DM	62	54	9.0	52	38.4	1,158	1,778	2,052	NT
Syngenta	3845 HO	60	56	8.0	20	40.2	1,772	2,292	2,279	NT
Syngenta	3158 NS/CL/DM	62	55	9.2	15	41.7	2,184	2,193	2,198	NT
Mean		63	60	9	27	39.9	1,683	1,910	1,952	
CV %		1.6	8.1	5.7	45.0	3.3	18.3	16.2	15.7	
LSD 0.05		1.6	7.8	0.8	20	2.1	490	352	272	

Planted: June 15. Harvested: Nov. 14. Previous crop: wheat.

¹Hulling screen test: Excel = > 65% of seed passes over a 14/64 screen, Good = > 75% of seed passes over a 13/64 screen; NT = not tested.

Table 19. 2013 - Sunflower - Non-oilseed - Onida, S.D.

Company/Brand	Hybrid	Days					Seed Over Screen			Nut- meat (%)	Seed Yield		
		To Flower	Plant Height	Harvest Moisture	Plant Lodge	Pop. x1000	22/64	20/64	18/64		2013	2-yr. Avg.	3-yr. Avg.
		(DAP) ¹	(inch)	(%)	(%)	(plt/a)	-----(%)------				----- (lb/a) -----		
CHS	10EXP01	64	69	11	44	18	44	73	87	52	1,642	1,976	1,926
CHS	12EXP01	67	76	11	19	18	73	86	92	52	2,050	2,267	--
CHS	13EXP02	68	81	12	48	18	55	78	90	50	1,740	--	--
CHS	13EXP03	69	80	11	28	18	47	74	87	54	1,744	--	--
Genosys	12GCF05	68	70	12	22	16	53	78	87	49	1,580	1,578	--
Genosys	12GCF12	67	86	11	7	16	63	79	85	67	1,884	--	--
Mycogen	8C451CP	68	63	11	29	18	59	79	86	60	1,681	1,878	--
Nuseed Global	5009	66	69	11	24	18	36	64	85	55	1,766	1,840	--
Nuseed/Seeds 2000	Jaguar	60	67	11	47	18	50	79	90	54	2,026	2,064	1,941
Nuseed/Seeds 2000	Jaguar DMR	55	62	10	28	18	48	80	92	53	1,768	1,786	1,671
Nuseed/Seeds 2000	Jaguar II	62	68	11	55	18	64	80	90	52	1,630	1,763	1,679
Nuseed/Seeds 2000	Jaguar XL	64	77	12	50	18	50	71	83	49	1,609	--	--
Nuseed/Seeds 2000	NSK12M048	64	76	12	44	16	77	87	92	53	1,488	--	--
Nuseed/Seeds 2000	X4334	64	72	12	62	18	60	82	92	53	1,365	1,665	--
Red River Comm.	2215	63	74	11	20	18	60	82	90	56	2,348	2,155	2,034
Red River Comm.	2215-CL	68	80	11	16	18	60	83	91	56	1,867	2,121	2,009
Red River Comm.	2217-CP	69	65	11	24	18	69	86	93	56	1,781	--	--
Red River Comm.	RRC 8015	63	65	10	14	18	63	84	91	56	1,874	--	--
Sunopta/Dahlgren	9506CL	69	75	12	54	18	64	83	89	54	1,461	--	--
Sunopta/Dahlgren	9521	65	69	10	25	18	52	74	86	57	2,097	--	--
Sunopta/Dahlgren	9530CL	68	76	11	23	18	32	64	83	57	2,193	2,037	1,950
Sunopta/Dahlgren	9579	63	68	11	15	18	65	82	89	56	1,519	1,840	1,689
Sunopta/Dahlgren	9589CL	64	80	12	60	18	41	64	79	51	1,335	--	--
Sunopta/Dahlgren	9592CL+	69	65	11	36	18	64	81	89	59	1,726	--	--
USDA ²	924	63	74	10	84	18	12	26	58	61	860	1,100	1,041
Mean		65	72	11	35	18	54	76	87	55	1,721	1,862	1,771
CV %		1.3	5.1	5.3	43.8	5.6	20.2	10.2	4.6	5.5	20.0	17.9	17.8
LSD 0.05		1.3	5.2	0.8	23.2	1.4	23.0	16.1	8.3	6.1	462	327	254

Planted: June 15. Harvested: Nov. 15. Previous crop: wheat.

¹DAP = Days after planting.²Long term hybrid check.

Table 20. 2013 Sunflower - Oilseed - Presho, S.D.

Company/ Brand	Hybrid	Plant Height (inch)	Harvest Moisture (%)	Plant Lodge (%)	Oil Content (%)	Seed Yield		
						2013	2-yr. Avg. -----(lb/a)-----	3-yr. Avg.
Advanta/Nutrisun	MS9024	77	8	11	39.5	1,706	--	--
Croplan	3080	67	8	7	46.0	2,095	--	--
Croplan	432 E	67	9	2	39.9	2,288	2,103	--
Croplan	460 E	65	10	10	46.6	1,590	1,919	1,817
Croplan	545 CL	67	11	4	41.6	2,259	--	--
Croplan	548 CL	71	9	15	40.5	1,760	1,947	2,061
Croplan	559 CL	76	9	10	45.7	2,212	2,299	2,315
Pioneer	63ME80	69	10	8	43.8	1,930	1,991	2,000
Legend Seeds	LSF 318NCL	62	8	7	39.2	1,662	1,633	--
Legend Seeds	LSF 9302HOCL	65	10	7	40.9	1,632	1,667	--
Legend Seeds	LSF 9418HOCL	67	10	1	41.9	2,029	--	--
Legend Seeds	LSF 9426NCL	71	11	6	42.7	2,165	--	--
Legend Seeds	LSF 9468NCL	63	10	9	42.7	1,991	--	--
Legend Seeds	LSF 9501	73	9	11	39.7	2,077	2,126	--
Legend Seeds	LSF 9505NCL	70	11	6	42.0	1,972	1,964	--
Legend Seeds	LSF 9534NCL	70	10	3	42.3	2,157	--	--
Legend Seeds	LSF 9536HOCL	65	10	9	41.7	1,944	--	--
Legend Seeds	LSF 9801NCL	67	10	13	46.0	1,718	--	--
Mycogen Seeds	8H449CLDM	69	10	11	43.1	1,649	1,988	2,060
Mycogen Seeds	8N421CLDM	72	9	15	41.1	1,773	2,062	1,984
Mycogen Seeds	8N510	68	9	7	41.8	1,834	2,129	2,045
Mycogen Seeds	8N668S	48	11	6	46.5	1,836	--	--
Mycogen Seeds	E82558CP	47	10	8	44.4	1,667	--	--
Nuseed/Seeds 2000	Badger	71	9	11	36.7	1,577	1,886	1,799
Nuseed/Seeds 2000	Badger DMR	72	9	14	39.1	1,858	--	--
Nuseed/Seeds 2000	Badger HO	70	10	9	35.0	1,579	1,726	--
Nuseed/Seeds 2000	Camaro II	71	11	7	42.5	2,020	--	--
Nuseed/Seeds 2000	Cobalt II	67	9	7	41.6	1,550	--	--
Nuseed/Seeds 2000	Daytona	63	10	5	41.3	1,742	1,875	1,840
Nuseed/Seeds 2000	Durango	61	10	10	41.8	1,748	1,922	1,943
Nuseed/Seeds 2000	Falcon	63	10	5	43.2	1,793	1,840	1,845
Nuseed/Seeds 2000	Hornet	67	10	9	42.1	2,181	--	--
Nuseed/Seeds 2000	NHK12M140	70	10	8	41.5	1,966	--	--
Nuseed/Seeds 2000	NHK12M141	68	10	7	40.9	1,845	--	--
Nuseed/Seeds 2000	NLK12M008	69	11	5	42.4	2,206	--	--
Nuseed/Seeds 2000	Torino	66	11	6	42.7	1,830	1,850	1,925
Proseed	E-21 CL	77	10	7	38.5	1,649	1,897	--
Proseed	E-31 CL	71	10	22	38.9	1,444	--	--
Proseed	E-362436	81	10	11	41.3	1,919	--	--
Proseed	E-85 CL	75	9	6	39.9	1,945	--	--
Sunopta/Dahlgren	4421	68	9	7	39.6	1,751	--	--
Sunopta/Dahlgren	4421CL	73	10	5	35.8	1,851	--	--
Syngenta	3158 NS/CL/DM	65	9	4	42.6	1,656	1,668	1,836
Syngenta	3733 NS/DM	65	9	6	41.7	1,759	1,884	1,974
Syngenta	3845 HO	62	8	3	41.4	1,465	1,832	1,881
USDA ¹	894	59	9	17	43.5	1,343	1,586	1,551
Mean		68	10	8	41.6	1,840	1,904	1,930
CV %		4.0	4.5	64	3.5	8.6	10.2	10.8
LSD 0.05		3.8	0.6	7.9	2.0	218	191	167

Planted: June 14. Harvested: Nov. 2. Previous crop: wheat.

¹Long term hybrid check.

Table 21. 2013 Sunflower - Oilseed - Averages Across Three Locations (Harrold, Onida and Presho, S.D.)

Company/Brand	Hybrid	Plant Height	Harvest Moisture	Plant Lodge	Oil Content	Seed Yield
		(inch)	(%)	(%)	(%)	(lb/a)
Croplan	545 CL	63	10	13	42.4	2,089
Croplan	3080	64	9	17	43.8	1,818
Croplan	432 E	65	9	15	39.2	1,987
Croplan	548 CL	69	10	30	40.9	1,598
Sunopta/Dahlgren	4421	66	10	21	39.4	1,777
Sunopta/Dahlgren	4421CL	71	10	11	37.5	2,012
Legend	LSF 318NCL	62	9	12	39.6	1,750
Legend	LSF 9302HOCL	60	10	12	41.1	1,640
Legend	LSF 9418HOCL	60	10	5	41.3	2,008
Legend	LSF 9426NCL	66	11	11	42.7	2,291
Legend	LSF 9468NCL	61	11	8	42.8	2,012
Legend	LSF 9501	71	10	12	39.1	2,217
Legend	LSF 9505NCL	68	11	12	42.8	2,025
Legend	LSF 9534NCL	67	10	10	42.6	2,181
Legend	LSF 9536HOCL	62	10	11	42.6	2,039
Legend	LSF 9801NCL	64	10	31	43.6	1,583
Mycogen	8N421CLDM	67	10	12	41.9	1,938
Mycogen	8N510	64	9	8	41.9	1,920
Mycogen	E82558CP	42	10	10	44.6	1,852
Pioneer	63ME80	70	10	15	42.1	1,825
Proseed	E-21 CL	72	10	18	39.2	1,656
Proseed	E-31 CL	70	9	25	40.1	1,588
Proseed	E-362436	76	10	34	40.8	1,644
Proseed	E-85 CL	73	9	14	39.6	1,822
Nuseed/Seeds 2000	Badger	68	9	29	36.9	1,412
Nuseed/Seeds 2000	Badger DMR	69	9	20	35.3	1,588
Nuseed/Seeds 2000	Badger HO	66	9	20	34.2	1,405
Nuseed/Seeds 2000	Camaro II	69	11	12	43.0	2,178
Nuseed/Seeds 2000	Cobalt II	63	10	11	41.2	1,658
Nuseed/Seeds 2000	Daytona	62	10	6	41.4	1,831
Nuseed/Seeds 2000	Falcon	61	10	15	42.2	1,791
Nuseed/Seeds 2000	Hornet	63	10	21	41.9	1,949
Nuseed/Seeds 2000	NHK12M140	66	10	8	40.6	1,989
Nuseed/Seeds 2000	NHK12M141	65	10	14	41.3	1,722
Nuseed/Seeds 2000	NLK12M008	62	10	11	42.2	2,257
Nuseed/Seeds 2000	Torino	64	11	16	43.0	1,848
Syngenta	3733 NS/DM	61	9	22	40.8	1,658
Syngenta	3845 HO	61	9	11	42.4	1,718
Syngenta	3158 NS/CL/DM	60	10	12	42.2	1,936
Mean		65	10	15	41.0	1,852
CV %		5.6	4.4	54	3.2	12.5
LSD 0.05		3.1	0.4	7.4	1.1	193

Table 22. 2013 Sunflower - Non-oilseed - Means Across Two Locations (Harrold and Onida, S.D.).

Company/ Brand	Hybrid	Plant Height (inch)	Harvest Moisture (%)	Lodge (%)	Seed Over Screen			Nut- meat (%)	Seed Yield (lb/a)
					22/64	20/64	18/64		
CHS	10EXP01	61	10	29	47	75	88	50	1,528
CHS	12EXP01	66	11	13	74	86	92	52	1,874
CHS	13EXP02	71	11	32	50	74	88	51	1,650
CHS	13EXP03	71	11	18	58	79	88	53	2,121
Genosys	12GCF05	63	11	12	60	81	89	51	1,459
Genosys	12GCF12	74	11	23	66	81	86	61	1,648
Mycogen	8C451CP	59	10	18	61	81	88	58	1,657
Nuseed Global	5009	62	11	16	51	75	89	53	1,799
Nuseed/Seeds 2000	Jaguar	58	10	31	55	79	90	53	1,895
Nuseed/Seeds 2000	Jaguar DMR	55	10	20	51	77	88	51	1,737
Nuseed/Seeds 2000	Jaguar II	61	10	33	61	78	88	52	1,587
Nuseed/Seeds 2000	Jaguar XL	69	11	32	54	76	87	52	1,491
Nuseed/Seeds 2000	NSK12M048	66	11	28	79	89	93	54	1,579
Nuseed/Seeds 2000	X4334	63	10	50	57	82	91	54	1,207
Red River Comm.	2215	64	10	15	59	80	89	55	2,221
Red River Comm.	2215-CL	68	11	16	60	81	89	55	1,691
Red River Comm.	2217	58	10	19	66	84	90	56	1,614
Red River Comm.	8015	56	10	13	68	85	91	54	1,757
Sunopta/Dahlgren	9506CL	64	12	37	75	87	91	53	1,552
Sunopta/Dahlgren	9521	63	10	23	60	79	89	55	1,779
Sunopta/Dahlgren	9530CL	65	10	21	41	69	84	56	1,845
Sunopta/Dahlgren	9579	59	11	16	73	87	92	56	1,816
Sunopta/Dahlgren	9589CL	70	11	35	44	66	82	53	1,558
Sunopta/Dahlgren	9592CL+	57	11	24	66	82	88	57	1,650
USDA ¹	924	67	9	60	11	26	57	61	1,017
Mean		64	10	25	58	78	88	54	1,669
CV %		6.9	6.1	60	16.0	8.4	4.8	4.6	19.5
LSD 0.05		5.9	1.1	NS	12.7	8.6	5.2	4.4	NS

¹Long term hybrid check.**For more information on this and other topics, see: www.ag.ndsu.edu**NDSU encourages you to use and share this content, but please do so under the conditions of our Creative Commons license. You may copy, distribute, transmit and adapt this work as long as you give full attribution, don't use the work for commercial purposes and share your resulting work similarly. For more information, visit www.ag.ndsu.edu/agcomm/creative-commons.

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