

A652-22

North Dakota Sunflower

Variety Trial Results for 2022 and Selection Guide

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Introduction

In North Dakota, an estimated 715,000 acres of sunflowers were planted in 2022. There were 221,000 more sunflower acres planted compared with 2021. Table 1 contains acreage data for the past 22 growing seasons 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 2001-2022.

Year	Oil Type (1,000 acres)	Yield (lb/a)	Non-oil Type (1,000 acres)	Yield (lb/a)
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	500	1,380	61	1,250
2012	755	1,700	88	1,670
2013	400	1,260	71	1,360
2014	510	1,340	139	1,180
2015	605	1,470	97	1,850
2016	610	1,730	53	1,550
2017	381	1,650	42	1,800
2018	380	1,750	40	1,860
2019	440	1,500	54	1,650
2020	630	1,880	85	1,810
2021	450	1,590	32	1,450
2022	650	1,846 ¹	52	1,846 ¹

Source: National Agricultural Statistics Service (NASS).

¹Estimate by NASS for all sunflowers, October 2022.

2022 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 North Dakota Agricultural Experiment Station locations. A variety selection tool is available at <https://vt.ag.ndsu.edu/>.

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% probability (0.05 level) or 90% 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.

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 table. Only compare values within the table and look for trends for the desired trait among different experimental sites and years.

Sunflower harvest yields were adjusted to 10% moisture. 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 consider when 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 is very important.

Among similar-yielding oilseed hybrids, select the one with the highest oil content. **Oil content is intended to differentiate between hybrids at one location. LSD values should be used to determine differences between hybrids.** The oilseed crushing market pays a premium for more than 40% oil (at 10% moisture) and discounts for less than 40% oil.

Another factor to consider is the oil type. Hybrids are available with “traditional” (linoleic), midoleic (NuSun) and high-oleic oil composition. Markets may pay a premium based on the composition of the oil produced by a particular hybrid.

Maturity is especially important if planting is delayed. Yield and oil content often are reduced when a hybrid is damaged by frost before it is fully mature. Often, with delayed planting, only an early hybrid will mature and exhibit its full yield potential. An early hybrid likely will be drier at harvest than a later maturing hybrid, thus reducing drying costs.

The most economical and effective means of managing sunflower diseases and other pests is to plant resistant or tolerant hybrids and keep a minimum of four years of rotation between successive sunflower crops. Most commercial sunflower hybrids in the U.S. have resistance to downy mildew and rust. Some hybrids also may exhibit tolerance to *Phomopsis* stem canker, or sunflower midge. Clearfield® and ExpressSun™ hybrids are resistant to Beyond Xtra® and Express® herbicides, respectively. Consult the seed company for information on the reaction of a particular hybrid to diseases and other pests that may pose risks in your growing area.

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

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. Weather data for North Dakota are provided in Table 3.

Research specialists and technicians helped with the field work and data compilation. The assistance given by many secretaries in entering data in respective portions of the 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
Brevant Seeds	Brevant	www.brevant.com
CHS Royal Hybrid	CHS Royal Hyb.	www.chssunflower.com/product/hybrid-seed/products
Dairyland Seed	Dairyland	www.dairylandseed.com
DuPont Pioneer Hi-Bred	Pioneer	www.pioneer.com/us/products/sunflowers.html
Dyna-Gro Seed	Dyna-Gro	www.dynagroseed.com/seed-finder/sunflower
Nuseed Global/Americas	Nuseed	www.nuseed.com/sunflowers/
Proseed Inc.	Proseed	www.proseed.net/products/sunflower
RAGT Semences	RAGT	www.ragt-semences.fr/en-fr
Sunrich Products LLC	Sunrich	-----
U.S. Department of Agriculture	USDA	www.ars.usda.gov/plains-area/fargo-nd
Argensun S.A. / Valia Genetics	Valia	www.valiagenetics.com
WinField United - Croplan	Croplan	www.winfieldunited.com/products/winfield-united-seed/sunflower
WinField United - Croplan	Croplan	www.croplan.com

Table 3. April-September 2022 Average Temperature, Precipitation and Rankings for Select North Dakota Locations.

Location	Average Temperature (Ranking)	Total Precipitation (Ranking)
Bowman	59.2 F (52nd warmest period since 1915)	12.5 inches (49th wettest period since 1915)
Bismarck	61.7 F (36th warmest period since 1875)	12.7 inches (65th wettest period since 1875)
Cavalier	56.8 F (21st coolest period since 1934)	20.9 inches (8th wettest period since 1927)
Fargo	60 F (68th coolest period since 1881)	16.9 inches (58th wettest period since 1881)
Minot Exp. Station	58.3 F (53rd warmest period since 1905)	15.1 inches (30th wettest period since 1894)
Williston Exp. Station	60 F (49th warmest period since 1894)	11.7 inches (49th wettest period since 1894)
North Dakota Average ¹	58.7 F (58th warmest period since 1895)	15.1 inches (38th wettest period since 1895)

Source: Adnan Akyüz, NDSU, North Dakota state climatologist.
¹Statewide values are calculated based on all available locations in North Dakota rather than the mathematical average of the list above.

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Table 4. 2022 Sunflower - Non-oilseed Hybrids With Locations Where Tested.

Company/		Location in which the hybrid has been tested						
Brand	Hybrid	Fargo	Carrington	Langdon	Hettinger	Minot	Williston-Irr.	Williston
CHS Royal Hyb.	14-EXP02	x	--	--	--	--	--	--
CHS Royal Hyb.	20-EXP03	--	x	--	--	--	--	--
CHS Royal Hyb.	21-EXP01	x	x	--	--	--	--	--
CHS Royal Hyb.	22-EXP05	x	--	--	--	--	--	--
CHS Royal Hyb.	RH609CLP	--	x	--	--	--	--	--
Nuseed	NDKM15700	--	x	x	--	--	--	--
Nuseed	NDKM16761	--	x	x	--	--	--	--
Nuseed	NJKM65823	--	x	x	--	--	--	--
Nuseed	Panther DMR	--	x	x	--	--	--	--
Sunrich	SS90	x	x	x	x	x	x	x
Sunrich	SS91	x	x	x	x	x	x	x
Valia	H8016EXP	x	x	--	--	--	--	--
Valia	H8117EXP	x	x	--	--	--	--	--
Valia	H9015EXP	x	x	--	--	--	--	--
Valia	H9118EXP	x	x	--	--	--	--	--
Valia	NTC418 XL	x	x	--	--	--	--	--
Valia	NTC99 CL	x	x	--	--	--	--	--
Valia	Valia 41	x	x	--	--	--	--	--
USDA	Hybrid 924 ¹	x	x	x	--	x	--	--

¹Long-term hybrid check.

Table 5. 2022 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						Williston Irrigated
			Fargo	Carrington	Langdon	Minot	Hettinger	Williston	
Brevant	B8H307CL	HO, CL	--	--	--	X	--	--	--
Brevant	B8H395E	HO, EX	--	--	--	X	--	--	--
Brevant	B8H401E	HO, EX	--	--	--	X	--	--	--
Brevant	B8M390E	MO, EX	--	--	--	X	--	--	--
CHS Royal Hyb.	8D410CL	HO, CL	X	--	--	--	--	--	--
Croplan	CP3845	HO, --	X	X	X	X	X	--	--
Croplan	CP432E	NS, EX	X	X	X	X	X	X	--
Croplan	CP450E	HO, EX	X	X	X	X	X	--	--
Croplan	CP455E	HO, EX	X	X	--	X	X	X	--
Croplan	CP4909E	NS, EX	X	X	X	X	X	--	--
Croplan	CP5045CL	NS, CL	X	X	--	X	--	--	--
Croplan	CP545CL	NS, CL	--	X	X	X	--	--	--
Croplan	CP7919CL	HO, CL	X	X	X	X	--	--	--
Dairyland	D670CL	HO, CL	--	X	--	--	--	--	--
Dairyland	D687HO	HO, EX	--	X	--	--	--	--	--
Dairyland	D690MO	MO, EX	--	X	--	--	--	--	--
Dyna-Gro	H42HO18CL	HO, CL	X	X	X	X	X	X	X
Dyna-Gro	H44HO12CL	HO, CL	--	--	--	--	X	--	--
Dyna-Gro	H45HO10EX	HO, EX	X	X	X	X	X	X	X
Dyna-Gro	H45NS16CIL	NS, CL	X	X	X	X	X	X	--
Dyna-Gro	H47HO11EX	HO, EX	X	X	X	X	X	X	X
Dyna-Gro	H49HO19CL	HO, CL	X	X	X	X	X	X	X
Dyna-Gro	H49NS14CL	NS, CL	X	X	X	X	X	X	--
Dyna-Gro	H50HO20CP	HO, CP	X	X	X	X	--	X	X
Dyna-Gro	XH21H57EX	HO, EX	--	X	--	--	--	--	--
Dyna-Gro	XH21H58CL	HO, CL	X	X	--	--	--	--	--
Dyna-Gro	XH22H66EX	HO, EX	--	X	--	--	--	--	--
Dyna-Gro	XH81N62EX	NS, EX	X	X	--	--	--	--	--
Dyna-Gro	XH82H65EX	HO, EX	--	X	--	--	--	--	--
Nuseed	N4H302 E	HO, EX	X	X	X	X	X	X	X
Nuseed	N4H422 CL	HO, CL	X	X	X	X	X	X	--
Nuseed	N4H470 CLP	HO, CP	X	X	X	X	X	X	X
Nuseed	N4H521 CL	HO, CL	X	X	--	X	X	--	--
Pioneer	P63HE501	HO, EX	--	--	X	--	--	--	--
Pioneer	P63HE920	HO, EX	X	X	X	--	--	--	--
Pioneer	P64HE101	HO, EX	X	X	--	--	--	--	--
Proseed	12G25 CL	HO, CL	X	X	X	X	X	--	--
Proseed	50016 CL	HO, CP	X	X	X	X	X	--	--
Proseed	E-91 E	HO, EX	X	X	X	X	X	--	--
Proseed	E-93 E	--, EX	X	--	--	--	--	--	--
Proseed	EXP 2300 CP	--, CP	X	--	--	--	--	--	--
Proseed	EXP 2346-E	--, EX	X	--	--	--	--	--	--
RAGT	AC2101	HO, CP	X	X	X	X	X	--	--
RAGT	AC2201	HO, CL	X	X	X	X	X	--	--
RAGT	AC2202	--	X	--	--	--	--	--	--

Table 5. 2022 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						Williston Irrigated
			Fargo	Carrington	Langdon	Minot	Hettinger	Williston	
Sunrich	4415	HO, CP	x	x	x	x	x	x	x
Sunrich	4425 CL	HO, CL	x	x	x	x	x	x	x
Sunrich	GP25 CL	HO, CL	x	x	--	--	x	x	--
Valia	D2101EXP	--	x	--	--	--	--	--	--
Valia	D2201EXP	--	x	--	--	--	--	--	--
Valia	R2002EXP	--	x	--	--	--	--	--	--
USDA	Honeycomb NS ²	NS	x	x	x	x	x	--	--
Mycogen	8N270CLDM ³	NS, CL	x	x	x	x	x	--	--
Croplan	559CL ⁴	NS, CL	x	x	x	x	x	--	--
Nuseed	Falcon ⁴	NS, EX	x	x	x	x	x	x	x
USDA	Hybrid 894 ⁵	Trad.	x	x	x	x	x	--	--

¹Hybrid type provided by companies; some hybrids may have additional traits.

HO = high oleic, MO = mid-oleic, NS = NuSun, Trad. = traditional (linoleic), -- = not available.

EX = ExpressSun, CL = Clearfield, CP = Clearfield plus.

²Honeycomb NS = early-maturing check

³8N270CLDM = medium-maturing check.

⁴559CL and Falcon = Late-maturing checks.

⁵Hybrid 894 = long-term hybrid check.

Table 6. 2022 Sunflower - Oilseed - Fargo - Author, B. Hulke.

Company/ Brand	Hybrid	Days to Flower (DAP) ²	Days to PM (DAP) ²	Height (inch)	Test Wt. (lb/bu)	Seed Moisture (%)	Oil Content (%)	Seed Yield (lb/a)	Hulling Screen ¹
CHS Royal Hyb.	8D410CL	69	116	74	33.1	7.2	39.6	2,045	Exc
Croplan	CP3845	70	112	65	34.2	7.2	47.5	2,783	Poor
Croplan	CP432E	63	110	65	34.0	6.8	39.6	1,995	Poor
Croplan	CP450E	69	117	71	33.6	7.4	42.0	2,539	Average
Croplan	CP455E	67	112	68	34.4	7.0	43.8	2,241	Poor
Croplan	CP4909E	68	114	67	36.0	7.0	43.1	2,430	Poor
Croplan	CP545CL	69	117	69	34.7	8.6	44.7	3,058	Poor
Croplan	CP7919CL	69	118	68	34.4	8.9	46.0	3,057	Average
Dyna-Gro	H42HO18CL	68	114	66	35.0	6.8	43.9	1,797	--
Dyna-Gro	H45HO10EX	67	113	71	32.2	7.2	45.6	2,329	--
Dyna-Gro	H45NS16CL	65	112	66	35.6	6.9	46.3	2,232	--
Dyna-Gro	H47HO11EX	69	116	76	34.7	7.4	43.8	2,221	--
Dyna-Gro	H49HO19CL	71	116	69	32.6	8.2	45.7	2,625	--
Dyna-Gro	H49NS14CL	72	117	67	34.3	9.1	45.0	2,341	--
Dyna-Gro	H50HO20CP	69	116	70	35.8	7.8	46.8	2,913	--
Dyna-Gro	XH21H58CL	69	110	67	32.8	7.2	46.0	2,209	--
Dyna-Gro	XH81N62EX	69	114	73	35.2	7.1	43.1	2,136	--
Nuseed	Falcon	69	113	64	36.2	7.0	44.7	2,590	--
Nuseed	N4H302 E	67	114	72	32.6	7.3	45.0	2,303	--
Nuseed	N4H422 CL	67	118	72	35.6	8.1	43.3	2,898	--
Nuseed	N4H470 CLP	69	118	67	35.6	7.5	47.0	2,673	--
Nuseed	N4H521 CL	69	117	70	33.7	8.9	43.3	3,005	--
Pioneer	P63HE920	68	115	66	35.7	7.6	42.5	2,842	Poor
Pioneer	P64HE101	68	119	68	34.8	8.5	41.0	3,352	Poor
Proseed	50016	69	114	67	32.8	7.0	42.8	2,276	--
Proseed	12G25	66	110	66	34.7	7.2	46.6	2,539	--
Proseed	E-91	70	113	76	33.8	7.1	42.1	2,413	--
Proseed	E-93	74	117	73	30.7	6.8	34.3	1,095	--
Proseed	EXP 2300 CP	67	116	72	34.3	6.7	40.6	1,874	--
Proseed	EXP 2346-E	72	114	76	32.8	7.7	43.2	2,388	--
RAGT	AC2101	67	114	73	34.0	7.4	42.4	2,418	--
RAGT	AC2201	67	117	74	35.2	7.2	41.8	2,494	--
RAGT	AC2202	67	119	73	35.1	7.4	42.1	2,567	--
Sunrich	4415	67	113	73	34.3	7.6	41.6	2,730	--
Sunrich	4425 CL	68	116	76	32.4	7.0	38.8	2,066	--
Sunrich	GP25 CL	68	116	77	32.8	7.4	39.8	2,295	--
Valia	D2101EXP	73	119	78	29.5	7.6	38.2	2,289	Exc
Valia	D2201EXP	72	119	80	28.5	7.8	37.9	2,185	Exc
Valia	R2002EXP	73	115	85	27.7	7.2	36.5	2,028	Exc
USDA	Honeycomb NS ³	58	101	59	33.4	6.5	40.1	1,324	--
USDA	Hybrid 894 ⁴	66	110	65	34.9	7.1	43.3	2,409	--
Mean		68	115	71	33.7	7.4	42.7	2,390	--
CV %		1.2	1.2	4.2	2.6	5.9	3.3	13.6	--
LSD 0.05		1.0	2.0	5.0	1.4	0.7	2.3	528	--
LSD 0.10		1.0	2.0	4.0	1.2	0.6	1.9	442	--

Planted: May 24. Harvested: Oct. 18. Previous crop: soybean.

¹Hulling screen: Exc. = 65% of seed over a 14/64 inch screen; Average = 75% of seed over a 13/64 inch screen; Poor = meets neither criteria.²Days after planting. Maturity checks: Honeycomb NS = 101 DAP, 8N270CLDM = 106 DAP, Falcon = 113 DAP, 559CL = 115 DAP.³Early maturing check.⁴Long-term hybrid check.

Table 7. 2022 Sunflower - Non-oilseed - Fargo - Author, B. Hulke.

Company/ Brand	Hybrid	Days to	Days to	Test Wt.	Seed Moisture	Seed Yield	Seed over screen			Seed size		Nut- meat	
		Flower (DAP) ¹	PM (DAP) ¹				Height (inch)	22/64	20/64	18/64	L		W
CHS Royal Hyb.	14-EXP02	68	113	67	26.0	9.8	2,624	76	85	88	20	9	50.7
CHS Royal Hyb.	21-EXP01	67	116	69	22.5	8.4	2,608	76	87	92	21	9	49.0
CHS Royal Hyb.	22-EXP05	75	125	68	23.8	10.2	3,803	69	74	77	23	10	45.1
Sunrich	SS90	64	116	58	27.2	13.4	2,423	28	48	69	15	9	52.2
Sunrich	SS91	68	120	65	25.5	9.2	3,440	57	80	89	18	8	52.2
Valia	H8016EXP	74	122	81	24.2	12.4	3,612	74	83	85	23	9	52.4
Valia	H8117EXP	71	122	82	23.0	12.4	2,811	76	84	87	22	9	49.3
Valia	H9015EXP	68	119	65	24.3	9.9	2,926	76	81	84	22	11	47.4
Valia	H9118EXP	72	118	68	23.8	10.7	3,417	79	87	89	21	9	47.1
Valia	NTC418 XL	69	115	68	22.3	8.8	3,199	74	82	85	22	9	49.8
Valia	NTC99 CL	70	117	73	26.5	9.8	3,656	63	83	89	18	8	53.6
Valia	Valia 41	70	117	71	25.2	10.3	3,736	68	87	93	20	8	52.2
USDA	Hybrid 924 ²	67	115	66	29.1	10.4	2,867	19	54	75	13	8	55.4
Mean		69	118	69	24.9	10.4	3,163	64	78	85	20	9	50.5
CV %		1.3	1.4	5.1	4.7	10.8	17.0	--	--	--	--	--	--
LSD 0.05		2.0	4.0	9.0	3.1	3.0	1473	--	--	--	--	--	--
LSD 0.10		2.0	3.0	7.0	2.5	2.4	1193	--	--	--	--	--	--

Planted: May 24. Harvested: Oct. 18. Previous crop: soybean.

¹Days after planting. Maturity checks: Honeycomb NS = 101 DAP, 8N270CLDM = 106 DAP, Falcon = 113 DAP, 559CL = 115 DAP.²Long-term hybrid check.

Table 8. 2022 Sunflower - Fatty Acid Trial - Fargo - Author, B. Hulke.

Company/ Brand		Hybrid	Type ¹	Palmitic		Stearic		Oleic		Linoleic	
----- % ± SEM -----											
CHS Royal Hyb.	8D410CL	HO	3.0	± 0.1	3.2	± 0.2	81.5	± 2.2	12.3	± 2.0	
Croplan	CP3845	HO	3.5	± 0.1	2.3	± 0.1	90.1	± 1.4	4.0	± 1.4	
Croplan	CP432E	NS	4.4	± 0.2	3.9	± 0.1	72.6	± 2.8	19.2	± 2.7	
Croplan	CP450E	HO	3.6	± 0.1	4.5	± 0.1	89.4	± 0.5	2.6	± 0.5	
Croplan	CP455E	HO	3.6	± 0.1	3.7	± 0.1	90.5	± 0.3	2.0	± 0.2	
Croplan	CP4909E	NS	5.0	± 0.2	3.4	± 0.2	50.7	± 4.6	40.8	± 4.3	
Croplan	CP545CL	NS	4.7	± 0.2	2.3	± 0.1	66.5	± 4.4	26.5	± 4.1	
Croplan	CP7919CL	HO	3.5	± 0.1	3.0	± 0.1	90.9	± 0.8	2.5	± 0.7	
Dyna-Gro	H42HO18CL	HO	3.1	± 0.1	1.9	± 0.0	84.1	± 2.3	10.9	± 2.3	
Dyna-Gro	H45HO10EX	HO	2.9	± 0.1	2.3	± 0.1	91.7	± 0.7	3.0	± 0.6	
Dyna-Gro	H47HO11EX	HO	3.5	± 0.2	2.9	± 0.1	88.6	± 1.9	4.6	± 1.8	
Dyna-Gro	H49HO19CL	HO	3.6	± 0.1	2.0	± 0.0	91.9	± 0.6	2.4	± 0.6	
Dyna-Gro	H50HO20CP	HO	3.6	± 0.1	2.8	± 0.1	91.9	± 0.3	1.7	± 0.2	
Dyna-Gro	XH21H58CL	HO	4.5	± 0.2	2.2	± 0.1	77.7	± 3.3	15.6	± 3.1	
Nuseed	N4H302 E	HO	3.7	± 0.1	2.9	± 0.1	91.9	± 0.2	1.6	± 0.1	
Sunrich	4415	HO	4.1	± 0.1	3.1	± 0.1	90.4	± 0.2	2.1	± 0.1	
Sunrich	4425 CL	HO	3.6	± 0.1	3.9	± 0.2	85.1	± 0.7	7.4	± 0.7	
Sunrich	GP25 CL	HO	3.3	± 0.1	3.8	± 0.1	86.7	± 0.8	6.2	± 0.9	
Sunrich	SS90	HO	2.9	± 0.1	1.6	± 0.1	85.9	± 1.1	9.5	± 1.1	
Sunrich	SS91	HO	3.2	± 0.1	1.6	± 0.1	83.1	± 1.4	12.2	± 1.4	

¹HO = high oleic, NS = NuSun.

Table 9. 2022 Sunflower - Oilseed - Carrington - Authors, M. Ostlie, K. Simons and E. Aberle.

Company/ Brand	Hybrid	Days to Flower (DAP) ¹	Days to Maturity (DAP) ¹	Plant Height (inch)	Test Weight (lb/bu)	Oil Content (%)	Seed Yield	
							2022	2-yr. Avg. ------(lb/a)-----
Croplan	CP3845	64	117	60	28.8	43.4	1,938	1,448
Croplan	CP432E	61	120	59	29.8	40.2	2,137	1,642
Croplan	CP450E	65	122	65	28.5	40.7	1,600	1,456
Croplan	CP455E	65	121	66	28.8	41.6	1,751	1,453
Croplan	CP4909E	66	118	63	29.6	41.6	1,615	1,427
Croplan	CP5045CL	67	120	62	28.7	42.5	2,219	1,736
Croplan	CP545CL	67	121	59	28.4	42.1	2,191	--
Croplan	CP7919CL	66	122	63	28.3	42.3	2,609	1,903
Dairyland	D670CL	63	120	65	28.9	42.7	2,405	--
Dairyland	D687HO	64	123	64	29.8	41.7	2,157	--
Dairyland	D690MO	68	123	69	29.2	42.8	2,258	--
Dyna-Gro	H42HO18CL	63	119	56	28.8	41.2	1,432	1,132
Dyna-Gro	H45HO10EX	63	117	58	27.4	41.3	1,981	1,478
Dyna-Gro	H45NS16CL	62	117	57	28.8	42.6	1,746	1,370
Dyna-Gro	H47HO11EX	66	123	69	31.1	43.2	2,446	1,871
Dyna-Gro	H49HO19CL	69	121	62	27.0	42.2	2,438	1,700
Dyna-Gro	H49NS14CL	68	120	61	28.4	41.6	2,841	1,943
Dyna-Gro	H50HO20CP	67	122	63	28.7	43.6	2,265	--
Dyna-Gro	XH21H57EX	67	117	61	27.1	42.3	1,484	--
Dyna-Gro	XH21H58CL	66	114	59	26.6	41.2	1,563	--
Dyna-Gro	XH22H66EX	64	123	66	30.4	42.2	2,248	--
Dyna-Gro	XH81N62EX	68	122	64	29.5	40.8	1,728	1,448
Dyna-Gro	XH82H65EX	64	117	64	28.5	41.3	1,479	--
Nuseed	Falcon	65	119	56	29.1	42.9	2,404	1,757
Nuseed	N4H302 E	63	117	65	26.5	41.6	2,084	1,500
Nuseed	N4H422 CL	65	121	65	27.8	41.1	2,434	1,812
Nuseed	N4H470 CP	68	121	65	28.3	44.1	1,629	1,281
Nuseed	N4H521 CL	68	123	63	28.2	42.4	2,532	--
Pioneer	P63HE920	66	120	62	30.5	40.5	1,862	--
Pioneer	P64HE101	67	121	66	29.3	40.1	2,074	1,657
Proseed	50016 CL	67	118	65	28.0	42.8	2,146	1,471
Proseed	12G25	64	118	61	28.4	43.4	2,180	1,655
Proseed	E-91	68	115	68	27.8	41.1	1,881	1,403
RAGT	AC2101	66	118	66	27.0	39.9	1,753	1,351
RAGT	AC2201	66	122	68	28.7	41.1	1,915	--
Sunrich	4415	65	116	64	27.3	40.7	1,993	1,410
Sunrich	4425CL	65	121	67	28.0	39.0	2,065	1,616
Sunrich	GP25 CL	65	121	65	27.7	38.9	2,495	--
USDA	Honeycomb NS ²	63	117	58	28.9	38.0	1,645	1,238
Mycogen	8N270CLDM ³	64	119	60	29.8	42.6	1,912	--
Croplan	559CL ⁴	68	119	64	28.5	41.9	2,299	1,684
USDA	Hybrid 894 ⁵	65	118	65	29.0	40.9	2,250	1,489
Mean		65	120	63	28.6	41.6	2,050	1,548
CV %		2.2	1.9	5.8	2.8	3.3	13.0	--
LSD 0.05		2.1	3.2	5.2	1.1	1.9	279	--
LSD 0.10		1.7	2.7	4.3	0.9	1.6	234	--

Planted: June 6. Harvested: Oct. 19. Previous crop: spring wheat.

¹Days after planting.²Early maturing check, ³Medium-maturing check, ⁴Late-maturing check and ⁵Long-term hybrid check.

Table 10. 2022 Sunflower - Oilseed - Hettinger - Authors, J. Rickertsen and M. Wells.

Company/ Brand	Hybrid	Days to Flower (DAP) ¹	Plant Height (inch)	Test Weight (lb/bu)	Oil Content (%)	Seed Yield		
						2022	2-yr. Avg.	3-yr. Avg.
						----- (lb/a) -----		
Croplan	CP3845	68	65	30.7	44.1	2,899	3,190	2,576
Croplan	CP432E	65	66	30.2	38.3	2,540	2,074	1,955
Croplan	CP450E	70	71	29.4	39.8	2,869	3,067	2,737
Croplan	CP455E	68	66	30.4	43.4	3,175	3,366	2,984
Croplan	CP4909E	69	61	31.8	42.8	2,585	2,775	2,517
Dyna-Gro	H42HO18CL	67	64	28.8	43.2	2,073	2,384	2,165
Dyna-Gro	H44HO12CL	70	75	30.8	44.5	2,755	2,668	2,448
Dyna-Gro	H45HO10EX	68	69	27.8	44.2	2,437	2,673	2,343
Dyna-Gro	H45NS16CL	66	67	31.2	43.7	2,677	2,715	2,466
Dyna-Gro	H47HO11EX	69	79	31.5	42.8	2,744	2,879	--
Dyna-Gro	H49HO19CL	71	73	29.0	40.4	3,061	3,277	2,853
Dyna-Gro	H49NS14CL	70	64	30.2	43.2	2,717	3,097	2,642
Nuseed	Falcon	69	64	31.3	44.4	2,450	2,717	2,472
Nuseed	N4H302 E	67	67	27.5	42.5	2,431	2,737	2,431
Nuseed	N4H422 CL	68	77	30.0	42.0	2,699	3,084	2,645
Nuseed	N4H470 CLP	71	72	31.3	44.8	3,008	3,430	2,894
Nuseed	N4H521 CL	70	70	28.5	45.2	3,019	3,192	2,899
Proseed	12G25 CL	68	65	32.4	42.8	2,585	2,902	2,650
Proseed	50016 CL	69	66	28.1	42.3	2,413	2,833	2,515
Proseed	E-91 E	70	75	30.1	39.4	2,847	2,852	2,476
RAGT	AC2101	68	72	27.1	39.6	2,159	2,726	--
RAGT	AC2201	70	73	30.5	41.5	2,445	--	--
Sunrich	4415	68	75	28.1	40.5	2,581	2,766	2,433
Sunrich	4425 CL	68	74	29.0	36.9	2,808	3,322	2,814
Sunrich	GP25 CL	68	74	27.9	38.4	2,913	3,224	2,772
USDA	Honeycomb NS ²	62	61	26.9	36.5	1,443	1,107	1,250
Mycogen	8N270CLDM ³	64	62	31.4	42.9	2,245	2,049	1,896
Croplan	559CL ⁴	69	75	30.4	42.6	3,271	3,368	2,508
USDA	Hybrid 894 ⁵	68	69	29.5	43.7	2,239	2,538	2,131
Mean		68	69	29.7	41.9	2,624	2,822	2,480
CV %		1.0	5.1	2.7	2.6	9.4	11.9	15.9
LSD 0.05		0.8	4.1	0.9	1.3	330	688	648
LSD 0.10		0.6	3.2	0.7	1.0	256	571	541

Planted: June 1. Harvested: Oct. 21. Previous crop: wheat.

¹Days after planting.²Early maturing check, ³Medium-maturing check, ⁴Late-maturing check and ⁵Long-term hybrid check.

Table 11. 2022 Sunflower - Oilseed - Langdon - Authors, B. Hanson, L. Henry and R. Duerr.

Company/ Brand	Hybrid	Days to	Days to	Plant	Test	Oil	Seed Yield	
		Flower (DAP) ¹	Maturity (DAP) ¹	Height (inch)	Weight (lb/bu)	Content (%)	2022	2-yr. Avg. ²
							------(lb/a)-----	
Croplan	CP3845	74	112	63	31.2	46.2	2,469	2,869
Croplan	CP432E	71	113	59	31.6	43.6	2,989	3,201
Croplan	CP450E	76	119	62	31.0	45.2	2,589	3,187
Croplan	CP455E	74	116	64	31.2	44.9	2,814	3,120
Croplan	CP4909E	76	114	58	32.9	45.4	2,621	2,911
Croplan	CP545CL	75	116	55	31.6	44.6	2,574	2,980
Croplan	CP7919CL	75	117	62	29.7	48.2	2,630	--
Dyna-Gro	H42HO18CL	73	116	54	32.7	45.7	2,650	2,929
Dyna-Gro	H45HO10EX	73	113	58	28.1	44.4	2,437	2,836
Dyna-Gro	H45NS16CL	72	112	54	33.9	47.4	3,045	3,331
Dyna-Gro	H47HO11EX	75	115	69	32.9	43.5	2,534	--
Dyna-Gro	H49HO19CL	77	116	58	29.3	45.8	2,734	3,129
Dyna-Gro	H49NS14CL	77	115	57	31.3	46.1	2,456	--
Dyna-Gro	H50HO20CP	76	116	59	31.6	47.6	2,533	--
Nuseed	Falcon	76	112	56	32.1	46.3	2,550	2,753
Nuseed	N4H302 E	73	112	58	27.9	44.3	2,550	2,814
Nuseed	N4H422 CL	73	114	61	30.1	44.5	2,720	2,940
Nuseed	N4H470 CLP	76	117	56	31.6	48.4	2,409	2,766
Pioneer	P63HE501	75	113	58	29.9	38.1	2,009	2,651
Pioneer	P63HE920	75	114	61	32.6	42.2	2,618	--
Proseed	12G25 CL	73	113	62	30.9	45.2	2,925	3,006
Proseed	50016 CL	75	116	64	30.4	44.9	2,633	2719
Proseed	E-91 E	76	113	71	31.9	45.9	2,622	2,918
RAGT	AC2101	74	114	65	29.0	42.8	2,483	--
RAGT	AC2201	75	116	65	31.6	45.4	2,795	--
Sunrich	4415	74	115	62	28.5	43.0	2,651	--
Sunrich	4425 CL	74	111	67	30.4	40.4	2,768	--
USDA	HoneyComb NS ³	64	101	53	30.6	40.9	2,489	2,787
Mycogen	8N270CLDM ⁴	68	107	57	32.4	44.7	2,008	2,546
Croplan	559CL ⁵	76	115	67	30.2	46.7	2,637	3,018
USDA	Hybrid 894 ⁶	73	114	56	31.4	45.0	2,797	2,930
Mean		74	114	60	31.0	44.7	2,604	2,934
CV %		0.8	0.9	2.3	2.3	2.0	9.3	--
LSD 0.05		0.6	1.1	1.5	0.7	1.0	256	--
LSD 0.10		0.8	1.3	1.9	0.8	1.2	307	--

Planted: May 27. Harvested: Oct. 20. Previous crop: wheat.

¹Days after planting.²2-yr yield average includes 2020 and 2022.³Early maturing check, ⁴Medium-maturing check, ⁵Late-maturing check and ⁶Long-term hybrid check.

Table 12. 2022 Sunflower - Oilseed - Minot - Authors, E. Eriksmoen, A. Kraklau and J. Hansen.

Company/ Brand	Hybrid	Days to	Days to	Plant	Test	Oil	Seed Yield	
		Flower (DAP) ¹	Maturity (DAP) ¹	Height (inch)	Weight (lb/bu)	Content (%)	2022	2-yr. Avg. ²
							------(lb/a)-----	
Brevant	B8H307CL	69	106	57	31.9	46.4	2,376	--
Brevant	B8H395E	69	106	62	31.4	45.8	2,450	--
Brevant	B8H401E	69	106	55	31.7	45.0	2,474	--
Brevant	B8M390E	73	109	62	30.5	45.6	2,692	--
Croplan	CP3845	73	110	51	31.9	49.0	2,067	--
Croplan	CP432E	66	103	49	30.9	39.7	1,748	1,766
Croplan	CP450E	71	107	58	31.0	41.8	2,761	2,163
Croplan	CP455E	70	107	53	31.6	44.7	2,663	2,150
Croplan	CP4909E	72	110	56	32.4	44.9	2,269	2,001
Croplan	CP5045CL	74	110	53	32.1	45.0	2,343	--
Croplan	CP545CL	74	106	54	31.2	43.8	2,647	2,364
Croplan	CP7919CL	73	109	54	29.7	45.9	3,048	--
Dyna-Gro	H42HO18CL	70	105	50	32.3	44.1	1,942	2,009
Dyna-Gro	H45HO10EX	70	110	49	29.0	43.6	1,850	1,626
Dyna-Gro	H45NS16CL	70	106	46	33.4	47.9	1,721	1,837
Dyna-Gro	H47HO11EX	73	109	60	32.1	44.0	2,078	--
Dyna-Gro	H49HO19CL	75	106	50	30.3	46.1	2,338	2,105
Dyna-Gro	H49NS14CL	75	110	51	30.6	45.4	2,000	--
Dyna-Gro	H50HO20CP	72	108	55	31.2	48.4	2,242	--
Nuseed	Falcon	73	108	51	32.6	46.4	2,150	1,978
Nuseed	N4H302 E	70	108	55	29.2	45.0	2,485	1,937
Nuseed	N4H422 CL	72	109	49	30.4	43.7	2,725	2,364
Nuseed	N4H470 CLP	74	110	57	31.1	48.8	3,071	2,414
Nuseed	N4H521 CL	73	110	54	30.4	45.4	2,650	--
Proseed	12G25 CL	72	110	54	31.5	45.8	1,798	--
Proseed	50016 CL	73	109	54	29.8	43.5	2,292	--
Proseed	E-91	76	109	68	30.7	42.2	2,176	1,792
RAGT	AC2101	72	111	59	27.8	41.6	1,891	--
RAGT	AC2201	74	111	58	32.1	43.0	2,203	--
Sunrich	4415	71	105	54	29.5	42.4	2,333	2,155
Sunrich	4425CL	71	106	56	29.4	39.0	2,119	2,036
USDA	Honeycomb NS ³	63	103	48	31.7	43.0	793	--
Mycogen	8N270CLDM ⁴	69	105	46	32.2	43.6	1,041	--
Croplan	559CL ⁵	73	110	61	32.2	46.5	2,328	--
USDA	Hybrid 894 ⁶	71	106	51	31.4	44.6	1,254	--
Mean		72	108	54	31.1	44.6	2,201	2,044
CV %		1.2	1.0	3.9	1.1	1.4	12.6	--
LSD 0.05		1.0	2.0	3.0	0.5	1.0	441	--
LSD 0.10		1.0	1.0	3.0	0.4	0.8	369	--

Planted: May 24. Harvested: Oct. 14. Previous crop: oat.

¹Days after planting.²2-yr yield average includes 2020 and 2022.³Early maturing check, ⁴Medium-maturing check, ⁵Late-maturing check and ⁶Long-term hybrid check.

Table 13. 2022 Sunflower - Non-oilseed - Carrington - Authors, M. Ostlie, K. Simons and E. Aberle.

Company/ Brand	Hybrid	Days to	Days	Plant	Seed Over Screen			Test	Seed Yield	
		Flower	to PM	Height	22/64	20/64	18/64	Weight	2022	2-yr. Avg.
		(DAP) ¹	(DAP) ¹	(inch)	(%)	(%)	(%)	(lb/bu)	----- (lb/a) -----	
CHS Royal Hyb.	20-EXP03	62	121	65	71	88	95	23.2	1,911	1,574
CHS Royal Hyb.	21-EXP01	64	122	66	64	87	95	22.9	2,794	1,928
CHS Royal Hyb.	RH609CLP	67	118	70	71	89	95	23.1	1,899	1,689
Nuseed	NDKM15700	60	110	61	55	83	93	22.6	1,435	--
Nuseed	NDKM16761	61	112	60	55	74	83	23.5	1,279	--
Nuseed	NJKM65823	64	119	62	40	67	86	25.3	1,615	--
Nuseed	Panther DMR	61	116	58	40	74	92	23.6	1,749	--
Sunrich	SS90	61	122	65	28	55	78	26.5	2,122	1,629
Sunrich	SS91	66	123	71	44	72	91	24.8	2,567	1,916
Valia	H8016EXP	72	124	77	66	85	93	22.3	2,822	--
Valia	H8117EXP	69	124	73	69	85	93	22.8	2,721	--
Valia	H9015EXP	67	122	68	73	86	92	22.0	1,560	--
Valia	H9118EXP	68	124	71	78	86	92	22.8	2,565	--
Valia	NTC418 XL	65	119	69	75	91	96	21.6	2,819	--
Valia	NTC99 CL	66	120	71	66	88	95	23.2	2,245	--
Valia	Valia 41	68	118	69	59	79	93	24.0	1,912	1,664
USDA	Hybrid 924 ²	66	119	67	--	--	--	28.0	2,198	1,716
Mean		65	119	67	60	81	91	23.6	2,130	1,731
CV (%)		1.8	0.8	6.2	14	5.0	2.9	4.9	19.1	--
LSD 0.05		1.6	1.4	5.9	7.2	4.1	2.9	1.6	410	--
LSD 0.10		1.4	1.2	4.9	6.0	3.4	2.4	1.3	342	--

Planted: June 6. Harvested: Oct. 20. Previous crop: spring wheat.

¹Days after planting.²Long-term hybrid check.**Table 14. 2022 Sunflower - Non-oilseed - Hettinger - Authors, J. Rickertsen and M. Wells.**

Company/ Brand	Hybrid	Days to	Plant	Seed Over Screen			Test	Seed Yield	
		Flower	Height	22/64	20/64	18/64	Weight	2022	2-yr. Avg.
		(DAP) ¹	(inch)	(%)	(%)	(%)	(lb/bu)	----- (lb/a) -----	
Sunrich	SS90	64	71	34	75	97	23.4	1,531	2,056
Sunrich	SS91	66	72	42	80	97	22.3	1,670	2,215
Mean		65	71	38	77	97	22.8	1,600	2,135
CV (%)		0.5	5.7	15.7	2.0	0.8	4	9.1	--
LSD 0.05		0.8	NS	NS	3.6	NS	NS	NS	--
LSD 0.10		0.6	NS	NS	2.6	NS	NS	NS	--

Planted: June 1. Harvested: Oct. 21. Previous crop: wheat.

¹Days after planting.

Table 15. 2022 Sunflower - Non-oilseed - Langdon - Authors, B. Hanson, L. Henry and R. Duerr.

Company/ Brand	Hybrid	Days to	Days to	Plant	Test	Seed Over Screen			Seed Yield
		Flower	Maturity	Height	Weight	22/64	20/64	18/64	2022
		(DAP) ¹	(DAP) ¹	(inch)	(lb/bu)	------(%)-----			(lb/a)
Nuseed	NDKM15700	69	110	57	23.7	23	69	89	2,413
Nuseed	NDKM16761	71	112	58	23.8	19	68	91	2,467
Nuseed	NJKM65823	74	115	62	26.6	28	69	88	2,952
Nuseed	Panther DMR	67	114	61	24.8	27	63	83	2,099
Sunrich	SS90	70	115	59	26.5	0	23	68	2,953
Sunrich	SS91	74	118	65	25.6	55	84	93	2,392
USDA	924 ²	72	113	63	26.9	3	24	64	2,690
Mean		71	114	61	25.4	22	57	82	2,567
CV %		1.7	1.2	4.3	3.1	18.7	8.6	5.1	7.5
LSD 0.05		1.7	2.0	3.9	1.2	9.3	8.3	6.3	193
LSD 0.10		1.4	1.7	3.2	1.0	7.7	6.8	5.3	159

Planted: May 27. Harvested: Oct. 20. Previous crop: wheat.

¹Days after planting.²Long-term hybrid check.**Table 16. 2022 Sunflower - Non-oilseed - Minot - Authors, E. Eriksmoen, A. Kraklau and J. Hansen.**

Company/ Brand	Hybrid	Days to	Days to	Plant	Test	Seed Over Screen			Seed Yield
		Flower	Maturity	Height	Weight	22/64	20/64	18/64	2022
		(DAP) ¹	(DAP) ¹	(inch)	(lb/bu)	------(%)-----			(lb/a)
Sunrich	SS91	73	112	61	24.2	25	40	82	2,687
Sunrich	SS90	70	110	52	25.6	13	33	59	1,716
USDA	924 ²	70	109	52	26.5	15	34	69	1,487
Mean		71	110	55	25.4	18	36	70	1,963
CV %		1.2	1.0	3.9	1.1	38.0	13.5	12.1	12.6
LSD 0.05		1.0	2.0	3.0	0.5	NS	NS	NS	441
LSD 0.10		1.0	1.0	3.0	0.4	NS	NS	15	369

Planted: May 24. Harvested: Oct. 14. Previous crop: oat.

¹Days after planting.²Long-term hybrid check.

Table 17. 2022 Sunflower - Oilseed and Non-oilseed - Williston - Author, G. Pradhan and C. Sperling.

Company/ Brand		Days to Flower	Days to Maturity	Plant Height	Oil Content	Test Weight	Seed Yield		
Hybrid		(DAP) ¹	(DAP) ¹	(inch)	(%)	(lb/bu)	2022	2-yr. Avg.	3-yr Avg.
Oilseed							------(lb/a)-----		
Croplan	CP432E	62	105	51	38.1	33.1	1,075	1,165	--
Croplan	CP455E	66	113	53	40.5	31.4	1,039	1,224	1,486
Dyna-Grow	H42HO18CL	65	96	46	39.0	31.3	906	985	1,099
Dyna-Grow	H45HO10EX	65	103	52	38.7	29.4	1,134	1,181	1,262
Dyna-Grow	H45NS16CL	65	100	50	40.8	31.8	955	1,289	1,258
Dyna-Grow	H47HO11EX	67	114	55	40.8	33.8	873	975	--
Dyna-Grow	H49HO19CL	70	104	50	38.2	28.7	894	--	--
Dyna-Grow	H49NS14CL	69	103	49	39.3	30.0	998	--	--
Dyna-Grow	H50HO20CP	68	115	51	41.7	32.5	896	--	--
Nuseed	Falcon	67	105	50	41.3	32.8	948	1,107	1,122
Nuseed	N4H302 E	65	99	54	38.8	29.3	921	--	--
Nuseed	N4H422 CL	67	111	54	38.7	31.9	989	1,312	1,270
Nuseed	N4H470 CLP	68	114	50	41.8	32.7	929	1,039	1,034
Sunrich	4415	67	100	56	37.4	30.6	853	987	--
Sunrich	4425 CL	65	105	55	34.3	31.2	1,199	1,329	--
Sunrich	GP25 CL	66	104	56	35.1	30.2	1,182	--	--
Non-oilseed									
Sunrich	SS90	61	99	54	--	26.6	1,383	--	--
Sunrich	SS91	67	111	55	--	28.3	1,237	--	--
Mean		66	105	52	39.0	30.9	1,023	1,145	1,219
CV %		1.2	3.4	4.7	2.8	2.8	17.2	--	--
LSD 0.05		1.1	5.0	3.5	1.5	1.2	250	--	--
LSD 0.10		0.9	4.2	2.9	1.3	1.0	209	--	--

Planted: June 13 Harvested: Oct. 19. Previous crop: oat.

¹Days after planting.

Table 18. 2022 Sunflower - Oilseed and Non-oilseed - Irrigated - Williston - Authors, T. Tjelde, J. Jacobs and A. Turnquist.

Company/ Brand	Hybrid	Days to Flower	Harvested Population	Oil Content	Test Weight	Seed Yield	
						2022	2-yr. Avg.
Oilseed		(DAP) ¹	(plants/a)	(%)	(lb/bu)	------(lb/a)-----	
Dyna-Gro	H42HO18CL	67	28,314	45.6	35.5	2,972	2,619
Dyna-Gro	H45HO10EX	67	17,523	43.9	33.2	2,686	2,526
Dyna-Gro	H47HO11EX	70	19,107	42.5	35.9	3,011	2,739
Dyna-Gro	H49HO19CL	71	23,958	46.2	34.2	3,898	--
Dyna-Gro	H50HO20CP	71	26,730	47.2	33.8	3,319	--
Nuseed	Falcon	70	23,859	44.0	36.1	3,423	3,025
Nuseed	N4H302 E	67	24,651	45.2	32.3	3,768	2,971
Nuseed	N4H470 CLP	71	27,027	49.2	32.9	3,287	3,211
Sunrich	4415	68	26,334	42.4	32.6	3,662	3,126
Sunrich	4425 CL	68	25,344	41.7	32.6	3,640	3,410
Non-oilseed							
Sunrich	SS91	68	19,899	--	27.8	3,218	--
Sunrich	SS90	64	19,800	--	27.1	2,853	--
Mean		69	23,546	44.8	32.8	3,311	2,953
CV %		--	10.9	5.0	7.5	11.7	--
LSD 0.05		--	4,335	3.6	4.2	656	--
LSD 0.10		--	3,589	3.0	3.4	543	--

Planted: June 1. Harvested: Nov. 3. Previous crop: dry bean.

¹Days after planting.

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