

AGRI-FACTS

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Varieties of Cereal and Oilseed Crops for Alberta

This annual publication provides information on cereal and oilseed variety performance in Alberta and northeastern British Columbia. Important agronomic characteristics and disease resistance information are provided for varieties of wheat, barley, oat, rye, triticale, flax and canola.

Regional variety testing program

The Alberta Regional Variety Testing program for cereals and flax is coordinated by the Alberta Regional Variety Advisory Committee (ARVAC) and Alberta Agriculture and Forestry (AF). Funding for the program is provided by the following:

- Alberta Agriculture and Forestry
- Alberta Wheat Commission
- Alberta Barley Commission
- Alberta Oat Growers Association
- Alberta Seed Growers
- Alberta Seed Processors
- Prairie Oat Growers Association
- Entry fees for the varieties being tested

Data for this publication come from various sources:

- Ag-Quest
- Agriculture and Agri-Food Canada
- Alberta Agriculture and Forestry
- Alberta Innovates Technology Futures
- British Columbia Grain Producers
- Farming Smarter
- Lakeland College
- Nutrien Ag Solutions
- SARDA Ag Research
- University of Alberta

- Battle River Research Group (BRRG)
- Chinook Applied Research Association (CARA)
- Gateway Research Organization (GRO)
- Lakeland Applied Research Association (LARA)
- McKenzie Applied Research Association (MARA)
- Prairie Grain Development Committee

The following individuals are the 2018 Regional Variety Trial and crop specific co-ordinators:

- Alex Fedko, Regional Variety Trial Co-ordinator
- Spring wheat, Drs. H. Randhawa, D. Spaner and S. Strydhorst
- Barley, J. Anderson
- Oat, Dr. J. Mitchell-Fetch
- Triticale, Dr. H. Randhawa
- Winter Wheat, Dr. R. Graf
- Fall Rye, Dr. J. Larsen
- Winter Triticale, Dr. J. Larsen
- Flax, M. Hartman

Annual variety performance information can help producers with crop decisions.

Sincere thanks are extended to all individuals and organizations who contribute to this publication.

Yield results and reporting

Variety choice should never be based solely on yield performance, as it is only one factor that affects net return. The genetic yield potential of a variety is often masked by numerous factors, some of which can be controlled through variety choice and others through astute agronomic management.

Producers are encouraged to consider other characteristics such as maturity, plant height, lodging and disease/pest resistance when deciding which varieties to grow. Long term satisfaction with a variety is often related to non-yield characteristics.

New format for reporting yield

Continuing for 2019, the yield data for CWRS wheat are reported in two ways. The first method is the traditional manner that has been used since 2010 (see below). New in 2018 was an alternative method that reports head-to-head comparisons of all varieties on the annual trials within a five-year timeframe.

This new method retains low and high yield test categories based on the average yield of Carberry (67 bu/ac), the long term check in the Regional Variety Trials. The advantage of this method is that all comparisons within a column are valid, rather than only to the check.

The Overall Yield is also reported using all available data, but since this is a dataset with varying numbers of comparisons over different years, the only valid comparison is to the check, as has been the case with the older method. Your comments on this new format are welcome.

Producers have often asked for additional checks in the regional variety trials that reflect more commonly grown varieties. Starting in 2018, two additional varieties are grown as “benchmark” checks and reflect the two most popular varieties for the crop or within a market class during the previous year, based on crop insurance data. These checks will change as the popularity of varieties change.

Traditional yield reporting method

Exercise caution when making yield comparisons among varieties. Variety yield should only be directly compared to the standard reference check. Actual head-to-head yield comparisons between other varieties may not have occurred.

Small plot agronomic trials are expensive to grow, and new varieties are registered every year. It is simply impractical to grow all varieties at the same time.

Following several years of data collection, the yield performance for a particular variety stabilizes relative

to the check, and further testing is no longer required. It is for these reasons that the check varieties are grown every year (e.g. Carberry for CWRS wheat, AC Metcalfe for barley) and that changes to these checks are infrequent. The “Overall Station Years of Testing” column provides an indication of the unbalanced nature of the dataset.

At least six station-years of yield data collected over two years are required before reporting the figures in this publication. For new varieties, Overall Yield is often the first indication of yield potential relative to the check. As additional data become available, yield performance is also expressed on the basis of environmental productivity (Yield Test Categories of Low, Medium, High and Very High).

Yield rankings among varieties can change substantially due to growing conditions. To reflect these differences, results from a test site that produced high yield in a particular year are placed into the database for “high” yielding environments. The same site may contribute to the “low” yield category in a drought year, when yields are low.

Consistent performance over all Yield Test Categories indicates that a variety has environmental responses similar to the check and may have good yield stability over a wide range of environments.

Scientific studies conducted on variety performance in western Canada have shown that Yield Test Category analysis provides a more reliable indication of yield performance than results organized by geographic region.

The yield comparison tables have several features:

- Overall actual yield of the check (bushels/acre) based on all data available to the testing program is provided along with the number of station years of testing.
- The range in yield for each Yield Test Category is defined.
- Actual yield of the check in each Yield Test Category is reported.
- For varieties with sufficient data, the Overall Yield and performance in each Yield Test Category is expressed relative to the check.

To make effective use of the yield comparison tables, producers should set a realistic yield target for the season and determine where it fits within the Low,

Medium, High and Very High Yield Test Categories. This approach facilitates matching of variety choice to expected productivity levels and is similar to that used when making decisions on other levels of inputs.

Please note that the actual yield levels indicated are from small plot trials, which may be 15 to 20 per cent higher than yields expected under commercial production.

Maturity ratings

As is the case for yield, growing conditions have a tremendous influence on the date of maturity. For example, a variety of CWRS wheat may mature in 98 days in Lethbridge, but take 103 days in Edmonton. In the same way, a two-day difference in maturity between varieties in southern Alberta may amount to a five-day difference in a more northerly location.

To take this factor into account, maturity is expressed using a six-category scale: Very Early, Early, Medium, Late, Very Late and, in rare instances, Extremely Late. To aid producers with this relative scale, the average number of days to maturity for the check is reported. Note that this scale is different for each crop type. For example, an early barley variety will mature much earlier than an early flax variety.

Seed size and plant populations

Seed size within a crop kind will vary from variety to variety, requiring adjustment of seeding volumes to achieve desired plant populations. Some of the tables provide an average 1,000 kernel weight (TKW) that can be used as a guide for variety differences.




The best approach is to determine the 1,000 kernel weight of the seed to be planted, germination rate, emergence mortality and in the case of fall seeded crops, an estimate of winterkill.

For more information and user-friendly seeding rate calculators that take into account these and other considerations, please see the website www.agric.gov.ab.ca/app21/ldcalc

Plant Breeders' Rights

Plant Breeders' Rights (PBR) are a form of intellectual property rights by which plant breeders can protect

new varieties in the same way an inventor protects a new invention with a patent.

In 2015, Canada amended the PBR Act to bring it into conformity with UPOV 91. Varieties protected under the previous legislation (UPOV 78) are indicated with the  logo, whereas those protected under the new legislation that are shown with a new  logo. The use of the  logo indicates that an application for PBR has been accepted and the variety has provisional protection.

For more information on Plant Breeders' Rights, please see www.pbrfacts.ca or the Canadian Food Inspection Agency website at www.inspection.gc.ca

Canola

The Alberta Regional Variety Advisory Committee (ARVAC) does not take any responsibility for accuracy or validity of the canola performance data.

Diseases, seed treatment and seed testing

- Disease ratings are compiled from various data sources in Alberta and other prairie provinces.
- Treat rye and flax seed to control seedling blight, cereal seed for smuts and fusarium, canola seed to control flea beetle, seedling blight and the seed-borne phase of virulent blackleg.
- Wheat with Moderately Susceptible (MS) or Susceptible (S) ratings for common bunt should be treated with a systemic fungicide as low levels of infection will restrict marketability.
- Refer to labels for maximum storage periods of treated seed.
- Treated seed must not be fed to livestock, poultry or wildlife and cannot be sold for feed.
- Leaf spot ratings in the wheat tables are a combination of resistance to tan spot and septoria leaf disease complex.
- Fusarium head blight (FHB), caused by *Fusarium graminearum* and other species, is an increasing problem in Alberta. The relative ranking of crops from most susceptible to least susceptible is durum wheat, spring and winter wheat, triticale, barley and oat. Corn is a host of *F. graminearum* and can serve as a source of infection when residue is left on the ground. FHB infection is highly influenced by the environment and heading date. A resistant (R) tolerance rating for

FHB does not equate to immunity. Under severe epidemics, all varieties will sustain damage. All seed should be tested for the presence of FHB and treated with an appropriate seed treatment. Producers are advised to choose varieties with the best FHB tolerance whenever possible and always use best management practices to slow the spread of this disease.

- Seed used in the Alberta Regional Variety Testing program comes with a “fusarium-free” certificate, and trials are inspected for FHB during the growing season.

Laboratories participating in the FHB testing program:

- 20/20 Seed Labs Ltd., Nisku, AB: 1-877-420-2099
- BioVision Seed Research Ltd., Edmonton, AB: 1-800-952-5407
- BioVision Seed Research Ltd., Grande Prairie, AB: 1-877-532-8889
- Parkland Laboratories, Red Deer, AB: 403-342-0404
- Precision Seed Testing, Beaverlodge, AB: 780-354-2259
- Seed Check Technologies Inc., Leduc, AB: 780-980-8324

Agronomic practices used in small plot trials

Small plot trials are conducted using the following best agronomic practices:

- N, P, K and S fertilizer rates are based on soil test results for 1.25x the area average yield goal of the past 4 years, as reported in the AFSC Yield Alberta publication.

- All wheat, barley and oat seed is treated with Cruiser Maxx Vibrance Cereals. Triticale is treated with Dividend XL RTA. Flax seed is not treated.
- Seeding rates are adjusted for TKW and germination to reach the following target plant populations listed in Table 1.0.
- Foliar fungicides are not applied to the trials, which allows for testing genetic differences between cultivars for their disease resistance. The application of a foliar fungicide under conditions for disease development could significantly increase yields on some cultivars.

Abbreviations and rating scales

- TKW = Thousand kernel weight
- XX = Insufficient data to describe
- Maturity: VE = Very Early, E = Early, M = Medium, L = Late, VL = Very Late
- Resistance Ratings: VP = Very Poor, P = Poor, F = Fair, G = Good, VG = Very Good, EX = Excellent
- Disease Tolerance Ratings: R = Resistant, MR = Moderately Resistant, I = Intermediate, MS = Moderately Susceptible, S = Susceptible
- Kernel Type (winter wheat): HR = Hard Red, SR = Soft Red, HW = Hard White, SW = Soft White
- Awns (wheat): Y = Yes (bearded), N = No (awnless)
- Awn Type (barley): R = Rough, S = Smooth, SS = Semi-smooth
- Seed Size (flax): S = Small, M = Medium, L = Large
-  Protected by previous Plant Breeders' Rights legislation
-  Protected under new Plant Breeders' Rights legislation
-  Applied for Plant Breeders' Rights protection

Table 1.0 Target plant populations used to determine seeding rates

Crop	Wheat						
	CWRS	CPSR	CNHR	CWSP	Durum	CWSWS	Winter wheat
Target plant population (plants/sq. ft.)	31	31	31	31	28	31	33

Crop	Barley		Oat	Triticale	Flax	
	2 row	6 row			Brown	Yellow
Target plant population (plants/sq. ft.)	25	25	28	29	75	84

Other variety information

For additional information, including varieties not listed in this publication, please call the Alberta Agriculture and Forestry (AF) Ag-Info Centre toll-free at 310-FARM (3276). For other cropping information, refer to the AF website at agriculture.alberta.ca

Factsheet information and tables prepared, reviewed and approved by:

Alberta Regional Variety Advisory Committee (ARVAC)

Data preparation and factsheet co-ordination by:

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Alberta Agriculture and Forestry

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CANADA WESTERN RED SPRING WHEAT

Variety	Overall Station	Yield Category (% Carberry):				Agronomic Characteristics:					Resistance to:					Disease Tolerance:				
		Overall Yield	Low <55 (bu/ac)	Medium 55-80 (bu/ac)	High >80 (bu/ac)	Maturity Rating	Protein %	Weight (lb/bu)	TKW (g)	Height (cm)	Awns (Y/N)	Lodging	Sprouting	Smut	Bunt	Rust	Stripe	Leaf Spot	Fusarium Head Blight	
																				Test Weight
Varieties tested in the 2018 trials (Yield and agronomic data only directly comparable to Carberry)																				
Carberry (bu/ac)	67	45	65	92																
Carberry - check ☺	112	100	100	100	L	14.0	63	39	79	Y	VG	F	MR	R	MR	MR	MS	MR	MR	
AAC Alida VB ▲	31	103	106	102	M	0.2	63	42	86	Y	VG	VG	R	I	MR	MR	MS	MR	MR	
AAC Brandon ☺	21	106	103	110	M	-0.2	63	40	80	Y	VG	P	MR	S	MR	MR	I	MR	MR	
AAC Jatharia VB ☺	31	106	111	103	M	-0.1	64	43	93	Y	F	G	S	MS	I	I	I	I	I	
AAC Tisdale ▲	45	101	100	102	M	0.4	63	42	88	Y	F	F	MR	MR	S	MS	MS	MR	MR	
AAC Viewfield ☺	59	110	108	114	L	-0.3	64	40	76	Y	VG	G	S	MR	R	I	I	I	I	
CDC Adamant VB ▲	45	104	97	106	M	-0.1	63	39	83	Y	P	F	S	S	MS	MS	MS	I	I	
CDC Go	59	102	95	105	M	0	62	43	80	Y	G	VP	MS	I	MS	S	S	MS	MS	
CDC Hughes VB ▲	45	103	102	103	M	0	63	44	83	Y	G	G	MR	MS	I	I	I	I	I	
CDC Landmark VB ☺	45	105	100	107	M	0	63	44	84	Y	VG	VG	MR	MS	MR	I	I	I	I	
Parata ▲	31	97	XX	98	E	0.7	64	39	87	Y	F	F	MS	S	MR	I	I	I	I	
Stettler ☺	82	105	105	104	M	0	63	39	85	Y	G	G	R	MR	I	MS	MS	MS	MS	
SY Chert ▲	31	102	XX	107	M	-0.1	63	40	87	Y	F	F	R	R	R	MS	MS	I	I	
SY Obsidian ▲	31	103	XX	107	M	-0.1	63	42	84	Y	VG	F	R	MS	MR	I	MS	MS	MS	
SY Sovite ☺	45	97	98	100	M	0.2	62	43	89	Y	F	F	R	MS	R	MR	MR	MR	MR	
Previously tested varieties																				
Carberry - check ☺	100	100	100	100	L	0	63	39	79	Y	VG	F	MR	R	MR	MR	MS	MR	MR	
5604HR † CL ☺	76	93	90	95	E	-0.7	63	33	87	Y	G	G	MS	I	XX	MS	MS	I	I	
AAC Cameron VB ☺	42	109	100	118	M	-0.6	62	44	94	Y	G	F	S	R	S	I	I	I	I	
AAC Conner ☺	42	99	93	102	E	0	62	40	81	N	VG	G	MR	I	R	I	MR	MR	MR	
AAC Elle ☺	41	107	104	113	M	-0.1	64	38	81	Y	G	F	I	I	MR	I	I	I	I	
AAC Prevall ☺	42	99	94	103	L	-0.6	62	39	96	Y	G	G	S	S	R	MS	MS	I	I	
AAC Redberry ☺	42	101	98	105	M	-0.1	63	41	84	Y	G	G	R	I	R	MS	MS	I	I	
AAC Redwater* ☺	41	96	91	101	E	0	64	35	87	Y	G	VG	MS	I	MR	MS	MS	I	I	
AC Barrie †	320	93	91	96	M	14.0	63	37	89	N	G	G	MR	I	S	MS	MS	I	I	
AC Intrepid †	107	95	88	98	E	0	62	39	90	N	G	P	I	MR	MR	MS	MS	MS	MS	
AC Splendor †	153	89	85	90	VE	0.9	61	37	89	N	F	F	I	I	I	I	I	I	MS	

CANADA WESTERN RED SPRING WHEAT (continued)

Variety	Overall Station	Yield Category (% Carberry):				Agronomic Characteristics:										Disease Tolerance:					
		Overall Yield	Low < 55 (bu/ac)	Medium 55 – 80 (bu/ac)	High > 80 (bu/ac)	Maturity Rating	Protein %	Weight (lb/bu)	TKW (g)	Height (cm)	Awns (Y/N)	Resistance to:				Loose Smut	Bunt	Rust	Stripe	Leaf Spot	Fusarium Head Blight
												Lodging	Sprouting	Fusarium Head Blight	Fusarium Head Blight						
Cardale	41	98	95	100	98	M	-0.3	63	37	84	Y	G	G	G	I	S	MS	MS	MS	MR	
Coleman	43	94	88	99	93	M	0	64	37	93	Y	F	P	P	S	S	MR	I	I	MR	
CDC Abound	88	103	99	107	105	M	-0.1	63	40	82	Y	G	F	F	I	I	MS	MS	MS	S	
CDC Bradwell	42	101	97	105	101	L	-0.3	63	38	84	Y	VG	F	F	MR	R	MS	MS	MS	I	
CDC VR Morris	41	102	97	107	100	M	-1	65	37	84	N	G	P	P	I	I	XX	I	I	MR	
CDC Plenifol	41	99	95	104	99	M	-0.2	64	35	87	N	VG	P	P	R	I	MR	I	I	MR	
CDC Stanley	76	106	103	109	107	M	-0.8	63	34	87	N	G	G	G	MR	S	I	I	I	MS	
CDC Titanium VB	41	101	99	106	96	E	0.5	65	41	87	Y	G	P	P	MS	I	R	MS	MS	MR	
CDC Ulmost VB	53	105	105	105	107	M	-0.2	64	36	85	N	G	G	G	MS	S	I	I	I	MS	
Glenn	61	97	96	96	101	L	-0.2	65	36	85	Y	VG	F	F	I	I	MR	I	I	I	
Go Early	42	97	93	103	95	VE	0.3	61	40	93	Y	G	P	P	I	MR	I	S	I	I	
Muchmore*	53	103	104	102	107	L	-0.9	63	37	75	Y	VG	G	G	MR	R	MR	MS	MS	MS	
Shaw VB	53	105	104	105	107	M	-0.9	63	37	92	N	G	G	G	S	MR	I	MS	MS	MS	
Superb	184	105	101	109	109	L	-0.4	62	42	85	Y	G	F	F	I	MR	S	S	S	MS	
SY433	44	97	92	101	98	M	-1	64	39	95	Y	G	G	G	I	S	XX	I	I	MR	
SY479 VB †	42	91	88	94	89	M	0.8	62	40	94	Y	VG	VG	VG	MS	R	S	MS	I	I	
SY637	42	96	89	100	97	L	0.8	62	39	91	Y	G	XX	MS	MR	MR	I	I	MR	MR	
SY Slate	42	101	98	106	99	M	0.2	62	41	85	Y	F	P	MS	S	MR	MS	I	I	I	
Thorsby	43	99	90	106	99	E	-0.5	64	38	89	N	G	F	I	S	R	R	MS	I	I	
WR859 CL †	79	99	95	101	103	M	-0.4	64	34	81	Y	G	G	R	R	I	MS	MS	MS	MR	

Remarks: For explanations on data summarization methods, abbreviations and other pertinent information, please see the comments at the beginning of this publication. Several CWRS varieties were reclassified to the new CNHR wheat class, effective August 1, 2018. The varieties affected are AC Abbey, AC Cora, AC Eaton, AC Majestic, AC Mimbo, Alvena, Alikat, CDC Makwa, CDC Oster, Columbus, Conway, Harvest, Kane, Katopwa, Leader, Lillian, McKenzie, Neepawa, Park, Pasqua, Pembina, Thatcher, Unity VB and 5603HR. * Effective August 1, 2021 the Canadian Grain Commission will designate AAC Redwater and Muchmore to the CNHR wheat class. For more information see the Canadian Grain Commission website www.grainscanada.gc.ca. The long term average maturity for Carberry is 108 days and rated as Late (L). Fusarium Head Blight (FHB) infection is highly influenced by the environment and heading date. Under high levels of FHB all varieties will sustain damage. Moderately Resistant (MR) and Resistant (R) ratings for FHB do not equate to immunity. Varieties rated Intermediate (I) to Susceptible (S) for loose smut or bunt should be treated with a systemic seed treatment to reduce the potential for infection. CDC Admant VB, CDC Landmark VB and CDC Hughes VB have a solid stem that confers resistance to the wheat stem sawfly. 5604HR CL, 5605HR CL, CDC Abound, CDC Imagine, CDC Thrive and WR589 CL are tolerant to the CLEARFIELD® herbicides Adrenalin SC and Altitude FX. VB - designates a varietal blend to preserve the *Sm1* orange wheat blossom midge tolerance gene. New CWRS registrations: AAC Magnet (BW1045), AAC LeRoy (BW1049), AAC Starbuck (BW5011), AAC Warman (BW1025), AAC Wheatland (BW5013), Parata (PT772), SY Chert (BW5005) and SY Obsidian (BW5007). Insufficient data to describe: AAC Magnet, AAC LeRoy, AAC Starbuck, AAC Warman, AAC Wheatland, BW1041, PT596, PT782 and PT785. XX - Insufficient data to describe. † - Flagged for possible removal in 2020.

CANADA WESTERN RED SPRING WHEAT (alternate reporting format)

Yield: Annual Means by Productivity Environment. * Head-to-head comparisons within yearly columns.

Variety	Low Yield Sites (< 65 bu/ac)				High Yield Sites (>= 65 bu/ac)				Overall Yield	Station Years of testing
	2015	2016	2017	2018	2015	2016	2017	2018		
Carberry (bu/ac)	48	51	53	51	73	80	82	82	70.2	
Carberry (% check) ☉	100	100	100	100	100	100	100	100	100	59
AAC Brandon (check) ☉				106				107	106	17
5605HR CL ☉	99				102				101	14
CDC VR Morris ☉	108				104				105	14
CDC Titanium VB ☉	104				98				101	12
Coleman	89				95				93	14
Thorsby ☉	97				103				101	14
AAC Connery ☉	98	103			103	109			104	28
AAC Prevail ☉	98	103			102	109			104	28
Go Early ☉	100	99			103	102			102	28
SY479 VB ☉	93	97			92	96			94	28
SY637 ☉	94	94			98	103			98	28
AAC Cameron VB ☉	105	111	93		112	117	113		111	42
AAC Redberry ☉	102	104	95		105	103	99		102	42
AC Barrie	95	98	89		95	100	93		95	42
CDC Bradwell ☉	99	108	94		99	112	101		103	42
SY Slate ☉	102	103	97		100	104	104		102	42
AAC Viewfield ☉	111	113	97	107	109	117	109	108	110	59
AAC Tisdale ▲		103	92	105		107	99	99	101	45
CDC Adamant VB ▲		104	86	103		110	107	100	104	45
CDC Hughes VB ▲		107	95	101		108	105	97	103	45
CDC Landmark VB ▲		107	92	100		111	109	102	105	45
SY Sovite ☉		101	94	98		102	98	93	97	45
AAC Alida VB ▲			100	104			107	101	103	31
AAC Jatharia VB ☉			96	108			107	106	106	31
Parata ▲			87	99			95	100	97	31
SY Chert ▲			91	104			109	97	102	31
SY Obsidian ▲			102	100			108	100	103	31
CDC Go (benchmark)			98	100			106	106	104	31
Stettler ☉ (benchmark)			95	107			103	105	104	31
Number of Sites	5	5	3	6	9	9	11	11		

* Please see the INTRODUCTION for an explanation of this new yield format

CANADA WESTERN HARD WHITE SPRING WHEAT

Variety	Overall Station	Yield Category (% Carberry):			Agronomic Characteristics:					Resistance to:							Disease Tolerance:		
		Low	Medium	High	Test Weight	TKW	Height	Awns	Lodging	Sprouting	Loose Smut	Bunt	Rust	Stripe	Leaf Spot	Fusarium Head Blight			
		< 55 (bu/ac)	55 – 80 (bu/ac)	> 80 (bu/ac)	(lb/bu)	(g)	(cm)	(Y/N)	(Y/N)										
Varieties tested in the 2018 trials (Yield and agronomic data only directly comparable to Carberry)																			
Carberry (bu/ac)	67	45	65	92															
Carberry - check ☺	112	100	100	100	63	39	79	Y	VG	F	MR	R	MR	MS	MR				
AAC Cirrus ▲	31	XX	102	102	63	36	83	Y	G	F	MR	I	R	R	I				
Previously tested varieties																			
Carberry - check ☺	100	100	100	100	63	39	79	Y	VG	F	MR	R	MR	MS	MR				
AAC Iceberg ☉	39	92	101	102	64	39	86	Y	G	P	MS	I	MR	MS	I				
CDC Whitewood	43	100	106	96	64	38	87	Y	G	G	S	S	I	MS	I				
Snowbird ☺	94	94	97	94	62	36	89	N	G	G	MR	MS	MS	S	I				
Snowstar † ☺	58	94	99	95	64	30	82	N	G	G	MS	S	MS	I	MS				
Whitehawk ☺	42	99	101	100	63	33	90	N	G	G	I	MS	MS	MS	I				

Remarks: For explanations on data summarization methods, abbreviations and other pertinent information, please see the comments at the beginning of this publication. The long term average maturity for Carberry is 108 days and rated as Late (L). Fusarium Head Blight (FHB) infection is highly influenced by the environment and heading date. Under high levels of FHB all varieties will sustain damage. Moderately Resistant (MR) and Resistant (R) ratings for FHB do not equate to immunity. Varieties rated Intermediate (I) to Susceptible (S) for loose smut or bunt should be treated with a systemic seed treatment to reduce the potential for infection. New CWHWS registrations: AAC Cirrus (HW388), XX - Insufficient data to describe. † - Flagged for possible removal in 2020.

CANADA PRAIRIE SPRING RED WHEAT

Variety	Overall Station Years of Testing	Yield Category (% Carberry):			Agronomic Characteristics:					Disease Tolerance:								
		Overall Yield	Low	Medium	High	Maturity Rating	Protein %	Test Weight (lb/bu)	TKW (g)	Height (cm)	Avns (Y/N)	Resistance to:			Loose Smut	Stripe Rust	Leaf Spot	Fusarium Head Blight
			< 55 (bu/ac)	55 - 80 (bu/ac)	> 80 (bu/ac)							Lodging	Sprouting	Bunt				
Varieties tested in the 2018 trials (Yield and agronomic data only directly comparable to Carberry)																		
Carberry ☞		69	41	63	90													
Carberry ☞	60	100	100	100	100	L	13.9	63	40	79	Y	VG	F	MR	R	MR	MS	MR
AAC Entice ☞	47	108	102	108	111	M	-0.7	62	41	78	Y	G	P	MS	S	R	MS	I
AAC Goodwin ☞	48	115	112	116	117	M	-0.5	63	41	83	Y	VG	G	MS	MS	R	I	I
AAC Penhold ☞	47	113	110	111	116	M	-1	63	44	71	Y	VG	G	I	R	MR	I	MR
CDC Terrain ▲	47	115	120	114	115	M	-1.4	61	44	87	Y	G	G	MR	MR	R	I	MS
SY Rowyn ☞	47	106	102	109	105	M	-0.9	62	36	77	Y	G	F	I	S	MR	I	MR
Previously tested varieties																		
Carberry ☞		100	100	100	100	L	13.9	63	40	79	Y	VG	F	MR	R	MR	MS	MR
5700PR ☞	117	110	108	113	109	L	-1.8	62	42	75	Y	VG	F	MS	R	MS	MS	MS
AAC Crossfield ☞	43	115	115	113	118	M	-1.1	62	42	80	Y	G	P	MS	I	R	I	I
AAC Foray VB ☞	41	121	117	123	123	M	-1.6	63	51	85	Y	G	G	MS	I	MR	MS	I
AAC Ryley ☞	37	111	108	112	110	M	-0.5	60	48	82	Y	G	G	I	R	S	MS	MS
AAC Tenacious VB † ☞	40	102	102	101	104	M	-1.2	62	39	97	Y	P	VG	R	R	MR	MS	R
SY985 ☞	51	106	105	107	105	M	0	61	44	78	Y	G	P	R	MR	XX	I	I
SY995 ☞	41	112	111	113	114	M	-1.8	63	45	79	Y	G	P	S	MR	MR	MS	MS

Remarks: For explanations on data summarization methods, abbreviations and other pertinent information, please see the comments at the beginning of this publication. Several CPSR varieties will be reclassified to the CNHR wheat class. AC Foremost, AC Taber, Conquer and Oslo were reclassified on August 1, 2018 and AC Crystal will be reclassified on August 1, 2019. For more information see the Canadian Grain Commission website www.grainscanada.gc.ca. The long term average maturity for Carberry is 108 days and rated as Late (L). Fusarium Head Blight (FHB) infection is highly influenced by the environment and heading date. Under high levels of FHB all varieties will sustain damage. Moderately Resistant (MR) and Resistant (R) ratings for FHB do not equate to immunity. Varieties rated Intermediate (I) to Susceptible (S) for loose smut or bunt should be treated with a systemic seed treatment to reduce the potential for infection. VB - designates a varietal blend to preserve the *Sm7 orange* wheat blossom midge tolerance gene. New CPSR registrations: AAC Castle VB (HY2021), insufficient data to describe. † - Flagged for possible removal in 2020.

CANADA WESTERN SPECIAL PURPOSE WHEAT

Variety	Yield Category (Carberry):			Agronomic Characteristics:							Disease Tolerance:						
	Overall Station Years of Testing	Low	Medium	High	Maturity Rating	Protein %	TKW (g)	Height (cm)	Awns (Y/N)	Resistance to:			Loose Smut	Bunt	Stripe Rust	Leaf Spot	Fusarium Head Blight
		< 55 (bu/ac)	55-80 (bu/ac)	> 80 (bu/ac)						Lodging	Sprouting	Carberry					
Varieties tested in the 2018 trials (Yield and agronomic data only directly comparable to Carberry)																	
Carberry (bu/ac)	71	37	58	83													
Carberry - check ☺	54	100	100	100	L	14	40	79	Y	VG	F	MR	R	MR	MS	MR	MR
AAC Awesome VB ☹	41	135	134	139	L	-2.5	44	89	Y	G	P	I	I	R	I	I	I
Alderon	41	135	122	143	XL	-2.8	41	74	N	VG	F	XX	MS	MR	I	XX	XX
Charing VB ▲	41	138	135	143	XL	-2.5	41	79	N	VG	G	XX	XX	R	MR	XX	XX
Sparrow VB	41	136	130	141	XL	-2.6	41	79	N	VG	G	XX	I	MR	I	XX	XX
Pasteur	30	131	127	135	XL	-3	40	81	N	VG	G	MS	S	MR	I	I	I
Previously tested varieties																	
Carberry - check ☺	100	100	100	100	L	14	40	79	Y	VG	F	MR	R	MR	MS	MR	MR
AAC Innova ☹	38	128	126	130	L	-3.4	41	82	Y	G	P	S	S	R	I	S	S
AAC NRG097 † ☹	41	118	113	119	L	-3.2	47	80	Y	G	F	I	R	S	I	I	I
CDC NRG003 † ☺	51	114	111	113	M	-2.1	43	80	Y	G	F	MS	R	XX	MS	S	S
SY087 ☺	41	114	117	115	M	-1.6	40	82	Y	G	F	MS	MR	MR	I	MR	MR

Remarks: For explanations on data summarization methods, abbreviations and other pertinent information, please see the comments at the beginning of this publication. The long term average maturity for Carberry is 108 days and rated as Late (L). Fusarium Head Blight (FHB) infection is highly influenced by the environment and heading date. Under high levels of FHB all varieties will sustain damage. Moderately Resistant (MR) and Resistant (R) ratings for FHB do not equate to immunity. Varieties rated intermediate (I) to Susceptible (S) for loose smut or bunt should be treated with a systemic seed treatment to reduce the potential for infection. VB - designates a varietal blend to preserve the *Srn1* orange wheat blossom midge tolerance gene. XX - Insufficient data to describe. † - Flagged for possible removal in 2020.

CANADA WESTERN AMBER DURUM WHEAT

Variety	Overall Station	Yield Category (% Strongfield):			Agronomic Characteristics:					Disease Tolerance:							
		Overall Yield	Low < 45 (bu/ac)	Medium 45 - 70 (bu/ac)	High > 70 (bu/ac)	Maturity Rating	Protein %	Weight (lb/bu)	TKW (g)	Height (cm)	Resistance to:		Loose Smut	Bunt	Stripe Rust	Leaf Spot	Fusarium Head Blight
											Lodging	Sprouting					
Varieties tested in the 2018 trials (Yield and agronomic data only directly comparable to Strongfield)																	
Strongfield	64	34	59	94													
Strongfield	158	100	100	100	M	14.3	63	45	84	F	F	S	I	MR	MS	S	S
AAC Stronghold	13	XX	XX	102	L	-0.3	62	47	79	VG	G	R	I	MR	I	MS	MS
AAC Succeed VB	15	108	XX	98	M	0.5	63	45	80	F	F	R	R	I	MS	MS	MS
Brigade	84	105	103	101	L	-0.6	63	47	87	G	F	MS	R	MR	I	MS	MS
CDC Alloy	21	102	110	96	M	0.2	63	43	83	F	F	I	R	R	MS	MS	MS
CDC Credence	15	104	XX	102	M	-0.1	63	42	84	F	F	MR	R	MR	I	MS	MS
CDC Dynamic	21	96	94	96	M	0.6	62	43	81	F	F	I	R	MR	I	MS	MS
Transcend	50	100	102	99	M	0.8	63	45	87	F	F	S	R	R	I	MS	MS

Previously tested varieties

Strongfield	100	100	100	100	M	14.3	63	45	84	F	F	S	I	MR	MS	S	S
AAC Cabri	25	98	93	XX	M	0.1	62	45	86	G	P	MR	R	R	I	MS	MS
AAC Congress	23	104	100	104	M	-0.3	63	44	81	F	P	MR	R	R	MS	MS	MS
AAC Current	30	99	104	98	M	0	62	44	85	F	F	MS	MR	MR	I	MS	MS
AAC Marchwell VB	32	99	107	96	M	-0.1	63	46	83	F	F	MR	R	R	MS	MS	MS
AAC Raymore	34	97	99	94	M	0.8	62	47	82	F	F	MS	MR	MR	I	S	S
AAC Spitfire	25	97	100	96	M	-0.4	61	46	82	G	P	MS	R	R	MS	S	S
AC Navigator	65	95	102	93	M	XX	63	45	77	G	G	S	R	R	S	S	S
CDC Carbide VB	25	100	104	100	M	0	62	45	85	G	P	MS	R	R	MS	MS	MS
CDC Desire	34	102	106	101	E	0	62	44	83	F	G	MS	R	MR	I	S	S
CDC Fortitude	32	102	102	103	M	-0.6	63	45	81	G	F	MS	R	R	MS	MS	MS
CDC Verona	46	102	103	103	M	XX	62	46	82	G	F	MS	R	R	MS	MS	MS
CDC Vivid	34	100	104	99	M	0.1	62	45	83	G	F	I	R	MR	I	S	S
Enterprise	48	101	104	100	M	XX	63	44	83	G	F	MS	I	R	I	MS	MS

Remarks: For explanations on data summarization methods, abbreviations and other pertinent information, please see the comments at the beginning of this publication. Generally, durum wheat is best adapted to southern Alberta. Outside of this area, durum tends to be late maturing and often subject to quality loss. The long term average maturity for Strongfield is 105 days and is rated as Medium (M). Durum varieties are generally more susceptible to Fusarium Head Blight than CWRS wheat varieties. AAC Cabri, AAC Raymore, AAC Stronghold and CDC Fortitude have a solid stem that confers resistance to the wheat stem sawfly. VB - designates a varietal blend to preserve the *Sr1* orange wheat blossom midge tolerance gene. XX - Insufficient data to describe. † - Flagged for possible removal in 2020.

CANADA WESTERN SOFT WHITE SPRING WHEAT

Variety	Overall Station	Yield Category (% AC Andrew):			Agronomic Characteristics:					Disease Tolerance:											
		Low	Medium	High	Test		Resistance to:			Fusarium											
		< 65 (bu/ac)	65 - 100 (bu/ac)	> 100 (bu/ac)	Maturity Rating	Protein %	Weight (lb/bu)	TKW (g)	Height (cm)	Awns (Y/N)	Lodging	Shatter-	Sprout-	ing	ing	Loose Smut	Bunt	Rust	Stripe	Leaf Spot	Head Blight
Varieties tested in the 2018 trials (Yield and agronomic data only directly comparable to AC Andrew)																					
AC Andrew (bu/ac)	86	54	86	121																	
AC Andrew	132	100	100	100	L	11.0	62	40	80	Y	VG	VG	P	P	S	S	I	I	MS	I	I
Carberry - check ☐	54	80	82	74	L	3	63	40	79	Y	VG	XX	F	F	MR	R	MR	MR	MS	MR	MR
AAC Paramount VB ⬤	30	104	105	103	L	0.1	62	41	86	Y	VG	VG	P	P	MR	S	R	I	I	MS	MS
Sadash VB ☐	76	106	110	104	L	-0.1	63	40	82	Y	VG	VG	P	P	I	S	R	I	I	S	S
Previously tested varieties																					
AAC Chiffon VB ⬤	39	104	105	101	L	-0.4	62	46	88	Y	G	VG	P	P	S	S	MR	I	I	S	S
AAC Indus VB ⬤	39	104	108	105	VL	-0.2	61	42	87	Y	VG	VG	P	P	S	MS	R	MS	MS	MS	MS

Remarks: For explanations on data summarization methods, abbreviations and other pertinent information, please see the comments at the beginning of this publication. In addition to traditional markets, SWS wheat varieties may have demand as a feedstock for ethanol production. The long term average maturity for AC Andrew is 110 days and rated as Late (L). Varieties rated Intermediate (I) to Susceptible (S) for loose smut or bunt should be treated with a systemic seed treatment to reduce the potential for infection. VB - designates a varietal blend to preserve the *Sm1* orange wheat blossom midge tolerance gene.

MALTING BARLEY

Variety	2 or 6 row	Awn Type	Overall Station Years of Testing	Yield Category (% AC Metcalfe):				Agronomic Characteristics:				Disease Tolerance:									
				Low < 75 (bu/ac)	Medium 75 - 100 (bu/ac)	High 100 - 125 (bu/ac)	V. High > 125 (bu/ac)	Test Weight (lb/bu)	Maturity Rating	TKW (g)	Height (cm)	Resistance to Lodging	Loose Smut	Other Smuts	Root Rot	Scald	Spot form	Net form	Fusarium Head Blight		
Varieties tested in the 2018 trials (Yield and agronomic data only directly comparable to AC Metcalfe)																					
AC Metcalfe (bu/ac)			100	59	88	110	137														
AC Metcalfe	2	R	538	100	100	100	100	M	52	46	79	F	R	R	I	I	S	I	S	I	
AAC Connect	2	R	42	XX	108	102	104	M	51	50	79	G	S	R	R	MS	S	MR	S	MR	I
AAC Synergy	2	R	69	114	114	112	114	M	51	49	78	F	S	I	I	S	R	R	MR	MS	MS
CDC Copeland	2	R	137	103	104	104	104	M	51	48	81	F	MS	I	I	S	I	I	I	I	I
CDC Goldstar	2	R	27	111	XX	106	112	M	52	49	84	G	I	R	XX	S	MR	I	MS	MS	MS
Lowe	2	R	42	111	XX	117	106	L	51	50	87	F	R	R	XX	MR	MR	I	MR	MR	I
Sirish	2	R	42	112	XX	110	113	M	51	49	69	G	S	R	XX	MR	MS	MS	MS	MS	MS
Previously tested varieties																					
AC Metcalfe	2	R		100	100	100	100	M	52	46	79	F	R	R	I	I	S	I	S	I	S
Bentley	2	R	77	105	102	105	106	M	52	47	81	G	MS	MR	MR	S	R	MS	S	MS	MS
CDC Bow	2	R	42	XX	106	105	104	M	51	48	77	VG	S	I	MS	MS	MR	S	MS	MS	MS
CDC Clear (hullless)	2	R	43	95	XX	100	XX	L	62	47	85	G	R	R	I	S	R	R	MS	MR	MR
CDC Fraser	2	R	39	109	XX	114	110	M	51	49	76	G	R	MR	MS	MS	MR	MR	I	I	I
CDC Kindersley	2	R	47	104	XX	104	104	E	53	43	78	G	S	R	I	S	MR	MS	I	MS	I
CDC Meredith	2	R	65	107	102	108	107	L	51	46	76	F	R	MR	MR	S	R	S	I	S	I
CDC PlatinumStar	2	R	42	106	108	107	102	M	53	49	82	F	R	R	S	S	MR	I	MR	MR	MR
CDC PolarStar	2	R	43	101	XX	105	97	M	52	44	79	G	S	R	MS	S	MR	S	MR	S	MR
Cerveza	2	R	49	109	XX	108	109	M	51	46	74	F	R	R	I	S	MR	MS	I	MS	I
Major	2	R	72	107	104	107	106	M	51	45	73	G	R	MR	I	MS	MR	I	MR	I	I
Merit 57	2	R	87	109	110	108	111	VL	51	44	79	F	MS	S	I	MS	MR	MS	MS	MS	MS
Newdale	2	R	94	105	104	105	106	M	52	46	73	F	S	MR	MR	MS	MR	I	MR	I	I
Legacy	6	SS	122	99	93	102	103	M	49	39	82	G	I	MR	MR	S	MR	S	MR	S	MS

Remarks: For explanations on data summarization methods, abbreviations and other pertinent information, please see the comments at the beginning of this publication. The long term average maturity for AC Metcalfe is 95 days and is rated as Medium (M). Varieties rated Intermediate (I) to Susceptible (S) for smuts should be treated with a systemic seed treatment to reduce the potential for infection. The Canadian Malting Barley Technical Centre (CMBTC) evaluates and recommends malting barley varieties for industry acceptance. Please refer to the 2018-2019 CMBTC Recommended Malt Barley Variety List for more information. CDC Clear is a hullless malting variety. New registrations: CDC Copper (TR14150), TR15155 and TR16629, insufficient data to describe. CDC Copper, TR15155 and TR16629, insufficient data to describe. † - Flagged for possible removal in 2020.

FEED AND FOOD BARLEY

Variety	2 or 6 row	Awn Type	Overall Station Years of Testing	Yield Category (% AC Metcalfe):				Agronomic Characteristics:				Disease Tolerance:						
				Low <75 (bu/ac)	Medium 75-100 (bu/ac)	High 100-125 (bu/ac)	V. High >125 (bu/ac)	Maturity Rating	Test Weight (lb/bu)	TKW (g)	Height (cm)	Resistance to Lodging	Loose Smut	Other Smuts	Root Rot	Scald	Spot form	Net Blotch:
GENERAL PURPOSE																		
Varieties tested in the 2018 trials (Yield and agronomic data only directly comparable to AC Metcalfe)																		
AC Metcalfe (bu/ac)	2	R	538	100	100	110	137	M	52	46	79	F	R	R	I	I	S	I
AC Metcalfe	2	R	54	113	XX	119	109	114	M	52	49	75	G	MR	MR	S	MR	S
Altorado	2	R	92	113	110	113	111	115	L	53	47	79	G	S	R	I	S	R
CDC Austenson	2	R	69	114	106	114	111	117	L	52	47	79	G	S	R	I	S	I
Claymore	2	R	69	111	105	110	114	112	L	53	51	67	VG	S	R	I	S	MR
Oreana	2	R	69	111	105	110	114	112	L	53	51	67	VG	S	R	I	S	MR
Previously tested varieties																		
AC Metcalfe	2	R	100	100	100	100	100	M	52	46	79	F	R	R	I	I	S	I
Brahma	2	R	87	111	112	109	113	111	M	53	47	74	G	MS	R	MR	S	I
Busby	2	R	45	104	107	103	106	103	M	53	49	78	G	S	MR	S	I	MR
CDC Coalition	2	R	57	110	107	112	108	109	L	53	47	74	G	R	R	I	S	MR
CDC Cowboy	2	R	75	95	107	94	93	96	L	52	55	103	F	MS	MR	I	MS	MR
CDC Maverick	2	S	43	95	XX	90	97	96	M	54	55	98	F	S	R	I	MS	MR
CDC Trey	2	R	106	103	101	105	101	105	M	52	50	80	G	MS	R	MR	S	R
Champion	2	R	178	112	120	111	111	111	M	53	49	76	G	S	R	MR	S	I
Canmore	2	R	40	107	XX	104	111	108	M	52	49	73	G	R	R	I	MR	MR
CONLON	2	S	63	94	97	93	93	96	VE	52	52	80	G	I	I	MR	S	MR
Gadsby	2	R	45	112	XX	114	114	108	M	53	51	83	F	R	R	I	R	MR
Ponoka	2	R	120	108	101	107	110	109	L	51	46	80	G	R	R	I	MR	MR
Seebe	2	R	229	101	97	100	102	100	VL	52	50	86	G	S	R	I	MR	MS
AC Ranger	6	S	48	107	101	99	118	107	L	49	43	74	F	MS	I	MR	MS	MR
AC Rosser	6	S	166	108	101	102	109	113	M	48	41	82	G	MS	R	MR	S	MR
Amisk	6	SS	40	105	XX	105	104	108	M	49	46	69	VG	S	MS	MS	I	MR
Chigwell	6	S	43	104	XX	98	106	111	M	49	41	76	G	MS	MR	MS	MR	I
Muskwa	6	S	44	105	XX	103	105	110	M	50	42	73	G	MS	R	MS	MR	MR
Sundre	6	S	72	110	100	105	112	117	L	51	43	86	G	MS	R	MS	R	I
Trochu	6	S	136	107	101	102	109	112	M	49	41	78	G	MS	MR	MR	I	MR
Vivar	6	R	175	109	97	105	109	115	M	49	44	73	VG	I	R	MR	I	MR
FULLNESS																		
Varieties tested in the 2018 trials (Yield and agronomic data only directly comparable to AC Metcalfe)																		
CDC Ascent	2	R	42	97	XX	108	93	94	M	60	44	82	G	MR	MR	I	MS	MR
Falcon	6	S	181	83	72	83	91	89	E	58	35	68	VG	MS	MR	I	I	I

Remarks: For explanations on data summarization methods, abbreviations and other pertinent information, please see the comments at the beginning of this publication. The long term average maturity for AC Metcalfe is 95 days and is rated as Medium (M). Varieties rated Intermediate (I) to Susceptible (S) for smuts should be treated with a systemic seed treatment to reduce the potential for infection. Hullless varieties leave the hull in the field and thus grain yields comparable to hulled varieties are 9 - 12% lower. Handling of hullless varieties should be minimized to avoid seed damage. Falcon is a normal starch barley suitable for food use. New registrations: AB Cattlelac (SR14501) and AB Advantage (SR16511), insufficient data to describe. AB Cattlelac and AB Advantage. XX Insufficient data to describe. † Flagged for possible removal in 2020.

SPRING TRITICALE

Overall Station	Yield Category (% Brevis):				Agronomic Characteristics:				Disease Tolerance:								
	Low		High		Test		Resistance to:		Fusarium		Head						
	< 70 (bu/ac)	70 - 100 (bu/ac)	100 - 130 (bu/ac)	> 130 (bu/ac)	Maturity Rating	Weight (lb/bu)	TKW (g)	Height (cm)	Lodging	Shatter-	ing	Sprout-	ing	Stripe	Rust	Bunt	Blight
Varieties tested in the 2018 trials (Yield and agronomic data only directly comparable to Brevis)																	
Brevis (bu/ac)	104	61	89	124	159												
Brevis	69	100	100	100	100	M	60	46	92	G	G	G	F	MR	MR	R	I
AAC Delight	34	86	104	97	96	M	58	53	97	G	G	G	XX	MR	R	R	I
Previously tested varieties																	
Brevis	100	100	100	100	100	M	60	46	92	G	G	G	F	MR	MR	R	I
AC Ultima	142	89	95	94	92	E	57	45	96	G	G	G	F	MS	MR	R	I
Bumper †	41	101	95	93	88	E	59	45	90	VG	G	G	F	XX	MR	R	MS
Bunker	49	78	88	87	XX	VL	57	48	107	F	G	G	F	XX	MR	R	I
Pronghorn	120	89	96	97	93	M	55	43	98	G	G	G	F	I	MR	R	MR
Sunray	48	91	90	88	XX	M	57	45	94	VG	G	G	F	MR	MR	R	MS
Taza	48	90	91	88	XX	M	57	47	100	G	G	G	F	I	MR	R	S
Tyndal	55	80	94	92	88	L	57	44	97	G	G	G	P	XX	MR	R	MS

Remarks: The long term average maturity for Brevis is 112 days and rated as Medium (M). Brevis yields about 25% more than Carberry (CWRS wheat) in areas of adaptation. AAC Delight, Bunker, Taza, and Tyndal have heads with reduced-awns which may be beneficial when harvested as forage or silage. XX - Insufficient data to describe. † - Flagged for possible removal in 2020.

WINTER TRITICALE

Variety	Overall Station	Years of Testing	Overall Yield	Yield Category (% Metzger)				Agronomic Characteristics:					
				Low	Medium	High	V. High	Test Weight	TKW	Falling Number	Height	Resistance	
				< 48 (bu/ac)	48 - 80 (bu/ac)	80 - 112 (bu/ac)	> 112 (bu/ac)	(lb/bu)	(g)	(sec)	(cm)	to Lodging	
Metzger (bu/ac)	78	39	57	80	122								
Metzger	24	100	100	100	100	VG	56	37	255	116	P		
Bobcat	24	99	49	97	115	F	54	37	235	100	F		
Luoma	24	104	98	105	104	VG	55	40	205	123	VP		

Varieties tested in the 2018 trials (Yield and agronomic data only directly comparable to Metzger)

REMARKS: Winter tritocal winter survival is similar to winter wheat. Winter tritcale can be susceptible to ergot, however susceptibility is at a much lower level than rye. The AFSC crop insurance deadlines for seeding winter tritcale are September 20, north of the Bow River and September 30, south of the Bow River.

OAT

Variety	Overall Station Years of Testing	Overall Yield	Yield Category (% CDC Dancer):				Agronomic Characteristics:					
			Low < 70 (bu/ac)	Medium 70 - 100 (bu/ac)	High 100 - 130 (bu/ac)	V. High > 130 (bu/ac)	Test			Resistance to Lodging	Tolerance to Smuts	
			Maturity Rating	Weight (lb/bu)	TKW (g)	Height (cm)						
MILLING												
Varieties tested in the 2018 trials (Yield and agronomic data only directly comparable to CDC Dancer)												
CDC Dancer (bu/ac)		97	48	84	110	146						
CDC Dancer ☺	162	100	100	100	100	100	E	41	37	96	G	R
AC Morgan	86	113	114	110	117	114	M	40	41	93	VG	I
CDC Arborg ▲	24	120	XX	115	127	115	M	41	42	97	VG	R
CDC Ruffian ☺	51	111	110	110	116	107	M	40	40	88	G	R
CS Camden ☘	40	111	XX	109	112	109	L	40	39	89	VG	I
Kara ☘	33	111	XX	102	116	110	M	41	41	86	VG	MR
ORe3541M ☘	24	102	XX	95	107	103	M	41	41	90	VG	R
ORe3542M ☘	24	108	XX	103	113	105	M	40	42	89	VG	R
Previously tested varieties												
CDC Dancer ☺		100	100	100	100	100	E	41	37	96	G	R
AAC Justice ☘	28	104	XX	99	109	XX	M	42	36	91	G	R
AC Juniper	80	104	102	104	106	105	E	41	38	94	VG	I
Akina ☘	30	109	XX	103	114	111	M	40	39	90	VG	R
CDC Minstrel ☺	61	104	103	103	105	105	M	39	38	88	VG	R
CDC Norseman ☘	27	101	XX	100	101	XX	E	41	38	94	G	MS
CDC Orrin ☺	52	109	113	107	107	XX	M	41	40	84	G	R
CDC Seabiscuit ☺	30	111	124	106	108	108	M	39	41	101	G	MR
Derby	79	101	103	102	96	105	L	41	39	103	G	MS
Triactor ☺	47	110	109	108	114	110	M	38	38	89	G	R
FEED												
Varieties tested in the 2018 trials (Yield and agronomic data only directly comparable to CDC Dancer)												
AC Mustang	49	115	120	112	112	113	L	42	37	102	G	I
Previously tested varieties												
CDC Nasser	31	116	132	107	115	110	L	39	36	98	G	MR
FORAGE												
Previously tested varieties												
CDC Dancer ☺		100	100	100	100	100	E	41	37	96	G	R
CDC Baler	42	99	96	106	96	XX	L	40	43	99	XX	S
CDC Haymaker	28	104	XX	103	105	XX	L	39	40	100	F	MR
Murphy †☺	51	95	93	96	97	94	M	39	36	108	XX	S

Remarks: For explanations on data summarization methods, abbreviations and other pertinent information, please see the comments at the beginning of this publication. The long term average maturity for CDC Dancer is 98 days and rated as Early (E). Varieties rated Intermediate (I) to Susceptible (S) for the smuts should be treated with a systemic seed treatment to reduce the potential for infection. New registrations: OT3087, insufficient data to describe: OT3087. † - Flagged for possible removal in 2020.

WINTER WHEAT

CANADA WESTERN RED WINTER

Variety	Yield Category (% Radiant)					Agronomic Characteristics:							Disease Tolerance:						
	Overall Station	Overall Yield (bu/ac)	Low <45 (bu/ac)	Medium 45 - 75 (bu/ac)	High 75 - 105 (bu/ac)	V. High > 105 (bu/ac)	Winter Survival	Maturity Rating	Protein %	Weight (lb/bu)	TKW (g)	Height (cm)	Resistance to Lodging		Stripe Rust	Leaf Rust	Stem Rust	Bunt	Fusarium Head Blight
													Yield and agronomic data only directly comparable to Radiant)	Yield and agronomic data only directly comparable to Radiant)					
Radiant (bu/ac)	76	37	63	87	113														
Radiant	100	100	100	100	100	VG	L	12.0	63	36	90	VG	S	S	S	S	S	S	S
AAC Elevate	77	107	106	107	102	G	M	+0.3	63	39	84	VG	MS	I	MR	MR	I	I	I
AAC Gateway	80	100	XX	103	XX	F	M	+0.9	63	33	77	VG	MR	I	MR	S	I	I	I
AAC Goldrush	34	102	XX	99	105	XX	M	+0.5	63	34	86	G	I	R	MR	S	I	I	I
AAC Wildfire	48	114	XX	116	114	XX	VL	+0.3	64	38	86	G	R	I	S	MR	MR	MR	MR
AC Tempest †	117	97	96	97	96	99	P	+1.5	63	37	91	VG	MR	S	S	MS	I	I	I
CDC Buteo †	203	96	94	97	95	101	VG	M	+0.3	65	91	F	S	I	I	S	MR	MR	MR
Emerson	79	98	96	95	100	XX	G	+0.7	64	30	86	G	MR	I	R	S	R	R	R
Flourish †	119	100	99	98	102	104	F	+0.6	63	35	80	VG	I	I	I	MR	S	S	S
Moats	90	104	91	102	107	108	G	+0.7	64	33	91	F	MR	MR	R	MS	S	S	S

CANADA WESTERN EXPERIMENTAL

Varieties tested in 2018 (Yield and agronomic data only directly comparable to Radiant)	
AAC Icefield	44 104 XX 97 111 XX F M -0.6 63 32 82 VG MR MR R S I

CANADA WESTERN SPECIAL PURPOSE

Varieties tested in 2018 (Yield and agronomic data only directly comparable to Radiant)	
Pintail	79 108 XX 109 109 XX VG L -1.4 61 29 88 F MR MS MS S S

REMARKS: Winter wheat can be grown successfully in all areas of Alberta if seeded into standing stubble within the optimal seeding date period (generally before September 15) and if there is adequate snowfall. Varieties with poor (P) winter survival are generally not suitable outside of southern Alberta. The long term average maturity for **Radiant** is August 10 and is rated as late (L). Fusarium head blight infection may be reduced if varieties with Intermediate (I) resistance or better are used and when recommended seeding dates are followed. **Radiant** and **AAC Elevate** have tolerance to the wheat curl mite, the vector for Wheat Streak Mosaic Virus. To preserve the effectiveness of the wheat curl mite tolerance gene, agronomic practices that eliminate the "green bridge" of plant material that serves as a reservoir for mites should be followed whenever possible. Fields in southern Alberta should be inspected in the fall for infestation by Russian wheat aphid, as it may reduce winter survival. **AAC Wildfire** expresses tolerance to some biotypes of Russian wheat aphid. **AC Tempest, Radiant** and **AAC Wildfire** have bronze chaff at maturity. **AAC Icefield**, a hard white winter wheat now fully registered, is eligible for experimental grades to facilitate market research under an Identity Preserved system. **AAC Icefield** expresses high milling yield of very white flour and good gluten strength at lower protein concentrations that may be of interest in some niche markets. For more information contact FP Genetics. **Pintail** has an awnless head which may improve palatability when harvested for forage or silage. **AAC Goldrush** and **AAC Icefield** will be available in 2019. † Flagged for possible removal in 2020.

FALL RYE

Variety	Hybrid or OP Variety	Overall Years of Testing	Yield Category (% Hazlet)					Agronomic Characteristics:					
			Overall Yield	Low	Medium	High	V. High	Winter Survival	Test Weight	TKW	Falling Number	Height	Resistance
			(bu/ac)	< 48 (bu/ac)	48 - 80 (bu/ac)	80 - 112 (bu/ac)	> 112 (bu/ac)	(bu/ac)	(lb/bu)	(g)	(sec)	(cm)	to Lodging
Varieties tested in the 2018 trials (Yield and agronomic data only directly comparable to Hazlet)													
Hazlet		100	45	63	92	135							
Hazlet	OP	56	100	100	100	100	EX	59	39	147	107	G	
Brassetto	Hybrid	20	XX	121	134	120	EX	59	36	246	104	VG	
Guttino	Hybrid	20	XX	119	122	120	EX	60	36	279	101	VG	
KWS Bono	Hybrid	26	XX	135	130	133	EX	58	33	260	98	VG	
KWS Daniello	Hybrid	13	XX	128	126	123	VG	59	34	266	100	G	
KWS Gatano	Hybrid	16	XX	138	125	121	VG	58	32	252	97	F	
Prima	OP	47	77	76	91	90	EX	58	33	192	119	F	

REMARKS: Hazlet has lower viscosity which improves feed performance in monogastric livestock. Fall rye is much more cold tolerant than winter wheat or winter triticale. The long term average heading date and maturity for Hazlet is June 1 and August 6, respectively. All fall rye varieties are similar for heading and maturity and are considered early. A major factor in marketing rye grain into the milling market is sprouting. This is generally measured using the Hagberg falling number test and is measured in seconds. Typically, a falling number of 180 seconds or greater is preferred by the rye milling market. Falling number is heavily influenced by moisture around harvest time and producers must make sure rye is harvested in a timely manner, similar to wheat crops. There is considerable variation in fall rye varieties for falling number and this must be considered if the milling market is the targeted end-user for rye grain. All fall rye is susceptible to ergot, however KWS Daniello and KWS Gatano have reduced susceptibility. AFSC crop insurance deadlines for seeding fall rye is September 20, north of the Bow River and September 30, south of the Bow River.

FLAX

Variety	Overall Station	Yield Category (% CDC Bethune):					Agronomic Characteristics:					Disease Tolerance:			Quality:		
		Testing	Yield	Low < 20 (bu/ac)	Medium 20 - 30 (bu/ac)	High 30 - 37 (bu/ac)	V. High > 37 (bu/ac)	Maturity Rating	Seed Colour	Seed Size	Seed Height (cm)	Resistance to Lodging		Fusarium Wilt	Powdery Mildew	Oil Content (%)	ALA Content (%)
												Overall	Yield				
Varieties tested in the 2018 trials (Yield and agronomic data only directly comparable to CDC Bethune)																	
CDC Bethune		32	14	26	33	47											
CDC Bethune		128	100	100	100	100	L	brown	M	58	G		MR	MR	46	55	189
AAC Marvelous		19	107	XX	XX	105	L	brown	M	63	G		MR	MR	47	56	192
AAC Prairie Sunshine		16	99	XX	XX	97	L	brown	M	65	VG		MR	MR	48	57	193
CDC Glas		32	107	XX	XX	105	L	brown	M	64	G		MR	MR	46	57	192
CDC Rowland		19	112	XX	XX	110	L	brown	L	64	G		MR	MR	45	59	195
Previously tested varieties																	
CDC Bethune		100	100	100	100	100	L	brown	M	58	G		MR	MR	46	55	189
AAC Bravo		23	104	XX	XX	105	L	brown	L	64	G		MR	MR	45	60	194
CDC Buryu		26	100	97	104	99	L	brown	L	57	G		MR	MR	46	56	193
CDC Neela		24	109	108	116	108	L	brown	M	55	G		MR	MR	46	59	194
CDC Playa		34	101	98	109	101	M	brown	M	53	G		MR	XX	47	57	196
CDC Sanctuary		27	106	112	99	XX	VL	brown	M	64	G		MR	MR	46	57	191
CDC Sorrel		32	104	112	104	100	L	brown	L	61	F		MR	MR	45	58	193
Prairie Sapphire		23	96	XX	XX	XX	L	brown	M	64	G		MR	MR	48	57	193
Prairie Thunder		40	100	106	95	XX	M	brown	M	55	G		R	MR	45	58	195
Topaz		26	101	104	100	97	L	brown	M	55	G		MR	MR	47	55	189
VT50		24	103	XX	109	104	VL	yellow	S	51	VG		MR	XX	47	68	209
WestLin 60		24	100	100	105	XX	M	brown	M	50	G		MR	XX	46	60	198
WestLin 71		25	95	99	91	XX	L	brown	M	56	G		MR	MS	48	61	198
WestLin 72		26	100	96	106	103	VL	brown	S	53	VG		MR	MR	47	57	193

Remarks: For explanations on data summarization methods, abbreviations and other pertinent information, please see the comments at the beginning of this publication. The long term average maturity for CDC Bethune in Alberta is 110 days and rated as Late (L). All varieties are immune to flax rust. New registrations: AAC Bright (FP2422); AAC Marvelous (FP2401); CDC Dorado (FP2432) and CDC Rowland (FP2513). Insufficient data to describe: AAC Bright and CDC Dorado. AAC Bright and CDC Dorado are yellow seeded varieties. XX - Insufficient data to describe. † Flagged for possible removal in 2020.

CANADA NORTHERN HARD RED WHEAT

Variety	Yield Category (% Carberry):				Agronomic Characteristics:							Disease Tolerance:					
	Overall Station Years of Testing	Overall Yield	Low < 55 (bu/ac)	Medium 55 - 80 (bu/ac)	High > 80 (bu/ac)	Maturity Rating	Protein %	Test Weight (lb/bu)	TKW (g)	Height (cm)	Awns (Y/N)	Resistance to:			Stripe Rust	Leaf Spot	Fusarium Head Blight
												Lodging	Sprouting	Loose Smut			
Varieties tested in the 2018 trials (Yield and agronomic data only directly comparable to Carberry)																	
Carberry	69	41	60	90													
Carberry	60	100	100	100	100	L	13.9	63	39	79	Y	VG	F	MR	R	MR	MS
AC Foremost	34	113	111	115	115	L	-1.4	62	42	73	Y	VG	F	I	R	S	MS
CDC Cordon CLPlus VB	34	111	103	113	112	M	-0.5	61	41	78	Y	VG	F	MR	R	MS	MS
Previously tested varieties																	
Carberry	100	100	100	100	100	L	13.9	63	39	79	Y	VG	F	MR	R	MR	MS
AAC Concord	45	103	104	103	103	M	-0.8	62	41	87	N	F	F	I	MR	R	I
AC Crystal	278	108	110	108	108	L	XX	62	42	79	Y	G	P	I	R	S	I
Conquer VB	51	114	112	115	115	M	-1.0	62	45	84	Y	F	P	MS	R	MR	I
Elgin ND	43	110	112	107	107	M	-0.8	63	38	87	Y	G	F	XX	S	MR	I
Harvest	118	96	92	100	100	M	-0.3	62	36	84	N	VG	VG	MR	S	MR	MS
Lillian	87	98	104	93	100	M	0.0	61	37	86	N	F	G	I	MR	R	MR

Remarks: For explanations on data summarization methods, abbreviations and other pertinent information, please see the comments at the beginning of this publication. Several CWRS and CPSR varieties were reclassified to this new CNHR class, effective August 1, 2018. The CWRS varieties are AC Abbey, AC Cora, AC Eatonia, AC Majestic, AC Minto, Alvena, Aikat, CDC Makwa, CDC Osler, Columbus, Conway, Harvest, Kane, Katepwa, Leader, Lillian, McKenzie, Neepawa, Park, Pasqua, Pembina, Thatcher, Unity VB and 5603HR. The CPSR varieties are AC Foremost, AC Taber, Conquer and Oslo. * AC Crystal will be reclassified on August 1, 2019. For more information see the Canadian Grain Commission website www.grainscanada.gc.ca. The long term average maturity for Carberry is 108 days and rated as Late (L). Fusarium Head Blight (FHB) infection is highly influenced by the environment and heading date. Under high levels of FHB all varieties will sustain damage. Moderately Resistant (MR) and Resistant (R) ratings for FHB do not equate to immunity. AAC Concord has a solid stem that confers resistance to the wheat stem sawfly. Varieties rated Intermediate (I) to Susceptible (S) for loose smut or bunt should be treated with a systemic seed treatment to reduce the potential for infection. VB - designates a varietal blend to preserve the *Sr1* orange wheat blossom midge tolerance gene. New CNHR registrations: CDC Cordon CLPlus VB (HY2003). Insufficient data to describe: Fallor, Prosper. XX - Insufficient data to describe. † - Flagged for possible removal in 2020.

2018 canola variety information

Canola Performance Trials (CPT) have been conducted since 2011 to provide variety evaluation for Western Canadian canola growers. The trials were designed to provide the following:

- relevant, unbiased and timely performance data including large scale plots that reflect actual production practices
- comparative data on leading varieties and newly introduced varieties from participating companies
- detailed reporting on agronomic characteristics such as yield, height, lodging, maturity and economic performance, and site specific performance variables including weather, soil type, crop nutrition, seeding and harvest management

The CPT trials are conducted under the guidance of a governance committee that approves participating varieties, protocol design, data collection, analyses, reports and finance management.

The 2018 CPT program was funded by the Alberta Canola Producers Commission, SaskCanola and the Manitoba Canola Growers Association, with contributions from the BC Grain Producers Association. The Canola Council of Canada delivers the program on their behalf.

More about the CPT program and the CPT Technical and Governance Committee in the Canola Variety Selection Guide can be found at <https://www.canolaperformancetrials.ca>

Canola trial summaries

The CPT summaries provided here are based on successful trials that did not show confounding factors during field inspections.

The combination of drought and other factors resulted in only 18 successful small plot trials in 2018. The small trial sites were regionally distributed based on seeded acres in Manitoba, Saskatchewan and Alberta. There were 42 locations of large scale trial data accepted in 2018.

Small plot trials included a limited selection of popular and newly introduced varieties. The small plot system ensures the following:

- all varieties are treated with appropriate commercially associated herbicides and seed treatments

- an independent third-party representative inspected all trials
- harvest occurred at the most appropriate time to minimize harvest losses due to maturity differences
- a separate small scale straight cut test is also included to compare varieties marketed for straight cutting

Field scale comparisons add extra perspective for assessing variety performance. Starting in 2015, large scale comparisons were added, and they must meet standard protocols.

In 2018, there were three large scale comparison tests:

- shatter tolerant varieties under swath (standard)
- straight cut harvest systems
- comparison of selected clubroot resistant varieties (but not on clubroot infested land)

Canola trial analysis

To ensure quality data and statistical analysis, the CPT technical committee established protocols and developed research plot designs. Performance objectives were established to provide guidelines on timely field operations and data collection. All small plot sites were inspected to verify that guidelines were followed for fair comparisons among the varieties tested.

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 performed the audits.

Small yield differences can easily be due to random variation and, thus, are unlikely to be real effects of varieties. When comparing average zone yields for varieties in the small plot data, the least significant difference (LSD) ranged from 6 to 13 per cent in 2018. This number is based on a confidence level that similar differences would occur by chance less than 5 per cent of the time.

Comparisons among many varieties or between different herbicide systems are valid, but the LSD would be larger. **More importantly, comparisons between varieties within the same herbicide system reveal only genetic differences, whereas variety comparisons from different herbicide systems involve the net effect of both genetic and herbicide effects (weed control + crop tolerance).**

When comparing variety yields in the field scale summaries, an asterisk (*) indicate yields that are statistically different (5 % level) using the paired t-test.

As results from more sites are combined, the statistical power to determine if small differences are not due to chance often improves quickly up to 15 to 20 sites, and then marginally after that. This outcome means that smaller differences are more relevant when all sites are averaged, rather than just a few selected sites. Also, the predictability that the average yield differences would likely occur in other fields in future years increases when there are a high number of individual sites for comparing two varieties.

Where are CPT results available?

Averages from zones with less than three sites of data are not shown in this publication due to limited reliability. Results including data from individual locations and previous years are available through an online interactive tool at www.canolaperformancetrials.ca

The interactive tool allows growers to explore many agronomic factors and to search for trial data in specific geographic areas near their farming operations. Details on management, operations and environmental data for each individual site will be reported online.

The online tool has an economic calculator that includes the costs associated with growing the selected variety to assist growers in determining potential profitability.

***Brassica rapa* (Polish Canola) and Canola Quality *Brassica juncea*: no varieties were tested under PCT in 2012 through 2018.**

SMALL PLOT STANDARD HARVEST TRIALS

Distributor	Variety	Long Season (6 locations)			Mid Season (8 locations)			Short Season (4 locations)			Overall (18 locations)		
		Yield (%L252)	Days to maturity	Height (Inches)	Yield (%L252)	Days to maturity	Height (Inches)	Yield (%L252)	Days to maturity	Height (Inches)	Yield (%L252)	Days to maturity	Height (Inches)
Clearfield													
BrettYoung	5545 CL	88	86	47	90	91	48	90	107	52	90	92	49
CANTERRA SEEDS	CS2500CL	88	86	47	84	90	47	91	108	52	87	92	48
DL Seeds	DL1745CL	87	88	48	86	93	49	95	108	52	88	94	49
Pioneer	46H75	87	87	46	88	94	47	92	107	53	89	94	48
Proven/Nutrien Ag Solutions	PV 200 CL	91	85	46	90	91	46	86	106	49	89	92	47
	LSD	10			9			12			10		
Liberty Link													
BASF - InVigor	L252	100 (61)	85	45	100 (64)	91	46	100 (68)	108	50	100 (64)	92	47
BASF - InVigor	L230	95	84	45	95	89	44	95	103	50	95	90	46
BASF - InVigor	L241C	94	85	45	94	90	45	101	105	51	96	91	46
	LSD	16			15			12			14		
Roundup Ready													
BrettYoung	6090 RR	84	89	51	89	93	51	98	107	58	89	94	53
BrettYoung	6076 CR	87	87	48	90	92	48	99	108	54	91	93	49
BrettYoung	6074 RR	91	86	45	94	92	45	96	109	51	93	93	46
CANTERRA SEEDS	CS2300	90	86	48	94	93	49	100	109	55	94	93	50
CANTERRA SEEDS	CS2000	88	85	45	90	90	46	90	106	52	89	91	47
CANTERRA SEEDS	CS2100	92	86	44	88	93	44	86	110	51	89	94	46
Cargill	16RH5088	83	87	46	90	93	49	93	110	53	88	94	49
Cargill - VICTORY	V14-1 *	86	87	47	91	92	47	93	112	51	90	94	48
Cargill - VICTORY	V12-3 *	85	85	44	93	91	44	88	107	48	89	92	45
DEKALB	75-65 RR	92	83	43	88	89	44	91	107	51	90	90	45
DEKALB	74-44 BL	92	84	43	94	90	44	92	108	50	93	91	45
DEKALB	75-42 CR	87	85	44	88	90	45	89	106	51	88	91	46
DL Seeds	DL1634RR	86	88	49	96	93	50	101	110	55	93	95	51
Pioneer	45H33	89	85	45	93	91	49	94	105	53	92	91	49
Pioneer	45M35	92	84	44	99	91	45	96	107	50	96	91	46
Pioneer	45CS40	92	85	47	90	91	48	96	106	54	92	91	49
Brevant	D3155C	93	85	46	93	91	49	97	106	54	94	92	49
Proven/Nutrien Ag Solutions	540 G	91	86	44	94	92	46	94	108	52	93	93	46
Nutrien Ag Solutions	581 GC	89	87	46	94	93	48	91	108	53	92	93	49
	LSD	13			11			12			13		

L252 average yield in bulac shown in parentheses. LSD is the least significant difference (5% level). Average lodging scores are not shown; individual site lodging scores can be viewed at canolaperformancetrials.ca *Indicates varieties with specialty oil profiles and premiums associated with pricing.

SMALL PLOT STRAIGHT CUT TRIALS

Distributor	Variety	Long Season (4 locations)				Short Season (4 locations)				Overall (9 locations)			
		Yield (%L233P)	Days to maturity	Height (inches)	Height (inches)	Yield (%L233P)	Days to maturity	Height (inches)	Height (inches)	Yield (%L233P)	Days to maturity	Height (inches)	Height (inches)
Liberty Link													
BASF - InVigor	L255PC	93	87	47	51	94	110	51	95	97	49	49	49
BASF - InVigor	L233P	100 (59)	84	44	49	100 (57)	104	49	100 (60)	92	46	46	46
	LSD	13				12			12				
Roundup Ready													
BrettYoung	6090 RR	74	88	54	53	107	107	53	92	96	53	53	53
CANTERRA SEEDS	CS2100	88	86	47	50	96	110	50	92	96	48	48	48
DEKALB	75-65 RR	90	84	44	48	101	106	48	95	93	46	46	46
Pioneer	45M35	91	84	45	50	105	108	50	98	94	47	47	47
Proven/Nutrien Ag Solutions	540 G	87	86	47	51	102	108	51	94	95	48	48	48
	LSD	7				13			9				

Note: only 1 mid season zone trial which did not meet minimum 3 locations to show an average. L233P average yield in bu/ac shown in parentheses. LSD is the least significant difference (5% level). Average lodging scores are not shown; individual site lodging scores can be viewed at canolaperformancetrials.ca

DISEASE RESISTANCE OF VARIETIES IN 2018 CPT TRIALS

Distributor	Variety	Blackleg	Clubroot	Sclerotinia
Clearfield				
BrettYoung	5545 CL	R - CE ₁		
CANTERRA SEEDS	CS2500CL	R - C		
DL Seeds	DL1745CL	R		
Pioneer	46H75	R		
Proven/Nutrien Ag Solutions	PV 200 CL	R		
Liberty Link				
BASF - InVigor	L230	R		
BASF - InVigor	L233P	R		
BASF - InVigor	L241C	R	R	
BASF - InVigor	L252	R		
BASF - InVigor	L255PC	R	R	
Roundup Ready				
BrettYoung	6074 RR	R - C		T
BrettYoung	6076 CR	R - CE ₁	R	T
BrettYoung	6090 RR	R - CE ₁	R	
Brevant	D3155C	R	R	
CANTERRA SEEDS	CS2000	R - CE ₁	R	
CANTERRA SEEDS	CS2100	R - ACG		
CANTERRA SEEDS	CS2300	R - C		
Cargill	16RH5088	R		
Cargill - VICTORY	V12-3 *	R	R	
Cargill - VICTORY	V14-1 *	R	R	
DEKALB	74-44 BL	R - ACG		
DEKALB	75-42 CR	R - AC	R	
DEKALB	75-65 RR	R - C		
DL Seeds	DL1634RR	R	R	
Nutrien Ag Solutions	581 GC	R	R	
Pioneer	45CS40	R	R	T
Pioneer	45H33	R	R	
Pioneer	45M35	MR		
Proven/Nutrien Ag Solutions	540 G	R		

Susceptible disease rating for clubroot if R not listed, sclerotinia T rating is tolerance. Distributor has volunteered details available about genetic source of blackleg resistance. Letters following R indicate genetic resistance groupings. For more information, visit <https://www.canolacouncil.org/canola-encyclopedia/diseases/blackleg/genetic-resistance/>

LARGE SCALE VARIETY TRIALS

Variety	Growing Season Zone			Overall Sites (13)
	Long (3)	Mid (9)	Short	
Large Scale Standard Swathed Trials				
Yield (% of L252)				
L252	100 (47)	100 (58)		100 (55)
75-65 RR	95	95*		95*
L230	92	94*		94*

* indicates statistically significant different yield (5% level) from L252 in each zone. L252 average yield bu/ac in parentheses. Only 1 location in short season zone so an average is not shown.

Variety	Growing Season Zone			Overall Sites (20)
	Long (7)	Mid (13)	Short	
Large Scale Straight Cut Trials				
Yield (% of L233P)				
L233P	100 (55)	100 (55)		100 (55)
45M35	98	97		97*
75-65 RR	96*	96*		96*
L255PC	97*	99		98

* indicates statistically significant different yield (5% level) from L233P in each zone. L233P average yield bu/ac in parentheses

Variety	Growing Season Zone			Overall Sites (9)
	Long	Mid (5)	Short (4)	
Large Scale Clubroot Resistant Variety Trials				
Yield (% of L241C)				
L241C		100 (57)	100 (60)	100 (58)
75-42 CR		97	99	98

Note: there were no statistically significant yield differences detected. L241C average yield bu/ac in parentheses.

BREEDING INSTITUTIONS AND SEED DISTRIBUTORS OF VARIETIES LISTED IN THIS PUBLICATION

Crop Kind, Class & Variety	Breeding Institution	Distributor
FEED and FOOD BARLEY		
Two-Row		
Altorado	Highland Specialty Grains	Proven Seed/Nutrien Ag Solutions, Inc
Brahma	Westbred, LLC.	Proven Seed/Nutrien Ag Solutions, Inc
Busby	FCDC (Lacombe)	Mastin Seeds
Canmore	FCDC (Lacombe)	CANTERRA SEEDS
CDC Austenson	U of S - CDC	SeCan Members
CDC Coalition	U of S - CDC	CANTERRA SEEDS
CDC Cowboy	U of S - CDC	SeCan Members
CDC Maverick	U of S - CDC	SeCan Members
CDC Trey	U of S - CDC	FP Genetics
Champion	Westbred, LLC.	Proven Seed/Nutrien Ag Solutions, Inc
Claymore	Highland Specialty Grains	Proven Seed/Nutrien Ag Solutions, Inc
CONLON	NDSU	Seed Depot
Gadsby	FCDC (Lacombe)	SeCan Members
Oreana	Highland Specialty Grains	Proven Seed/Nutrien Ag Solutions, Inc
Ponoka	FCDC (Lacombe)	SeCan Members
Seebe	FCDC (Lacombe)	SeCan Members
Six-Row		
AC Ranger	AAFC (Brandon)	FP Genetics
AC Rosser	AAFC (Brandon)	SeCan Members
Amisk	FCDC (Lacombe)	SeCan Members
Chigwell	FCDC (Lacombe)	SeCan Members
Muskwa	FCDC (Lacombe)	SeedNet Inc.
Sundre	FCDC (Lacombe)	Mastin Seeds
Trochu	FCDC (Lacombe)	SeCan Members

HULLLESS - FOOD and FEED BARLEY		
CDC Ascent	U of S - CDC	SeCan Members
Falcon	FCDC (Lacombe)	Progressive Seeds Ltd

MALTING BARLEY		
Two-Row		
AAC Connect	AAFC (Brandon)	CANTERRA SEEDS
AAC Synergy	AAFC (Brandon)	Syngenta Canada
AC Metcalfe	AAFC (Brandon)	SeCan Members
Bentley	FCDC (Lacombe)	CANTERRA SEEDS
CDC Bow	U of S - CDC	SeCan Members
CDC Clear (hullless)	U of S - CDC	SeCan Members
CDC Copeland	U of S - CDC	SeCan Members
CDC Fraser	U of S - CDC	SeCan Members
CDC Goldstar	U of S - CDC	CANTERRA SEEDS
CDC Kindersley	U of S - CDC	SeCan Members
CDC Meredith	U of S - CDC	SeCan Members
CDC PlatinumStar	U of S - CDC/Sapporo/PML	CANTERRA SEEDS
CDC PolarStar	U of S - CDC/Sapporo/PML	CANTERRA SEEDS
Cerveza ^	AAFC (Brandon)	Mastin Seeds
Lowe	FCDC (Lacombe)	SeCan Members
Major	AAFC (Brandon)	Alliance Seed
Merit 57	Busch Ag Res. Inc.	CANTERRA SEEDS
Newdale	AAFC (Brandon)	FP Genetics
Sirish	Syngenta AG	Syngenta Canada
Six-Row		
Legacy	Busch Ag Res. Inc.	Proven Seed/FP Genetics

Crop Kind, Class & Variety	Breeding Institution	Distributor
CANADA WESTERN AMBER DURUM		
AAC Cabri_	AAFC (Swift Current)	SeCan Members
AAC Congress	AAFC (Swift Current)	CANTERRA SEEDS
AAC Current	AAFC (Swift Current)	Alliance Seed.
AAC Marchwell VB	AAFC (Swift Current)	SeCan Members
AAC Raymore	AAFC (Swift Current)	SeCan Members
AAC Spitfire	AAFC (Swift Current)	SeCan Members
AAC Stronghold	AAFC (Swift Current)	SeCan Members
AAC Succeed VB	AAFC (Swift Current)	FP Genetics
AC Navigator	AAFC (Swift Current)	Proven Seed/Nutrien Ag Solutions, Inc
Brigade	AAFC (Swift Current)	Proven Seed/Nutrien Ag Solutions, Inc
CDC Alloy	U of S - CDC	FP Genetics
CDC Carbide VB	U of S - CDC	Proven Seed/Nutrien Ag Solutions, Inc
CDC Credence	U of S - CDC	CANTERRA SEEDS
CDC Desire	U of S - CDC	Syngenta Canada
CDC Dynamic	U of S - CDC	Proven Seed/Nutrien Ag Solutions, Inc
CDC Fortitude	U of S - CDC	Proven Seed/Nutrien Ag Solutions, Inc
CDC Verona	U of S - CDC	Alliance Seed.
CDC Vivid	U of S - CDC	Proven Seed/Nutrien Ag Solutions, Inc
Enterprise	AAFC (Swift Current)	CANTERRA SEEDS
Strongfield	AAFC (Swift Current)	SeCan Members
Transcend	AAFC (Swift Current)	FP Genetics

CANADA WESTERN RED SPRING		
5604HR CL	Syngenta Seeds Canada Inc.	Proven Seed/Nutrien Ag Solutions, Inc
AAC Alida VB	AAFC (Swift Current)	SeCan Members
AAC Brandon	AAFC (Swift Current)	SeCan Members
AAC Cameron VB	AAFC (Brandon)	CANTERRA SEEDS
AAC Connery	AAFC (Swift Current)	CANTERRA SEEDS
AAC Elie	AAFC (Swift Current)	Alliance Seed
AAC Jatharia VB	AAFC (Swift Current)	SeCan Members
AAC Pervail VB	AAFC (Winnipeg)	Alliance Seed
AAC Redberry	AAFC (Swift Current)	Alliance Seed
AAC Redwater	AAFC (Winnipeg)	SeCan Members
AAC Tisdale	AAFC (Swift Current)	SeCan Members
AAC Viewfield	AAFC (Swift Current)	FP Genetics
AC Barrie	AAFC (Swift Current)	SeCan Members
AC Intrepid	AAFC (Swift Current)	CANTERRA SEEDS
AC Splendor	AAFC (Winnipeg)	SeCan Members
Carberry	AAFC (Swift Current)	SeCan Members
Cardale	AAFC (Winnipeg)	Seed Depot
Coleman	U of Alberta	Lefsrud Seed
CDC Adamant VB	U of S - CDC	FP Genetics
CDC Abound	U of S - CDC	Proven Seed/Nutrien Ag Solutions, Inc
CDC Bradwell	U of S - CDC	SeCan Members
CDC Go	U of S - CDC	Public release U of S - CDC
CDC Hughes VB	U of S - CDC	Proven Seed/Nutrien Ag Solutions, Inc
CDC Landmark VB	U of S - CDC	FP Genetics
CDC Plentiful	U of S - CDC	FP Genetics
CDC Stanley	U of S - CDC	Proven Seed/Nutrien Ag Solutions, Inc
CDC Titanium VB	U of S - CDC	Proven Seed/Nutrien Ag Solutions, Inc
CDC Utmost VB	U of S - CDC	FP Genetics
CDC VR Morris	U of S - CDC	Proven Seed/Nutrien Ag Solutions, Inc
Glenn	NDSU	CANTERRA SEEDS
Go Early	U of Alberta	Mastin Seeds
Parata	U of Alberta	SeCan Members
Muchmore	AAFC (Swift Current)	FP Genetics
Shaw VB	AAFC (Winnipeg)	SeCan Members
Stettler	AAFC (Swift Current)	SeCan Members
Superb	AAFC (Winnipeg)	SeCan Members
SY433	Syngenta Seeds Canada Inc.	Syngenta Canada
SY479 VB	Syngenta Seeds Canada Inc.	Alliance Seed
SY Chert	Syngenta Seeds Canada Inc.	Syngenta Canada
SY Obsidian	Syngenta Seeds Canada Inc.	Richardson Intl
SY Slate	Syngenta Seeds Canada Inc.	Syngenta Canada
SY Sovite	Syngenta Seeds Canada Inc.	Syngenta Canada
Thorsby	U of Alberta	CANTERRA SEEDS
WR859CL ^	Syngenta Seeds Canada Inc.	Richardson Intl

BREEDING INSTITUTIONS AND SEED DISTRIBUTORS OF VARIETIES LISTED IN THIS PUBLICATION (continued)

Crop Kind, Class & Variety	Breeding Institution	Distributor
OAT		
Milling		
AAC Justice	AAFC (Winnipeg)	FP Genetics
AC Juniper	AAFC (Lacombe)	Mastin Seeds
AC Morgan	AAFC (Lacombe)	SeCan Members
Akina	Lantmannen SW Seed	La Coop Fédérée
CDC Arborg	U of S - CDC	FP Genetics
CDC Dancer	U of S - CDC	FP Genetics/Cargill
CDC Minstrel	U of S - CDC	FP Genetics
CDC Norseman	U of S - CDC	SeCan Members
CDC Orrin	U of S - CDC	FP Genetics/Cargill
CDC Ruffian	U of S - CDC	FP Genetics
CDC Seabiscuit	U of S - CDC	CANTERRA SEEDS
CS Camden	Lantmannen SW Seed	CANTERRA SEEDS
Derby	U of S - CDC	Proven Seed/Mastin Seeds
Kara	Lantmannen SW Seed	La Coop Fédérée
ORe3541M	Oat Advantage	SeCan Members
ORe3542M	Oat Advantage	SeCan Members
Triactor	Lantmannen SW Seed	CANTERRA SEEDS
Feed		
AC Mustang	AAFC (Lacombe)	Mastin Seeds
CDC Nasser	U of S - CDC	T & L Seeds
Forage		
CDC Baler	U of S - CDC	FP Genetics
CDC Haymaker	U of S - CDC	SeCan Members
Murphy	AAFC (Lacombe)	SeCan Members
FALL RYE		
Brasetto	KWS Lochow GMBH	FP Genetics
Guttino	KWS Lochow GMBH	SeedNet Inc.
KWS Bono	KWS Lochow GMBH	FP Genetics
KWS Daniello	KWS Lochow GMBH	SeedNet Inc.
KWS Gatano	KWS Lochow GMBH	FP Genetics
Hazlet	AAFC (Swift Current)	SeCan Members
Prima	AAFC (Swift Current)	SeCan Members
TRITICALE - SPRING		
AAC Delight	AAFC (Lethbridge)	Fabian Seeds Ltd.
AC Ultima	AAFC (Swift Current)	FP Genetics
Brevis	AAFC (Swift Current)	Wagon Wheel Seed Corp
Bumper	AAFC (Swift Current)	SeCan Members
Bunker	FCDC (Lacombe)	FP Genetics
Pronghorn	FCDC (Lacombe)	Progressive Seeds
Sunray	AAFC (Lethbridge)	SeedNet Inc.
Taza	FCDC (Lacombe)	Solick Seeds
Tyndal	FCDC (Lacombe)	SeCan Members
TRITICALE - WINTER		
Bobcat	FCDC (Lacombe)	Corns Brothers Farm
Louma	FCDC (Lacombe)	Corns Brothers Farm
Metzger	FCDC (Lacombe)	Haney Farms Ltd.
FLAX		
AAC Bravo	AAFC (Morden)	FP Genetics
AAC Marvelous	AAFC (Morden)	FP Genetics
AAC Prairie Sunshine	AAFC (Morden)	SeCan Members
CDC Bethune	U of S - CDC	SeCan Members
CDC Buryu	U of S - CDC	SeCan Members
CDC Glas	U of S - CDC	SeCan Members
CDC Neela	U of S - CDC	CANTERRA SEEDS
CDC Plava	U of S - CDC	SeCan Members
CDC Rowland	U of S - CDC	SeCan Members
CDC Sanctuary	U of S - CDC	SeCan Members
CDC Sorrel	U of S - CDC	SeCan Members
Prairie Sapphire	AAFC (Morden)	Alliance Seed
Prairie Thunder	AAFC (Morden)	CANTERRA SEEDS
Topaz	CPS Canada Inc.	Alliance Seed
VT50	CPS Canada Inc.	Proven Seed/Nutrien Ag Solutions, Inc
WestLin 60	CPS Canada Inc.	Proven Seed/Nutrien Ag Solutions, Inc
WestLin 61	CPS Canada Inc.	Proven Seed/Nutrien Ag Solutions, Inc
WestLin 71	CPS Canada Inc.	Proven Seed/Nutrien Ag Solutions, Inc

Crop Kind, Class & Variety	Breeding Institution	Distributor
CANADA WESTERN HARD WHITE SPRING		
AAC Cirrus	AAFC (Swift Current)	FP Genetics
AAC Iceberg	AAFC (Winnipeg)	Alliance Seed
CDC Whitewood	U of S - CDC	SeCan Members
Snowbird	AAFC (Winnipeg)	FP Genetics
Snowstar	AAFC (Winnipeg)	SeCan Members
Whitehawk	AAFC (Winnipeg)	SeCan Members
CANADA PRAIRIE SPRING RED		
5700PR	Syngenta Seeds Canada Inc.	Proven Seed/Nutrien Ag Solutions, Inc
AAC Crossfield	AAFC (Winnipeg)	CANTERRA SEEDS
AAC Entice	AAFC (Winnipeg)	Proven Seed/Nutrien Ag Solutions, Inc
AAC Foray VB	AAFC (Winnipeg)	SeCan Members
AAC Goodwin	AAFC (Swift Current)	SeCan Members
AAC Penhold	AAFC (Swift Current)	SeCan Members
AAC Ryley	AAFC (Swift Current)	SeCan Members
AAC Tenacious VB	AAFC (Winnipeg)	Alliance Seed
CDC Terrain	U of S - CDC	FP Genetics
SY985	Syngenta Seeds Canada Inc.	Proven Seed / Richardson Intl
SY995	Syngenta Seeds Canada Inc.	Syngenta Seeds Canada Inc.
SY Rowyn	Syngenta Seeds Canada Inc.	Alliance Seed
CANADA WESTERN SPECIAL PURPOSE		
AAC Awesome VB	AAFC (Lethbridge)	SeCan Members
AAC Innova	AAFC (Lethbridge)	Alliance Seed
AAC NRG097	AAFC (Swift Current)	CANTERRA SEEDS
Alderon	KWS-UK	SeCan Members
CDC NRG003	U of S - CDC	CANTERRA SEEDS
Charing VB	KWS-UK	SeCan Members
Pasteur	Wiersum Plant Breeding	SeCan Members
Sparrow VB	KWS-UK	SeCan Members
SY087	Syngenta Seeds Canada Inc.	Syngenta Canada
CANADA WESTERN SOFT WHITE SPRING		
AAC Chiffon VB	AAFC (Lethbridge)	SeedNet Inc.
AAC Indus VB	AAFC (Lethbridge)	SeCan Members
AAC Paramount VB	AAFC (Lethbridge)	SeCan Members
AC Andrew	AAFC (Lethbridge)	SeCan Members
Sadash VB	AAFC (Lethbridge)	SeCan Members
CANADA NORTHERN HARD RED		
AAC Concord	AAFC (Swift Current)	CANTERRA SEEDS
AC Foremost	AAFC (Swift Current)	SeCan Members
CDC Cordon CLPlus VB	U of S - CDC	
Conquer VB	AAFC (Winnipeg)	CANTERRA SEEDS
Elgin ND	NDSU	FP Genetics
Harvest	AAFC (Winnipeg)	FP Genetics
Lillian	AAFC (Swift Current)	SeCan Members
CANADA WESTERN RED WINTER		
AAC Elevate	AAFC (Lethbridge)	SeCan Members
AAC Gateway	AAFC (Lethbridge)	Seed Depot
AAC Goldrush	AAFC (Lethbridge)	FP Genetics
AAC Wildfire	AAFC (Lethbridge)	SeCan Members
AC Tempest	AAFC (Lethbridge)	SeCan Members
CDC Buteo	U of S - CDC	SeCan Members
CDC Chase	U of S - CDC	CANTERRA SEEDS
Emerson	AAFC (Lethbridge)	CANTERRA SEEDS
Flourish	AAFC (Lethbridge)	SeCan Members
Moats	U of S - CDC	SeCan Members
CANADA WESTERN EXPERIMENTAL WINTER WHEAT		
AAC Icefield	AAFC (Lethbridge)	FP Genetics
CANADA WESTERN SPECIAL PURPOSE WINTER WHEAT		
Pintail	FCDC (Lacombe)	Mastin Seeds