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# North Dakota Canola

## *Variety Trial Results for 2019 and Selection Guide*

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Canola is a major oil crop in the northern Great Plains, particularly in North Dakota. In 2019, North Dakota accounted for approximately 83% of the 2.04 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.

### **2019 Growing Season Update**

Canola fieldwork began by the beginning of May. Planting progress was delayed, and by May 12, 22% of the acres had been planted, compared with the average of 33% on the same date. On May 12, the topsoil moisture was rated at 71% adequate.

Early canola stands varied across the region, depending on soil moisture availability and rainfall after planting. By July 7, 68% of the canola crop was flowering, compared with the average of 81% on the same day. Many parts of the state experienced warm midsummer conditions and cooler fall temperatures. By the last week in July 2019, the North Dakota office of the National Agricultural Statistics Service reported the canola crop condition as 62% "good" and 8% "excellent."

By Sept. 15, 47% of the canola acres were harvested, which was behind the 82% average on the same date. In general, the 2019 season was favorable and yield is estimated to be about 1,900 pounds per acre for North Dakota.

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## About This Publication

Variety trial data from all NDSU Research Extension Centers for all crops can be found at [www.ndsu.edu/varietytrials](http://www.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% 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% moisture, except where otherwise indicated in the footnotes. Oil content is intended to differentiate among hybrids at one location. LSD values should be used to determine differences among hybrids. **The oil content data are not intended to be compared among 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 1. Canola Production, North Dakota 2008-2019.**

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	1,180	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	1,560	1,630	2,496,000
2018	1,590	1,580	1,920	3,096,800
2019 <sup>1</sup>	1,700	1,690	1,900	3,211,000
Average	1,262	1,248	1,716	21,456,592

<sup>1</sup> Forecast U.S. Department of Agriculture (USDA).

Source: North Dakota Agricultural Statistics Service – USDA.

**Table 2. April-September 2019 Average Temperature, Precipitation and Rankings for Select North Dakota Locations.**

Location	Average Temperature (Ranking)	Total Precipitation (Ranking)
Bowman	57.5 F (9th Coolest Period Since 1915)	16.03 inches (11th Wettest Period Since 1915)
Bismarck	60.7 F (56th Warmest Period Since 1875)	21.79 inches (4th Wettest Period Since 1875)
Cavalier	57.2 F (24th Coolest Period Since 1934)	14.43 inches (46th Wettest Period Since 1927)
Fargo	60.4 F (40th Warmest Period Since 1881)	20.87 inches (12th Wettest Period Since 1881)
Minot Exp. Station	57.6 F (47th Coolest Period Since 1905)	17.84 inches (16th Wettest Period Since 1905)
Williston Exp. Station	59.3 F (63rd Coolest Period Since 1894)	17.77 inches (2nd Wettest Period Since 1894)
North Dakota Average <sup>1</sup>	<b>58.2 F (55th Coolest Period Since 1895)</b>	<b>18.4 inches (6th Wettest 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.

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

Company/Brand	Short	URL
BASF	BASF	agriculture.basf.com/us/en/Crop-Protection/InVigor.html
BrettYoung	BrettYoung	www.brettyoung.ca/us-seed-crop-inputs
Canterra Seeds	Canterra	www.canterra.com/products/canola
Dekalb	Dekalb	www.dekalbasgrowdeltapine.com/en-us/dekalb/products/canola.html
DuPont Pioneer	Pioneer	www.pioneer.com/us/agronomy-science/crop.canola.html
Dyna-Gro Seed	Dyna-Gro	www.dynagroseed.com
Integra Fortified Seed	Integra	integraseed.businesscatalyst.com/canola.html
Photosyntech	Photosyntech	photosyntech.com
Proseed Inc.	Proseed	www.proseed.net
Star Specialty	Star	www.starspecialtyseed.com
WinField Croplan	Croplan	www.winfieldunited.com/product/croplan-seed/crops/canola/home

**Table 4. 2019 Summary of Liberty Link, Clearfield and Conventional Canola Hybrids in North Dakota.**

Company/ Brand	Hybrid	Type <sup>1</sup>	Blackleg Rating <sup>2</sup>	Clubroot Resistance <sup>3</sup>	REC Langdon	REC Carrington	REC Hettinger
(Yields Expressed as a Percentage of the Trial Mean)							
BASF	InVigor L230	LL, TR	R	No	100	--	--
BASF	InVigor L233P	LL, TR	R	No	101	--	--
BASF	InVigor L234P	LL, TR	R	Yes	97	--	--
BASF	InVigor L252	LL, TR	R	No	105	--	--
BASF	InVigor L255P	LL, TR	R	Yes	112	--	--
BrettYoung	5545 CL	CL, TR	R	No	101	x <sup>4</sup>	x
Canterra	CS2500 CL	CL, TR	R	No	92	x	x
Dyna-Gro	DG 200CL	CL, TR	R	No	92	--	--
Photosyntech	NCC101S	Conv, MO	MR	No	--	x	x
Trial mean in lb/a					3,506		

<sup>1</sup>Conv = non GM, LL = Liberty Link, CL = Clearfield System, TR = Traditional Oil Type, MO = Mid 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.

<sup>4</sup>Hybrid appeared in the trial.

**Table 5. 2019 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 Williston <sup>4</sup>	Irr Williston	REC Hettinger <sup>5</sup>
(Yields Expressed as a Percentage of the Trial Mean)									
BrettYoung	4187 RR	TR	R	Yes	114	100	x	110	x
BrettYoung	6074 RR	TR	R	No	86	110	x	114	x
BrettYoung	6090 RR	TR	R	Yes	104	101	x	102	x
Canterra	CS2100	TR	R	No	97	101	x	--	x
Canterra	CS2300	TR	R	No	105	108	x	--	x
Canterra	CS2600 CR-T	TR	R	Yes	97	102	x	--	x
Croplan	CP930RR	TR	R	No	99	94	x	102	x
Croplan	CP955RR	TR	R	Yes	88	97	x	108	x
Croplan	CP9919RR	TR	R	No	75	88	x	84	x
Croplan	CP9978TF	TR	R	No	103	103	x	103	x
Croplan	CP9982RR	TR	R	Yes	89	105	x	86	x
Dekalb	DKTF91SC	TR	R	No	110	99	--	--	--
Dekalb	DKTF92SC	TR	R	No	114	102	--	--	--
Dyna-Gro	DG 533G	TR	R	No	--	99	--	--	--
Dyna-Gro	DG 540G	TR	R	No	--	101	--	--	--
Integra	7389RT	TR	R	No	108	102	--	--	x
Pioneer	45CM39	TR	MR	Yes	108	108	--	--	--
Pioneer	45M35	TR	MR	No	115	106	--	--	--
Proseed	300 Mag	TR	R	No	94	87	x	101	x
Proseed	PS 5000	TR	R	Yes	82	89	x	99	x
Star	Star 402	TR	R	Yes	99	98	x	94	x
Star	StarFlex	TR	R	Yes	112	98	x	96	x
Trial mean in lb/a					2,544	3,941		1,932	

<sup>1</sup>TR = Traditional 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.<sup>4</sup>x = No yield data reported due to high CV.<sup>5</sup>x = Yield data available (Table 12) but use data with caution as average yield level was low.

**Table 6. 2019 Canola - Roundup Ready - Carrington - Authors, M. Ostlie, B. Schatz and K. Bjerke.**

Company/ Brand	Hybrid	Days to Flower (DAP) <sup>2</sup>	Flower Duration (days)	Plant Maturity (DAP) <sup>2</sup>	Plant Height (inch)	Plant Lodge <sup>1</sup> (0-9)	1,000 Seed Weight (gram)	Test Weight (lb/bu)	Oil Content (%)	Seed Yield 2019 3-yr. Avg. ------(lb/a)-----	
BrettYoung	4187 RR	48	18	92	50	1	3.1	51.3	43.6	2,903	2,577
BrettYoung	6074 RR	46	19	91	45	6	2.9	52.3	42.1	2,179	2,394
BrettYoung	6090 RR	47	17	91	44	3	3.2	51.8	41.7	2,643	--
Canterra	CS2300	47	19	93	45	6	3.3	51.8	41.5	2,680	2,578
Canterra	CS2100	44	18	88	41	2	2.9	52.8	40.5	2,474	2,383
Canterra	CS2600 CR-T	45	18	88	37	4	2.8	52.4	41.9	2,478	--
Croplan	CP930RR	44	19	85	44	0	2.7	51.8	43.9	2,512	2,423
Croplan	CP955RR	45	18	87	47	2	2.9	52.1	42.6	2,235	2,348
Croplan	CP9919RR	43	19	85	39	2	2.8	52.0	40.5	1,902	--
Croplan	CP9978TF	44	19	88	40	2	3.1	52.3	41.5	2,613	--
Croplan	CP9982RR	47	19	93	46	5	3.1	52.4	40.5	2,257	--
Dekalb	DKTF91SC	43	19	85	42	2	3.0	51.7	41.9	2,800	--
Dekalb	DKTF92SC	43	19	86	39	1	2.9	52.2	41.3	2,910	--
Integra	7389RT	45	18	89	46	6	3.0	52.8	40.2	2,741	--
Pioneer	45CM39	44	18	91	44	2	3.2	50.8	44.1	2,745	--
Pioneer	45M35	46	19	92	46	2	3.0	51.8	43.9	2,934	2,551
Proseed	300 Mag	46	18	90	44	4	3.1	51.9	42.4	2,400	--
Proseed	PS 5000	46	17	86	43	2	2.7	52.4	41.8	2,095	--
Star	Star 402	43	19	88	43	2	2.9	51.4	44.6	2,524	2,410
Star	StarFlex	45	18	87	43	4	2.6	52.0	42.8	2,850	--
Mean		45	18	89	44	3	3.0	52.0	42.1	2,533	2,458
CV %		1.2	3.1	2.2	10.5	70	5.7	0.8	2.5	15.6	--
LSD 0.05		0.8	0.8	2.7	6.5	3.1	0.2	0.6	1.5	557	--
LSD 0.10		0.7	0.7	2.3	5.5	2.6	0.2	0.5	1.2	465	--

Trial was planted on May 14 and harvested on Aug. 23. Previous crop was durum.

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

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

**Table 7. 2019 Canola - Clearfield and Conventional - Carrington - Authors, M. Ostlie, B. Schatz and K. Bjerke.**

Brand	Hybrid	Days to Flower (DAP) <sup>2</sup>	Flower Duration (days)	Days to Maturity (DAP) <sup>2</sup>	Plant Height (inch)	Plant Lodge <sup>1</sup> (0-9)	1,000 Seed Weight (gram)	Test Weight (lbs/bu)	Oil Content (%)	Seed Yield 2019 2-yr Avg. ------(lb/a)-----	
<b>Clearfield</b>											
BrettYoung	5545 CL	48	18	95	50	2	3.91	50.9	44.8	3,197	--
Canterra	CS2500 CL	46	19	94	51	2	4.26	51.1	44.4	2,886	2,208
Mean		47	18	95	51	2	4.09	51.0	44.6	3,042	2,208
CV %		1.4	116.0	2.1	15.2	60	3.8	0.6	1.4	11.3	--
LSD 0.05		1.1	NS	NS	NS	NS	0.25	0.5	1.0	NS	--
LSD 0.10		0.9	NS	NS	NS	NS	0.20	0.4	0.8	NS	--
<b>Conventional</b>											
Photosyntech	NCC101S	44	20	87	37	3	3.65	51.1	45.0	2,656	--

Trial was planted on May 13 and harvested on Aug. 28. Previous crop was durum.

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

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

**Table 8. 2019 Canola - Roundup Ready - Langdon - Authors, B. Hanson, T. Hakanson and L. Henry.**

Company/ Brand	Hybrid	Days to Flower (DAP) <sup>3</sup>	Flower Duration (days)	Days to Maturity (DAP) <sup>3</sup>	Plant Height (inch)	Plant Lodge <sup>1</sup> (0-9)	Cover <sup>2</sup> (%)	Oil Content (%)	Seed Yield	
									2019	3-yr. Avg.
									-----lb/a-----	
BrettYoung	4187 RR	50	15	97	49	0	92	46.7	3,936	3,930
BrettYoung	6074 RR	47	16	96	47	0	96	46.6	4,354	--
BrettYoung	6090 RR	49	15	95	47	1	95	45.3	3,986	--
Canterra	CS2100	47	17	95	47	2	97	47.4	3,971	3,747
Canterra	CS2300	47	17	96	48	1	97	47.0	4,273	4,028
Canterra	CS2600 CR-T	45	17	94	47	4	97	47.2	4,003	--
Croplan	CP930RR	45	17	94	44	2	97	49.0	3,710	3,525
Croplan	CP955RR	45	17	94	47	1	98	48.3	3,837	3,524
Croplan	CP9919RR	44	14	89	45	1	93	44.4	3,477	--
Croplan	CP9978TF	46	17	95	44	1	95	47.0	4,060	--
Croplan	CP9982RR	48	16	97	49	0	97	44.5	4,136	--
Dekalb	DKTF91SC	43	18	90	44	1	98	46.4	3,910	--
Dekalb	DKTF92SC	45	17	94	45	1	98	45.0	4,020	--
Dyna-Gro	DG 533G	48	17	94	47	0	92	45.7	3,905	3,671
Dyna-Gro	DG 540G	48	17	95	44	0	93	45.6	3,992	3,846
Integra	7389RT	46	17	95	46	2	96	46.3	4,038	--
Pioneer	45CM39	46	15	95	44	0	99	48.6	4,274	--
Pioneer	45M35	48	16	95	46	0	100	48.0	4,161	4,027
Proseed	300 Mag	47	16	95	44	4	96	46.4	3,420	3,555
Proseed	PS 5000	47	16	93	47	4	92	44.7	3,496	3,499
Star	Star 402	45	17	94	43	2	98	49.4	3,865	3,831
Star	StarFlex	46	16	93	43	2	95	47.5	3,874	--
Mean		46	16	94	45	1	96	46.8	3,931	3,744
CV %		1.6	6.7	1.2	5.7	64	2.1	1.8	5.1	--
LSD 0.05		1.0	1.5	1.6	3.6	1.3	2.9	1.2	284	--
LSD 0.10		0.8	1.3	1.3	3.0	1.1	2.4	1.0	238	--

Trial was planted on May 17 and harvested on Sept 6.

<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. 2019 Canola - Liberty Link and Clearfield - Langdon - Authors, B. Hanson, T. Hakanson and L. Henry.**

Company/ Brand	Hybrid	Type <sup>1</sup>	Days to	Flower	Days to	Plant	Plant	Oil	Seed Yield		
			Flower (DAP) <sup>4</sup>	Duration (days)	Maturity (DAP) <sup>4</sup>	Height (inch)	Lodge <sup>2</sup> (0-9)		Cover <sup>3</sup> (%)	Content (%)	2019
BASF	InVigor L230	LL,TR	45	12	93	46	2	91	47.4	3,521	3,553
BASF	InVigor L233P	LL,TR	47	15	94	46	6	92	44.2	3,528	3,499
BASF	InVigor L234P	LL,TR	47	15	94	43	7	86	44.3	3,394	--
BASF	InVigor L252	LL,TR	49	15	97	48	3	90	47.1	3,681	3,908
BASF	InVigor L255P	LL,TR	49	15	97	48	2	92	47.1	3,937	3,831
BrettYoung	5545CL	CL,TR	48	17	98	46	4	94	44.8	3,536	--
Canterra	CS2500 CL	CL,TR	47	13	95	47	2	89	46.6	3,234	--
Dyna-Gro	DG 200CL	CL, TR	49	16	96	50	4	88	43.7	3,216	3,557
Croplan <sup>5</sup>	CP955RR	RR, TR	46	16	95	42	5	95	47.5	3,469	3,468
Croplan <sup>5</sup>	4178 RR	RR, TR	50	14	96	50	1	93	45.7	3,684	--
Mean			48	15	95	46	3	91	45.8	3,520	3,636
CV %			1.2	6.3	1.7	6.3	56	4.5	2.8	8.2	--
LSD 0.05			0.8	1.4	2.4	4.2	2.5	5.8	1.8	396	--
LSD 0.10			0.7	1.2	2.0	3.5	2.1	4.8	1.5	331	--

Trial was planted on May 17 and harvested on Sept. 6.

<sup>1</sup>LL = Liberty Link, CL = Clearfield System, RR = Roundup Ready, TR = Traditional 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. 2019 Canola - Roundup Ready - Williston - Authors, J. Bergman, G. Pradhan and M. Miller.**

Company/ Brand	Hybrid	Flower Duration (days)	Days to Maturity (DAP) <sup>4</sup>	Plant Height (inch)	Plant Lodge <sup>1</sup> (0-9)	Oil Content <sup>2</sup> (%)	Test Weight (lb/bu)	Seed Yield 2-yr. Avg. <sup>3</sup>
BrettYoung	4187 RR	27	103	35	2	48.2	51.2	1,032
BrettYoung	6074 RR	28	102	38	2	48.4	51.2	--
BrettYoung	6090 RR	28	103	37	4	48.0	47.2	829
Canterra	CS2100	29	102	36	4	45.6	52.0	--
Canterra	CS2300	29	105	39	2	47.4	50.2	--
Canterra	CS2600 CR-T	30	103	31	4	46.9	51.5	--
Croplan	CP930RR	29	101	34	4	48.3	51.3	--
Croplan	CP955RR	28	103	34	3	47.7	51.5	--
Croplan	CP9919RR	31	101	26	6	44.9	35.9	--
Croplan	CP9978TF	28	104	35	3	46.2	51.9	--
Croplan	CP9982RR	29	105	40	3	44.8	50.9	--
Proseed	300 Mag	28	102	34	5	46.4	51.7	1,107
Proseed	PS 5000	28	100	34	5	44.9	52.0	940
Star	Star 402	29	103	35	3	50.1	51.0	--
Star	Starflex	27	101	33	3	49.0	51.6	--
Mean		28	102	35	3	47.1	50.1	977
CV %		7.2	1.7	11.2	48	3.7	3.7	--
LSD 0.05		2.9	2.5	5.5	2.3	2.5	2.6	--
LSD 0.10		2.4	2.1	4.6	1.9	2.1	2.2	--

Trial was planted on May 7 and harvested on Aug. 28. Previous crop was soybean.

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

<sup>2</sup>Oil content is reported on a oven-dried basis, 120 F for four hours.

<sup>3</sup>Two-year average is 2018 and 2019 adjusted on 13.5% moisture content.

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

**Table 11. 2019 Canola - Irrigated - Roundup Ready - Williston. Authors, J. Jacobs and T. Tjelde.**

Company/ Brand	Hybrid	Days to Flower (DAP) <sup>1</sup>	Flower Duration (days)	Days to Mature (DAP) <sup>1</sup>	Test Weight (lb/bu)	Oil Content (%)	Seed Yield	
							2019	2-yr. Avg.
							-----lb/a-----	
BrettYoung	4187 RR	59	14	98	48.6	43.3	2,131	2,191
BrettYoung	6074 RR	60	12	97	48.7	43.8	2,208	2,118
BrettYoung	6090 RR	60	10	98	49.5	42.4	1,967	2,110
Croplan	CP930RR	58	11	100	48.4	43.6	1,979	2,246
Croplan	CP955RR	57	14	100	48.4	44.1	2,081	2,172
Croplan	CP9919RR	55	13	96	48.9	40.5	1,631	--
Croplan	CP9978TF	58	12	100	49.2	41.7	1,995	--
Croplan	CP9982RR	60	13	100	48.3	42.1	1,654	--
Proseed	300 Mag	56	16	101	48.9	42.9	1,959	2,882
Proseed	PS 5000	58	13	99	49.4	41.3	1,913	2,545
Star	Star 402	56	13	99	48.9	44.4	1,821	2,125
Star	Starflex	56	13	98	49.2	42.6	1,851	--
Mean		58	13	99	49	42.7	1,932	2,299
CV %		4.0	19.1	2.5	2	--	13.2	--
LSD 0.05		3.3	3.4	3.6	NS	--	366	--
LSD 0.10		2.7	2.9	3.0	NS	--	305	--

Trial was planted on May 6 and harvested on Aug 28. Previous crop was corn.

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

**Table 12. 2019 Canola - Roundup Ready - Hettinger - Authors, J. Rickertsen and M. Wells.**

Company/ Brand	Hybrid	Days to Flower (DAP) <sup>2</sup>	Flower Duration (days)	Days to Maturity (DAP)	Plant Height (inch)	Shatter <sup>1</sup> (0-9)	Oil Content (%)	Seed Yield 2019 <sup>3</sup> 2-yr. Avg. ----(lb/a)----	
BrettYoung	4187 RR	48	20	86	46	5	43.7	512	631
BrettYoung	6074 RR	46	20	84	44	3	43.6	621	624
BrettYoung	6090 RR	47	20	84	46	2	43.8	777	640
Canterra	CS2100	45	20	84	39	0	45.1	1,221	872
Canterra	CS2300	47	21	86	47	3	43.9	611	648
Canterra	CS2600 CR-T	46	19	83	45	0	45.7	1,268	928
Croplan	CP930RR	45	19	82	43	0	47.2	1,069	808
Croplan	CP955RR	46	19	83	43	2	45.9	887	700
Croplan	CP9919RR	44	20	82	34	0	42.0	1,059	--
Croplan	CP9978TF	45	20	83	40	0	44.3	1,737	--
Croplan	CP9982RR	46	22	86	46	7	40.4	237	--
Integra	7389RT	46	20	84	43	0	45.3	1,271	--
Proseed	300 MAG	46	21	85	43	2	44.2	787	744
Proseed	PS 5000	46	20	84	41	2	43.4	779	597
Star	Star 402	46	19	83	42	0	47.8	959	688
Star	StarFlex	45	20	83	39	0	46.0	1,341	--
Mean		46	20	84	43	2	44.5	946	716
CV %		1.0	2.7	0.6	5.8	28.1	2.3	12.4	--
LSD 0.05		0.6	0.8	0.7	3.5	0.5	1.4	160	--
LSD 0.10		0.5	0.6	0.6	2.9	0.5	1.2	133	--

Trial was planted on May 15 and harvested on Aug. 28.

<sup>1</sup>Shatter: 0 = none, 9 = 100% shattered.

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

<sup>3</sup>Use data with caution as average yield level was low. There were abnormal shatter losses in this canola trial because of the exceptionally wet weather in 2019 resulting in delayed harvest.

**Table 13. 2019 Canola - Conventional and Clearfield - Hettinger - Authors, J. Rickertsen and M. Wells.**

Company/ Brand	Hybrid	Oil Type <sup>1</sup>	Days to Flower (DAP) <sup>2</sup>	Flower Duration (days)	Days to Maturity (DAP) <sup>2</sup>	Plant Height (inch)	Oil Content (%)	Seed Yield 2019 2-yr. Avg. ----(lb/a)----	
<b>Conventional</b>									
Photosyntech	NCC101S	MO	44	21	83	35	38.2	1,169	679
BrettYoung <sup>3</sup>	6090 RR	TR	47	21	85	44	42.4	965	682
Croplan <sup>5</sup>	CP930RR	TR	45	19	82	40	46.7	1,093	765
Mean			45	20	83	40	42.4	1,076	708
CV %			0.9	3.1	0.6	5.4	2.2	11.3	--
LSD 0.05			0.6	1.0	8.0	3.3	1.4	151	--
LSD 0.10			0.5	0.8	0.7	2.7	1.1	125	--
<b>Clearfield</b>									
BrettYoung	5545 CL	TR	47	21	86	50	44.4	965	--
Canterra	CS2500 CL	TR	46	20	84	45	44.6	841	--
Mean			47	21	85	48	44.5	903	--
CV %			--	2.1	0.5	4.7	1.9	16.5	--
LSD 0.05			--	0.7	0.7	3.4	1.3	238	--
LSD 0.10			--	0.5	0.5	2.7	1.1	193	--

Trial was planted on May 15 and harvested on Aug. 28.

<sup>1</sup>Type: TR = Traditional Oil Type, MO = Mid Oleic Type.

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

<sup>3</sup>Roundup Ready checks in the trial.

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