

2018

 **canola**²⁰¹⁸
PERFORMANCE TRIALS

**FUNDED BY GROWERS
FOR GROWERS**

SMALL PLOT AND FIELD SCALE DATA



THE NEXT GENERATION IN VARIETY EVALUATION

Canola Performance Trials (CPT) represent the next generation in variety evaluation for western Canadian canola growers. The trials provide:

- **Relevant, unbiased and timely performance data that reflects actual production practices.**
- **Comparative data on leading varieties and newly introduced varieties.**

The CPT system includes both small plot and large field scale trials. Results in this booklet are based on 18 standard and nine straight cut small plot trials and 42 field scale trials across the Prairies (including 13 standard, 20 straight cut and nine clubroot-resistant variety field scale trials). Further information, CPT protocols and variety evaluation tools are available online at canolaperformancetrials.ca.

Field scale comparisons add extra perspective for assessing consistency in variety performance. Comparisons are based on harvested strips of 0.5 to 1.5 acres each. Field scale data is not necessarily replicated in all cases, but the data has been audited to make sure it complies with CPT protocols.

The CPT Technical Committee established protocols and developed research plot designs to ensure that the data is representative. Performance objectives were established to provide guidelines on timely field operations and data collection. All sites are inspected to verify these guidelines were followed to allow a fair comparison among the varieties tested.

Site distribution is based on seeded acres in Manitoba, Saskatchewan, Alberta and British Columbia.

The small plot system ensures that:

- **All varieties are treated with appropriate commercially associated herbicides and seed treatments.**
- **An independent third-party representative inspects all trials.**
- **Varieties are in blocks based on maturity. That way, harvest occurs at the appropriate time to minimize harvest losses due to maturity differences.**

Audits of field scale projects give growers the confidence that the protocol was conducted in a scientifically sound manner and that comparisons are appropriate. Qualified professionals with extensive background in conducting field scale research trials perform the audits.

This booklet is one of several sources of information to consider in making the best decisions for your farm.

Also check out the **Canola Variety Selection Guide: Featuring CPT Summary Data**, which was released in the fall of 2017.

CPT PROGRAM

The three Prairie canola grower groups – Alberta Canola Producers Commission (Alberta Canola), the Saskatchewan Canola Development Commission (SaskCanola) and the Manitoba Canola Growers Association – funded the 2018 program. The provincial oilseed specialists and industry scientists provide expertise. The Canola Council of Canada delivers the program.

The B.C. Grain Producers Association conducted trials in the Peace region as its means of participation.

Haplotech (led by Dr. Rale Gjuric) coordinates the trials under the guidance of the CPT Governance Committee that oversees approval of varieties, protocol design, data collection, analysis and reporting, and financial management. CPT Governance Committee members include: representatives from Alberta Canola, SaskCanola, the Manitoba Canola Growers Association and the B.C. Grain Producers Association; provincial oilseed specialists from Manitoba, Saskatchewan and Alberta; three commercial Canadian Seed Trade Association representatives; and the Canola Council of Canada (CCC). The CCC delivers the program on their behalf. The CCC agronomy specialists provide guidance and assist with quality assurance.

Commercial canola varieties tested in the 2018 small plot trials had seed provided by BASF – InVigor, BrettYoung, Brevant, CANTERRA SEEDS, Cargill (including Cargill – VICTORY), DEKALB, DL Seeds, Pioneer and Proven/Nutrien Ag Solutions.



USING THE TABLES

Results are organized by short, medium and long season zones. CPT uses the Western Canada Canola/Rapeseed Recommending Committee (WCC/RRC) season zones, which are based on typical frost free days, growing degree days and soil type. Grey wooded soils, for example, are in the short season zone. See Table A for specific numbers for each zone and the map on page 5 for a depiction.

Table A: Season Zones		
Season	Frost Free Days	Growing Degree Days (Base 5°C)*
Short	75–95	1,100–1,450
Medium	95–115	1,450–1,700
Long	115+	1,700+

*On a base 5°C scale, growing degree days only accumulate on days when highs are above 5°C.

Small plot and field scale data are presented separately in the following tables. For more detailed performance results, growing conditions and production details for specific trial sites, use the online CPT database at canolaperformancetrials.ca.

The tables include yield, days to maturity, height and lodging scores for each variety. Lodging scores are between 1 and 5, with 1 being no lodging and 5 being completely lodged.

Gross revenue is based on yield multiplied by \$11.14/bu. This is based on \$490.00 per tonne, the March 2019 futures close on November 9, 2018 and a 50-pound bushel weight. Premiums are included in the calculations for specialty market varieties.

In the tables, varieties are listed numerically and alphabetically, starting with Clearfield (CL) varieties, followed by LibertyLink (LL) and Roundup Ready (RR).

Seed is a major input decision that every grower has to make. In addition to evaluating data from sites near your farm, consider several years of data (at canolaperformancetrials.ca) from small plot and field scale sites grown in a range of agronomic and environmental conditions across Western Canada to make a well-informed choice. Consider climatic factors, geographic factors, herbicide tolerance systems, disease management, agronomic or special traits and yield potential for your operation when looking at days to maturity, height, lodging scores, disease tolerance and yield values of the varieties included in this booklet.

TOOLS TO HELP YOU MAKE BETTER CHOICES

CV – For coefficient of variation (CV), the lower the CV value, the more reliable the test. For example, if comparing results from two test locations, one with a CV of 4% and the other with a CV of 8%, the test with the CV of 4% can be considered more reliable. There is always variability in research trials. The key is designing and managing experiments so CVs stay within a reasonable range. For the CPT, experience has shown that CVs below 15% indicate good test reliability.

LSD – The least significant difference (LSD at a 5% level of statistical significance) for each dataset indicates whether differences between varieties are statistically meaningful. Varieties should only be considered different in yield performance if the numerical difference between them is greater than the LSD value.

Using the sample table below, if the LSD is 5.0, varieties A and B are not statistically different, B and C are not statistically different, but A and C are statistically different. In the yield graphs for each season zone (see pages 8 and 9), LSD for each variety group is given on the left.

Variety	Yield (bu./ac.)
A	52
B	54
C	58
LSD	5.0

Small Plot Locations Throughout Western Canada



AVERAGE STANDARD SMALL PLOT RESULTS BY SEASON ZONE

Variety	Long Season Zone (6 locations)				Mid Season Zone (8 locations)				Short Season Zone (4 locations)				Overall Average (All Zones)				Disease Tolerance ⁴			Distributor
	Yield (bu./ac.)	Yield (% L252)	Days to Maturity	Height (in.)	Yield (bu./ac.)	Yield (% L252)	Days to Maturity	Height (in.)	Yield (bu./ac.)	Yield (% L252)	Days to Maturity	Height (in.)	Yield (bu./ac.)	Yield (% L252)	Days to Maturity	Height (in.)	Blackleg Resistance ⁵	Clubroot Resistance	Sclerotinia Tolerance	
Clearfield																				
5545 CL	54	88	86	47	59	90	91	48	61	90	107	52	58	90	92	49	BL (R-CE ₁)			BrettYoung
CS2500 CL	53	88	86	47	54	84	90	47	61	91	108	52	55	87	92	48	BL (R-C)			CANTERRA SEEDS
DL1745CL	52	87	88	48	55	86	93	49	64	95	108	52	56	88	94	49	BL (R)			DL Seeds
46H75	53	87	87	46	56	88	94	47	62	92	107	53	57	89	94	48	BL (R)			Pioneer
PV 200 CL	55	91	85	46	57	90	91	46	58	86	106	49	57	89	92	47	BL (R)			Proven/Nutrien Ag Solutions
LSD	6	10			6	9			8	12			7	10						
LibertyLink																				
L252	61	100	85	45	64	100	91	46	68	100	108	50	64	100	92	47	BL (R)			BASF – InVigor
L230	57	95	84	45	61	95	89	44	64	95	103	50	60	95	90	46	BL (R)			BASF – InVigor
L241C	57	94	85	45	59	94	90	45	68	101	105	51	60	96	91	46	BL (R)	R		BASF – InVigor
LSD	10	16			9	15			8	12			9	14						
Roundup Ready																				
6090 RR ¹	51	84	89	51	57	89	93	51	66	98	107	58	57	89	94	53	BL (R-CE ₁)	R		BrettYoung
6076 CR	52	87	87	48	58	90	92	48	67	99	108	54	58	91	93	49	BL (R-CE ₁)	R	*	BrettYoung
6074 RR	55	91	86	45	60	94	92	45	65	96	109	51	59	93	93	46	BL (R-C)		*	BrettYoung
CS2300 ²	55	90	86	48	60	94	93	49	67	100	109	55	60	94	93	50	BL (R-C)			CANTERRA SEEDS
CS2000	53	88	85	45	57	90	90	46	60	90	106	52	57	89	91	47	BL (R-CE ₁)	R		CANTERRA SEEDS
CS2100	55	92	86	44	56	88	93	44	58	86	110	51	56	89	94	46	BL (R-ACG)			CANTERRA SEEDS
16RH5088	50	83	87	46	57	90	93	49	62	93	110	53	56	88	94	49	BL (R)	R		Cargill – VICTORY
V14-1 ³	53	86	87	47	58	91	92	47	63	93	112	51	57	90	94	48	BL (R)	R		Cargill – VICTORY
V12-3 ³	52	85	85	44	59	93	91	44	59	88	107	48	56	89	92	45	BL (R)	R		Cargill – VICTORY
75-65 RR	55	92	83	43	56	88	89	44	61	91	107	51	57	90	90	45	BL (R-C)			DEKALB
74-44 BL	56	92	84	43	59	94	90	44	62	92	108	50	59	93	91	45	BL (R-ACG)			DEKALB
75-42 CR	52	87	85	44	56	88	90	45	60	89	106	51	56	88	91	46	BL (R-AC)	R		DEKALB
DL1634RR	52	86	88	49	62	96	93	50	68	101	110	55	60	93	95	51	BL (R)			DL Seeds
45H33	54	89	85	45	59	93	91	49	63	94	105	53	58	92	91	49	BL (R)	R		Pioneer
45M35	56	92	84	44	63	99	91	45	65	96	107	50	61	96	91	46	BL (MR)			Pioneer
45CS40	55	92	85	47	58	90	91	48	64	96	106	54	58	92	91	49	BL (R)	R	*	Pioneer
D3155C	56	93	85	46	60	93	91	49	65	97	106	54	60	94	92	49	BL (R)	R		Brevant
PV 540 G	55	91	86	44	61	94	92	46	63	94	108	52	59	93	93	46	BL (R)			Proven/Nutrien Ag Solutions
PV 581 GC	54	89	87	46	60	94	93	48	62	91	108	53	58	92	93	49	BL (R)			Proven/Nutrien Ag Solutions
LSD	8	13			7	11			8	12			8	13						

¹Previously was DL1630RR, developed by DL Seeds. ²Previously was DL1512RR, developed by DL Seeds. ³Indicates varieties with specialty oil profiles and premiums associated with pricing. ⁴An “R” or “(R)” resistant rating indicates genetic disease resistance to blackleg (BL) or clubroot and “(MR)” indicates moderate genetic disease resistance. *Indicates an improved tolerance to sclerotinia, as based on variety descriptions submitted to CFIA. ⁵See page 7 for a description of the new, two-part blackleg resistance labelling system, which explains the descriptive letters (A,C,E₁,G) included in the BL (R) ratings.

BLACKLEG RESISTANCE

Blackleg resistance is a valuable resource that must be used judiciously in an integrated management approach, which includes practicing a diverse crop rotation with at least two years between canola crops, effectively managing weeds and proper scouting/identification of canola diseases.

New resistance genes and two-part labels help growers identify which resistance groups may be best suited for the current pathogen population in each of their fields – improving the ability to manage blackleg and increasing the longevity of blackleg resistance.

Blackleg Resistance Label: Part 1 (has been used in past years)

Field Resistance Rating

Individual canola breeding companies substantiate their blackleg resistance claims to the Canadian Food Inspection Agency through standard testing procedures outlined by the Western Canada Canola/Rapeseed Recommending Committee guidelines to obtain blackleg resistance field ratings. Varieties are compared to the susceptible check variety (Westar) for blackleg infection and are assigned ratings as follows:

Field Resistance Rating	% Disease Severity of Westar
R (Resistant)	0–29.9
MR (Moderately Resistant)	30–49.9
MS (Moderately Susceptible)	50–69.9
S (Susceptible)	70–100

Example of a Blackleg Resistance Two-Part Label



Blackleg Resistance Label: Part 2 (new voluntary addition to the label)

Major Gene Resistance Identification

Major gene resistance labels are also being introduced for more detailed blackleg resistance identification. These labels are voluntary for seed developers to apply to their varieties. Major gene resistance has been categorized into alphabetized groups based on their interactions with the pathogen and other major genes. Ten resistance groups have been created to provide growers with additional information when deciding on their next variety to use while managing severe blackleg fields.

Resistance Group	Major Resistance Gene*
A	Rlm1 or LepR3
B	Rlm2
C	Rlm3
D	LepR1
E₁	Rlm4
E₂	Rlm7
F	Rlm9
G	RlmS
H	LepR2
X	Unknown

*Major resistance genes are subject to change with new research being published.

There are two main forms of blackleg resistance found within Canadian canola varieties:

Major Gene Resistance: The major resistance gene, in the plant, needs to match with specific genes in the race of *Leptosphaeria maculans* for the defense response in the plant to be induced. It is a less stable form of resistance if there are many races, but it allows for complete blackleg control when matched with a specific *L. maculans* race (noting that there is rarely only one race present in a field).

Minor Gene (Quantitative) Resistance: The resistance genes in the plant help to reduce the severity of infection of all *L. maculans* races within the field by slowing the pathogen as it moves into or down the plant stem. It is a stable form of resistance but does not provide complete blackleg control.

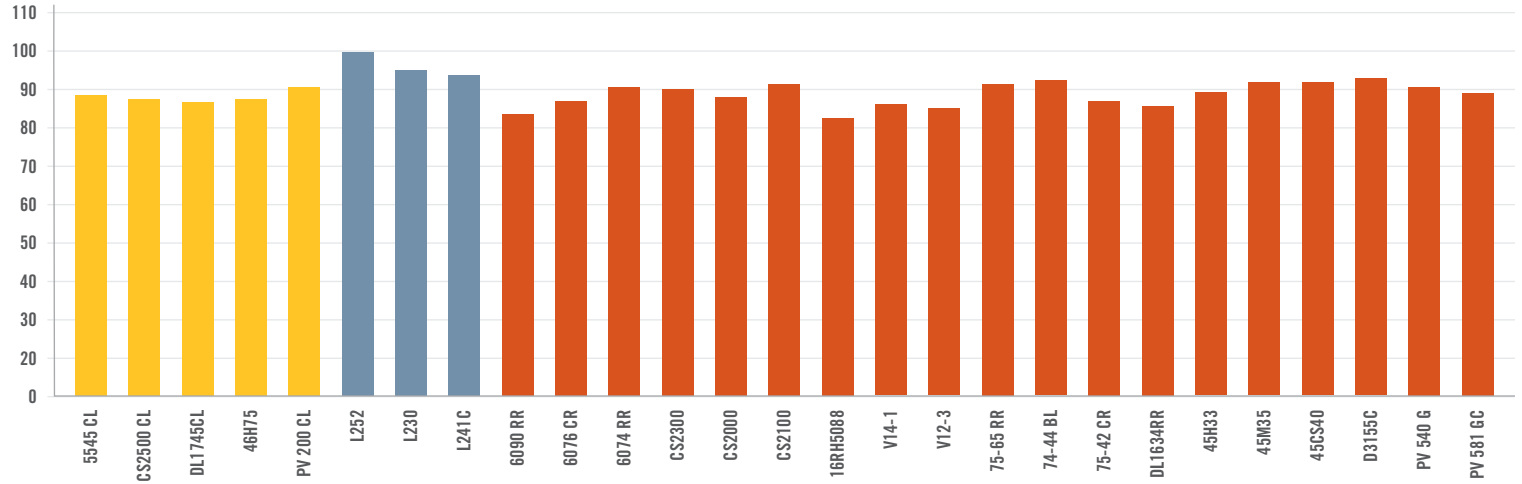
Due to the complexity of minor gene resistance there is no simple way to measure it (at this time), but its performance is captured within the field resistance rating. Major genes are readily identified within a variety and can be communicated using the major gene resistance label.

STANDARD SMALL PLOT RESULTS BY SEASON ZONE

Long Season Yield

as % of L252 (61 bu./ac.)

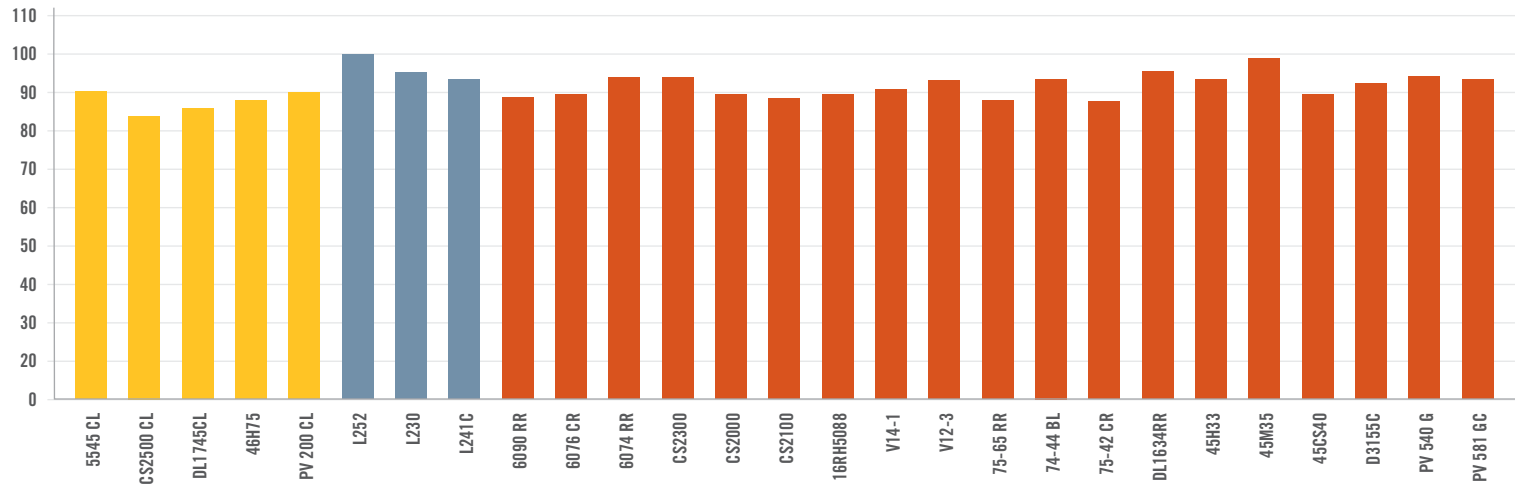
- Clearfield LSD: 10
- LibertyLink LSD: 16
- Roundup Ready LSD: 13



Mid Season Yield

as % of L252 (64 bu./ac.)

- Clearfield LSD: 9
- LibertyLink LSD: 15
- Roundup Ready LSD: 11

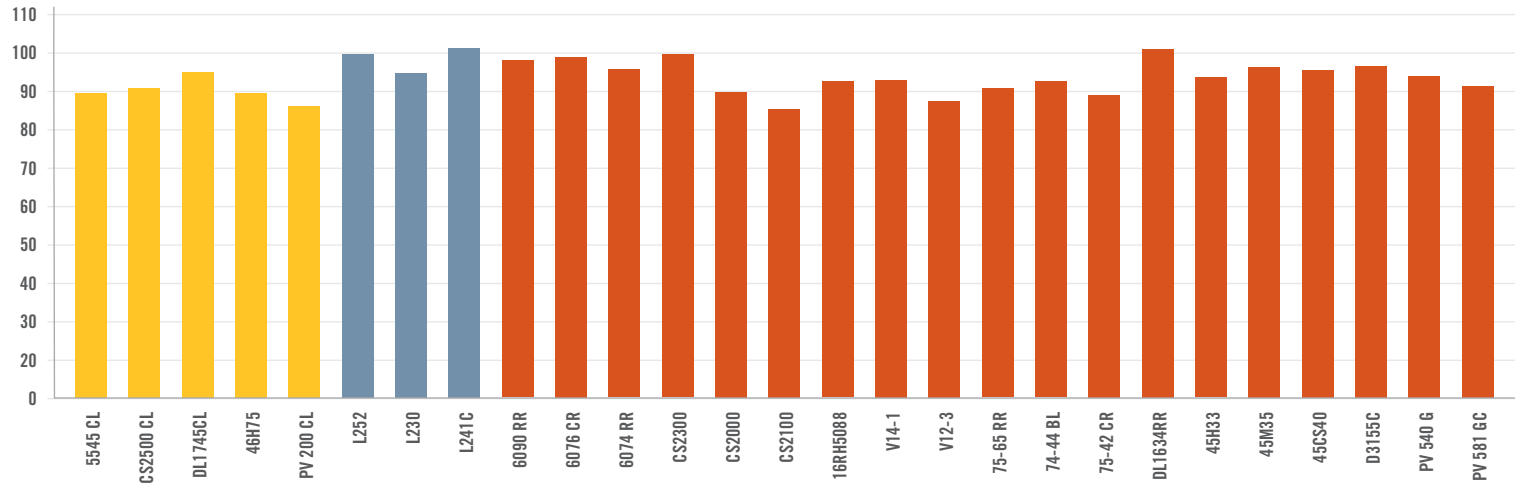


STANDARD SMALL PLOT RESULTS BY SEASON ZONE

Short Season Yield

as % of L252 (68 bu./ac.)

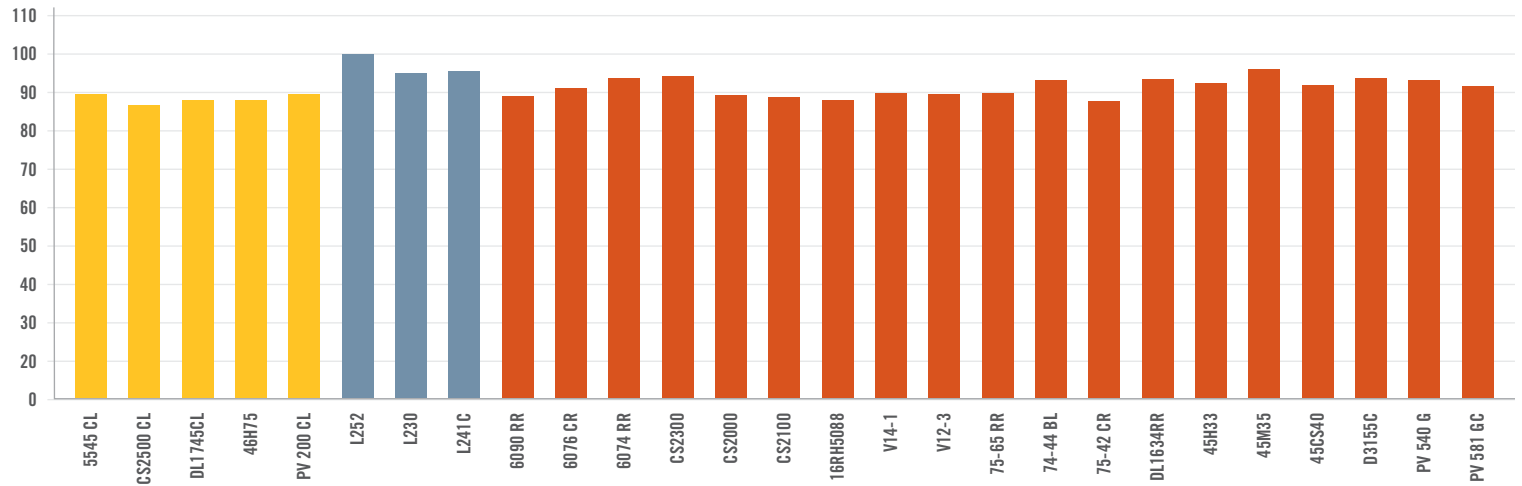
- Clearfield LSD: 12
- LibertyLink LSD: 12
- Roundup Ready LSD: 12



Average (All Zones) Yield

as % of L252 (64 bu./ac.)

- Clearfield LSD: 10
- LibertyLink LSD: 14
- Roundup Ready LSD: 13



LONG SEASON ZONE: STANDARD SMALL PLOT RESULTS BY LOCATION

Variety	Elie, MB						Elm Creek, MB						High Bluff, MB						Distributor
	Yield (bu./ac.)	Yield (% LZ52)	Gross Revenue/ac.	Days to Maturity	Lodging	Height (in.)	Yield (bu./ac.)	Yield (% LZ52)	Gross Revenue/ac.	Days to Maturity	Lodging	Height (in.)	Yield (bu./ac.)	Yield (% LZ52)	Gross Revenue/ac.	Days to Maturity	Lodging	Height (in.)	
Clearfield																			
5545 CL	63	92	\$702	83.0	1.0	52.9	62	96	\$693	83.0	1.3	44.3	50	90	\$554	83.5	2.8	54.6	BrettYoung
CS2500 CL	64	93	\$711	84.5	1.0	53.9	61	94	\$679	83.0	1.3	49.6	48	87	\$538	83.5	1.8	52.7	CANTERRA SEEDS
DL1745CL	57	83	\$630	85.0	1.0	50.5	61	93	\$678	85.0	1.8	46.8	51	93	\$572	86.3	2.0	57.1	DL Seeds
46H75	59	87	\$663	83.0	1.0	50.5	68	105	\$763	85.0	1.8	47.0	51	92	\$565	85.3	2.0	51.7	Pioneer
PV 200 CL	61	89	\$677	83.8	1.0	53.9	64	98	\$714	83.0	1.0	39.6	49	89	\$549	83.3	2.3	55.6	Proven/Nutrien Ag Solutions
LSD	6	8					6	9					6	10					
LibertyLink																			
L252	68	100	\$762	82.5	1.0	51.4	65	100	\$726	83.0	1.0	44.9	55	100	\$617	83.3	1.8	50.7	BASF – InVigor
L230	65	96	\$728	84.8	1.0	51.9	62	96	\$694	83.0	1.0	41.2	53	96	\$591	77.8	2.0	54.1	BASF – InVigor
L241C	63	92	\$702	86.0	1.0	50.5	66	102	\$737	83.0	1.3	46.0	52	94	\$579	79.8	1.5	51.2	BASF – InVigor
LSD	10	15					12	18					2	3					
Roundup Ready																			
6090 RR ¹	60	88	\$668	87.5	1.3	54.2	55	85	\$614	87.0	1.0	54.1	48	86	\$533	83.8	2.0	56.6	BrettYoung
6076 CR	66	96	\$731	87.3	1.0	49.9	53	81	\$589	85.0	1.5	44.8	51	92	\$570	81.8	2.0	55.6	BrettYoung
6074 RR	69	100	\$764	81.8	1.0	49.5	54	83	\$603	85.0	1.5	46.1	51	92	\$569	80.8	1.5	50.7	BrettYoung
CS2300 ²	65	95	\$724	84.8	1.0	54.6	58	89	\$647	83.0	1.3	48.2	46	82	\$508	83.3	2.0	54.1	CANTERRA SEEDS
CS2000	62	90	\$686	85.0	1.3	50.7	57	87	\$631	85.0	1.8	40.8	52	93	\$574	77.5	2.5	51.2	CANTERRA SEEDS
CS2100	68	99	\$752	87.0	1.3	53.3	61	93	\$676	83.0	1.0	37.1	50	91	\$559	84.5	2.0	51.2	CANTERRA SEEDS
16RH5088	50	73	\$555	86.8	1.0	50.0	55	84	\$610	85.0	1.0	46.8	46	82	\$507	84.5	1.5	52.2	Cargill – VICTORY
V14-1 ³	62	91	\$765	86.3	1.0	52.3	59	90	\$720	83.0	1.0	45.7	46	82	\$561	82.0	1.5	51.2	Cargill – VICTORY
V12-3 ³	58	84	\$706	87.0	1.3	50.8	55	84	\$673	85.0	1.5	39.9	48	87	\$589	80.3	2.0	51.7	Cargill – VICTORY
75-65 RR	69	101	\$772	86.5	1.3	49.9	58	89	\$644	83.0	1.0	39.6	46	83	\$512	77.8	2.0	48.7	DEKALB
74-44 BL	62	90	\$687	81.8	1.3	47.9	66	101	\$734	83.0	1.3	44.0	45	81	\$500	78.5	1.3	48.7	DEKALB
75-42 CR	61	89	\$680	88.8	1.0	51.3	55	84	\$613	83.0	1.3	42.0	47	85	\$527	80.8	1.5	50.2	DEKALB
DL1634RR	62	90	\$688	84.5	1.3	53.3	51	78	\$567	87.0	1.0	52.7	53	95	\$588	85.0	1.3	54.6	DL Seeds
45H33	63	92	\$702	88.3	1.0	50.3	59	91	\$657	83.0	1.5	41.5	47	86	\$528	77.5	2.8	51.2	Pioneer
45M35	67	98	\$749	84.8	1.3	49.6	58	90	\$650	83.0	1.5	40.6	48	87	\$534	78.5	2.5	48.7	Pioneer
45CS40	60	88	\$668	85.0	1.5	54.4	63	96	\$700	83.0	1.3	45.5	51	93	\$570	78.5	2.5	53.6	Pioneer
D3155C	68	99	\$755	88.5	1.5	51.5	60	92	\$666	83.0	1.0	38.4	50	91	\$558	78.5	3.0	54.1	Brevant
PV 540 G	67	98	\$746	84.3	1.3	48.3	61	94	\$682	83.0	1.3	40.4	51	93	\$572	81.0	1.8	50.7	Proven/Nutrien Ag Solutions
PV 581 GC	62	90	\$686	86.5	1.0	52.7	60	92	\$668	83.0	1.0	45.9	51	93	\$572	82.0	2.3	51.2	Proven/Nutrien Ag Solutions
LSD	13	19					7	11					6	11					
CV	13.1						8.2						8.0						

¹Previously was DL1630RR, developed by DL Seeds. ²Previously was DL1512RR, developed by DL Seeds. ³Indicates varieties with specialty oil profiles and premiums associated with pricing.

LONG SEASON ZONE: STANDARD SMALL PLOT RESULTS BY LOCATION

Variety	Warren, MB						Outlook, SK						Redvers, SK						Distributor
	Yield (bu./ac.)	Yield (% LZ52)	Gross Revenue/ac.	Days to Maturity	Lodging	Height (in.)	Yield (bu./ac.)	Yield (% LZ52)	Gross Revenue/ac.	Days to Maturity	Lodging	Height (in.)	Yield (bu./ac.)	Yield (% LZ52)	Gross Revenue/ac.	Days to Maturity	Lodging	Height (in.)	
Clearfield																			
5545 CL	35	85	\$390	85.0	1.5	35.6	74	86	\$824	87.0	1.8	43.4	39	82	\$436	92.3	1.3	50.6	BrettYoung
CS2500 CL	36	87	\$402	84.0	1.0	35.2	67	78	\$745	88.3	1.5	41.6	41	86	\$457	92.0	1.3	49.1	CANTERRA SEEDS
DL1745CL	34	83	\$382	90.5	1.5	35.6	66	77	\$738	87.5	1.8	45.8	44	91	\$487	93.8	1.3	49.8	DL Seeds
46H75	33	81	\$372	87.0	1.5	34.3	68	79	\$754	87.0	1.3	43.3	39	81	\$434	93.0	1.0	50.0	Pioneer
PV 200 CL	38	93	\$429	85.5	1.0	35.0	69	81	\$773	85.8	2.5	43.9	45	94	\$503	90.0	1.3	47.2	Proven/Nutrien Ag Solutions
LSD	4	10					11	13					5	10					
LibertyLink																			
L252	41	100	\$460	81.5	1.0	34.4	86	100	\$958	89.5	2.0	41.0	48	100	\$533	91.5	1.4	50.1	BASF – InVigor
L230	41	99	\$456	80.5	1.5	35.2	72	84	\$805	87.3	2.0	41.0	48	100	\$532	90.3	1.0	47.2	BASF – InVigor
L241C	36	87	\$400	82.0	1.0	33.9	78	90	\$865	88.5	1.5	41.3	48	99	\$529	92.0	1.1	48.3	BASF – InVigor
LSD	11	28					15	17					9	19					
Roundup Ready																			
6090 RR ¹	33	79	\$365	91.5	1.5	38.0	76	88	\$847	89.8	2.3	50.1	36	76	\$404	93.0	1.9	55.0	BrettYoung
6076 CR	38	93	\$429	85.5	1.0	36.4	66	77	\$735	90.0	1.5	47.3	39	82	\$439	92.5	1.3	51.6	BrettYoung
6074 RR	39	94	\$430	86.0	1.0	33.3	78	91	\$872	88.8	2.0	40.4	41	85	\$452	93.0	1.1	48.5	BrettYoung
CS2300 ²	35	85	\$389	86.0	1.5	35.4	77	90	\$858	88.0	1.5	43.4	48	101	\$539	93.8	1.1	53.6	CANTERRA SEEDS
CS2000	37	90	\$412	83.5	1.5	37.8	70	82	\$781	87.0	2.8	42.5	42	88	\$467	91.3	1.9	47.5	CANTERRA SEEDS
CS2100	40	97	\$446	81.5	1.5	34.1	66	77	\$735	88.8	1.8	40.8	45	94	\$503	91.5	1.1	49.1	CANTERRA SEEDS
16RH5088	33	79	\$363	85.5	1.0	33.1	71	83	\$791	88.5	1.0	46.2	45	95	\$504	92.8	1.1	49.2	Cargill – VICTORY
V14-1 ³	32	78	\$395	86.0	1.0	33.5	73	84	\$892	89.0	1.0	46.2	44	91	\$536	93.3	1.1	51.8	Cargill – VICTORY
V12-3 ³	35	84	\$426	81.0	1.0	33.1	73	84	\$891	86.0	2.5	40.9	42	87	\$510	91.8	1.1	48.2	Cargill – VICTORY
75-65 RR	41	100	\$459	79.0	1.0	34.1	66	77	\$740	85.0	2.0	38.1	48	99	\$530	89.5	1.3	47.9	DEKALB
74-44 BL	39	96	\$440	82.0	1.0	33.1	73	85	\$810	87.8	2.3	39.2	49	102	\$543	90.3	1.1	46.5	DEKALB
75-42 CR	37	89	\$408	81.5	1.0	32.5	67	77	\$742	86.0	2.0	39.4	46	96	\$512	91.0	1.0	46.9	DEKALB
DL1634RR	35	84	\$388	91.0	1.0	36.4	75	87	\$836	90.0	1.3	45.0	37	78	\$415	93.0	1.1	53.5	DL Seeds
45H33	38	93	\$429	82.5	1.0	35.8	68	79	\$761	86.3	2.5	41.9	46	95	\$507	91.0	1.4	48.8	Pioneer
45M35	39	93	\$429	81.5	1.0	35.6	81	94	\$903	85.5	2.3	39.8	43	90	\$478	91.3	1.1	48.6	Pioneer
45CS40	42	102	\$469	84.0	1.0	39.2	70	81	\$780	88.0	1.8	41.5	44	92	\$488	90.5	1.8	49.2	Pioneer
D3155C	40	96	\$443	80.5	1.0	38.2	72	83	\$797	86.8	3.0	42.8	46	97	\$516	91.3	1.8	50.3	Brevant
PV 540 G	40	98	\$449	85.5	1.0	35.4	68	79	\$761	87.5	2.0	40.6	39	82	\$437	92.0	1.0	47.8	Proven/Nutrien Ag Solutions
PV 581 GC	38	93	\$426	88.5	1.0	36.4	69	80	\$764	87.5	2.3	41.8	42	87	\$466	92.3	1.0	50.4	Proven/Nutrien Ag Solutions
LSD	7	18					8	9					6	13					
CV	10.1						9.1						9.9						

¹Previously was DL1630RR, developed by DL Seeds. ²Previously was DL1512RR, developed by DL Seeds. ³Indicates varieties with specialty oil profiles and premiums associated with pricing.

MID SEASON ZONE: STANDARD SMALL PLOT RESULTS BY LOCATION

Variety	Dauphin, MB						Swan River, MB						Alvena, SK						Distributor
	Yield (bu./ac.)	Yield (% L252)	Gross Revenue/ac.	Days to Maturity	Lodging	Height (in.)	Yield (bu./ac.)	Yield (% L252)	Gross Revenue/ac.	Days to Maturity	Lodging	Height (in.)	Yield (bu./ac.)	Yield (% L252)	Gross Revenue/ac.	Days to Maturity	Lodging	Height (in.)	
Clearfield																			
5545 CL	64	88	\$709	91.0	2.5	53.1	79	98	\$877	91.3	2.9	49.3	57	96	\$634	86.0	1.0	45.6	BrettYoung
CS2500 CL	59	82	\$659	91.3	2.0	53.0	68	84	\$752	89.0	4.5	48.3	53	90	\$591	83.5	1.0	42.1	CANTERRA SEEDS
DL1745CL	60	83	\$669	93.5	2.0	53.3	71	88	\$789	91.3	4.3	48.8	59	99	\$652	87.0	1.0	47.1	DL Seeds
46H75	66	92	\$740	94.3	2.0	51.6	82	102	\$916	96.3	4.1	48.5	53	90	\$595	86.3	1.0	42.8	Pioneer
PV 200 CL	66	92	\$740	89.0	2.8	49.8	82	102	\$908	91.0	2.9	47.3	58	99	\$650	85.8	1.3	43.3	Proven/Nutrien Ag Solutions
LSD	6	9					10	12					1	2					
LibertyLink																			
L252	73	100	\$808	89.8	2.0	51.0	80	100	\$895	95.8	4.5	45.1	59	100	\$659	86.0	1.0	42.0	BASF – InVigor
L230	67	92	\$743	88.3	2.0	50.0	78	97	\$865	91.8	4.9	42.6	52	89	\$584	82.5	1.0	38.5	BASF – InVigor
L241C	67	92	\$746	89.0	2.3	50.0	68	85	\$758	88.0	5.0	43.4	56	95	\$625	85.5	1.0	44.0	BASF – InVigor
LSD	7	10					8	9					4	6					
Roundup Ready																			
6090 RR ¹	64	88	\$713	91.0	2.0	56.7	84	105	\$936	92.8	4.0	54.2	56	95	\$627	85.0	1.0	50.5	BrettYoung
6076 CR	66	91	\$739	89.5	2.0	51.6	76	95	\$851	91.3	3.5	48.4	56	94	\$620	85.0	1.0	44.9	BrettYoung
6074 RR	70	96	\$777	91.3	2.0	49.6	85	106	\$952	93.8	3.8	46.5	59	100	\$657	85.0	1.0	40.5	BrettYoung
CS2300 ²	69	95	\$767	90.5	2.0	53.1	85	106	\$949	94.3	4.0	50.0	65	110	\$724	84.8	1.0	48.4	CANTERRA SEEDS
CS2000	62	85	\$689	89.8	2.8	51.2	83	103	\$924	90.8	2.8	49.2	57	96	\$635	83.5	1.3	39.5	CANTERRA SEEDS
CS2100	66	92	\$740	91.0	2.3	49.2	82	102	\$912	96.3	3.5	46.5	56	95	\$628	87.0	1.0	41.2	CANTERRA SEEDS
16RH5088	62	85	\$688	90.3	2.0	51.6	76	95	\$849	94.3	5.0	49.5	60	102	\$672	86.8	1.0	49.4	Cargill – VICTORY
V14-1 ³	68	94	\$836	90.3	2.0	52.8	79	99	\$973	92.8	5.0	45.8	55	93	\$677	87.3	1.0	44.7	Cargill – VICTORY
V12-3 ³	65	90	\$798	90.0	2.0	49.2	83	103	\$1,020	91.3	4.3	45.9	58	97	\$706	86.0	1.0	41.5	Cargill – VICTORY
75-65 RR	62	86	\$692	86.5	3.0	43.9	78	97	\$864	90.5	3.8	45.6	56	95	\$625	85.0	1.3	39.2	DEKALB
74-44 BL	67	92	\$746	89.3	2.0	45.9	80	99	\$888	92.0	3.8	44.7	57	96	\$629	85.3	1.0	38.5	DEKALB
75-42 CR	65	90	\$729	87.5	2.0	46.5	73	91	\$814	91.5	4.0	45.8	53	90	\$594	85.3	1.0	41.1	DEKALB
DL1634RR	70	96	\$776	91.5	2.0	55.1	88	110	\$982	92.0	3.9	50.7	62	104	\$687	86.5	1.0	45.5	DL Seeds
45H33	65	90	\$728	87.8	2.3	50.2	84	104	\$933	94.0	4.8	50.9	59	100	\$656	84.5	1.0	46.6	Pioneer
45M35	65	90	\$727	90.0	2.8	47.8	88	110	\$985	94.8	3.3	45.6	61	103	\$679	84.8	1.3	42.4	Pioneer
45CS40	64	88	\$709	89.5	2.5	51.2	80	100	\$895	91.3	4.8	48.8	53	90	\$596	84.8	1.0	47.2	Pioneer
D3155C	64	88	\$707	90.8	2.8	53.3	86	107	\$958	94.0	3.1	50.8	56	94	\$618	83.3	1.3	44.0	Brevant
PV 540 G	68	94	\$757	88.3	2.3	47.4	84	105	\$940	93.3	4.5	47.0	59	100	\$657	85.5	1.0	43.3	Proven/Nutrien Ag Solutions
PV 581 GC	67	93	\$751	90.3	2.3	52.2	85	106	\$948	96.5	4.3	49.0	56	95	\$624	86.8	1.0	45.4	Proven/Nutrien Ag Solutions
LSD	5	7					9	12					5.2	9					
CV	6.0						8.7						5.9						

¹Previously was DL1630RR, developed by DL Seeds. ²Previously was DL1512RR, developed by DL Seeds. ³Indicates varieties with specialty oil profiles and premiums associated with pricing.

MID SEASON ZONE: STANDARD SMALL PLOT RESULTS BY LOCATION

Variety	Hague, SK						Melfort, SK						Pike Lake, SK						Distributor
	Yield (bu./ac.)	Yield (% LZ52)	Gross Revenue/ac.	Days to Maturity	Lodging	Height (in.)	Yield (bu./ac.)	Yield (% LZ52)	Gross Revenue/ac.	Days to Maturity	Lodging	Height (in.)	Yield (bu./ac.)	Yield (% LZ52)	Gross Revenue/ac.	Days to Maturity	Lodging	Height (in.)	
Clearfield																			
5545 CL	18	71	\$196	85.7	1.0	41.1	57	92	\$631	98.7	1.7		52	93	\$582	91.7	1.0	44.6	BrettYoung
CS2500 CL	19	77	\$212	87.0	1.3	42.1	58	93	\$644	97.0	2.0		44	77	\$485	89.7	1.0	43.3	CANTERRA SEEDS
DL1745CL	19	75	\$209	87.0	1.7	41.3	57	91	\$630	102.3	1.7		51	90	\$564	92.3	1.0	47.2	DL Seeds
46H75	19	77	\$214	87.0	1.3	41.7	62	101	\$695	105.0	2.0		50	88	\$555	89.7	1.0	43.7	Pioneer
PV 200 CL	21	83	\$230	87.0	1.3	41.1	63	102	\$705	98.0	2.7		48	86	\$540	91.0	1.0	41.3	Proven/Nutrien Ag Solutions
LSD	3	13					5	7					10	18					
LibertyLink																			
L252	25	100	\$277	87.0	1.3	39.4	62	100	\$689	97.3	1.7		56	100	\$628	90.3	1.0	45.1	BASF – InVigor
L230	23	92	\$256	85.7	1.7	39.5	61	99	\$682	94.7	2.0		58	103	\$647	87.7	1.0	38.9	BASF – InVigor
L241C	27	109	\$303	87.0	1.7	39.5	60	97	\$668	99.3	1.3		53	94	\$588	90.3	1.0	42.4	BASF – InVigor
LSD	10	40					9	15					5	8					
Roundup Ready																			
6090 RR ¹	18	74	\$204	87.0	1.3	44.8	54	91	\$596	104.0	2.0		44	78	\$493	92.3	1.0	49.9	BrettYoung
6076 CR	18	73	\$202	87.0	1.3	41.7	58	99	\$651	102.3	2.0		49	86	\$541	92.3	1.0	44.8	BrettYoung
6074 RR	21	86	\$237	87.0	1.3	37.9	66	112	\$739	104.7	2.0		49	88	\$551	91.0	1.0	40.7	BrettYoung
CS2300 ²	21	86	\$237	87.0	1.3	44.4	62	105	\$691	102.3	2.0		44	79	\$495	91.7	1.0	40.0	CANTERRA SEEDS
CS2000	21	84	\$232	85.7	1.3	39.6	60	101	\$665	97.3	3.0		48	86	\$539	91.7	1.0	45.3	CANTERRA SEEDS
CS2100	20	80	\$222	87.0	1.7	40.7	59	101	\$662	102.7	2.7		42	75	\$473	89.7	1.0	35.4	CANTERRA SEEDS
16RH5088	21	86	\$237	87.0	1.3	39.5	54	91	\$597	100.3	2.0		46	81	\$511	91.7	1.0	43.7	Cargill – VICTORY
V14-1 ³	21	86	\$263	87.0	1.7	40.9	59	99	\$720	101.7	2.0		46	82	\$568	90.3	1.0	44.0	Cargill – VICTORY
V12-3 ³	25	99	\$302	85.7	1.3	39.1	56	95	\$690	100.7	2.7		50	88	\$609	91.7	1.0	41.1	Cargill – VICTORY
75-65 RR	22	89	\$247	84.3	1.7	39.0	56	95	\$626	99.3	2.7		46	82	\$514	87.7	1.0	39.2	DEKALB
74-44 BL	24	96	\$265	83.0	1.3	39.6	64	108	\$712	99.3	3.0		45	81	\$506	89.0	1.0	37.2	DEKALB
75-42 CR	19	76	\$210	84.3	1.3	38.6	60	102	\$674	99.3	2.7		47	84	\$525	89.7	1.0	38.3	DEKALB
DL1634RR	20	79	\$220	87.0	1.7	41.2	62	104	\$686	103.7	2.0		48	85	\$537	93.0	1.0	46.8	DL Seeds
45H33	21	86	\$237	83.0	1.0	42.4	62	105	\$691	102.3	3.0		52	92	\$577	90.3	1.0	43.1	Pioneer
45M35	21	86	\$238	84.3	1.7	37.7	64	108	\$713	101.3	3.0		57	101	\$636	88.3	1.0	42.4	Pioneer
45CS40	19	77	\$212	85.7	1.0	41.6	59	100	\$662	99.7	2.7		46	82	\$516	90.3	1.0	41.6	Pioneer
D3155C	18	74	\$206	85.7	1.0	42.1	59	100	\$656	102.3	3.0		51	90	\$565	89.0	1.0	46.8	Brevant
PV 540 G	20	80	\$221	87.0	1.0	39.4	64	108	\$709	103.0	2.0		46	82	\$515	91.0	1.0	39.4	Proven/Nutrien Ag Solutions
PV 581 GC	22	87	\$241	85.7	1.3	40.7	63	107	\$707	103.7	2.7		48	85	\$532	91.0	1.0	43.7	Proven/Nutrien Ag Solutions
LSD	3	12					7	11					6	11					
CV	10.8						7.9						8.7						

¹Previously was DL1630RR, developed by DL Seeds. ²Previously was DL1512RR, developed by DL Seeds. ³Indicates varieties with specialty oil profiles and premiums associated with pricing.

MID SEASON ZONE: STANDARD SMALL PLOT RESULTS BY LOCATION

Variety	Killam, AB						St. Paul, AB						Distributor
	Yield (bu./ac.)	Yield (% L252)	Gross Revenue/ac.	Days to Maturity	Lodging	Height (in.)	Yield (bu./ac.)	Yield (% L252)	Gross Revenue/ac.	Days to Maturity	Lodging	Height (in.)	
Clearfield													
5545 CL	60	86	\$663	94.3	2.8	47.7	85	99	\$945		1.0	54.1	BrettYoung
CS2500 CL	59	86	\$659	95.5	2.5	46.3	70	82	\$782		1.0	52.1	CANTERRA SEEDS
DL1745CL	60	87	\$666	95.5	1.8	51.7	63	73	\$696		1.0	52.9	DL Seeds
46H75	58	84	\$643	96.8	2.3	48.7	59	69	\$656		1.0	53.4	Pioneer
PV 200 CL	62	89	\$685	95.0	2.8	47.7	59	68	\$653		1.0	53.1	Proven/Nutrien Ag Solutions
LSD	5	8					8	9					
LibertyLink													
L252	69	100	\$769	94.0	2.0	47.7	86	100	\$956		1.0	52.2	BASF – InVigor
L230	63	91	\$696	91.3	1.5	46.3	86	100	\$960		1.0	53.9	BASF – InVigor
L241C	65	95	\$729	93.0	2.0	47.7	72	84	\$802		1.0	49.9	BASF – InVigor
LSD	6	9					26	31					
Roundup Ready													
6090 RR ¹	62	90	\$692	95.5	2.3	53.6	76	89	\$847		1.0	49.7	BrettYoung
6076 CR	64	93	\$714	96.5	3.0	51.2	73	86	\$818		1.0	51.8	BrettYoung
6074 RR	63	91	\$703	93.5	2.8	48.2	64	74	\$707		1.0	52.8	BrettYoung
CS2300 ²	65	93	\$718	97.5	2.5	51.7	68	79	\$757		1.0	54.9	CANTERRA SEEDS
CS2000	59	86	\$659	94.3	3.8	46.8	66	77	\$739		1.0	52.9	CANTERRA SEEDS
CS2100	59	85	\$653	97.0	3.0	48.7	66	77	\$733		1.0	49.0	CANTERRA SEEDS
16RH5088	64	93	\$713	98.0	2.0	51.2	74	86	\$826		1.0	54.7	Cargill – VICTORY
V14-1 ³	65	94	\$797	97.8	2.3	50.7	70	81	\$854		1.0	52.6	Cargill – VICTORY
V12-3 ³	61	88	\$749	95.0	3.0	43.3	73	85	\$898		1.0	50.4	Cargill – VICTORY
75-65 RR	57	83	\$635	93.0	3.3	50.2	68	79	\$753		1.0	52.1	DEKALB
74-44 BL	61	88	\$676	93.8	3.0	47.7	78	91	\$867		1.0	54.9	DEKALB
75-42 CR	59	86	\$661	95.0	3.0	52.2	72	84	\$801		1.0	53.0	DEKALB
DL1634RR	64	93	\$716	98.8	2.5	53.1	79	92	\$877		1.0	54.2	DL Seeds
45H33	60	87	\$671	93.3	3.8	52.2	72	84	\$804		1.0	56.4	Pioneer
45M35	63	91	\$699	94.3	3.0	46.3	87	102	\$973		1.0	52.4	Pioneer
45CS40	63	92	\$706	94.3	3.3	47.7	76	88	\$841		1.0	58.0	Pioneer
D3155C	63	91	\$701	95.0	3.3	48.7	83	97	\$924		1.0	57.1	Brevant
PV 540 G	68	99	\$759	95.5	3.0	48.2	75	88	\$840		1.0	54.2	Proven/Nutrien Ag Solutions
PV 581 GC	65	95	\$728	96.0	2.8	51.7	70	81	\$778		1.0	51.0	Proven/Nutrien Ag Solutions
LSD	6	9					14	17					
CV	7.6						12.4						

¹Previously was DL1630RR, developed by DL Seeds. ²Previously was DL1512RR, developed by DL Seeds. ³Indicates varieties with specialty oil profiles and premiums associated with pricing.

SHORT SEASON ZONE: STANDARD SMALL PLOT RESULTS BY LOCATION

Variety	Falher, AB						Lacombe, AB						Distributor
	Yield (bu./ac.)	Yield (% L252)	Gross Revenue/ac.	Days to Maturity	Lodging	Height (in.)	Yield (bu./ac.)	Yield (% L252)	Gross Revenue/ac.	Days to Maturity	Lodging	Height (in.)	
Clearfield													
5545 CL	66	95	\$740			48.8	65	85	\$721	99.0	1.3	52.2	BrettYoung
CS2500 CL	62	89	\$694			47.6	58	76	\$647	97.0	1.3	50.7	CANTERRA SEEDS
DL1745CL	64	91	\$716			49.4	62	82	\$695	100.8	1.8	50.7	DL Seeds
46H75	68	96	\$752			48.1	59	78	\$661	102.0	1.0	52.7	Pioneer
PV 200 CL	56	80	\$628			46.1	66	87	\$735	97.8	2.3	48.2	Proven/Nutrien Ag Solutions
LSD	6	9					5	6					
LibertyLink													
L252	70	100	\$784			46.9	76	100	\$849	101.5	1.0	52.7	BASF – InVigor
L230	61	87	\$678			47.7	69	90	\$763	91.8	1.0	51.7	BASF – InVigor
L241C	65	92	\$723			45.8	65	85	\$723	94.3	1.0	52.7	BASF – InVigor
LSD	6						4	5					
Roundup Ready													
6090 RR ¹	65	93	\$729			52.5	71	93	\$794	99.0	1.0	59.1	BrettYoung
6076 CR	61	86	\$677			48.5	71	93	\$787	99.5	1.8	55.1	BrettYoung
6074 RR	67	95	\$745			44.4	73	96	\$814	102.3	1.0	52.2	BrettYoung
CS2300 ²	70	100	\$784			51.4	72	95	\$805	99.5	1.0	56.1	CANTERRA SEEDS
CS2000	58	82	\$643			46.5	67	88	\$746	95.8	1.5	52.2	CANTERRA SEEDS
CS2100	60	86	\$672			47.2	69	90	\$765	102.3	1.8	53.1	CANTERRA SEEDS
16RH5088	61	86	\$677			48.1	70	92	\$777	101.5	1.0	54.6	Cargill – VICTORY
V14-1 ³	62	88	\$690			44.1	70	92	\$856	101.3	1.0	52.7	Cargill – VICTORY
V12-3 ³	61	87	\$682			43.5	64	83	\$781	99.5	1.3	50.2	Cargill – VICTORY
75-65 RR	65	92	\$723			48.4	67	88	\$750	92.8	1.5	53.1	DEKALB
74-44 BL	63	89	\$701			45.8	64	83	\$708	98.3	1.0	49.7	DEKALB
75-42 CR	57	81	\$635			45.2	68	89	\$756	99.0	1.0	51.7	DEKALB
DL1634RR	57	81	\$636			49.2	73	96	\$815	100.5	1.0	53.6	DL Seeds
45H33	60	85	\$667			49.6	67	87	\$741	95.8	2.3	53.1	Pioneer
45M35	64	91	\$712			46.1	70	92	\$781	99.3	2.0	51.2	Pioneer
45CS40	63	89	\$700			49.1	67	87	\$741	95.3	1.3	55.6	Pioneer
D3155C	67	95	\$748			51.8	69	91	\$774	94.8	1.5	55.1	Brevant
PV 540 G	65	92	\$721			48.4	65	85	\$723	99.8	1.0	49.7	Proven/Nutrien Ag Solutions
PV 581 GC	59	84	\$660			48.0	67	88	\$743	100.5	1.0	53.1	Proven/Nutrien Ag Solutions
LSD	10	15					6	8					
CV	10.9						5.9						

¹Previously was DL1630RR, developed by DL Seeds. ²Previously was DL1512RR, developed by DL Seeds. ³Indicates varieties with specialty oil profiles and premiums associated with pricing.

SHORT SEASON ZONE: STANDARD SMALL PLOT RESULTS BY LOCATION

Variety	Westlock, AB						Fort Saint John, BC						Distributor
	Yield (bu./ac.)	Yield (% L252)	Gross Revenue/ac.	Days to Maturity	Lodging	Height (in.)	Yield (bu./ac.)	Yield (% L252)	Gross Revenue/ac.	Days to Maturity	Lodging	Height (in.)	
Clearfield													
5545 CL	49	87	\$545	104.8	1.0	50.4	64	93	\$715	117.8		56.1	BrettYoung
CS2500 CL	52	93	\$584	108.0	1.0	50.6	73	105	\$809	119.0		59.5	CANTERRA SEEDS
DL1745CL	62	110	\$691	107.3	1.0	49.9	67	97	\$743	116.8		58.1	DL Seeds
46H75	59	104	\$657	106.5	1.0	50.5	63	91	\$701	113.3		59.1	Pioneer
PV 200 CL	55	97	\$608	106.0	1.0	48.4	56	81	\$620	115.0		54.6	Proven/Nutrien Ag Solutions
LSD	11	19					12	17					
LibertyLink													
L252	57	100	\$630	105.0	1.0	44.3	69	100	\$767	117.0		54.6	BASF – InVigor
L230	60	105	\$664	103.5	1.0	46.0	67	98	\$752	114.8		55.1	BASF – InVigor
L241C	71	125	\$789	105.8	1.0	47.1	71	103	\$788	114.8		56.6	BASF – InVigor
LSD	12	21					11	16					
Roundup Ready													
6090 RR ¹	67	118	\$745	105.3	1.0	57.2	60	88	\$673	116.5		62.5	BrettYoung
6076 CR	66	116	\$733	107.3	1.0	55.0	70	101	\$777	117.0		56.6	BrettYoung
6074 RR	62	109	\$685	105.0	1.0	48.7	58	84	\$642	118.5		57.1	BrettYoung
CS2300 ²	65	115	\$722	105.8	1.0	52.6	62	90	\$690	121.5		58.6	CANTERRA SEEDS
CS2000	63	111	\$696	105.0	1.0	53.7	55	79	\$607	118.5		55.6	CANTERRA SEEDS
CS2100	57	100	\$632	106.5	1.0	48.8	45	66	\$506	121.8		53.6	CANTERRA SEEDS
16RH5088	64	113	\$710	108.0	1.0	54.6	55	80	\$610	121.8		55.1	Cargill – VICTORY
V14-1 ³	63	112	\$777	106.5	1.0	50.6	55	80	\$615	128.3		55.1	Cargill – VICTORY
V12-3 ³	56	99	\$687	104.5	1.0	48.1	56	81	\$623	117.3		51.2	Cargill – VICTORY
75-65 RR	56	99	\$626	104.5	1.0	48.4	58	84	\$641	123.5		52.2	DEKALB
74-44 BL	62	109	\$685	104.5	1.0	51.8	61	88	\$679	120.0		54.1	DEKALB
75-42 CR	60	106	\$670	103.5	1.0	50.2	56	81	\$618	116.8		56.1	DEKALB
DL1634RR	67	119	\$751	106.5	1.0	54.4	75	108	\$832	124.0		62.0	DL Seeds
45H33	62	110	\$693	104.5	1.0	53.4	64	93	\$712	113.3		57.1	Pioneer
45M35	65	114	\$721	105.8	1.0	48.7	61	88	\$674	116.3		55.6	Pioneer
45CS40	67	119	\$751	106.0	1.0	56.1	60	87	\$666	118.0		57.1	Pioneer
D3155C	65	116	\$729	105.0	1.0	53.3	59	85	\$653	118.8		57.1	Brevant
PV 540 G	62	110	\$693	105.8	1.0	50.2	61	89	\$682	119.8		59.1	Proven/Nutrien Ag Solutions
PV 581 GC	61	107	\$675	105.3	1.0	54.6	60	87	\$667	119.5		57.6	Proven/Nutrien Ag Solutions
LSD	7	13					10	14					
CV	8.6						11.1						

¹Previously was DL1630RR, developed by DL Seeds. ²Previously was DL1512RR, developed by DL Seeds. ³Indicates varieties with specialty oil profiles and premiums associated with pricing.

AVERAGE STRAIGHT CUT SMALL PLOT RESULTS BY SEASON ZONE

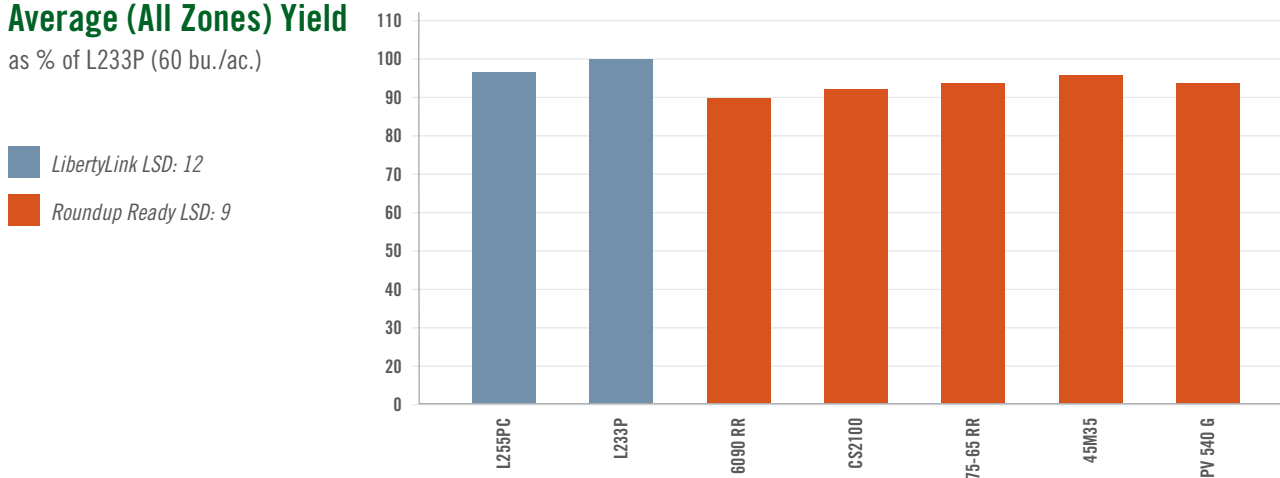
Variety	Long Season Zone (4 locations)				Mid Season Zone (1 location)				Short Season Zone (4 locations)				Overall Average (All Zones)				Disease Tolerance ²		Distributor
	Yield (bu./ac.)	Yield (% L233P)	Days to Maturity	Height (in.)	Yield (bu./ac.)	Yield (% L233P)	Days to Maturity	Height (in.)	Yield (bu./ac.)	Yield (% L233P)	Days to Maturity	Height (in.)	Yield (bu./ac.)	Yield (% L233P)	Days to Maturity	Height (in.)	Blackleg Resistance ³	Clubroot Resistance	
LibertyLink																			
L255PC	55	93	87	46.7	80	105	94	47.2	57	98	110	51.4	59	96	97	48.5	R	R	BASF – InVigor
L233P	59	100	84	44.3	76	100	91	44.3	57	100	104	48.8	60	100	92	46.0	R		BASF – InVigor
LSD	8	13			3	4			7	12			7	12					
Roundup Ready																			
6090 RR ¹	44	74	88	54.3	76	101	95	49.7	57	103	107	53.2	53	90	96	53.3	BL (R-CE ₁)	R	BrettYoung
CS2100	52	88	86	46.5	69	92	95	48.2	54	96	110	49.9	55	92	96	48.0	BL (R-ACG)		CANTERRA SEEDS
75-65 RR	53	90	84	44.1	67	89	92	45.8	54	98	106	48.2	55	93	93	45.8	BL (R-C)		DEKALB
45M35	54	91	84	45.1	71	94	94	46.3	55	101	108	50.2	57	96	94	47.1	BL (MR)		Pioneer
PV 540 G	51	87	86	46.5	69	91	94	45.3	57	101	108	51.3	56	93	95	48.1	BL (R)		Proven/Nutrien Ag Solutions
LSD	4	7			4	5			7	13			6	9					

¹ Previously was DL1630RR, developed by DL Seeds. ² An “R” or “(R)” resistant rating indicates genetic disease resistance to blackleg (BL) or clubroot and “(MR)” indicates moderate genetic disease resistance.

³ See pages 7 and 8 for a description of the new, two-part blackleg resistance labelling system, which explains the descriptive letters (A,C,E₁,G) included in the BL (R) ratings.

Average (All Zones) Yield

as % of L233P (60 bu./ac.)



LONG SEASON ZONE: STRAIGHT CUT SMALL PLOT RESULTS BY LOCATION

Variety	Elie, MB						Elm Creek, MB						Distributor
	Yield (bu./ac.)	Yield (% L233P)	Gross Revenue/ac.	Days to Maturity	Lodging	Height (in.)	Yield (bu./ac.)	Yield (% L233P)	Gross Revenue/ac.	Days to Maturity	Lodging	Height (in.)	
LibertyLink													
L255PC	51	84	\$564	87	1.0	44.1	69	100	\$763	90	2.0	46.0	BASF – InVigor
L233P	60	100	\$671	82	1.0	44.7	69	100	\$763	90	2.0	41.5	BASF – InVigor
LSD	7	12					11	16					
Roundup Ready													
6090 RR ¹	37	62	\$413	87	1.0	49.1	54	78	\$597	92	1.5	55.6	BrettYoung
CS2100	49	82	\$548	82	1.0	44.1	59	86	\$659	90	2.0	42.0	CANTERRA SEEDS
75-65 RR	52	86	\$575	81	1.0	43.7	59	86	\$657	90	2.0	37.4	DEKALB
45M35	51	85	\$568	82	1.0	44.2	65	95	\$729	87	1.8	39.6	Pioneer
PV 540 G	50	84	\$561	82	1.0	43.7	58	84	\$642	90	1.8	43.3	Proven/Nutrien Ag Solutions
LSD	6	9					3	5					
CV	7.0						5.0						

Variety	High Bluff, MB						Redvers, SK						Distributor
	Yield (bu./ac.)	Yield (% L233P)	Gross Revenue/ac.	Days to Maturity	Lodging	Height (in.)	Yield (bu./ac.)	Yield (% L233P)	Gross Revenue/ac.	Days to Maturity	Lodging	Height (in.)	
LibertyLink													
L255PC	57	100	\$638	81	2.0	50.2	45	86	\$497	91	1.1	46.4	BASF – InVigor
L233P	57	100	\$636	77	1.5	45.3	52	100	\$577	88	1.3	45.9	BASF – InVigor
LSD	10	18					3	6					
Roundup Ready													
6090 RR ¹	49	85	\$541	83	2.0	57.6	38	73	\$420	92	1.9	54.8	BrettYoung
CS2100	55	96	\$613	80	2.5	50.2	45	88	\$505	91	1.0	49.8	CANTERRA SEEDS
75-65 RR	55	97	\$617	78	2.0	48.2	47	90	\$521	89	1.1	47.2	DEKALB
45M35	55	97	\$617	79	2.8	48.2	45	87	\$504	90	1.0	48.3	Pioneer
PV 540 G	54	95	\$606	79	2.0	50.2	43	84	\$484	91	1.0	48.8	Proven/Nutrien Ag Solutions
LSD	3	6					5	9					
CV	4.8						7.2						

¹Previously was DL1630RR, developed by DL Seeds.

MID SEASON ZONE: STRAIGHT CUT SMALL PLOT RESULTS BY LOCATION

Variety	Killam, AB						Distributor
	Yield (bu./ac.)	Yield (% L233P)	Gross Revenue/ac.	Days to Maturity	Lodging	Height (in.)	
LibertyLink							
L255PC	80	105	\$887	94	1.8	47.2	BASF – InVigor
L233P	76	100	\$844	91	2.3	44.3	BASF – InVigor
LSD	3	4					
Roundup Ready							
6090 RR ¹	76	101	\$851	95	2.5	49.7	BrettYoung
CS2100	69	92	\$772	95	3.3	48.2	CANTERRA SEEDS
75-65 RR	67	89	\$748	92	2.8	45.8	DEKALB
45M35	71	94	\$793	94	3.0	46.3	Pioneer
PV 540 G	69	91	\$771	94	2.3	45.3	Proven/Nutrien Ag Solutions
LSD	4	5					
CV	4.8						

¹Previously was DL1630RR, developed by DL Seeds.

SHORT SEASON ZONE: STRAIGHT CUT SMALL PLOT RESULTS BY LOCATION

Variety	Falher, AB						Lacombe, AB						Distributor
	Yield (bu./ac.)	Yield (% L233P)	Gross Revenue/ac.	Days to Maturity	Lodging	Height (in.)	Yield (bu./ac.)	Yield (% L233P)	Gross Revenue/ac.	Days to Maturity	Lodging	Height (in.)	
LibertyLink													
L255PC	76	110	\$845			50.1	78	96	\$871	99	1.0	52.2	BASF – InVigor
L233P	69	100	\$767			47.6	82	100	\$910	93	1.3	50.2	BASF – InVigor
LSD	4						8	9					
Roundup Ready													
6090 RR ¹	63	92	\$703			51.4	75	92	\$835	97	1.0	56.1	BrettYoung
CS2100	65	95	\$725			48.5	71	87	\$794	99	1.8	53.1	CANTERRA SEEDS
75-65 RR	61	89	\$680			47.1	70	86	\$780	96	2.0	47.7	DEKALB
45M35	61	88	\$677			47.8	73	90	\$818	98	2.3	52.7	Pioneer
PV 540 G	65	95	\$729			49.6	76	93	\$847	100	1.5	52.7	Proven/Nutrien Ag Solutions
LSD	11						5	6					
CV	10.3						6.3						

Variety	Dawson Creek, BC						Fort St. John, BC						Distributor
	Yield (bu./ac.)	Yield (% L233P)	Gross Revenue/ac.	Days to Maturity	Lodging	Height (in.)	Yield (bu./ac.)	Yield (% L233P)	Gross Revenue/ac.	Days to Maturity	Lodging	Height (in.)	
LibertyLink													
L255PC	30	90	\$330	110		46.9	43	97	\$482	121		56.4	BASF – InVigor
L233P	33	100	\$367	107		43.6	45	100	\$498	112		53.8	BASF – InVigor
LSD	13	40					4	9					
Roundup Ready													
6090 RR ¹	34	103	\$376	109		47.5	56	125	\$624	113		57.7	BrettYoung
CS2100	28	86	\$316	112		42.3	52	116	\$576	119		55.8	CANTERRA SEEDS
75-65 RR	33	102	\$373	108		44.1	52	117	\$580	115		53.8	DEKALB
45M35	37	113	\$414	110		46.5	50	113	\$562	116		53.8	Pioneer
PV 540 G	29	88	\$321	107		48.3	57	127	\$631	117		54.5	Proven/Nutrien Ag Solutions
LSD	5	16					8	19					
CV	11.4						8.6						

¹Previously was DL1630RR, developed by DL Seeds.

2018 FIELD SCALE TRIAL YIELD RESULTS

Field scale trials are managed by growers using their typical production practices. Trials are planted, swathed and harvested or straight cut and, when necessary, sprayed by growers using the respective herbicide systems according to established protocols. Individual plots range from 0.5 to 1.5 acres. When comparing average results between varieties, consider the number of field sites for each variety. Field scale trials occasionally produce data that is above or below the expected range. If agronomic observations cannot explain these outliers, then they are checked against the statistical limits of deviation established by the CPT Technical Committee. If the data falls outside the limits, it is removed. To see the standard and straight cut protocols for the CPT small plot and field scale trials, check out canolaperformancetrials.ca/trial-protocol.

2018 Standard Harvest Yield Results (% of check, L252)			
Location	Roundup Ready	LibertyLink	
	75-65 RR	L230	L252 (bu./ac.)
Long Season Zone	95	92	100 (47.3)
Gladstone, MB	100	93	100 (47.7)
Lethbridge, AB	87	84	100 (43.1)
St. Adolphe, MB	96	97	100 (51.2)
Mid Season Zone	95*	94**	100 (57.9)
Clavet, SK	94	91	100 (55.8)
Dauphin, MB	90	94	100 (68.8)
Foam Lake, SK	92	90	100 (59.0)
High River, AB	87	83	100 (41.8)
Mikado, SK	103	96	100 (59.4)
Nipawin, SK	96	104	100 (57.0)
Regina, SK	92	96	100 (65.5)
Ruddell, SK	93	98	100 (52.9)
Yorkton, SK	103	93	100 (60.9)
Short Season Zone	97	97	100 (50.4)
Crossfield, AB	97	97	100 (50.4)
Total (all locations)	95**	94**	100 (54.9)

2018 Clubroot Yield Results (% of L241C)		
Location	Roundup Ready	LibertyLink
	75-42 CR	L241C (bu./ac.)
Mid Season Zone	97	100 (57.2)
Bruderheim, AB	107	100 (64.6)
Camrose, AB	93	100 (56.5)
Lavoy, AB	93	100 (62.5)
Mannville, AB	97	100 (54.2)
Maskwacis, AB	92	100 (48.2)
Short Season Zone	99	100 (59.6)
Guy, AB	105	100 (65.3)
Legal, AB	101	100 (65.6)
Pickardville, AB	103	100 (56.2)
Red Deer, AB	86	100 (51.2)
Total (all locations)	98	100 (58.2)

Note: No standard checks could have been used in the clubroot field scale trials, therefore trial reported in a separate table.

2018 Straight Cut Yield Results (% of check, L233P)				
Location	Roundup Ready		LibertyLink	
	45M35	75-65 RR	L255PC	L233P (bu./ac.)
Long Season Zone	98	96*	97*	100 (55.4)
Estevan, SK	99	100	96	100 (53.2)
Gladstone, MB	96	91	97	100 (45.0)
Langbank, SK	99	96	98	100 (53.9)
Petersfield, MB	97	95	100	100 (55.5)
Pilot Mound, MB	94	91	94	100 (60.3)
St. Adolphe, MB	102	100	99	100 (51.1)
St. Claude, MB	98	96	95	100 (69.2)
Mid Season Zone	97	96*	99	100 (54.5)
Carbon, AB	97	89	86	100 (36.9)
Clavet, SK	88	96	102	100 (56.6)
Dauphin, MB	100	97	101	100 (63.4)
High River, AB	101	93	92	100 (39.6)
Indian Head, SK	98	96	97	100 (73.0)
Kamsack, SK	102	99	102	100 (72.0)
Regina, SK	109	105	108	100 (54.5)
Ruddell, SK	86	89	87	100 (57.9)
Strathmore, AB	96	95	102	100 (62.2)
Swan River, MB	91	89	100	100 (57.8)
Trochu, AB	101	104	102	100 (47.5)
Vulcan, AB	97	100	117	100 (23.9)
Yorkton, SK	95	90	92	100 (64.0)
Total (all locations)	97*	96**	98	100 (54.8)

*Indicates 95% confidence that the season zone average or the total average value for that variety is significantly different from the check variety (L252).

**Indicates 99% confidence that the season zone average or the total average value for that variety is significantly different from the check variety (L252).

For more details on individual trials and for interactive search and comparison tools on all final datasets since 2011, visit canolaperformancetrials.ca

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PERFORMANCE TRIALS

**INFORMED
SEEDING
DECISIONS**

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