

North Dakota Canola Variety Trial Results for 2015 and Selection Guide

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Introduction

Canola is a major oil crop in the northern Great Plains, particularly in North Dakota. In 2015, North Dakota accounted for approximately 79 percent of the canola acreage planted in the U.S. This publication summarizes canola variety 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 typing 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.

2015 Growing Season Update

Canola fieldwork began by the end of April. Planting was earlier than normal, and by May 18, 70 percent of the acres had been planted, compared with the average of 38 percent on the same date. On May 18, the topsoil moisture was rated at 75 percent adequate and 21 percent surplus. Early canola stands varied across the region, depending on soil moisture availability and rainfall after planting. Some early planted acres were replanted due to frost damage to the crop. By July 6, 84 percent of the canola crop was flowering, compared with the average of 51 percent on the same day. By the last week in July, the North Dakota Agricultural Statistics Service reported the canola crop condition as 65 percent "good" and 19 percent "excellent." Already 66 percent of the canola acres were harvested on Sept. 8. By Sept. 28, 93 percent of the canola was harvested, which was near average. In general, the 2015 season started early and the average yield forecast is 1,870 pounds per acre, a record high for North Dakota.

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Table 1. Canola Production, North Dakota 2008-2015.

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	1,190	1,180	1,800	2,142,000
2015 ¹	1,410	1,400	1,870	2,618,000
Average	1,099	1,086	1,674	1,816,663

¹ Forecast USDA.

Source: North Dakota Agricultural Statistics Service – USDA.

Table 2. April-September 2015 Average Temperature and Precipitation and Rankings for Select North Dakota Locations.

City	Temperature Ranking	Precipitation Ranking
Bowman	59.7 F (40th Warmest Period Since 1915)	12.6 inches (44th Wettest Period Since 1915)
Bismarck	62.0 F (23rd Warmest Period Since 1875)	14.0 inches (45th Wettest Period Since 1875)
Cavalier	59.3 F (23rd Warmest Period Since 1934)	20.9 inches (6th Wettest Period Since 1927)
Fargo	62.8 F (10th Warmest Period Since 1881)	16.9 inches (57th Wettest Period Since 1881)
Minot Exp. Station	59.9 F (22nd Warmest Period Since 1905)	14.8 inches (31st Wettest Period Since 1905)
Williston Exp. Station	61.3 F (14th Warmest Period Since 1894)	8.7 inches (27th Driest Period Since 1894)
North Dakota Average	60.4 F (15th Warmest Period Since 1895)¹	14.1 in. (46th Wettest Period Since 1894)¹

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.

About This Publication

Variety trial data from all NDSU Research Extension Centers for all crops can be found at 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. 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/index.cfm
Cargill	Cargill	www.victorycanola.com/
Cibus	Cibus	www.cibus.com
Dekalb	Dekalb	www.agseedselect.com/
DuPont Pioneer	Pioneer	www.pioneer.com/home/site/us/products/canola/
Integra Fortified Seed	Integra	www.integraseed.com/products/canola.aspx
Mycogen Seeds	Mycogen	www.mycogen.com/products
Proseed Inc.	Proseed	www.proseed.net/canola.php
Star Specialty	Star	www.starspecialtyseed.com/
WinField Croplan	Croplan	www.winfield.com/Farmer/Croplan/FindSeed/Canola/default.aspx

Table 4. 2015 Summary of Roundup Ready Canola Hybrids in North Dakota.

Company/ Brand	Variety	Type ¹	Blackleg Rating ²	Clubroot Resistance ³	REC Carrington	REC Hettinger	REC Langdon	REC Minot	REC Williston
---(Yields Expressed as a Percentage of the Trial Mean)---									
Brett Young	6056 CR	H,TR	R	Yes	--	--	94	93	--
Brett Young	6064 RR	H,TR	R	No	113	103	105	103	115
Brett Young	6070 RR	H,TR	R	No	--	--	105	102	106
Brett Young	6074 RR	H,TR	R	No	102	104	104	106	106
Cargill	V12-1	H,HO	R	No	107	107	95	103	84
Cargill	V22-1	H,HO	R	No	105	105	91	94	82
Croplan	HyCLASS 930	H,TR	R	No	110	--	101	101	--
Croplan	HyCLASS 955	H,TR	R	Yes	111	--	108	98	--
Croplan	HyCLASS 970	H,TR	R	No	97	--	97	115	--
Croplan	HyCLASS 972	H,TR	R	No	89	--	100	106	--
Dekalb	DKL38-48	H,TR	MR	No	91	--	86	103	--
Dekalb	DKL70-07	H,TR	R	No	93	--	97	106	--
Dekalb	DKL70-10	H,TR	R	No	--	--	105	111	--
Dekalb	DKL70-50CR	H,TR	R	Yes	98	--	94	120	--
Integra	7150R	H,TR	R	No	--	--	106	88	--
Integra	7156RR	H,TR	R	No	--	--	107	98	--
Mycogen	Nexera 1012 RR	H,HO	R	No	94	97	90	79	--
Mycogen	Nexera 1020 RR	H,HO	R	Yes	99	112	101	77	--
Mycogen	Nexera 1022 RR	H,HO	R	No	88	94	89	75	--
Pioneer	45H31	H,TR	R	No	--	--	107	--	--
Pioneer	45H33	H,TR	R	Yes	--	--	110	--	--
Proseed	45 Caliber	H,TR	R	No	91	--	--	--	--
Proseed	PS 5000	H,TR	R	Yes	92	99	105	109	--
Proseed	44 Mag	H,TR	R	No	117	92	98	--	--
Proseed	300 Mag	H,TR	R	No	99	93	101	115	--
Star	Star 402	H,TR	R	No	104	93	105	97	106
Trial mean in lb/a					2,598	2,116	3,573	2,305	994

¹H = Hybrid, TR = Traditional Oil Type, HO = High Oleic Oil Type.

²Blackleg: R = Resistant, MR = Moderately Resistant, NA = Not Available. Blackleg rating provided by company.

³Hybrid has Clubroot resistance. Rating provided by company.

Table 5. 2015 Summary of Liberty Link, Clearfield and Sulfonylurea Canola Hybrids in North Dakota.

Company/ Brand	Variety	Type ¹	Blackleg Rating ²	Clubroot Resistance ³	REC Carrington	REC Minot	REC Langdon	REC Hettinger	REC Williston
(Yields Expressed as a Percentage of the Trial Mean)									
Bayer	InVigor 5440	H,LL,TR	R	No	97	94	107	108	--
Bayer	InVigor L120	H,LL,TR	R	No		86	--	98	92
Bayer	InVigor L130	H,LL,TR	R	No	71	94	99	93	98
Bayer	InVigor L140P	H,LL,TR	R	No	109	115	110	89	118
Bayer	InVigor L156H	H,LL,TR	R	No	107	106	100	--	--
Bayer	InVigor 241C	H,LL,TR	R	Yes	106	--	103	--	--
Bayer	InVigor L252	H,LL,TR	R	No	109	102	105	--	--
Cibus	C1511	H,SU,TR	R	No	104	99	94	97	94
Cibus	C1516	H,SU,TR	MR	No	105	89	88	87	98
Croplan ⁴	HyCLASS 955	H,RR,TR	R	Yes	--	--	107	--	--
Dekalb ⁴	70-50CR	H,RR,TR	R	Yes	--	--	102	--	--
Dekalb ⁴	DKL38-48	H,RR,TR	MR	No	--	110	--	--	--
Mycogen	Nexera 2020 CL	H,CL,HO	R	Yes	96	100	90	115	--
Mycogen	CL2562966H	H,CL,HO	R	No	95	--	98	112	--
Pioneer	45H76	H,CL,TR	R	No	--	--	101	--	--
Pioneer	46H75	H,CL,TR	R	No	--	--	96	--	--
Trial mean in lb/a					2,122/2,199 ⁵	2,094	3,221	1,991	1,239

¹H = Hybrid, LL = Liberty Link, SU = Sulfonylurea, CL = Clearfield System, RR = Roundup Ready.

TR = Traditional Oil Type, HO = High Oleic Oil Type.

²Blackleg: R = Resistant, MR = Moderately Resistant, NA = Not Available Blackleg rating provided by company.

³Hybrid has Clubroot resistance. Rating provided by company.

⁴Roundup Ready checks in the trial.

⁵See Table 8 and 7, respectively.

Table 6. 2015 Canola - Roundup Ready - Carrington - Authors, M. Ostlie, B. Schatz and E. Aberle.

Company/		Days to Flower (DAP) ²	Flower			Plant Height (inch)	1000 Seed Weight (gram)	Test Weight (lb/bu)	Oil Content (%)	Seed Yield	
Brand	Variety		Type ¹	Duration (days)	Maturity (DAP) ²					2015	3-yr. Avg.
										-----lb/a-----	
BrettYoung	6064 RR	TR	51	14	96	42.3	3.1	51.8	46.3	2,933	--
BrettYoung	6074 RR	TR	53	15	97	43.2	3.0	53.4	44.2	2,653	--
Cargill	V12-1	HO	52	13	95	40.1	2.9	52.2	44.7	2,768	2,434
Cargill	V22-1	HO	53	13	97	43.7	2.9	52.1	44.1	2,729	--
Croplan	HyClass 930	TR	49	14	94	41.1	2.9	52.4	47.1	2,859	2,364
Croplan	HyClass 955	TR	51	13	94	41.5	3.0	52.5	47.0	2,872	2,635
Croplan	HyClass 970	TR	53	13	97	41.9	3.1	52.9	45.8	2,523	--
Croplan	HyClass 972	TR	53	14	97	43.8	3.1	53.5	44.7	2,306	--
Dekalb	DKL38-48	TR	51	15	96	40.5	2.9	53.4	43.5	2,372	2,166
Dekalb	DKL70-07	TR	52	15	97	43.4	2.9	53.1	45.9	2,425	2,459
Dekalb	DKL70-50CR	TR	51	16	97	44.3	3.3	53.1	44.8	2,536	--
Mycogen	Nexera 1012 RR	HO	57	14	99	48.2	2.7	53.3	43.3	2,444	--
Mycogen	Nexera 1020 RR	HO	55	14	98	45.3	2.8	52.3	42.9	2,561	--
Mycogen	Nexera 1022 RR	HO	57	13	98	48.0	3.0	53.0	43.7	2,283	--
Proseed	44 Mag	TR	49	14	94	38.5	3.0	52.7	46.7	3,050	2,528
Proseed	300 Mag	TR	51	16	96	42.0	3.1	53.0	44.9	2,578	2,446
Proseed	45 Caliber	TR	49	15	94	38.3	3.0	52.6	46.5	2,375	--
Proseed	PS 5000	TR	53	13	96	43.8	2.9	53.0	45.3	2,393	--
Star	Star 402	TR	49	15	94	42.4	3.0	52.1	48.0	2,699	2,454
Mean			52	14	96	42.8	3.0	52.7	45.2	2,598	2,436
CV %			1.8	7.1	1.0	8.1	5.5	0.5	1.5	12.1	--
LSD 0.05			1.3	1.4	1.4	4.8	0.2	0.4	1.0	436	--
LSD 0.10			1.1	1.1	1.2	4.0	0.2	0.3	0.8	365	--

Trial was planted on May 4 and harvested on Aug. 17. Previous crop was spring wheat.

¹TR = Traditional Oil Type, HO = High Oleic Oil Type.

²DAP = Days after planting.

Table 7. 2015 Canola - Clearfield and Sulfonyleurea - Carrington - Authors, M. Ostlie, B. Schatz and E. Aberle.

Brand	Variety	Type ¹	Days to	Flower	Days to	Plant	1000 Seed	Test	Oil	Seed Yield
			Flower	Duration	Mature	Height	Weight	Weight	Content	2015
			(DAP) ²	(days)	(DAP) ²	(inch)	(gram)	(lbs/bu)	(%)	---(lbs/a)---
Clearfield										
Mycogen	Nexera 2020 CL	HO	54	13	99	42	3.30	53.1	45.0	2,106
Mycogen	CL2562966H	HO	53	12	98	41	3.28	52.9	45.8	2,093
Sulfonyleurea Herbicide Tolerant Type										
Cibus	C1511	TR	52	14	96	44	3.49	52.7	40.9	2,294
Cibus	C1516	TR	53	14	95	44	3.40	54.0	42.2	2,302
Mean			53	13	97	43	3.37	53.2	43.5	2,199
CV %			0.8	5.8	0.8	6.5	3.7	0.4	1.3	15.6
LSD 0.05			0.6	1.2	1.1	NS	NS	0.4	0.9	NS
LSD 0.10			0.5	1.0	0.4	NS	NS	0.3	0.7	NS

Trial was planted on May 4 and harvested on Aug. 17. Previous crop was spring wheat.

¹TR = Traditional Oil Type, HO = High Oleic Oil Type.

²DAP = Days after planting.

Table 8. 2015 Canola - Liberty Link - Carrington - Authors, M. Ostlie, B. Schatz and E. Aberle.

Brand	Variety	Type ¹	Days to	Flower	Days to	Plant	1000 Seed	Test	Oil	Seed Yield
			Flower	Duration	Mature	Height	Weight	Weight	Content	2015
			(DAP) ²	(days)	(DAP) ²	(inch)	(gram)	(lbs/bu)	(%)	---(lbs/a)---
Bayer	InVigor L130	TR	49	13	91	36	3.06	52.7	46.2	1,514
Bayer	InVigor L140P	TR	51	12	92	39	2.59	53.0	44.8	2,321
Bayer	InVigor 5440	TR	51	13	93	41	2.86	53.1	46.2	2,061
Bayer	InVigor L252	TR	52	12	93	37	2.55	53.4	47.2	2,322
Bayer	InVigor L241C	TR	53	13	93	41	2.93	53.4	43.9	2,252
Bayer	InVigor L156H	HO	53	12	95	41	2.84	52.8	45.7	2,261
Mean			51	13	93	39	2.80	53.1	45.7	2,122
CV %			1.9	9.7	0.4	6.0	2.9	0.4	0.9	11.3
LSD 0.05			1.5	NS	0.6	3.5	0.1	0.4	0.6	363
LSD 0.10			1.2	NS	0.5	2.9	0.1	0.3	0.5	298

Trial was planted on May 4 and harvested on Aug. 13. Previous crop was spring wheat.

¹TR = Traditional Oil Type, HO = High Oleic Oil Type.

²DAP = Days after planting.

Table 9. 2015 Canola - Roundup Ready - Hettinger - Authors, J. Rickertsen and R. Olson.

Company/ Brand	Variety	Type ¹	Days to	Flower	Days to	Plant	Lodging ²	Test	Oil	Seed Yield	
			Flower (DAP) ³	Duration (days)	Mature (DAP) ³	Height (inch)		Weight (lb/bu)	Content (%)	2015	2-Yr. Avg.
BrettYoung	6064 RR	TR	51	23	92	57	3	47.9	49.4	2,178	--
BrettYoung	6074 RR	TR	52	23	92	54	7	49.3	48.9	2,209	--
Cargill	V12-1	HO	52	21	91	52	4	49.8	47.8	2,266	2,132
Cargill	V22-1	HO	53	21	92	54	3	48.4	48.1	2,232	--
Mycogen	Nexera 1012 RR	HO	54	23	95	57	3	47.7	47.0	2,048	--
Mycogen	Nexera 1020 RR	HO	53	23	94	56	3	47.2	47.2	2,374	--
Mycogen	Nexera 1022 RR	HO	54	22	94	54	1	48.4	47.3	1,992	--
Proseed	44 Mag	TR	51	22	91	50	8	49.6	49.6	1,947	1,826
Proseed	300 Mag	TR	50	22	90	52	6	50.4	48.9	1,971	1,818
Proseed	PS 5000	TR	52	21	91	48	6	50.0	47.6	2,085	--
Star	Star 402	TR	50	23	91	51	6	50.5	51.7	1,975	1,931
Mean			52	22	92	53	5	49.0	48.5	2,116	1,927
CV %			0.9	3.3	0.7	4.2	23	1.4	1.2	8.7	--
LSD 0.05			0.7	1.0	1.0	3.2	1.6	1.0	0.8	261	--
LSD 0.10			0.6	0.9	0.8	2.7	1.3	0.8	0.7	218	--

Trial was planted on May 1 and harvested on Aug. 11.

¹TR = Traditional Oil Type, HO = High Oleic Oil Type.

²Lodging: 0 = none, 9 = lying flat on the ground.

³DAP = Days after planting.

Table 10. 2015 Canola - Liberty Link, Clearfield and Surfonylurea - Hettinger - Authors, J. Rickertsen and R. Olson.

Brand	Variety	Type ¹	Days to	Flower	Days to	Plant	Lodging ²	Test	Oil	Seed Yield	
			Flower (DAP) ³	Duration (days)	Mature (DAP) ³	Height (inch)		Weight (lbs/bu)	Content (%)	2015	2-Yr. Avg.
Bayer	InVigor 5440	LL	51	22	91	54	2	52.5	48.1	2,146	--
Bayer	InVigor L120	LL	52	21	91	48	5	50.9	47.2	1,961	--
Bayer	InVigor L130	LL	51	22	91	53	5	52.1	47.8	1,856	--
Bayer	InVigor L140P	LL	51	21	91	52	6	51.8	48.5	1,779	--
Cibus	C1511	SU	53	22	93	51	4	51.1	44.4	1,941	--
Cibus	C1516	SU	55	24	95	52	4	51.3	45.4	1,729	--
Mycogen	Nexera 2020 CL	CL, HO	54	23	95	52	3	52.1	48.9	2,282	1,895
Mycogen	CL2562966H	CL, HO	53	22	92	53	3	52.3	49.4	2,232	--
Mean			52	22	92	52	4	51.8	47.5	1,991	1,895
CV %			1.0	2.1	0.5	5.5	14.7	0.9	1.3	8.4	--
LSD 0.05			0.8	0.7	0.7	4.2	0.9	0.7	0.9	246	--
LSD 0.10			0.7	0.6	0.6	3.5	0.7	0.6	0.8	203	--

Trial was planted on April 30 and harvested on Aug. 13.

¹LL = Liberty Link, SU = Sulfonylurea, CL = Clearfield System, HO = High Oleic Oil Type.

²Lodging: 0 = none, 9 = lying flat on the ground.

³DAP = Days after planting.

Table 11. 2015 Canola - Roundup Ready - Langdon - Authors, B. Hanson, T. Hakanson and L. Henry.

Company/		Type ¹	Days to Flower		Plant			Oil Content	Seed Yield		
Brand	Variety		Flower (DAP) ³	Duration (days)	Maturity (DAP) ³	Height (inch)	Lodging (0-9)		Cover ² (%)	2015	3-yr. Avg.
BrettYoung	6056 CR	TR	49	24	96	49	0	73	47.0	3,372	--
BrettYoung	6064 RR	TR	49	23	96	49	0	80	49.1	3,754	--
BrettYoung	6070 RR	TR	47	22	95	47	1	83	48.4	3,735	3,466
BrettYoung	6074 RR	TR	49	24	97	48	0	75	47.6	3,721	--
Cargill	V12-1	HO	50	21	95	49	1	73	47.6	3,409	3,603
Cargill	V22-1	HO	52	21	95	50	1	70	47.3	3,244	--
Croplan	HyCLASS 930	TR	45	21	91	47	2	75	52.4	3,601	3,602
Croplan	HyCLASS 955	TR	46	21	91	44	1	83	51.3	3,848	3,555
Croplan	HyCLASS 970	TR	48	23	93	48	0	69	50.1	3,471	--
Croplan	HyCLASS 972	TR	48	24	93	44	0	68	48.4	3,588	--
Dekalb	DKL38-48	TR	47	21	92	44	1	70	48.1	3,055	3,223
Dekalb	DKL70-07	TR	47	21	92	47	1	75	50.8	3,478	3,401
Dekalb	DKL70-10	TR	47	21	91	46	1	74	48.1	3,759	--
Dekalb	DKL70-50CR	TR	48	22	93	47	1	79	48.4	3,357	--
Integra	7150RR	TR	45	20	92	43	2	74	51.0	3,781	3,410
Integra	7156RR	TR	46	22	91	42	1	79	46.5	3,814	--
Mycogen	Nexera 1012 RR	HO	53	22	96	59	0	74	45.2	3,208	3,320
Mycogen	Nexera 1020 RR	HO	51	22	94	47	0	80	47.2	3,596	--
Mycogen	Nexera 1022 RR	HO	52	22	96	51	0	64	47.0	3,174	--
Pioneer	45H31	TR	48	21	93	46	0	78	48.8	3,831	--
Pioneer	45H33	TR	48	21	92	48	1	86	48.5	3,936	--
Proseed	300 Mag	TR	47	22	93	44	2	69	49.5	3,618	3,418
Proseed	44 Mag	TR	48	22	93	46	1	68	49.3	3,487	3,276
Proseed	PS 5000	TR	48	22	95	48	1	74	48.0	3,747	--
Star	Star 402	TR	46	20	93	43	1	68	52.1	3,749	3,631
Mean			48	22	93	47	1	74	48.8	3,573	3,446
CV %			1.8	5.7	1.5	8.1	83.2	13.2	1.7	7.3	--
LSD 0.05			1.2	1.7	2.0	5.3	0.9	13.7	1.1	367	--
LSD 0.10			1.0	1.4	1.6	4.4	0.8	11.4	1.0	308	--

Trial was planted on May 12 and harvested on Aug. 31.

¹TR = Traditional Oil Type, HO = High Oleic Oil Type.

²Cover - 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.

³DAP = Days after planting.

Table 12. 2015 Canola - Liberty Link, Clearfield and Sulfonylurea - Langdon - Authors, B. Hanson, T. Hakanson and L. Henry.

Company/ Brand	Variety	Type ¹	Days to Flower (DAP) ³	Flower Duration (days)	Maturity (DAP) ³	Plant Height (inch)	Oil Cover ² (%)	Oil Content (%)	Seed Yield	
									2015	3-yr. Avg.
									----(lb/a)----	
Bayer	InVigor L140P	LL, TR	42	19	82	54	99	47.4	3,540	--
Bayer	InVigor L130	LL, TR	43	23	84	55	96	46.5	3,179	3,472
Bayer	InVigor 5440	LL, TR	44	22	85	57	99	46.0	3,436	3,692
Bayer	InVigor 241C	LL, TR	44	21	84	54	98	45.5	3,303	--
Bayer	InVigor 156H	LL, HO	43	22	85	50	99	47.1	3,223	3,538
Bayer	InVigor L252	LL, TR	44	20	84	53	94	48.6	3,393	3,827
Cibus	C1511	SU, TR	44	23	84	57	91	44.5	3,043	--
Cibus	C1516	SU, TR	45	22	85	57	93	46.9	2,837	--
Mycogen	Nexera 2020 CL	CL, HO	44	21	86	53	95	48.1	2,894	--
Mycogen	CL2562966H	CL, HO	44	21	86	56	95	48.8	3,156	--
Pioneer	45H76	CL, TR	45	21	84	56	96	47.6	3,268	--
Pioneer	46H75	CL, TR	46	21	87	55	99	46.8	3,106	--
RR Check	HyCLASS 955	RR, TR	41	20	82	49	85	50.7	3,433	3,619
RR Check	Dekalb 70-50CR	RR, TR	42	21	82	53	83	47.9	3,288	--
Mean			43	21	84	54	94	47.3	3,221	3,629
CV %			1.4	4.1	2.0	4.8	4.3	2.1	6.9	--
LSD 0.05			0.9	1.3	2.4	3.7	5.6	1.4	311	--
LSD 0.10			0.7	1.0	2.0	3.1	4.7	1.2	259	--

Trial was planted on May 20 and harvested on Aug. 31.

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

²Cover - 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.

³DAP = Days after planting.

Table 13. 2015 Canola - Roundup Ready - Williston - Authors, J. Bergman, G. Pradhan, D. Amiot and A. Link.

Company/ Brand	Variety	Type ¹	Days to Flower (DAP) ³	Flower Duration (days)	Maturity (DAP) ³	Plant Height (inch)	Oil Content (%)	Seed Yield ²		
									2015	3-yr. Avg.
									----(lb/a)----	
BrettYoung	6064 RR	TR	59	8	98	45	41.4	1,146	--	
BrettYoung	6070 RR	TR	53	12	96	41	41.5	1,054	1,478	
BrettYoung	6074 RR	TR	59	9	97	44	40.3	1,054	--	
Cargill	V12-1	HO	56	10	94	40	40.5	838	--	
Cargill	V22-1	HO	58	10	95	44	40.5	815	--	
Star	Star 402	TR	53	11	95	41	44.1	1,057	1,412	
Mean			56	10	96	42	41.4	994	1,445	
CV %			2.7	18.6	0.8	6.6	1.3	14.0	--	
LSD 0.05			2.2	2.7	1.2	4.1	0.8	198	--	
LSD 0.10			1.2	2.2	1.0	3.4	0.7	163	--	

Trial was planted on April 24 and harvested on Aug. 11. Previous crop was green peas.

¹TR = Traditional Oil Type, HO = High Oleic Oil Type.

²All plots significantly lodged and shattered due to wind storm July 28th.

³DAP = Days after planting.

Table 14. 2015 Canola - Libery Link and Sulfonylurea - Williston - Authors, J. Bergman, G. Pradhan, D. Amiot and A. Link.

Company/ Brand	Variety	Type ¹	Days to Flower (DAP) ³	Flower Duration (days)	Days to Maturity (DAP) ³	Plant Height (inch)	Shatter ² (%)	Oil Content (%)	Seed Yield ---(lb/a)---
Bayer	InVigor L120	LL	55	13	99	38	9	37.9	1,139
Bayer	InVigor L130	LL	54	11	99	40	11	38.1	1,218
Bayer	InVigor L140P	LL	54	12	100	35	3	36.7	1,468
Cibus	C1511	SU	54	17	100	41	10	34.9	1,159
Cibus	C1516	SU	58	17	107	41	6	36.3	1,209
Mean			55	14	101	39	7.8	36.8	1,239
CV %			2.2	13.8	1.9	9.1	64.2	0.8	9.6
LSD 0.05			1.8	2.9	3.0	5.5	7.7	0.5	183
LSD 0.10			1.5	2.4	2.4	4.5	6.3	0.4	149

Trial was planted on April 24 and harvested on Aug. 11. Previous crop was green peas.

¹LL = Liberty Link, SU = Sulfonylurea.

²All plots significantly lodged and shattered due to wind storm July 28th.

³DAP = Days after planting.

Table 15. 2015 Canola - Liberty Link, Clearfield and Sulfonylurea - Minot - Authors, E. Eriksmoen, J. Tarasenko and J. Effertz.

Company/ Brand	Variety	Type ¹	Days to Flower (DAP) ²	Flower Duration (days)	Days to Maturity (DAP) ²	Plant Height (inch)	Lodging (0-9) ³	Oil Content (%)	Seed Yield (lb/a)
Bayer	InVigor 5440	LL	46	19	84	48	2	42.4	2,072
Bayer	InVigor L120	LL	45	20	84	47	2	41.1	1,800
Bayer	InVigor L130	LL	45	19	84	49	2	42.4	1,967
Bayer	InVigor L140P	LL	46	20	85	46	3	40.7	2,412
Bayer	InVigor L156H	LL	46	21	86	48	3	42.1	2,211
Bayer	InVigor L252	LL	47	18	84	50	2	42.2	2,141
Cibus	C1511	SU	46	21	86	48	2	39.1	2,070
Cibus	C1516	SU	49	19	87	46	3	40.5	1,874
Mycogen	Nexera 2020 CL	CL	50	17	88	48	2	42.9	2,095
RR check	DKL38-48	RR	45	20	85	48	2	42.0	2,298
Mean			46	19	85	48	2	41.5	2,094
CV %			1.3	4.4	0.9	7.9	30.0	1.4	6.2
LSD 0.05			1.0	1.0	1.0	NS	1.0	0.8	183
LSD 0.10			1.0	1.0	1.0	NS	1.0	0.7	149

Trial was planted on May 5 with a seeding rate of 8 lb/A and harvested on Aug. 15. Previous crop was soybean.

¹LL = Liberty Link, SU = Sulfonylurea, CL = Clearfield System, RR = Roundup Ready.

²DAP = Days after planting.

³Lodging: 0 = none, 9 = lying flat on the ground.

Table 16. 2015 Canola - Roundup Ready - Minot - Authors, E. Eriksmoen, J. Tarasenko and J. Effertz.

Company/ Brand	Variety	Days to Flower (DAP) ¹	Flower Duration (days)	Days to Maturity (DAP) ¹	Plant Height (inch)	Lodging (0-9) ²	Oil Content (%)	Seed Yield	
								2015	3-yr. Avg. -----lb/a-----
BrettYoung	6056 RR	46	27	88	43	2	42.3	2,150	2,447
BrettYoung	6064 RR	47	25	89	48	3	44.5	2,368	--
BrettYoung	6070 RR	44	28	88	38	3	43.0	2,347	2,391
BrettYoung	6074 RR	46	27	88	43	3	41.9	2,444	--
Cargill	V12-1	46	22	86	43	2	41.2	2,363	2,412
Cargill	V22-1	48	22	88	41	2	41.5	2,166	--
Croplan	HyCLASS 930	44	26	87	43	2	44.2	2,338	2,472
Croplan	HyCLASS 955	45	25	86	42	2	44.3	2,270	2,578
Croplan	HyCLASS 970	46	24	87	45	3	43.5	2,657	--
Croplan	HyCLASS 972	47	27	88	45	2	42.4	2,442	--
Dekalb	DKL38-48	45	25	87	44	2	41.1	2,381	2,526
Dekalb	DKL70-50CR	45	25	87	49	2	42.5	2,775	--
Dekalb	DKL70-07	45	24	87	41	2	43.2	2,455	2,532
Dekalb	DKL70-10	45	24	87	43	2	43.6	2,551	--
Integra	7150RR	44	25	86	41	2	43.7	2,027	--
Integra	7156RR	44	26	86	44	2	39.8	2,254	--
Mycogen	Nexera 1012 RR	50	25	91	49	3	41.3	1,826	2,164
Mycogen	Nexera 1020 RR	50	25	89	45	3	40.2	1,777	--
Mycogen	Nexera 1022 RR	51	24	90	44	2	40.5	1,720	--
Proseed	300 Mag	46	26	89	42	2	42.7	2,640	2,762
Proseed	PS 5000	45	25	87	42	2	41.3	2,519	--
Star	Star 402	44	25	86	42	2	44.9	2,232	2,322
Mean		46	25	87	44	2	42.4	2,305	2,461
CV %		1.3	5.2	1.3	7.8	24.0	2.9	7.2	--
LSD 0.05		1.0	2.0	2.0	5.0	1.0	1.7	234	--
LSD 0.10		1.0	2.0	2.0	4.0	1.0	1.4	196	--

Trial was planted on May 5 with a seeding rate of 8 lb/A and harvested on Aug. 15. Previous crop was soybean.

²DAP = Days after planting.

³Lodging: 0 = none, 9 = lying flat on the ground.

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