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# North Dakota Canola

## *Variety Trial Results for 2018 and Selection Guide*

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Canola is a major oil crop in the northern Great Plains, particularly in North Dakota. In 2018, North Dakota accounted for approximately 80 percent of the 1.99 million canola acres planted in the U.S. This publication summarizes canola hybrid performance at the various North Dakota State University Research Extension Centers. The relative performance of the hybrids is presented in table form.

Give special attention to yield results of those trials nearest to your production area when evaluating varieties or hybrids in these trials. Also, attempt to view yield averages of several years rather than using only one year's data as a determining factor. In addition, consider other agronomic characteristics, such as maturity, lodging score and oil percentages, if available.

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 very much appreciated. A special thank you goes to Lisa Johnson, Extension Plant Sciences secretary, for assisting in the compilation of this publication.

### **2018 Growing Season Update**

Canola fieldwork began by the beginning of May. Planting progress was delayed, and by May 14, 23 percent of the acres had been planted, compared with the average of 34 percent on the same date. On May 14, the topsoil moisture was rated at 36 percent short and 47 percent adequate.

Early canola stands varied across the region, depending on soil moisture availability and rainfall after planting. By July 9, 91 percent of the canola crop was flowering, compared with the average of 74 percent on the same day. Many parts of the state experienced warm midsummer conditions. By the last week in July 2018, the North Dakota office of the National Agricultural Statistics Service reported the canola crop condition as 73 percent "good" and 6 percent "excellent," compared with 32 "good" and 1 percent "excellent" in 2017.

By Sept. 17, 86 percent of the canola acres were harvested, which was slightly ahead of the 82 percent average on the same date. In general, the 2018 season was favorable and yield is estimated to be 1,920 pounds per acre for North Dakota.

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**Table 1. Canola Production, North Dakota 2008-2018.**

Year	Acres Planted	Acres Harvested	Yield Per Acre	Production
	------(1,000 Acres)-----		(lb.)	(1,000 lb.)
2008	910	895	1,460	1,306,700
2009	730	725	1,840	1,334,000
2010	1,280	1,270	1,720	2,184,400
2011	890	850	1,500	1,275,000
2012	1,460	1,455	1,380	2,007,900
2013	920	915	1,820	1,665,300
2014	1,200	1,190	1,800	2,142,000
2015	1,410	1,400	1,780	2,492,000
2016	1,460	1,450	1,840	2,668,000
2017	1,590	1,580	1,630	2,542,800
2018 <sup>1</sup>	1,590	1,580	1,920	3,033,600
Average	1,220	1,210	1,699	2,059,245

<sup>1</sup> Forecast USDA.

Source: North Dakota Agricultural Statistics Service – USDA.

**Table 2. April-September 2018 Average Temperature, Precipitation and Rankings for Select North Dakota Locations.**

Location	Average Temperature (Ranking)	Total Precipitation (Ranking)
Bowman	57.9 F (25th Coolest Period Since 1915)	12.8 inches (41st Wettest Period Since 1915)
Bismarck	61.4 F (40th Warmest Period Since 1875)	12.9 inches (63rd Driest Period Since 1875)
Cavalier	58.4 F (43rd Coolest Period Since 1934)	9.5 inches (14th Driest Period Since 1927)
Fargo	61.3 F (41st Warmest Period Since 1881)	14.2 inches (50th Driest Period Since 1881)
Minot Exp. Station	58.1 F (55th Coolest Period Since 1905)	9.6 inches (23rd Driest Period Since 1905)
Williston Exp. Station	59.6 F (59th Warmest Period Since 1894)	10.1 inches (57th Driest Period Since 1894)
<b>North Dakota Average<sup>1</sup></b>	<b>58.9 F (50th Coolest Period Since 1895)</b>	<b>13.0 inches (54th Driest Period Since 1895)</b>

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

<sup>1</sup>Statewide values are calculated based on all available locations in North Dakota rather than the mathematical average of the list above.

## About This Publication

Variety trial data from all NDSU Research Extension Centers for all crops can be found at [www.ag.ndsu.edu/varietytrials](http://www.ag.ndsu.edu/varietytrials). 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 only apply to the numbers in the column in which they appear.

If the difference between two varieties exceeds the LSD value, it means that with 95 or 90 percent probability (0.05 or 0.10 level), the higher-yielding variety has a significant yield advantage. If the difference between two varieties is less than the LSD value, then the variety yields are considered similar. The abbreviation NS is used to indicate “no significant difference” for that trait among any of the varieties.

The CV is a measure of variability in the trial. The CV stands for coefficient of variation and is expressed as a percentage. Large CVs mean a large amount of variation that could not be attributed to differences in the varieties. In the tables, the mean indicates the average of the observations in the column. Only compare values within the table and look for trends for the desired trait among different experimental sites and years.

Oil and harvest yield were adjusted to 8.5 percent moisture. Oil content is intended to differentiate between hybrids at one location, LSD values should be used to determine differences between hybrids.

**The oil content data are not intended to be compared between locations.** Tables 4 and 5 are summary tables, with yields expressed as a percentage of the trial mean (indicated on the bottom) of the various trials reported in subsequent tables.

Presentation of data for the varieties tested does not imply approval or endorsement by the authors or agencies conducting the tests. NDSU approves the reproduction of any table in this publication only if no portion is deleted, appropriate footnotes are given, the order of the data is not rearranged and NDSU is credited for the data.

**Table 3. Company Name, Short Name Used in the Tables and URL With Company Information.**

Company/Brand	Short	URL
Bayer CropScience	Bayer	www.bayercropscience.us/products/seeds/invigor-canola/
BrettYoung	BrettYoung	www.brettyoung.ca/us-seed-crop-inputs
Canterra Seeds	Canterra	www.canterra.com/products/canola
Cargill	Cargill	https://cargillag.ca/grow-grain/specialty-seeds-and-oils/
Cibus	Cibus	www.cibus.com
Dekalb	Dekalb	www.aganytime.com/dekalb/Pages/default.aspx
DuPont Pioneer	Pioneer	www.pioneer.com/home/site/us/products/canola/
Dyna-Gro Seed	Dyna-Gro	www.dynagroseed.com/
Integra Fortified Seed	Integra	http://integraseed.businesscatalyst.com/
Proseed Inc.	Proseed	www.proseed.net/
Star Specialty	Star	www.starspecialtyseed.com/
WinField Croplan	Croplan	www.croplan.com

**Table 4. 2018 Summary of Liberty Link, Clearfield and Sulfonylurea Canola Hybrids in North Dakota.**

Company/ Brand	Hybrid	Type <sup>1</sup>	Blackleg Rating <sup>2</sup>	Clubroot Resistance <sup>3</sup>	REC Carrington SU	REC Carrington CL	REC Langdon	REC Minot
(Yields Expressed as a Percentage of the Trial Mean)								
Bayer	InVigor L140P	LL, TR	R	No	--	--	94	79
Bayer	InVigor L230	LL, TR	R	No	--	--	102	105
Bayer	InVigor L233P	LL, TR	R	No	--	--	91	112
Bayer	InVigor L234P	LL, TR	R	Yes	--	--	96	110
Bayer	InVigor L252	LL, TR	R	No	--	--	114	123
Bayer	InVigor L255P	LL, TR	R	Yes	--	--	107	126
Canterra	CS2500 CL	CL, TR	R	No	--	96	101	97
Cargill	V32-1CL	CL, HO	R	No	--	104	96	70
Cibus	C5522	SU, TR	R	No	100	--	97	--
Dyna-Gro	DG 200CL	CL, TR	R	No	--	--	98	78
Trial mean in lb/a					1,282	1,593	3,531	2,064

<sup>1</sup>H = Hybrid, Conv = open pollinated, LL = Liberty Link, SU = Sulfonylurea, CL = Clearfield System, RR = Roundup Ready. TR = Traditional Oil Type, HO = High Oleic Oil Type.

<sup>2</sup>Blackleg: R = Resistant. Blackleg rating provided by company.

<sup>3</sup>Hybrid Clubroot resistance. Rating provided by company.

**Table 5. 2018 Summary of Roundup Ready Canola Hybrids in North Dakota.**

Company/ Brand	Hybrid	Type <sup>1</sup>	Blackleg Rating <sup>2</sup>	Clubroot Resistance <sup>3</sup>	REC Carrington	REC Langdon	REC Minot	REC Williston	Irr Williston
(Yields Expressed as a Percentage of the Trial Mean)									
Brett Young	4187 RR	Trad	R	Yes	107	112	105	97	106
Brett Young	6074 RR	Trad	R	No	106	100	119	120	95
Brett Young	6090 RR	Trad	R	Yes	88	100	108	67	106
Canterra	CS2100	Trad	R	No	99	103	119	--	81
Canterra	CS2300	Trad	R	No	102	105	96	--	72
Cargill	11H4030	--	R	No	--	--	--	88	--
Cargill	15RH1142	Trad	R	Yes	116	97	--	108	--
Cargill	15RH1167	HO	R	Yes	119	105	--	100	--
Croplan	HyCLASS 730	Trad	R	Yes	92	104	110	114	106
Croplan	HyCLASS 930	Trad	R	No	95	99	118	104	118
Croplan	HyCLASS 955	Trad	R	Yes	109	98	106	96	107
Dekalb	DKL 35-23	Trad	MR	No	108	93	90	--	--
Dekalb	DKL 70-10	Trad	R	No	106	93	86	--	--
Dekalb	DKL 71-14BL	Trad	R	No	86	99	100	--	--
Dekalb	DKL 75-42CR	Trad	R	Yes	99	101	84	--	--
Dyna-Gro	DG 533G	Trad	R	No	--	98	81	--	--
Dyna-Gro	DG 540G	Trad	R	No	--	105	80	--	--
Integra	7150	Trad	R	No	100	88	93	--	--
Integra	7257	Trad	R	No	98	97	102	--	--
Pioneer	45CS40	Trad	R	Yes	72	99	--	--	--
Pioneer	45H33	Trad	R	Yes	99	95	--	--	--
Pioneer	45M35	Trad	MR	No	102	104	--	--	--
Proseed	300 Mag	Trad	R	No	--	97	102	115	--
Proseed	PS 5000	Trad	R	Yes	--	102	92	99	--
Star	Star 402	Trad	R	No	98	108	108	93	114
Trial mean in lb/a					1,750	3,221	2,274	1,015	2,124

<sup>1</sup>TR = Traditional Oil Type, HO = High Oleic Oil Type.

<sup>2</sup>Blackleg: R = Resistant, MR = Moderately Resistant. Blackleg rating provided by company.

<sup>3</sup>Hybrid Clubroot resistance. Rating provided by company.

**Table 6. 2018 Canola - Roundup Ready - Carrington - Authors, M. Ostlie, B. Schatz and K. Bjerke.**

Company/		Days to	Flower		Plant	Plant	1000 Seed	Test	Oil	Seed Yield	
Brand	Hybrid	Flower	Duration	Maturity	Height	Lodge <sup>1</sup>	Weight	Weight	Content	2018	3-yr. Avg.
		(DAP) <sup>2</sup>	(days)	(DAP)	(inch)	(0-9)	(gram)	(lb/bu)	(%)	----- (lb/a) -----	
BrettYoung	4187 RR	42	17	82	48	4	3.4	52.0	39.6	1,877	--
BrettYoung	6074 RR	41	18	80	43	4	2.9	52.2	38.6	1,863	2,381
BrettYoung	6090 RR	43	18	81	54	1	3.3	52.2	37.7	1,536	--
Canterra	CS2100	38	19	78	46	2	3.6	52.0	37.9	1,724	2,303
Canterra	CS2300	42	18	82	46	1	3.5	51.2	38.9	1,793	--
Cargill	15RH1142	43	17	82	51	0	3.3	52.8	37.3	2,022	--
Cargill	15RH1167	43	16	81	49	0	3.4	52.2	39.2	2,084	--
Croplan	HyCLASS 730	38	16	75	43	3	3.3	51.2	39.1	1,617	--
Croplan	HyCLASS 930	37	17	75	44	3	3.3	51.4	39.9	1,669	2,131
Croplan	HyCLASS 955	37	17	77	44	4	3.3	51.2	39.3	1,899	2,140
Dekalb	DKL 35-23	37	17	74	43	4	3.1	51.1	38.4	1,886	--
Dekalb	DKL 70-10	38	18	77	44	5	3.3	51.7	39.2	1,863	2,343
Dekalb	DKL 71-14BL	38	17	76	45	5	3.3	51.7	39.9	1,500	2,126
Dekalb	DKL 75-42CR	39	18	77	46	4	3.1	51.3	41.3	1,734	--
Integra	7150	37	17	75	42	4	3.3	51.4	41.2	1,742	1,993
Integra	7257	37	17	74	44	2	3.3	52.2	37.2	1,716	2,112
Pioneer	45CS40	40	17	78	44	2	2.9	52.4	37.7	1,258	1,979
Pioneer	45H33	39	18	78	46	1	3.0	52.0	38.9	1,731	--
Pioneer	45M35	40	17	79	48	1	3.0	52.1	39.4	1,779	--
Star	Star 402	38	17	76	44	3	3.4	50.9	41.5	1,706	2,147
Mean		39	17	78	46	2	3.3	51.8	39.1	1,750	2,166
CV %		1.8	4.0	1.9	5.9	103	5.6	0.6	2.3	13.4	--
LSD 0.05		1.0	1.0	2.1	3.8	3.2	0.3	0.5	1.3	330	--
LSD 0.10		0.8	0.8	1.7	3.2	2.7	0.2	0.4	1.1	276	--

Trial was planted on May 21 and harvested on Aug. 23. Previous crop was forage barley.

<sup>1</sup>Lodging: 0 = none, 9 = lying flat on the ground.

<sup>2</sup>DAP = Days after planting.

**Table 7. 2018 Canola - Clearfield and Sulfonylurea - Carrington - Authors, M. Ostlie, B. Schatz and K. Bjerke.**

		Days to	Flower	Days to	Plant	Plant	1,000 Seed	Test	Oil	Seed Yield	
Brand	Hybrid	Flower	Duration	Maturity	Height	Lodge <sup>1</sup>	Weight	Weight	Content	2018	2-yr Avg.
		(DAP) <sup>2</sup>	(days)	(DAP)	(inch)	(0-9)	(gram)	(lbs/bu)	(%)	----- (lb/a) -----	
<b>Clearfield</b>											
Canterra	CS2500 CL	38	19	78	50	2	3.81	51.6	38.2	1,530	--
Cargill	V32-1CL	38	21	79	49	3	3.43	52.0	37.3	1,656	2,065
<b>Sulfonylurea</b>											
Cibus	C5522	37	20	78	48	1	3.43	51.4	38.3	1,282	2,002
Mean		38	20	79	49	2	3.56	51.7	37.9	1,489	2,034
CV %		1.6	4.3	1.1	5.8	73	7.7	1.0	2.4	13.9	--
LSD 0.05		0.9	1.3	1.3	4.2	NS	NS	NS	NS	NS	--
LSD 0.10		0.7	1.1	1.1	3.4	1	NS	NS	NS	NS	--

Trial was planted on May 22 and harvested on Aug. 23. Previous crop was forage barley.

<sup>1</sup>Lodging: 0 = none, 9 = lying flat on the ground.

<sup>2</sup>DAP = Days after planting.

**Table 8. 2018 Canola - Roundup Ready - Langdon - Authors, B. Hanson, T. Hakanson and L. Henry.**

Company/ Brand	Hybrid	Days to	Flower	Days to	Plant	Plant	Cover <sup>2</sup>	Oil	Seed Yield	
		Flower (DAP) <sup>3</sup>	Duration (days)	Maturity (DAP)	Height (inch)	Lodge <sup>1</sup> (0-9)		Content (%)	2018	3-yr. Avg.
		-----lb/a-----								
Brett Young	4187RR	42	17	85	47	2	95	44.6	3,596	--
Brett Young	6074RR	39	20	85	41	1	94	43.9	3,237	3,288
Brett Young	6090RR	42	18	85	53	1	98	42.9	3,214	--
Canterra	CS2100	39	19	85	41	1	98	43.3	3,312	3,341
Canterra	CS2300	41	18	86	46	1	98	43.8	3,382	--
Cargill	15RH1142	41	19	86	42	1	96	42.8	3,121	--
Cargill	15RH1167	42	17	84	43	1	98	43.8	3,367	--
Croplan	HyCLASS 730	36	17	80	37	2	100	45.3	3,352	--
Croplan	HyCLASS 930	36	17	80	37	2	98	45.8	3,189	3,258
Croplan	HyCLASS 955	37	18	81	37	2	97	45.5	3,161	3,151
Dekalb	DKL 35-23	36	18	79	36	2	97	43.6	2,985	--
Dekalb	DKL 70-10	38	17	82	37	2	98	43.5	3,010	3,260
Dekalb	DKL 71-14BL	37	18	83	38	2	99	44.5	3,179	3,330
Dekalb	DKL 75-42CR	39	18	83	37	1	96	44.2	3,247	--
Dyna-Gro	DG 533G	38	20	83	41	1	93	43.8	3,156	3,229
Dyna-Gro	DG 540G	40	18	84	43	2	95	43.4	3,382	--
Integra	7150	36	18	81	41	2	94	44.1	2,826	3,020
Integra	7257	37	17	80	36	2	98	44.1	3,132	3,329
Pioneer	45CS40	39	18	83	44	2	100	43.8	3,183	3,143
Pioneer	45H33	39	19	84	43	2	97	43.5	3,075	--
Pioneer	45M35	38	18	82	38	2	100	45.9	3,338	--
Proseed	300 Mag	38	18	84	36	2	95	44.4	3,125	3,264
Proseed	PS 5000	41	17	85	47	2	96	43.2	3,275	3,173
Star	Star 402	38	18	83	38	2	97	46.4	3,473	3,426
Mean		39	18	83	41	2	97	44.2	3,221	3,247
CV %		1.4	4.2	1.7	10.3	34	3.1	1.6	6.6	--
LSD 0.05		0.7	1.1	2.0	5.9	0.8	4.2	1.0	297	--
LSD 0.10		0.6	0.9	1.7	4.9	0.7	3.5	0.8	248	--

Trial was planted on May 21 and harvested on Aug. 23.

<sup>1</sup>Lodging: 0 = none, 9 = lying flat on the ground.

<sup>2</sup>Cover - visual rating of percent area of plot covered by plant growth. This is a measure of stand and vigor.

Plants were at 5- to 6-leaf stage.

<sup>3</sup>DAP = Days after planting.

**Table 9. 2018 Canola - Liberty Link, Clearfield and Sulfonylurea - Langdon - Authors, B. Hanson, T. Hakanson and L. Henry.**

Company/ Brand	Hybrid	Type <sup>1</sup>	Days to	Flower	Days to	Plant	Plant	Cover <sup>3</sup>	Oil	Seed Yield	
			Flower	Duration	Maturity	Height	Lodge <sup>2</sup>			Content	2018
			(DAP) <sup>4</sup>	(days)	(DAP)	(inch)	(0-9)	(%)	(%)	----- (lb/a) -----	
Bayer	InVigor L140P	LL, TR	39	17	82	46	3	99	43.2	3,285	3,330
Bayer	InVigor L230	LL, TR	39	17	83	44	2	100	43.6	3,580	3,306
Bayer	InVigor L233P	LL, TR	38	18	81	44	3	99	43.3	3,198	3,278
Bayer	InVigor L234P	LL, TR	37	18	83	44	4	99	42.7	3,371	--
Bayer	InVigor L252	LL, TR	41	16	85	49	2	99	44.8	3,997	3,612
Bayer	InVigor L255P	LL, TR	40	18	84	46	2	100	44.9	3,749	--
Canterra	CS2500 CL	CL, TR	39	18	85	48	2	99	43.7	3,563	--
Cargill	V32-1CL	CL, HO	40	19	85	46	3	99	42.9	3,365	--
Cibus	C5522	SU, TR	38	19	85	45	3	97	42.0	3,388	3,039
Dyna-Gro	DG 200CL	CL, TR	40	19	86	48	4	99	43.5	3,448	3,418
Croplan <sup>5</sup>	HyCLASS 955	RR, TR	36	18	83	40	5	98	45.9	3,477	3,221
Dekalb <sup>5</sup>	DKL 71-14BL	RR, TR	37	18	84	40	3	97	45.2	3,700	--
Mean			39	18	84	45	3	99	43.8	3,510	3,315
CV %			1.2	4.9	1.5	7.2	36	2.5	1.6	6.3	--
LSD 0.05			0.7	1.3	1.8	4.6	1.3	3.4	1.0	294	--
LSD 0.10			0.6	1.1	1.5	3.8	1.1	2.9	0.8	245	--

Trial was planted on May 21 and harvested on Aug. 23.

<sup>1</sup>LL = Liberty Link, SU = Sulfonylurea, CL = Clearfield System, RR = Roundup Ready, TR = Traditional Oil Type, HO = High Oleic Oil Type.

<sup>2</sup>Lodging: 0 = none, 9 = lying flat on the ground.

<sup>3</sup>Cover - visual rating of percent area of plot covered by plant growth. This is a measure of stand and vigor. Plants were at 5- to 6-leaf stage.

<sup>4</sup>DAP = Days after planting.

<sup>5</sup>Roundup Ready checks in the trial.



**Table 10. 2018 Canola - Liberty Link and Clearfield - Minot - Authors, E. Eriksmoen, J. Effertz and A. Kraklau.**

Company/ Brand	Hybrid	Days to Flower (DAP) <sup>1</sup>	Flower Duration (days)	Days to Maturity (DAP)	Plant Height (inch)	Oil Content (%)	Seed Yield	
							2018	3-yr. Avg.
							----- (lb/a) -----	
Bayer	InVigor L140P	47	19	86	36	38.7	1,631	2,213
Bayer	InVigor L230	46	17	82	34	39.0	2,169	2,389
Bayer	InVigor L233P	47	18	84	34	38.4	2,307	2,494
Bayer	InVigor L234P	53	15	87	35	39.2	2,262	--
Bayer	InVigor L252	49	18	88	39	41.3	2,545	2,465
Bayer	InVigor L255P	49	17	87	36	40.5	2,596	--
Canterra	CS2500 CL	47	20	89	38	38.4	2,004	--
Cargill	V32-1CL	47	21	88	35	37.1	1,448	--
Dyna-Gro	DG 200CL	49	19	88	37	40.0	1,615	2,166
Mean		48	18	87	36	39.2	2,064	2,345
CV %		2.7	6.2	1.6	3.8	2.2	15.2	--
LSD 0.05		2	2	2	2	1.4	408	--
LSD 0.10		2	2	2	2	1.1	340	--

Trial was planted on May 10 with a seeding rate of 8 lb/A and harvested on Aug. 22. Previous crop was soybean.

<sup>1</sup>DAP = Days after planting.

**Table 11. 2018 Canola - Roundup Ready - Minot - Authors, E. Eriksmoen, J. Effertz and A. Kraklau.**

Company/ Brand	Hybrid	Days to Flower (DAP) <sup>1</sup>	Flower Duration (days)	Days to Maturity (DAP) <sup>1</sup>	Plant Height (inch)	Oil Content (%)	Seed Yield	
							2018	3-yr. Avg.
							----- (lb/a) -----	
BrettYoung	4187 RR	48	19	89	44	41.1	2,391	--
BrettYoung	6074 RR	45	23	88	41	41.1	2,708	2,582
BrettYoung	6090 RR	49	21	89	50	40.0	2,458	--
Canterra	CS2100	45	24	89	40	39.1	2,710	2,715
Canterra	CS2300	47	22	93	45	40.3	2,186	--
Croplan	HyCLASS 730	43	22	87	36	41.7	2,510	--
Croplan	HyCLASS 930	43	22	88	37	42.1	2,672	2,776
Croplan	HyCLASS 955	43	22	88	34	40.9	2,414	2,608
Dekalb	DKL 35-23	43	21	86	35	40.1	2,040	--
Dekalb	DKL 70-10	43	22	87	39	39.6	1,946	2,458
Dekalb	DKL 71-14BL	43	22	88	36	40.0	2,284	2,567
Dekalb	DKL 75-42CR	46	22	88	40	40.6	1,903	--
Dyna-Gro	DG 533G	46	23	88	39	39.8	1,843	2,658
Dyna-Gro	DG 540G	47	21	89	42	40.8	1,829	--
Integra	7150	44	22	88	36	41.2	2,126	--
Integra	7257	44	23	86	34	40.3	2,321	2,541
Proseed	300 Mag	46	23	91	41	41.7	2,328	2,555
Proseed	PS 5000	45	21	87	41	40.6	2,086	2,232
Star	Star 402	44	22	88	40	42.7	2,453	--
Mean		45	22	88	40	40.7	2,274	2,569
CV %		2.3	5.7	1.2	4.5	1.1	16.6	--
LSD 0.05		2	2	2	3	0.7	629	--
LSD 0.10		1	2	1	3	0.6	525	--

Trial was planted on May 11 with a seeding rate of 8 lb/A and harvested on Aug. 22. Previous crop was soybean.

<sup>1</sup>DAP = Days after planting.

**Table 12. 2018 Canola - Roundup Ready - Williston - Authors, J. Bergman and G. Pradhan.**

Company/ Brand	Hybrid	Days to Flower (DAP) <sup>1</sup>	Flower Duration (days)	Days to Maturity (DAP) <sup>1</sup>	Plant Height (inch)	Oil Content (%)	Seed Yield	
							2018	3-yr. Avg.
BrettYoung	4187 RR	47	12	87	34	45.8	981	--
BrettYoung	6074 RR	45	14	90	31	47.0	1,216	1,412
BrettYoung	6090 RR	40	19	89	37	45.6	683	--
Cargill	11H4030	41	16	83	25	44.9	893	--
Cargill	15RH1142	47	12	89	33	44.8	1,096	--
Cargill	15RH1167	47	12	88	35	45.5	1,010	--
Croplan	HyCLASS 730	42	15	86	30	48.0	1,160	--
Croplan	HyCLASS 930	42	15	85	29	48.7	1,059	1,404
Croplan	HyCLASS 955	43	15	85	25	46.6	971	1,393
Proseed	300 MAG	45	13	88	30	46.9	1,166	--
Proseed	PS 5000	46	12	88	37	45.8	1,001	--
Star	Star 402	45	13	87	33	47.6	949	1,376
Mean		44	14	87	32	46.4	1,015	1,396
CV %		2.5	8.3	1.5	8.9	2.6	15.1	--
LSD 0.05		1.6	1.6	1.8	4.0	1.7	219	--
LSD 0.10		1.3	1.3	1.5	3.4	1.4	183	--

Trial was planted on May 14 and harvested on Aug. 14. Previous crop was cover crops.

<sup>1</sup>DAP = Days after planting.

**Table 13. 2018 Canola - Irrigated - Roundup Ready - Williston. Authors, J. Jacobs and T. Tjelde.**

Company/ Brand	Hybrid	Days to Flower (DAP) <sup>2</sup>	Flower Duration (days)	Days to Mature (DAP)	Plant Height (inch)	Plant Lodge <sup>1</sup> (0-9)	Oil Content (%)	Seed Yield	
								2018	2-yr. Avg.
BrettYoung	4187 RR	52	17	103	45	6	40.9	2,251	--
BrettYoung	6074 RR	50	20	103	40	6	39.4	2,027	2,935
BrettYoung	6090 RR	55	16	106	43	5	39.8	2,254	--
Canterra	CS2100	49	20	103	39	5	39.1	1,722	--
Canterra	CS2300	54	19	103	42	5	38.5	1,524	--
Croplan	HyCLASS 730	46	15	95	35	6	42.2	2,258	--
Croplan	HyCLASS 930	47	15	95	35	6	42.4	2,513	3,219
Croplan	HyCLASS 955	46	11	96	32	6	41.4	2,264	3,116
Star	Star 402	48	15	102	41	6	41.7	2,428	3,083
Mean		50	16	101	40	5	40.4	2,124	3,088
CV %		--	--	--	--	--	2.9	25.6	--
LSD 0.05		--	--	--	--	--	1.7	797	--
LSD 0.10		--	--	--	--	--	1.5	661	--

Trial was planted on May 8 and harvested on Aug 23. Previous crop was barley.

<sup>1</sup>Lodging: 0 = none, 9 = lying flat on the ground.

<sup>2</sup>DAP = Days after planting.



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