

A652-20

North Dakota Sunflower

Variety Trial Results for 2020 and Selection Guide

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Introduction

In North Dakota, an estimated 720,000 acres of sunflowers were planted in 2020. This is up about 185,000 acres, compared with 2019. Table 1 contains acreage data for the past 20 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 2001-2020.

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	620 ¹	1,761	76 ¹	1,761

Source: National Agricultural Statistics Service (NASS).

¹Estimate by NASS for all sunflowers, October 2020.

2020 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 Agricultural Experiment Station locations.

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 also of importance.

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. Some companies offer guarantees for NuSun or high-oleic levels.

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® 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
Caussade Semences Group	Caussade	www.caussade-semences.com/en/multi-species/sunflowers
CHS Royal Hybrid	CHS Royal Hyb.	www.chssunflower.com/product/hybrid-seed/products
Brevant Seeds (replaces Mycogen)	Brevant	www.brevant.com
Dairyland Seed	Dairyland	www.dairylandseed.com
DuPont Pioneer	Pioneer	www.pioneer.com
Dyna-Gro Seed	Dyna-Gro	www.dynagroseed.com
Nuseed Global/Americas	Nuseed	www.nuseed.com
Proseed Inc.	Proseed	www.proseed.net
Red River Commodities	Red River Comm.	www.redriv.com
S&W Seed Company	S&W	www.swseedco.com
SunOpta	SunOpta	www.sunopta.com
U.S. Department of Agriculture	USDA	www.ars.usda.gov/plains-area/fargo-nd
Valia Genetics	Valia	www.valiaogenetics.com
WinField United - Croplan	Croplan	www.croplan.com

Table 3. April-September 2020 Average Temperature, Precipitation and Rankings for Select North Dakota Locations.

Location	Average Temperature (Ranking)	Total Precipitation (Ranking)
Bowman	59.8 F (41st Warmest Period Since 1915)	9.9 inches (26th Driest Period Since 1915)
Bismarck	62.4 F (11th Warmest Period Since 1875)	6.4 inches (4th Driest Period Since 1875)
Cavalier	57.6 (30th Coolest Period Since 1934)	12.8 inches (34th Driest Period Since 1927)
Fargo	61.1 (44th Warmest Period Since 1881)	16.5 inches (65th Wettest Period Since 1881)
Minot Exp. Station	58.4 F (51st Warmest Period Since 1905)	9.8 inches (28th Driest Period Since 1905)
Williston Exp. Station	60.5 F (42nd Warmest Period Since 1894)	5.7 inches (6th Driest Period Since 1894)
North Dakota Average ¹	58.9 F (50th Warmest Period Since 1895)	11.1 inches (23rd Driest 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. 2019 Sunflower - Non-oilseed Hybrids With Traits and Locations Where Tested.

Company/ Brand	Hybrid	Hybrid Type ¹	Location in which the hybrid has been tested			
			Fargo	Carrington	Langdon	Minot
CHS Royal Hyb.	RH208EX	EX	--	--	--	x
CHS Royal Hyb.	RH609CLP	CP	x		--	x
CHS Royal Hyb.	20-EXP3	EX	x	x	--	--
CHS Royal Hyb.	RH1121	Trad.	--	x	--	--
Red River Comm.	2215	Trad.	--	--	x	--
Red River Comm.	2310	Trad.	--	x	x	--
Red River Comm.	2319	Trad.	--	x	x	--
Red River Comm.	2414	Trad.	--	x	x	--
SunOpta	9583CLP	CP	x	x	--	--
SunOpta	EXSS90	CL	x	x	--	--
Valia	Valia 41	Trad.	x	x	--	--
Valia	Valia 92	Trad.	x	x	--	--
Valia	Valia 95	Trad.	x	x	--	--
USDA	Hybrid 924 ²	Trad.	x	x	x	x

¹Hybrid type provided by companies.

EX = ExpressSun, CL = Clearfield, CP = Clearfield plus, Trad. = no herbicide tolerance trait.

²Long-term hybrid check.

Table 5. 2019 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	Fargo	Langdon	Hettinger	Minot	Williston	Williston Irrigated
Caussade (Entered by Legend Seed)	Kaledonia CL	HO, CL	--	--	X	X	X	--	--
CHS Royal Hyb.	20-EXP1	HO, CL	X	--	--	--	--	--	--
CHS Royal Hyb.	20-EXP5	HO, CL	X	X	--	--	--	--	--
CHS Royal Hyb.	8D310CL	HO, CL	--	X			X	--	--
Croplan	3845 HO	HO	X	X	X	X	--	--	--
Croplan	432 E	NS, EX	X	X	X	X	X	--	--
Croplan	450 E HO	HO, EX	X	X	X	X	X	--	--
Croplan	455 E HO	HO, EX	X	X	X	X	X	--	--
Croplan	CP4909E	NS, EX	X	X	X	X	X	--	--
Croplan	CP450E	HO, EX	--	--	--	--	--	X	--
Croplan	CP455E	HO, EX	--	--	--	--	--	X	--
Croplan	CP5045CL	HO, CL	X	X	--	--	--	--	--
Croplan	CP545CL	NS, CL	X	--	X	--	X	--	--
Croplan	CP7919CL	HO, EX	X	X	--	--	--	--	--
Croplan	CPX40419E	HO, CL	--	--	X	--	--	--	--
Croplan	CPX50120CL	HO, CL	X	X	X	--	--	--	--
Croplan	CPX52220CL	HO, CL	X		--	--	--	--	--
Croplan	CPX57919CLP	HO, CP	X	X	X	--	--	--	--
Dairyland	D643HO	HO, EX	--	--	X	X	X	--	--
Dairyland	D683MO	MO, EX	--	--	X	X	X	--	--
Dairyland	D684HO	HO, EX	--	--	X	X	X	--	--
Dairyland	D690MO	MO, EX	--	--	X	X	X	--	--
Dyna-Gro	H42HO18CL	HO, CL	X	X	X	X	X	X	X
Dyna-Gro	H44HO12CL	HO, CL	X	X	X	X	X	X	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	H48HO15CL	HO, CL	X	X	--	X	--	--	--
Dyna-Gro	H49HO19CL	HO, CL	X	X	X	X	X	X	--
Dyna-Gro	H49NS14CL	NS, CL	X	X	--	X	--	--	--
Dyna-Gro	XH00H57	NS	X	X	--	X	--	--	--
Dyna-Gro	XH01H56CL	HO, CL	--	X	X	--	X	--	--
Dyna-Gro	XH81H52CP	HO, CP	X	X	--	X	--	--	--
Dyna-Gro	XH82H63EX	HO, EX	X	X	X	X	X	--	--
Dyna-Gro	XH82H65EX	HO, EX	X	X	X	X	X	--	--
Dyna-Gro	XH91H54CL	HO, CL	X	X	--	X	--	--	--
Dyna-Gro	XH93H79CL	HO, CL	X	X	--	X	X	--	--
Nuseed	Badger DMR	NS, CON, CL	X	X	X		X	--	--
Nuseed	Camaro II	NS, CL	X	X	X	X	X	X	X
Nuseed	Falcon	NS, EX	X	X	X	X	X	X	X
Nuseed	Hornet	HO, CL	X	X	X	X	X	--	--
Nuseed	N4H302 E	HO, EX	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

Table 5. 2019 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	Fargo	Langdon	Hettinger	Minot	Williston	Williston Irrigated	
Nuseed	N4H521 CL	HO, CL	--	x			x	--	--	--
Nuseed	N4HE302 E	HO, EX	--	--	--	--	--	--	x	--
Nuseed	N4HM354	NS, CL	x	x	x	x	x	--	--	--
Nuseed	N5LM307	NS, CON, CL	x	x	x	--	x	--	--	--
Pioneer	P63HE501	HO, EX	x	x	x	--	--	--	--	--
Pioneer	P64HE101	HO, EX	x	x	x	--	--	--	--	--
Proseed	12G25 CL	HO, CL	x	x	x	x	--	x	x	x
Proseed	E-31 CL	NS, CL	x	x	--	--	x	--	--	--
Proseed	E-50016	HO, CL	x	x	x	x		x	x	x
Proseed	E-91 E	HO, EX	x	x	x	x	x	x	x	x
Proseed	E-92 E	NS, EX	--	x	--	--	--	--	--	--
Proseed	E-93 E	NS, EX	--	--	x	x	x	x	x	x
S&W	SF110	HO, CL	--	--	x	x	--	x	x	x
S&W	SF440	HO, CL	--	--	--	x	--	x	x	x
SunOpta	4415 HO/CLP/	HO, CP	x	x	--	x	x	--	--	--
SunOpta	4425CL	NS, CON, CL	x	x	--	x	x	--	--	--
SunOpta	44725CL	NS, CL		x	--	x	--	--	--	--
SunOpta	EX725 CL	NS, CL	x	--	--	--	--	--	--	--
USDA	Honeycomb NS ²	NS	x	x	x	x	x	--	--	--
Mycogen	8N270CLDM ³	NS, CL	x	--	x	x	x	--	--	--
Croplan	559CL ⁴	NS, CL	x	--	x	x	x	--	--	--
Nuseed	Falcon ⁴	NS, EX	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, CON = ConOil, Trad. = traditional (linoleic), EX = ExpressSun, CL = Clearfield, CP = Clearfield plus.

²Honeycomb NS = early-maturing check

³8N270CLDM = medium-maturing check.

⁴559C and Falcon = Late-maturing checks.

⁵Hybrid 894 = long-term hybrid check.

Table 6. 2020 Sunflower - Oilseed - Fargo, N.D. - Author, B. Hulke.

Company/ Brand	Hybrid	Days to Flower (DAP) ³	Days to PM (DAP) ³	Height (inch)	Phomopsis ¹ (%)	Test Wt. (lb/bu)	Seed Moisture (%)	Oil Content (%)	Seed Yield (lb/a)	Hulling Screen ²
CHS Royal Hyb.	20EXP5	64	102	77	40	26.7	7	38.0	2,650	Exc.
CHS Royal Hyb.	8D310CL	67	97	80	41	25.7	7	34.3	2,542	Exc.
Croplan	CP3845	67	102	71	21	31.6	7	44.1	2,531	Avg.
Croplan	CP432E	62	100	70	60	28.8	7	37.4	2,720	Avg.
Croplan	CP450E	66	103	76	37	29.2	7	37.8	2,160	Avg.
Croplan	CP455E	64	106	72	23	30.4	8	40.1	2,910	Avg.
Croplan	CP4909E	67	105	73	36	32.2	8	41.1	2,661	Fail
Croplan	CP545CL	67	108	73	21	31.3	10	41.7	3,246	Fail
Croplan	CP7919CL	67	111	73	11	29.9	9	43.4	3,096	Avg.
Croplan	CPX50120CL	66	108	77	16	31.2	8	40.8	2,868	Fail
Croplan	CPX57919CLP	67	108	77	24	30.9	8	41.8	2,925	Fail
Dyna-Gro	H42HO18CL	62	104	69	48	31.0	7	40.8	2,379	--
Dyna-Gro	H44HO12CL	62	102	69	43	29.5	7	43.9	2,610	--
Dyna-Gro	H45HO10EX	63	102	71	36	27.1	7	40.2	2,752	--
Dyna-Gro	H45NS16CL	62	99	66	43	31.8	7	42.1	2,821	--
Dyna-Gro	H48HO15CL	68	111	74	29	30.0	7	45.8	2,515	--
Dyna-Gro	H49HO19CL	67	105	72	32	29.0	8	42.7	3,007	--
Dyna-Gro	H49NS14CL	67	106	73	36	30.3	9	40.3	2,988	--
Dyna-Gro	XH00H57	69	113	78	5	31.4	9	44.8	2,439	--
Dyna-Gro	XH01H56CL	55	101	53	17	29.7	7	33.7	2,333	--
Dyna-Gro	XH81H52CP	67	103	73	42	28.4	7	42.5	2,552	--
Dyna-Gro	XH82H63EX	66	111	83	15	31.8	9	39.0	2,467	--
Dyna-Gro	XH82H65EX	63	103	75	39	30.4	7	41.0	2,627	--
Dyna-Gro	XH91H54CL	66	108	77	18	30.6	9	40.0	3,044	--
Dyna-Gro	XH93H79CL	68	106	75	37	29.1	8	41.8	3,133	--
Nuseed	BadgerDMR	62	99	74	64	27.4	7	32.5	2,863	Exc.
Nuseed	CamaronII	67	105	78	33	30.4	7	41.4	2,426	--
Nuseed	Falcon	67	105	73	29	32.5	8	42.1	2,860	--
Nuseed	Hornet	67	108	74	17	29.0	9	42.6	3,243	--
Nuseed	N4H302E	63	104	73	36	28.4	7	42.8	2,969	--
Nuseed	N4H422CL	66	109	77	18	31.3	10	40.0	3,309	--
Nuseed	N4H470CLP	67	102	75	49	28.6	8	42.0	2,959	--
Nuseed	N4H521CL	67	110	68	28	28.8	9	43.0	3,221	--
Nuseed	N4HM354	63	100	70	49	31.5	7	42.2	2,581	--
Nuseed	N5LM307	61	98	71	40	26.3	7	35.2	2,420	Exc.
Pioneer	P63HE501	65	100	77	43	29.7	7	38.7	2,619	Avg.
Pioneer	P64HE101	67	112	77	4	30.9	10	37.7	3,282	Avg.
Proseed	12G25 CL	65	101	72	46	29.5	7	42.2	2,976	Fail
Proseed	E-31 CL	66	104	72	15	28.7	7	36.4	2,502	Exc.
Proseed	E-50016	66	107	77	18	29.5	7	41.6	2,883	Avg.
Proseed	E-91 E	66	103	77	38	29.9	7	40.0	2,253	Avg.
Proseed	E-93 E	67	103	80	15	28.3	8	39.2	2,158	Exc.
SunOpta	4415 HO/CLP	66	105	75	9	30.1	8	40.7	2,650	--
SunOpta	4425CL	65	101	78	26	28.8	7	36.9	2,842	--
SunOpta	44725CL	65	100	78	34	26.8	8	38.0	2,777	--
USDA	Honeycomb NS ⁴	57	95	68	54	28.7	6	36.0	2,113	Exc.
USDA	Hybrid 894 ⁵	63	98	76	60	29.8	7	40.2	2,241	--
Mean		65	104	74	32	29.6	8	40.2	2,726	--
CV %		1.2	2.0	3.0	36	2.6	9.6	2.1	10.1	--
LSD 0.05		1	3	4	19	1.3	1.2	1.4	448	--
LSD 0.10		1	3	3	16	1.1	1.0	1.2	375	--

Planted: May 29. Harvested: Oct. 14. Previous crop: corn.

¹Percentage of stalks with lesions greater than 3 inches in length;.²Hulling screen test: Exc. = 65% of seed over a 14/64 inch screen; Average = 75% of seed over a 13/64 inch screen³Days after planting. Maturity checks: Honeycomb NS = 95 DAP, 8N270CLDM = 98 DAP, Falcon = 105 DAP, 559CL = 107 DAP.⁴Early maturing check.⁵Long-term hybrid check.

Table 7. 2020 Sunflower - Non-oilseed - Fargo, N.D. - Author, B. Hulke.

Company/ Brand	Hybrid	Days		Height	Phomopsis ¹	Test Wt.	Seed Moisture	2020 Seed Yield	Seed over screen			Seed size		Nut- meat
		to Flower (DAP) ²	to PM (DAP) ²						(inch)	(%)	(lb/bu)	(%)	(lb/a)	
CHS Royal Hyb.	20EXP3	62	104	70	39	21.3	7	2,986	84	92	96	19	9	39.4
CHS Royal Hyb.	RH609CLP	66	105	76	33	22.9	8	2,478	89	95	98	20	9	47.6
Valia	Valia 41	70	106	75	32	21.9	8	2,164	64	85	97	18	8	44.8
Valia	Valia 92	67	108	74	19	23.4	9	2,383	64	83	94	18	9	51.7
Valia	Valia 95	67	106	72	41	21.3	8	2,139	83	95	98	19	9	49.0
SunOpta	9583CLP	67	105	76	37	22.2	7	2,588	87	95	98	20	9	45.9
SunOpta	EXSS90	68	109	81	27	24.5	8	1,896	36	72	89	17	8	52.0
USDA	Hybrid 924 ³	62	96	74	72	21.7	8	2,006	54	78	91	15	9	53.9
Mean		66	105	75	38	22.4	8	2,330	70	87	95	18	9	48.0
CV %		1.1	1.2	3.7	27	2.4	9.2	11.8	--	--	--	--	--	--
LSD 0.05		1	2	5	18	0.9	1.2	480	--	--	--	--	--	--
LSD 0.10		1	2	4	15	0.8	1.0	395	--	--	--	--	--	--

Planted: May 29. Harvested: Oct. 14. Previous crop: corn.

¹Percentage of stalks with lesions greater than 3 inch in length.

²Days after planting. Maturity checks: Honeycomb NS = 95 DAP, 8N270CLDM = 98 DAP, Falcon = 105 DAP, 559CL = 107 DAP.

³Long-term hybrid check.

Table 8. 2020 Sunflower - Oilseed - Carrington, N.D. - Authors, M. Ostlie, B. Schatz and E. Aberle. (Page 1 of 2)

Company/ Brand	Hybrid	Days to	Days to	Plant	Test	Oil	Seed Yield	
		Flower (DAP) ¹	Maturity (DAP) ¹	Height (inch)	Weight (lb/bu)	Content (%)	2020	2-yr. Avg. ------(lb/a)-----
CHS Royal Hyb.	20-EXP1	65	109	70	24.7	39.4	1,758	--
CHS Royal Hyb.	20-EXP5	64	107	72	24.2	40.7	1,582	--
Croplan	CP3845	65	109	68	26.7	44.0	1,358	1,370
Croplan	CP432E	61	109	67	27.9	44.7	1,993	1,908
Croplan	CP450E	65	111	70	27.6	42.2	1,872	1,763
Croplan	CP455E	64	110	72	27.0	43.7	1,940	1,656
Croplan	CP4909E	66	110	66	28.0	44.7	1,531	--
Croplan	CP5045CL	65	110	70	27.7	43.6	1,441	--
Croplan	CP545CL	66	110	65	26.7	44.4	1,780	1,529
Croplan	CP7919CL	66	109	67	25.1	41.7	1,589	--
Croplan	CPX50120CL	65	110	65	27.1	41.9	1,799	--
Croplan	CPX52220CL	53	111	59	29.7	43.3	1,859	--
Croplan	CPX57919CLP	66	110	66	26.3	40.3	1,702	--
Dyna-Gro	H42HO18CL	62	110	61	27.2	43.2	1,906	1,606
Dyna-Gro	H44HO12CL	61	109	66	26.9	46.0	1,667	1,487
Dyna-Gro	H45HO10EX	62	109	68	24.6	42.8	1,749	--
Dyna-Gro	H45NS16CL	62	109	63	27.2	46.2	1,785	1,557
Dyna-Gro	H48HO15CL	68	110	70	25.7	43.4	1,739	1,552
Dyna-Gro	H49HO19CL	67	108	65	25.3	42.2	1,728	1,640
Dyna-Gro	H49NS14CL	66	110	63	27.0	44.3	1,887	--
Dyna-Gro	XH00H57	68	109	71	27.5	46.3	1,455	--
Dyna-Gro	XH81H52CP	67	111	69	27.2	43.7	1,620	--
Dyna-Gro	XH82H63EX	67	111	71	29.9	43.2	2,111	1,865
Dyna-Gro	XH82H65EX	63	109	74	27.4	43.2	1,831	1,636
Dyna-Gro	XH91H54CL	65	110	67	26.1	41.1	1,743	--
Dyna-Gro	XH93H79CL	69	110	66	25.8	42.4	2,089	--
Nuseed	Badger DMR	61	108	69	25.9	38.5	1,890	1,819
Nuseed	Camaro II	66	109	69	27.1	45.2	1,746	1,782
Nuseed	Falcon	65	107	65	26.9	44.1	1,546	1,434
Nuseed	Hornet	68	110	68	25.5	42.5	1,561	1,535
Nuseed	N4H302 E	64	110	70	24.6	41.9	1,439	1,354
Nuseed	N4H422 CL	65	109	69	26.3	41.3	1,672	--
Nuseed	N4H470 CLP	68	110	68	26.1	43.3	966	1,099
Nuseed	N4HM354	63	109	63	26.9	45.9	1,559	1,598
Nuseed	N5LM307	61	109	65	24.6	38.5	1,385	1,438
Pioneer	P63HE501	64	110	68	25.7	41.6	2,023	--
Pioneer	P64HE101	67	111	74	28.3	41.3	2,262	1,909
Proseed	12G25 CL	63	109	68	26.7	44.7	1,688	--
Proseed	E-31 CL	66	109	70	26.8	41.9	1,656	1,608
Mean		65	109	68	26.5	42.9	1,727	1,611
CV %		1.6	1.0	5.6	3.7	3.3	13.9	--
LSD 0.05		1.4	1.5	5.3	1.4	2.0	332	--
LSD 0.10		1.2	1.3	4.5	1.1	1.7	278	--

Table 8. 2020 Sunflower - Oilseed - Carrington, N.D. - Authors, M. Ostlie, B. Schatz and E. Aberle. (Page 2 of 2)

Company/ Brand	Hybrid	Days to	Days to	Plant	Test	Oil	Seed Yield	
		Flower (DAP) ¹	Maturity (DAP) ¹	Height (inch)	Weight (lb/bu)	Content (%)	2020	2-yr. Avg. ------(lb/a)-----
Proseed	E-50016	66	110	71	26.6	43.9	2,089	1,711
Proseed	E-91 E	67	109	73	27.7	43.6	1,609	--
Proseed	E-93 E	66	110	73	24.6	41.9	1,949	--
SunOpta	4415 HO/CLP	63	108	69	26.3	42.1	1,832	1,613
SunOpta	4425CL	63	108	72	26.2	41.9	1,867	1,822
SunOpta	EX725CL	65	108	70	23.3	43.0	1,451	1,603
Mean		65	109	68	26.5	42.9	1,727	1,611
CV %		1.6	1.0	5.6	3.7	3.3	13.9	--
LSD 0.05		1.4	1.5	5.3	1.4	2.0	332	--
LSD 0.10		1.2	1.3	4.5	1.1	1.7	278	--

Planted: June 1. Harvested: Oct. 6. Previous crop: barley.

¹Days after planting.

Maturity checks: Honeycomb NS = 108 DAP, 8N270CLDM = 110 DAP, Falcon = 108 DAP, 559CL = 110 DAP, 894 = 109 DAP.

Table 9. 2020 Sunflower - Non-oilseed - Minot, N.D. - Authors, E. Eriksmoen, A. Kraklau and D. Howat.

Company/ Brand	Hybrid	Days to	Days to	Plant	Test	Seed Over Screen			Seed Yield
		Flower (DAP) ¹	Maturity (DAP) ¹	Height (inch)	Weight (lb/bu)	22/64	20/64	18/64	2020 (lb/a)
CHS Royal Hyb.	RH208EX	64	100	61	23.2	3	7	97	1,616
CHS Royal Hyb.	RH609CLP	69	100	64	24.4	3	6	96	1,838
USDA	924 ²	68	103	59	26.9	8	26	91	1,540
Mean		67	102	61	24.8	4	13	95	1,665
CV %		31	31	3.7	5.1	50	61	3	12.0
LSD 0.05		2	NS	NS	2.9	NS	NS	NS	NS
LSD 0.10		2	NS	NS	2.2	4.0	14.0	NS	NS

Planted: May 29. Harvested: Oct. 19. Previous crop: spring wheat.

¹Days after planting.

²Long-term hybrid check.

Table 10. 2020 Sunflower - Non-oilseed - Carrington N.D. - Authors, M. Ostlie, B. Schatz and E. Aberle.

Company/ Brand	Hybrid	Days to	Days	Plant	Plant	Seed Over Screen			Test	Seed Yield	
		Flower (DAP) ¹	to PM (DAP) ¹	Height (inch)	Lodge (0-9)	22/64 (%)	20/64 (%)	18/64 (%)	Weight (lb/bu)	2020 -----	3-yr. Avg. (lb/a)-----
CHS Royal Hyb.	14-EXP2	65	111	68	1	40	89	94	20	2,909	--
CHS Royal Hyb.	20-EXP3	61	110	67	1	44	86	93	20	2,483	--
CHS Royal Hyb.	RH1121	69	113	70	2	24	87	93	21	2,351	--
Red River Comm.	2310	65	111	72	1	45	87	93	20	2,201	1,790
Red River Comm.	2319	67	114	78	2	42	87	93	19	2,208	--
Red River Comm.	2414	68	114	77	2	48	87	92	19	2,316	1,834
SunOpta	9583CLP	65	113	67	1	48	88	93	19	2,450	--
SunOpta	EXSS90	68	116	75	3	17	74	90	21	2,411	--
Valia	Valia 41	69	116	71	1	27	83	93	21	2,620	1,998
Valia	Valia 92	68	115	71	2	38	87	91	20	2,575	--
Valia	Valia 95	69	116	69	2	38	82	92	20	2,117	--
USDA	924 ²	67	109	69	2	18	66	86	21	2,030	1,537
Mean		67	113	71	2	36	84	92	20	2,389	1,790
CV (%)		0.9	1.1	4.4	32	32	6.3	1.9	5.3	8.6	--
LSD 0.05		0.9	1.7	4.5	0.8	16.7	7.7	2.6	1.5	297	--
LSD 0.10		0.7	1.4	3.8	0.6	13.9	6.4	2.1	1.3	247	--

Planted: June 1. Harvested: Oct. 15. Previous crop: barley.

¹Days after planting.²Long-term hybrid check.**Table 11. 2020 Sunflower - Non-oilseed - Langdon, N.D. - Authors, B. Hanson and L. Henry.**

Company/ Brand	Hybrid	Days to	Days	Plant	Seed Over Screen			Test	Seed Yield	
		Flower (DAP) ²	to PM (DAP) ²	Height (inch)	22/64 (%)	20/64 (%)	18/64 (%)	Weight (lb/bu)	2020 -----	2-yr. Avg. ¹ (lb/a)-----
Red River Comm.	2215	73	113	64	55	87	94	22	3,091	2,797
Red River Comm.	2310	74	111	70	80	91	94	22	3,364	2,771
Red River Comm.	2414	77	114	73	85	93	95	21	3,163	2,619
Red River Comm.	2319	74	114	68	89	94	96	21	3,033	--
USDA	924 ³	72	111	59	31	63	84	24	2,627	2,568
Mean		74	113	67	68	86	93	22	3,056	2,689
CV (%)		1.5	1.4	4.3	--	--	--	2.979	10.3	--
LSD 0.05		1.6	2.3	4.2	--	--	--	1.005	479	--
LSD 0.10		1.3	1.9	3.5	--	--	--	0.82	394	--

Planted: May 22. Harvested: Oct. 12. Previous crop: wheat.

¹Average of 2018 and 2020. Sunflower trial in 2019 was unharvestable due to damage from 20-inch snowfall.²Days after planting.³Long-term hybrid check.

Table 12. 2020 Sunflower - Oilseed - Langdon, N.D. - Authors, B. Hanson and L. Henry.

Company/ Brand	Hybrid	Days to Flower (DAP) ²	Days to Maturity (DAP) ²	Plant Height (inch)	Test Weight (lb/bu)	Oil Content (%)	Seed Yield	
							2020	2-yr. Avg. ¹
							----- (lb/a) -----	
Caussade	Kaledonia CL	74	111	69	30.8	40.5	3,037	--
Croplan	CP3845	75	110	63	31.4	46.5	3,269	2,913
Croplan	CP432E	70	107	63	31.1	44.0	3,414	2,992
Croplan	CP450E	75	114	69	29.6	43.2	3,785	3,305
Croplan	CP455E	73	112	71	30.0	43.7	3,426	3,122
Croplan	CP4909E	74	111	66	33.3	45.2	3,201	--
Croplan	CP545CL	75	113	64	30.3	44.3	3,386	2,918
Croplan	CPX40419E	74	112	64	31.5	45.4	3,046	--
Croplan	CPX57919CLP	61	106	45	34.3	44.4	2,767	--
Croplan	CPX50120CL	73	111	65	30.5	43.5	3,494	--
Dairyland	D643HO	73	112	72	30.2	43.5	3,767	--
Dairyland	D683MO	73	113	70	30.9	45.0	3,485	--
Dairyland	D684HO	74	114	73	32.5	44.5	3,541	--
Dairyland	D690MO	75	114	72	29.7	43.8	3,716	--
Dyna-Gro	H42HO18CL	72	111	60	32.3	44.5	3,209	--
Dyna-Gro	H44HO12CL	69	109	64	30.9	45.4	2,623	--
Dyna-Gro	H45HO10EX	73	112	64	29.4	44.5	3,235	--
Dyna-Gro	H45NS16CL	70	109	59	32.9	47.5	3,616	--
Dyna-Gro	H49HO19CL	75	112	64	29.9	45.1	3,524	--
Dyna-Gro	XH01H56CL	61	106	45	34.1	43.0	2,716	--
Dyna-Gro	XH82H63EX	74	114	75	31.6	44.2	3,513	--
Dyna-Gro	XH82H65EX	72	110	71	29.6	43.0	3,263	--
Nuseed	Badger DMR	70	109	69	30.1	37.4	3,806	2,874
Nuseed	Camaro II	74	112	67	32.1	45.2	3,560	3,032
Nuseed	Falcon	75	111	65	32.8	45.6	2,956	2,523
Nuseed	Hornet	76	114	63	30.2	46.4	3,778	--
Nuseed	N4H302 E	73	111	71	27.1	42.5	3,078	2,845
Nuseed	N4H422 CL	73	111	65	30.5	43.7	3,161	--
Nuseed	N4H470 CLP	75	112	68	30.9	46.9	3,124	2,929
Nuseed	N4HM354	71	109	63	33.6	46.2	3,409	2,990
Nuseed	N5LM307	69	112	60	28.7	40.1	3,056	2,718
Pioneer	P63HE501	73	111	63	30.8	42.6	3,293	--
Pioneer	P64HE101	75	113	72	29.9	43.3	3,718	--
Proseed	E-91 E	74	112	73	31.8	44.8	3,213	--
Proseed	12G25 CL	73	110	66	30.1	44.8	3,088	2,934
Proseed	E-50016	73	112	69	29.4	44.8	2,805	2,723
Proseed	E-93 E	73	111	70	30.3	42.5	3,340	--
S&W	SF110	72	112	61	31.7	44.2	2,746	--
USDA	Honeycomb NS ³	64	106	53	31.6	42.0	3,089	2,988
Mycogen	8N270CLDM ⁴	67	107	57	32.5	44.2	3,085	--
Croplan	559 CL ⁵	75	112	72	29.9	44.7	3,400	--
USDA	894 ⁶	72	109	65	30.5	43.4	3,062	2,835
Mean		72	111	65	31.0	44.1	3,281	2,915
CV %		1.2	1.1	3.5	2.5	2.7	12	--
LSD 0.05		1.4	2.1	3.7	1.3	1.9	617	--
LSD 0.10		1.9	1.7	3.1	1.1	1.6	516	--

Planted: May 22. Harvested: Oct. 12. Previous crop: wheat

¹ Average of 2018 and 2020. Sunflower trial in 2019 was unharvestable due to damage from 20-inch snowfall.² Days after planting.³ Early maturing check, ⁴ Medium-maturing check, ⁵ Late-maturing check and ⁶ Long-term hybrid check.

Table 13. 2020 Sunflower - Oilseed - Hettinger N.D. - 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		
						2020	2-yr. Avg.	3-yr. Avg.
						------(lb/a)-----		
Caussade	Kaledonia CL	69	74	29.7	35.8	2,149	--	--
Croplan	CP3845	68	62	31.1	43.4	1,347	1,939	--
Croplan	CP432E	65	63	29.4	37.8	1,717	1,688	2,265
Croplan	CP450E	69	66	30.3	39.3	2,075	1,950	--
Croplan	CP455E	68	67	31.1	42.0	2,220	2,090	2,631
Croplan	CP4909E	69	62	31.1	39.9	2,000	1,950	--
Dairyland	D684HO	70	73	30.6	41.9	1,997	--	--
Dairyland	D643HO	68	69	30.5	42.9	1,903	--	--
Dairyland	D683MO	68	67	30.9	42.5	1,998	--	--
Dairyland	D690MO	71	78	28.9	42.9	1,762	--	--
Dyna-Gro	H42HO18CL	68	64	31.3	41.0	1,725	1,805	--
Dyna-Gro	H44HO12CL	65	66	31.2	44.1	2,008	2,074	--
Dyna-Gro	H45HO10EX	68	65	28.6	39.5	1,681	1,854	--
Dyna-Gro	H45NS16CL	67	66	31.4	42.2	1,967	2,226	--
Dyna-Gro	H48HO15CL	71	68	29.5	45.1	1,640	1,958	--
Dyna-Gro	H49HO19CL	71	70	31.6	42.9	2,005	2,286	--
Dyna-Gro	H49NS14CL	70	65	31.6	41.5	1,732	2,022	--
Dyna-Gro	XH00H57	70	72	31.1	43.5	1,833	--	--
Dyna-Gro	XH81H52CP	71	69	32.5	43.9	1,817	2,014	--
Dyna-Gro	XH82H63EX	69	76	31.0	41.8	1,784	--	--
Dyna-Gro	XH82H65EX	66	70	31.3	42.7	1,779	--	--
Dyna-Gro	XH91H54CL	69	75	30.9	42.2	1,921	2,064	--
Dyna-Gro	XH93H79CL	72	73	30.2	41.6	1,673	2,174	--
Nuseed	Camaro II	69	70	32.9	41.4	2,006	2,299	2,501
Nuseed	Falcon	69	64	31.2	41.3	1,982	2,018	2,350
Nuseed	Hornet	72	67	30.3	41.1	1,699	2,036	2,496
Nuseed	N4H302 E	68	61	29.6	40.7	1,819	1,921	2,127
Nuseed	N4H422 CL	69	75	31.1	41.1	1,768	--	--
Nuseed	N4H470 CLP	71	72	33.0	44.8	1,820	2,016	2,533
Nuseed	N4H521 CL	70	62	30.6	43.1	2,313	2,394	2,715
Nuseed	N4HM354	67	66	32.0	43.5	1,684	1,797	2,121
Proseed	12G25 CL	67	62	32.6	44.8	2,146	--	--
Proseed	E-50016	70	66	29.6	41.3	1,878	--	--
Proseed	E-91 E	70	77	30.8	40.9	1,723	--	--
Proseed	E-93 E	69	70	28.1	38.1	1,837	--	--
S&W	SF110	67	71	31.4	41.8	1,677	--	--
S&W	SF440	72	72	30.9	42.1	1,947	--	--
SunOpta	4415 HO/CLP	69	72	29.6	39.5	1,766	2,110	2,403
SunOpta	4425CL	69	76	29.0	38.2	1,798	1,889	2,261
SunOpta	44725CL	69	74	28.4	41.6	1,868	2,063	--
USDA	Honeycomb NS ²	61	66	31.5	43.6	788	--	--
Mycogen	8N270CLDM ³	64	62	32.1	43.0	1,591	1,770	1,933
Croplan	559 CL ⁴	69	74	29.8	37.8	1,537	2,019	--
USDA	894 ⁵	67	71	31.2	39.7	1,315	1,469	1,915
Mean		69	69	30.7	41.6	1,811	1,996	2,327
CV %		1.4	6.3	3.6	2.9	10.3	--	--
LSD 0.05		1.4	6.1	1.3	1.7	259	--	--
LSD 0.10		1.1	5.1	1.1	1.4	217	--	--

Planted: May 18. Harvested: Oct. 18. Previous crop: spring wheat.

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

Table 14. 2020 Sunflower - Oilseed - Minot, N.D. - Authors, E. Eriksmoen, A. Kraklau and D. Howat.

Company/ Brand	Hybrid	Days to Flower (DAP) ¹	Days to Maturity (DAP) ¹	Plant Height (inch)	Oil Content (%)	Test Weight (lb/bu)	Seed Yield		
							2020	2-yr. Avg.	3-yr Avg.
Caussade	Kaledonia	68	103	60	31.3	26.6	1,014	--	--
CHS Royal Hyb.	8D310CL	67	103	63	38.6	28.8	2,218	--	--
Croplan	CP432E	64	98	58	41.3	30.1	1,784	1,888	1,958
Croplan	CP450E	68	103	57	42.9	31.8	1,565	1,730	1,944
Croplan	CP455E	68	104	59	44.4	30.4	1,637	2,301	2,575
Croplan	CP4909E	69	100	60	45.6	31.2	1,734	1,884	--
Croplan	CP545CL	70	100	52	44.1	32.3	2,081	2,085	2,146
Dairyland	D643HO	66	99	68	45.8	30.6	2,351	--	--
Dairyland	D683MO	67	104	61	41.6	31.5	1,453	--	--
Dairyland	D684HO	69	104	69	43.3	34.2	1,525	--	--
Dairyland	D690MO	69	103	66	44.5	30.9	1,884	--	--
Dyna-Gro	H42HO18CL	65	97	52	44.3	30.1	2,075	1,850	1,905
Dyna-Gro	H44HO12CL	66	100	54	45.7	31.1	1,349	1,556	1,786
Dyna-Gro	H45HO10EX	67	103	57	43.5	28.0	1,402	1,765	--
Dyna-Gro	H45NS16CL	64	98	54	46.5	30.4	1,954	1,727	1,987
Dyna-Gro	H49HO19CL	72	101	54	45.9	30.4	1,872	1,737	2,007
Dyna-Gro	XH01H56 CL	59	96	45	38.9	28.1	1,297	--	--
Dyna-Gro	XH82H63EX	70	104	66	42.1	33.9	1,540	--	--
Dyna-Gro	XH82H65EX	65	100	63	44.0	29.6	2,272	--	--
Dyna-Gro	XH93H79CL	71	99	56	46.5	29.7	1,865	--	--
Nuseed	Badger DMR	65	98	59	37.7	29.6	1,690	--	--
Nuseed	Camaro II	69	99	61	45.8	31.6	1,905	2,094	2,170
Nuseed	Falcon	68	102	55	45.1	32.1	1,805	1,779	1,981
Nuseed	Hornet	72	100	55	46.8	31.3	2,295	2,255	2,386
Nuseed	N4H302 E	69	101	59	45.5	27.6	1,388	1,700	2,014
Nuseed	N4H422 CL	69	102	64	44.5	32.8	2,004	--	--
Nuseed	N4H470 CLP	72	101	58	46.5	33.9	1,758	2,138	2,461
Nuseed	N4HM354	66	100	58	44.2	30.6	2,268	2,092	2,022
Nuseed	N5LM307	64	97	58	38.1	29.4	1,959	1,981	1,871
Proseed	E-31 CL	69	101	66	39.1	26.8	1,587	1,466	1,750
Proseed	E-91 E	69	100	66	39.4	31.2	1,409	1,588	--
Proseed	E-93 E	69	100	68	40.1	27.3	1,392	--	--
Sunopta	4415 HO/CLP	69	99	62	42.9	30.7	1,978	1,812	1,937
Sunopta	4425CL	66	104	65	42.4	30.9	1,954	1,914	2,026
USDA	Honeycomb NS ²	60	96	52	39.9	27.6	635	--	--
Mycogen	8N270CLDM ³	63	100	47	40.0	27.9	939	--	--
Croplan	559 CL ⁴	68	104	65	47.8	31.7	2,051	2,062	2,114
USDA	894 ⁵	66	102	54	43.5	29.6	1,736	1,688	1,790
Mean		67	101	59	42.9	30.4	1,761	1,882	2,055
CV %		1.6	2.0	6.6	2.5	4.2	16.8	--	--
LSD 0.05		2.0	3.0	6.0	1.7	2.1	481	--	--
LSD 0.10		1.0	3.0	5.0	1.5	1.8	402	--	--

Planted: May 29. 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 15. 2020 Sunflower - Oilseed - Express - Williston, N.D. - Authors, J. Bergman, G. Pradhan, M. Miller and C. Wahlstrom.

Company/ Brand	Hybrid	Days to Flower (DAP) ¹	Plant Height (inch)	Oil Content (%)	Test Weight (lb/bu)	Seed Yield		
						2020	2-yr. Avg.	3-yr Avg.
						------(lb/a)-----		
Croplan	CP450E	73	44	40.2	26.4	1,730	1,459	--
Croplan	CP455E	72	44	39.4	26.0	2,012	1,500	--
Dyna-Gro	H45HO10EX	71	44	39.8	25.6	1,426	1,056	--
Nuseed	Falcon	74	43	43.1	27.6	1,153	1,070	1,561
Nuseed	N4H302 E	72	43	40.2	25.8	1,312	1,225	1,196
Proseed	E-91 E	75	56	41.1	27.4	1,617	1,239	--
Proseed	E-93 E	73	54	40.3	24.7	1,816	--	--
Mean		73	47	40.6	26.2	1,581	1,258	1,379
CV %		1.0	6.9	2.1	2.3	19.9	--	--
LSD 0.05		1.0	4.7	1.3	0.9	475	--	--
LSD 0.10		0.8	3.9	1.1	0.7	394	--	--

Planted: May 28. Harvested: Oct. 5. Previous crop: wheat.

¹Days after planting.**Table 16. 2020 Sunflower - Oilseed - Clearfield - Williston, N.D. - Authors, J. Bergman, G. Pradhan, M. Miller and C. Wahlstrom.**

Company/ Brand	Hybrid	Days to Flower (DAP) ¹	Plant Height (inch)	Oil Content (%)	Test Weight (lb/bu)	Seed Yield		
						2020	2-yr. Avg.	3-yr Avg.
						------(lb/a)-----		
Dyna-Gro	H42HO18CL	71	39	40.6	27.1	1,325	1,066	--
Dyna-Gro	H44HO12CL	69	41	44.6	26.9	1,443	1,391	--
Dyna-Gro	H45NS16CL	71	39	41.9	27.5	1,196	1,296	--
Dyna-Gro	H49HO19CL	72	40	41.4	26.0	1,496	1,395	--
Nuseed	Camaro II	73	43	42.2	28.4	1,455	1,253	1,673
Nuseed	N4H422 CL	73	47	41.1	26.7	1,186	--	--
Nuseed	N4H470 CLP	73	43	43.6	26.1	1,025	1,227	1,537
Proseed	12G25 CL	71	44	44.7	28.4	1,785	--	--
Proseed	E-50016	72	42	42.1	28.1	1,253	--	--
S&W	SF110	72	35	41.1	27.1	1,263	--	--
S&W	SF440	74	40	41.0	25.8	1,537	--	--
Mean		72	41	42.2	27.1	1,360	1,271	1,605
CV %		1.8	7.1	1.6	2.1	19.5	--	--
LSD 0.05		1.9	4.1	1.0	0.8	384	--	--
LSD 0.10		1.5	3.5	0.8	0.7	319	--	--

Planted: May 28. Harvested: Oct. 5. Previous crop: wheat.

¹Days after planting.

Table 17. 2020 Sunflower - Oilseed - Irrigated - Williston, N.D. - Authors, J. Bergman, G. Pradhan, T. Tjelde, J. Jacobs and A. Turnquist.

Company/ Brand	Hybrid	Days to	Days to	Plant	Oil	Test	Seed Yield	
		Flower (DAP) ¹	Maturity (DAP) ¹	Height (inch)	Content (%)	Weight (lb/bu)	2020	2-yr. Avg.
							----- (lb/a) -----	
Dyna-Gro	H42HO18CL	66	115	65	41.4	31.0	2,730	2,509
Dyna-Gro	H44HO12CL	65	115	67	44.0	31.8	2,923	2,516
Dyna-Gro	H45HO10EX	68	117	66	42.3	28.8	2,853	2,547
Nuseed	Camaro II	69	115	72	42.2	32.3	2,834	2,719
Nuseed	Falcon	70	116	66	41.9	31.2	2,320	2,699
Nuseed	N4H302 E	69	116	63	41.1	29.8	3,075	2,794
Nuseed	N4H470 CLP	70	116	70	44.3	32.3	3,108	2,969
Proseed	12G25 CL	67	115	67	42.3	31.9	2,387	--
Proseed	E-50016	70	116	71	38.4	29.2	3,010	--
Proseed	E-91 E	69	116	76	40.9	30.8	2,690	2,392
Proseed	E-93 E	68	115	76	38.1	28.5	2,612	--
S&W	SF110	67	116	70	41.7	31.7	2,641	--
S&W	SF440	72	116	75	43.7	31.8	3,189	--
Mean		68	116	69	41.7	30.9	2,798	2,643
CV %		1.5	0.6	6.5	2.9	2.5	15.0	--
LSD 0.05		1.7	1.2	7.7	2.1	1.3	706	--
LSD 0.10		1.4	1.0	6.4	1.7	1.1	585	--

Planted: May 27. Harvested: Nov. 5. Previous crop: winter wheat.

¹Days after planting.

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