



**Saskatchewan
Ministry of
Agriculture**

**Varieties of Grain Crops
2008**

Crop Production Areas



The cropland of Saskatchewan has been divided into four areas based roughly on agro-climatic conditions. Crop yields can vary from area to area. In choosing a variety, producers will want to consider the yield data in combination with marketing and agronomic factors.

Area 1: Drought is a definite hazard and high winds are common. Sawfly outbreaks often occur in this area. Cereal rust may be a problem in the southeastern section.

Area 2: Drought and sawfly may be problems in the western and central sections of the area. Cereal rust may be a problem in the southern section.

Area 3: Sawfly can also be a problem. Drought is not as likely to be a problem in this area, particularly in the east. Cereal rust may occur in the eastern portion. The frost-free period can be fairly short in the northern section.

Area 4: Rainfall is usually adequate for crop production. However, early fall frosts and wet harvest conditions are frequent problems.

Note About Dividing Lines:

The dividing lines do not represent distinct changes over a short distance. The change from one area to another is gradual.

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Symbols Used in 2008 Seed Guide:

- § Variety may not be described in 2009
- Insufficient test data to describe
- ⊕ Plant Breeders' Rights at time of printing
- ⊗ Applied for PBR protection at time of printing

Abbreviations used:

Relative maturity: VE = Very Early, E = Early, M = Medium, L = Late, VL = Very Late

Resistance: VG = Very Good, G = Good, F = Fair, P = Poor, VP = Very Poor, n/a = not applicable

Seed size: S = Small, M = Medium, L = Large

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Testing Varieties in Saskatchewan

By Saskatchewan Ministry of Agriculture

Regional testing of crop varieties is conducted to provide producers with information on the agronomic performance of varieties under different agro-climatic conditions. Saskatchewan producers will continue to have the opportunity to evaluate the newest grain crop varieties and their suitability for production in different regions of the province.

Saskatchewan Ministry of Agriculture provides \$100,000 towards a testing program that is based on industry-government partnership. An entry fee system is used in which variety owners or companies with the distribution rights to a particular variety pay a portion of the cost of having the variety tested. The Saskatchewan Seed Growers' Association also provides \$5000 to the program.

A long term database is developed providing comparisons to a commonly grown check variety. The data include information on yield, various agronomic factors, and certain market related traits.

The Saskatchewan Variety Performance Group (SVPG) administers the program. SVPG is composed of representatives from individual organizations with an interest in providing variety testing information.

SeCan Association administers the funds for SVPG. Crop coordinators manage the data and provide expertise for their respective crops.

The results of the testing are reviewed by the Saskatchewan Advisory Council on Grain Crops (SACGC), which also updates disease and other agronomic information, and approves the data prior to inclusion in this publication.

The Saskatchewan Ministry of Agriculture grant also provides some support to programs that test pulses, canola, winter wheat, canary seed and sunflower. The testing information from these crops is included in this publication.

Relative yield of varieties

Trials are conducted using uniform protocols and standard check varieties.

Data are collected from as many sites as are available and statistically analyzed. Results in this publication are aggregated over a number of years and on an area basis.

Grain yield is a function of genetic and non-genetic factors. Variety trials are designed to measure the yield differences that are due to genetic causes. It is important to minimize variability due to non-genetic factors such as moisture, temperature, transpiration, weeds, diseases, and other pests. Experimental design uses replication (repeated plantings of the varieties) and randomization (the position of the varieties within the test is

assigned by chance) to estimate the precision with which the genetic factors can be measured.

Relative yield is the yield of one variety expressed as a percentage of the check variety. Yields obtained in these trials are not identical to those obtained in commercial production. However, the relative ranking of these varieties compared to the check variety, obtained over a number of years at several locations, would remain the same regardless of whether the grain yield was measured in small plots or large-scale fields. Relative yield is the best estimate of expected yield advantage in the areas indicated.

Relative Maturity

Ratings

Maturity is measured from seeding to swathing ripeness. The actual number of days to reach maturity depends on local climatic conditions and to some extent on management practices.

Some of the tables in this booklet express the relative maturity in days while others use a five category scale: VE, E, M, L, and VL (very early, early, medium, late, very late). The limits for each category can vary from crop to crop. In barley, for example, AC Metcalfe would be medium with L and E varieties plus or minus 1-2 days, and VL and VE varieties beyond this range.

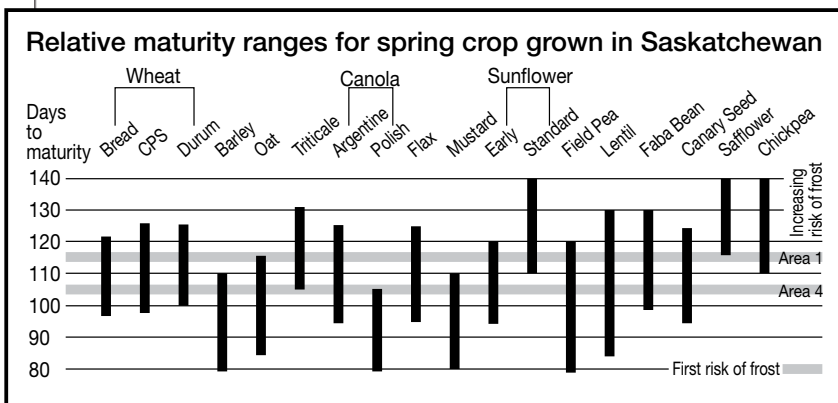
Comparisons

The relative maturity of varieties of different crops is important when making plans for seeding.

The table below compares the relative maturity ranges for crops grown in Saskatchewan.

Within each crop there are early and late maturing varieties. Whether a crop matures before the first killing frost depends on seeding date, management practices and environment factors. Not all crops have a wide area of adaptation.

It is noted that climatic conditions can cause a wide variability in crop maturity.



Plant Disease Resistance

Resistance to the most important diseases in Western Canada is assessed in most crops before the variety is registered. The methods used to assess resistance in each crop are different. In some cases, spores of the pathogen are applied to plants in the greenhouse or in the field. In other cases, assessment is based on naturally occurring infection in the field. Each variety is rated on a five-point scale of very poor (VP), poor (P), fair (F), good (G), very good (VG). New varieties are not tested side-by-side with all existing varieties.

Because of variation in disease levels from year to year, each new variety is assigned a rating relative to a few existing varieties that serve as disease level standards or checks. Varieties differ in resistance because of differences in their genetic make-up and/or differences in the genetic make-up of the pathogen that causes the disease. However, the genetic make-up of a pathogen can change over time, and overcome the resistance in a variety. In such cases, a variety with good resistance can quickly display poor resistance to a particular disease. Unfortunately,

because not all varieties are tested side-by-side every year, the ratings of older varieties may be less reliable.

A number of factors can affect the level of disease symptoms observed at a given location in a given year. Environmental conditions such as moisture and temperature, the genetic make-up of both the variety and the pathogen, and the amount of the pathogen present can all affect the level of disease. Although a variety with fair resistance can show disease symptoms under favourable conditions, a susceptible variety would have much more disease under the same conditions.

What is Plant Breeders' Rights?

Plant Breeders' Rights provides a way to assure that companies and institutions that invest in plant breeding are able to keep reasonable control of their varieties and secure fair compensation for their efforts. This encourages additional investment in crop variety development for Canadian farmers.

Plant Breeders' Rights for crop variety developers are comparable in many ways to patent protection in other

areas. When a plant breeder develops a new variety for use in Canada they may apply under the Plant Breeders' Rights Act to obtain certain controls over the multiplication and sale of the seed of that variety. Sale, trade or any other transfer of the seed for propagation purposes is prohibited by law without:

- 1) the written permission of the breeder or their agent, and
- 2) payment of a royalty to the breeder or their agent.

Under PBR, farmers are allowed to save seed of the variety for their own use, on their own farms.

Varieties protected by Plant Breeders' Rights are identified with the above logo.

Further information on Plant Breeders' Rights can be obtained from the Plant Breeders' Rights Office, tel. (613) 221-7521, fax (613) 228-4552.



For example, ascochyta blight of chickpea is a very aggressive fungal disease. It can completely kill susceptible varieties within two weeks of symptoms first appearing. Chickpea varieties grown commercially in Saskatchewan to date have ascochyta blight ratings from very poor to fair. This resistance weakens as plant development nears the flowering stage. Cool, moist environmental conditions favour the disease, and if these conditions persist early in the growing season, the disease symptoms can occur much earlier than the flowering stage. This is especially true on chickpea grown outside the Brown Soil Zone (the area of best adaptation) or on heavy textured soils such as clays and clay loams.

In these conditions, varieties with ascochyta blight resistance ratings of very poor to poor do not show resistance to ascochyta and can be defoliated, with girdled branches and dead plants. If conditions turn warm and dry, the diseased plants can re-grow from auxiliary nodes, often producing flowers and pods. However, these late pods and seeds will most likely be frozen in the first fall frost and have no commercial value.

Wheat

Main Characteristics of Varieties

Variety	Years Tested	Area 1 & 2	Area 3 & 4	Irrigation	Protein	Lodging	Shattering	Sprouting	Stem Rust	Resistance to:						Relative Maturity in days	Head Awed-ness	Seed Weight (mg)	Volume Weight** (Kg hL ⁻¹)	Height (cm)
										Leaf Rust	Stripe Rust*	Loose Smut	Bunt	Leaf Spot	Fusarium Head Blight					
Bread Wheat																				
	Yield as % of AC Barrie															Relative to AC Barrie				
AC Barrie	11	100	100	100	14.8	G	G	G	G	P	P	G	G	P	F	100	N	36.0	79.9	93
AC Abbey	8	95	95	98	-0.8	F	G	P	G	P	F	F	G	P	P	-1	Y	-1.9	-1.0	-5
CDC Abound	5	106	103	---	-0.2	G	G	G	G	P	---	F	F	P	P	+2	Y	+2.4	-0.3	-10
CDC Alask	4	107	103	---	+0.2	F	G	G	G	VG	F	G	G	P	P	-1	N	-0.3	-1.3	-1
Alvena	2	102	103	---	+0.3	G	G	F	G	F	---	G	F	---	P	-2	N	-1.1	0.0	0
CDC Bounty	5	104	106	---	-0.1	F	G	F	G	F	---	G	F	P	F	-1	N	-0.2	+1.6	+8
AC Cadillac	7	102	102	98	-0.2	F	G	F	G	G	F	VG	VG	P	F	-1	N	+1.3	+1.7	+7
AC Domain	6	95	92	89	+0.1	VG	G	VG	G	F	F	VG	F	VP	P	-2	N	-1.0	+0.9	-3
AC Eatonia	7	93	88	---	+0.2	P	G	VG	F	P	F	F	G	P	---	0	N	-2.5	0.0	+4
AC Elsa	7	104	104	97	-0.1	G	G	F	G	F	G	F	G	F	P	-1	N	-2.4	-0.5	-1
CDC Go	4	102	103	---	-0.1	G	G	P	G	F	---	P	G	VP	F	-1	Y	+3.6	-0.3	-6
Goodeve VB	4	108	115	---	-0.1	VG	G	G	G	G	F	G	F	P	P	-2	N	+0.8	-0.9	-2
Harvest	5	100	105	---	-0.5	VG	G	VG	G	G	---	G	G	P	VP	-1	N	-0.4	+0.1	-6
Helios	4	102	101	101	0.0	G	G	G	G	P	---	VG	F	P	F	-2	N	-0.7	-0.4	0
CDC Imagine	4	98	102	---	-0.2	G	G	P	F	F	F	G	G	P	VP	0	N	-1.7	-1.8	-3
Infinity	6	107	105	---	-0.1	G	G	G	G	G	---	G	G	F	VP	-1	N	-2.8	-0.6	-1
AC Intrepid	5	101	104	102	-0.3	G	G	P	G	G	G	F	G	P	P	-3	N	-0.2	-0.4	+2
Journey	5	98	99	---	+0.4	VG	G	G	G	F	F	F	G	F	F	+2	N	-2.4	+0.4	-6
KANE	3	103	103	---	-0.2	G	G	VG	G	VG	---	P	F	F	F	+1	Y	-0.5	+1.4	-5
Katepwa	10	96	94	89	-0.5	F	G	F	G	P	P	G	G	P	F	-2	N	-1.8	-1.4	+3
Lillian	5	105	100	---	0.0	F	G	G	G	VG	G	F	G	P	VP	0	N	-0.3	-1.1	-1
Lovitt	4	103	102	---	0.0	G	G	VG	G	G	P	G	F	F	P	-1	N	-3.3	-0.6	+1
McKenzie	5	107	102	109	-0.5	F	G	G	G	VG	P	VP	VG	P	F	-1	Y	-1.5	+0.1	+1
CDC Osler	3	101	105	---	-0.3	G	G	F	G	G	---	G	F	F	VP	-1	N	-3.7	-0.7	-2
Peace	2	99	103	---	-0.1	G	G	P	G	G	---	G	VG	P	VP	-1	N	-1.2	-0.5	0
Prodigy	5	103	104	---	+0.4	G	F	G	G	G	---	F	VG	P	VP	+1	Y	-3.2	+1.7	+5
Somerset	4	105	101	---	+0.1	G	G	F	G	G	---	G	F	P	P	-1	N	+1.1	-2.4	+6
AC Splendor	9	92	94	89	+0.4	F	G	F	G	G	F	F	G	VP	P	-4	N	-0.2	+0.1	-1
Superb	5	108	109	---	-0.4	G	G	G	G	P	P	F	G	VP	P	+3	Y	+2.6	-0.5	-7
CDC Teal	7	101	100	99	-0.1	G	G	P	G	G	F	G	F	P	VP	-2	N	-1.2	-0.3	0
Unity VB	4	118	122	---	-0.6	F	G	G	G	VG	---	P	VG	P	P	0	Y	-0.6	+1.0	+1
Waskada	4	117	114	---	-0.3	F	G	G	G	F	---	G	G	P	G	+1	Y	+0.3	+1.4	+4
5601HR	4	95	97	---	-0.1	G	G	G	G	G	F	P	G	P	F	+2	N	+0.7	-0.1	+1
5602HR	4	103	100	---	+0.4	F	G	F	G	VG	F	G	G	P	G	+1	Y	0.0	+1.6	+1
Canada Prairie Spring - Red Seeded																				
AC Crystal	11	118	115	110	-1.2	VG	G	P	G	P	P	P	VG	F	VP	+3	Y	+4.9	-0.1	-11
AC Taber	5	120	118	116	---	VG	G	P	G	F	P	P	VG	F	VP	+4	Y	+4.5	-0.5	-11
5700PR	5	115	120	115	-1.3	VG	G	P	G	F	P	P	VG	P	VP	+2	Y	+6.8	+1.1	-16
5701PR	4	108	110	105	-0.6	G	G	P	G	VG	G	P	F	F	VP	+2	Y	+3.8	-2.4	-13
Canada Prairie Spring - White Seeded																				
AC Vista	9	122	122	113	-1.5	G	G	F	G	P	F	P	VG	P	VP	+1	Y	+6.7	-2.1	-9
Snowwhite475	4	114	110	---	-1.3	VG	G	F	G	P	P	F	VG	P	VP	0	Y	+6.8	-0.3	-11
Snowwhite476	4	118	111	---	-1.5	G	G	F	G	F	---	G	VG	P	VP	+3	Y	+5.9	-1.2	-7
Hard White Wheat																				
Kanata	5	91	93	---	0.0	VG	G	G	F	G	P	F	P	P	F	-2	N	-1.9	-0.1	-6
Snowbird	5	99	102	---	-0.6	G	G	G	G	F	---	G	F	P	P	+2	N	-1.8	-0.4	+1
Snowstar	1	101	---	---	-0.9	VG	G	G	VG	G	---	P	P	P	F	0	N	-3.4	+1.5	-10
Soft White Spring																				
AC Andrew	2	124	143	129	---	G	G	---	P	F	---	P	F	---	VP	+5	Y	+0.7	-1.8	-9
Bhishaj	5	128	---	122	---	G	G	---	P	F	---	F	P	---	VP	+3	Y	-4.2	-2	-7
Canada Western Extra Strong																				
Burnside	3	90	93	---	-0.3	F	G	G	G	G	---	VG	F	P	P	0	N	+3.6	-0.4	+6
CDC Rama	4	107	107	---	-0.2	F	G	G	G	G	G	VG	G	P	F	+2	Y	+7.5	+1.0	+7
CDC Walrus	3	102	101	---	-0.3	F	G	G	G	G	---	VG	F	P	P	+2	N	+5.3	-0.2	+7
Durum Wheat																				
	Yield as % of AC Avonlea															Relative to AC Avonlea				
AC Avonlea	9	100	100	100	14.2	F	VG	F	VG	VG	---	P	VG	F	VP	102	Y	43.4	79.6	93
Commander	4	112	99	---	-0.5	G	VG	F	VG	VG	---	P	VG	P	VP	0	Y	+1.3	-0.3	-12
Kyle	9	95	94	97	-0.1	P	VG	F	VG	VG	G	P	VG	P	VP	+1	Y	-0.8	+0.2	+5
Napoleon	7	99	102	---	-0.5	F	VG	F	VG	VG	---	P	VG	F	VP	0	Y	+1.1	-1.2	+3
AC Navigator	8	100	91	---	-0.5	G	VG	F	VG	VG	G	VP	VG	VP	VP	+1	Y	+0.7	+0.3	-14
Strongfield	5	107	105	---	+0.1	F	VG	F	VG	VG	G	VP	G	F	VP	+1	Y	-0.2	+0.4	-1

♣ Includes direct and indirect comparisons with AC Barrie

* stripe rust data are preliminary

** multiply by 0.8 = lbs per bushel

*** VB varietal blend

Additional Information

Grain yield, protein content, time to maturity, seed weight, volume weight, and plant height of all varieties of common wheat are compared to **AC Barrie**. The grain yield, protein content, time to maturity, seed weight, volume weight, and plant height of all durum varieties are rated relative to **AC Avonlea**.

Most of the varieties have been rated for their relative resistance to pre-harvest sprouting. Under wet post-maturity conditions varieties rated poor would have reduced ability to retain Hagberg Falling Number values relative to those rated good or very good. Varieties with high test weight retain grade better under adverse harvest weather than those with low test weight. During wet harvest weather grades drop more rapidly due to sprouting in swathed than in standing crops.

Several new races of leaf rust capable of overcoming leaf rust resistance gene Lr16 have multiplied rapidly. If varieties rated poor or very poor for leaf rust are sown in southeastern Saskatchewan, early seeding may minimize risk of crop losses.

Durum wheat varieties are generally more susceptible than CWRS varieties to Fusarium Head Blight and CPS varieties are intermediate.

All varieties have moderately good resistance to common root rot.

Seed of varieties rated poor and very poor for bunt and loose smut should be treated. Please refer to the *Seed Facts* section of this booklet or the Saskatchewan Agriculture publication *Guide to Crop Protection*.

Canada Western Red Spring Wheat

Goodeve VB and **Unity VB** are the first wheat midge tolerant varieties. They both contain the same "Sm1" gene for tolerance. To manage against the build-up of midge resistance to the gene, an "interpersed refuge" will be used commercially. These varieties are not immune to wheat midge and can suffer some midge damage when high midge infestation levels occur. See *Wheat Midge* article on VR11.

Seed of the new varieties **CDC Abound**, **Alvena**, **Goodeve VB**, **Helios**, **KANE**, **Unity VB**, and **Waskada** will not be available in 2008. Limited quantities of seed of the new varieties **CDC Alsask**, **CDC Go**, **CDC Osler**, and **Somerset** will be available in 2008.

AC Abbey, **AC Eatonia** and **Lillian** have a solid stem and some resistance to the wheat stem sawfly.

AC Abbey has semidwarf stature. **CDC Abound** and **CDC Imagine** are tolerant to the CLEARFIELD® herbicides.

Canada Prairie Spring Wheat
AC Crystal, **5700PR** and **5701PR** have improved quality compared to **AC Taber**.

Canada Western Extra Strong

Limited quantities of seed of the new varieties **Burnside** and **CDC Walrus** will be available in 2008.

Canada Western Amber Durum Wheat

All durum varieties are susceptible to two new races of loose smut.

Kyle has lower pigment content in the grain than other varieties.

Commander and **AC Navigator** have strong gluten properties. They may be grown only under contract with the Canadian Wheat Board and Viterra.

Soft White Spring Wheat

Soft white spring wheat may have potential demand as a feedstock in the production of ethanol. All soft white spring wheat varieties are eligible for both domestic and export markets. Soft white spring wheat varieties are susceptible to pre-harvest sprouting. The leaf spot pathogens that affect other wheat classes also affect soft white cultivars and therefore recommendations for leaf spot control would be similar.

The Saskatchewan Advisory Council on Grain Crops (SACGC) and the Saskatchewan Variety Performance Group (SVPG) coordinate, supervise and review the collection, analysis and reporting of information in this booklet.

Membership consists of representatives from:

- Saskatchewan Ministry of Agriculture
- Seed Companies
- Sask. Seed Growers' Association
- Producer Associations
- Agriculture and Agri-Food Canada
- Crop Development Centre
- Canada-Saskatchewan Irrigation Diversification Centre

SACGC and SVPG gratefully acknowledge the contributions of all individuals and organizations involved in the generation and publication of this information.

Winter Wheat

Main Characteristics of Varieties

Variety	Years Tested	Yield as % of CDC Clair			Resistance to:				
		Area 1 & 2	Area 3 & 4	Irrigation	Lodging	Winter Damage	Stem Rust	Leaf Rust	Bunt
CDC Clair	17	100	100	100	G	VG	P	P	P
AC Bellatrix	9	99	96	76	G	P	VP	P	G
CDC Buteo	10	97	98	109	G	VG	G	G	P
CDC Falcon	13	98	96	115	VG	F	G	G	P
CDC Harrier	14	102	99	108	G	G	G	P	P
CDC Kestrel	17	101	102	102	G	VG	P	P	P
McClintock	10	97	98	111	G	P	VG	VG	P
CDC Osprey	17	100	98	93	G	VG	P	P	P
Radiant	4	---	90	87	G	G	P	P	F
CDC Raptor	11	99	99	110	VG	VG	VG	G	P

Rye

Main Characteristics of Varieties

Variety	Years Tested	Yield as % of Prima		Relative Maturity	Resistance to:		
		Area 1 & 2	Area 3		Winter Damage	Shattering	Lodging
Prima	18	100	100	M	VG	F	F
AC Rifle	18	98	89	M	VG	VG	VG
AC Remington	7	102	95	M	VG	VG	G
Hazlet	5	114	104	M	VG	VG	VG

Triticale

Main Characteristics of Varieties

Variety	Years Tested	Yield as % of AC Certa		Test Weight Kg hL ⁻¹	Relative Maturity	Resistance to:				
		Area 1 & 2	Area 3			Lodging	Stem Rust	Leaf Rust	Bunt	Root Rot
AC Certa	16	100	100	74	M	G	VG	VG	VG	G
AC Alta	13	105	100	68	L	G	VG	VG	VG	F
AC Copia	13	100	97	72	M	G	VG	VG	VG	F
Bunker	3	101	115	73	E	G	VG	VG	VG	--
Pronghorn	15	99	102	68	E	G	VG	VG	VG	F
Tyndal	3	105	119	73	E	G	VG	VG	VG	--
AC Ultima	12	104	102	70	E	G	VG	VG	VG	F

Additional Information:

Triticale matures 1-2 days later than **AC Crystal** CPS wheat, therefore it should be planted as early as possible. The seeding rate for triticale should be at least 30 percent more than that of CWRS wheat to obtain the same number of plants per square foot. Susceptibility to fusarium head blight is at least as great in triticale as in wheat. **AC Ultima** has improved Hagberg Falling Number.

Winter triticale has winter hardiness equal to that of winter wheat. **Pika**, **Bobcat** and **Fridge** are the only available cultivars of winter triticale. **Bobcat** is awnleted with shorter and stronger straw.

All triticale cultivars are susceptible to ergot infection and similar in reaction. Severe infestation of ergot can occur in any of the available cultivars if environmental conditions are favourable.

Certified seed of **Bunker** and **Tyndal** will be available in 2009.

Malting Barley

Main Characteristics of Varieties

Category* and Variety	Years Tested	2 or 6 Row	Rough or Smooth Awns	Yield as % of AC Metcalfe		Relative Maturity*	Straw ‡	Lodg- ing	Resistance to: -----							
				Area 1 & 2	Area 3 & 4				Net Blotch	Spot Blotch	Scald	Loose Smut	Other Smuts	Root Rot	Stem Rust	Fusarium Head Blight
Malting acceptance: Recommended																
AC Metcalfe ☺	11	2	R	100	100	M	N	G	F	F	P	VG	F	F	G	F
CDC Copeland ☺	8	2	R	107	108	M	N	G	F	VP	P	P	F	F	G	F
Harrington	11	2	R	95	89	M	N	F	VP	VP	P	P	P	P	P	G
CDC Kendall ☺	11	2	R	101	102	M	N	G	F	VP	P	P	P	F	P	F
Newdale ☺	6	2	R	112	113	M	N	G	F	G	P	P	G	G	G	F
Lacey ☺	4	6	S	101	101	M	N	G	F	VG	P	F	G	G	G	VP
Legacy ☺	6	6	S	104	101	M	N	G	F	G	P	F	G	G	G	P
Robust	8	6	S	94	97	M	N	G	F	G	P	F	F	F	G	P
Tradition ☺	5	6	S	112	107	M	N	VG	F	G	P	P	G	F	G	VP
Malting acceptance: Under Test																
Calder ☺	6	2	R	104	108	M	N	F	G	F	P	VG	VG	F	G	G
CDC Select ☺	7	2	R	103	104	M	N	G	F	P	P	P	G	F	F	VP
CDC Clyde ☺	6	6	S	113	105	M	N	VG	F	G	P	P	F	G	G	VP
CDC Laurence ☺	5	6	S	118	109	M	N	G	F	--	P	P	G	F	G	P
CDC Springside ☺	4	6	S	112	103	M	N	F	F	VG	P	G	F	F	F	VP
CDC Tisdale §	6	6	S	106	101	M	N	G	G	--	P	P	G	F	G	P
Other **																
Merit ☺	9	2	R	109	110	L	N	F	F	P	P	P	G	F	F	F
CDC Battleford ☺	6	6	S	108	108	M	N	G	F	VG	P	P	G	G	G	VP
Excel	10	6	S	102	104	M	N	VG	F	G	P	P	F	G	G	VP
CDC Yorkton ☺	8	6	S	100	107	M	N	G	F	G	P	P	G	G	G	P

* These categories are established annually by the Canadian Malting Barley Technical Centre (Call 204-984-4399 for more information)

* Relative maturity: The relative maturity of the check, **AC Metcalfe**, is M (on average, 91 days from seeding to swathing ripeness)

** Although not on the CMBTC list, a malting barley market may exist for these varieties.

‡ N = normal, SD = semi-dwarf

Lines Under Evaluation for Malting and Brewing Quality

Small scale tests are a good measure of malting potential but are not sufficient to determine the commercial acceptability of malting varieties. Final acceptance is given only after two years of successful plant scale evaluation. Several carload lots of barley are malted and subsequently brewed. The beer is then given the ultimate test – a taste panel. This process will normally take a minimum of three years. A crop grown in 2008 will be malted in January-February, 2009. It will be brewed in May-June, 2009, aged and tasted in October-November, 2009.

Additional Information

Growers are reminded that the malting and brewing industry is cautious about using new varieties.

Growers are cautioned that most malting varieties, especially two-row barley, are more susceptible to sprouting.

Recommended Malting Barley Varieties 2008-09

These recommendations are based on the varieties expected to be selected by grain and malting companies for both domestic and export markets from the 2007 harvest. Seeding decisions should be based on agronomic considerations and feedback from your grain company representative, local elevator operators and malting companies. This list is published on behalf of the members of the CMBTC, and other companies that have provided their input. Varieties not listed are not recommended. The varieties are listed in descending order to the amount selected in 2007-08.

Recommended Two-Row Barley Varieties

VARIETY	DOMESTIC	EXPORT	MARKET DEMAND
AC Metcalfe ₄	Established	Established	Stable, High Demand
CDC Copeland ₄	Established	Established	Stable Demand
CDC Kendall ₁	Established	Established	Stable Demand
Newdale ₃	Limited	Limited	Low Demand
Harrington	Established	Established	Declining Demand

Calder (TR262) and CDC Select are not yet being grown for the commercial market. Production is limited to quantities required for testing and market development.

Recommended Six-Row Barley Varieties

VARIETY	DOMESTIC	EXPORT	MARKET DEMAND
Legacy _{1,2,3}	Established	Established	Stable Demand
Tradition _{1,2,3}	Growing	Growing	Increasing Demand
Lacey ₃	Limited	Limited	Limited Demand
Robust	Limited	Limited	Declining Demand

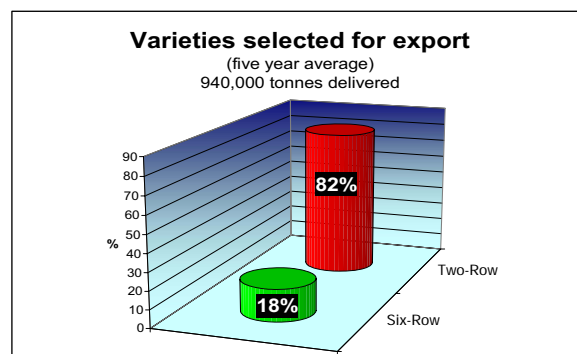
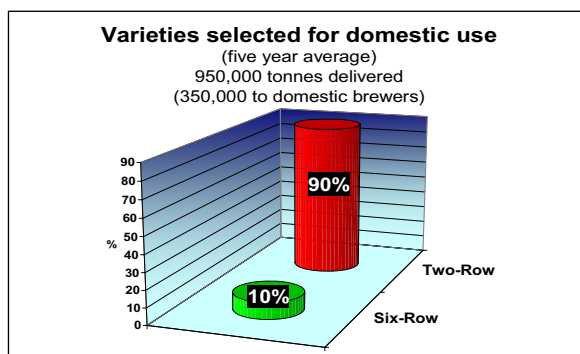
CDC Tisdale (BT462), CDC Springside (BT478), CDC Clyde (BT490) and CDC Laurence (BT494) are not yet being grown for the commercial market. Production is limited to quantities required for testing and market development.

"Domestic" as used in this publication, means barley selected for domestic processing into malt to supply domestic brewers as well as for malt destined for export. "Export" is that malting barley designated for markets outside of Canada including the U.S., shipped as unmalted grain.

The CMBTC recommends the use of certified seed to ensure varietal purity and to increase opportunity for selection.

The following companies have pedigreed seed distribution rights for those varieties that are footnoted:

1-Viterra; 2- BARI-Canada; 3 - FPS; 4 - SeCan;



CMBTC Members Alfred C. Toepfer (Canada) Ltd., Busch Agricultural Resources-Canada, Canadian Wheat Board, Canadian Grain Commission, Cargill AgHorizons, FarmPure Seeds Inc., James Richardson International, Parrish and Heimbecker, the Public Plant Breeders, Rahr Malting Canada, SeCan and Viterra.

Questions? Call your selector, seed company, grain handling company or the Canadian Wheat Board, or contact the CMBTC at 204-984-4399 (cmbtc@cmbtc.com).

Feed and Food Barley

Main Characteristics of Varieties

Category and Variety	Years Tested	2 or 6 Row	Rough or Smooth Awns	Yield as % of AC Metcalfe		Relative Maturity*	Straw ‡	Lodging	Net Blotch	Spot Blotch	Resistance to:						
				Area 1 & 2	Area 3 & 4						Scald	Loose Smut	Other Smuts	Root Rot	Stem Rust	Fusarium Head Blight	
Feed																	
CDC Bold	7	2	R	111	112	L	SD	G	P	VP	F	P	G	G	G	VP	
Champion *	5	2	R	116	115	M	N	G	P	VP	VP	VP	VG	G	F	F	
CDC Coalition *	5	2	R	111	115	M	N	VG	F	F	P	VG	G	G	G	F	
CDC Cowboy *	4	2	R	98	108	L	N	F	F	F	P	P	G	G	G	G	
CDC Dolly	11	2	R	103	103	E	N	G	P	VP	G	P	F	F	P	F	
Formosa	2	2	R	105	106	---	---	---	---	---	---	---	---	---	---	---	
CDC Helgason ☼	7	2	R	105	106	M	N	G	G	F	P	VG	G	F	G	P	
McLeod ☼	5	2	R	109	116	M	N	G	P	VP	P	VP	G	F	P	P	
CDC Mindon *	4	2	R	106	103	M	N	G	F	F	VP	VG	VG	F	G	G	
Niobe ☼	6	2	R	100	105	M	N	F	F	---	F	P	G	P	G	P	
Ponoka ☼	6	2	R	107	121	L	N	G	F	---	G	VG	VG	F	P	F	
CDC Trey ☼	5	2	R	104	110	M	N	VG	VG	P	P	P	VG	F	G	F	
Xena ☼	7	2	R	112	115	M	N	G	P	VP	P	P	F	G	G	G	
Alston *	5	6	S	114	111	M	N	G	G	F	P	P	VG	F	F	VP	
AC Lacombe ☼	11	6	S	106	108	M	N	G	F	F	F	P	G	P	G	VP	
Manny ☼	6	6	S	110	108	M	N	F	F	---	VG	P	VG	P	P	VP	
Niska	6	6	S	105	110	L	SD	F	P	---	P	P	G	P	G	VP	
AC Rosser ☼	11	6	S	115	115	M	N	G	F	G	VP	P	G	G	G	VP	
Sundre *	4	6	S	120	115	L	N	G	P	F	VG	P	VG	P	F	P	
Trochu ☼	6	6	S	105	110	M	N	F	P	---	F	P	G	G	G	P	
Vivar ☼	6	6	R	106	107	L	SD	G	G	F	F	F	VG	G	G	VP	
Hulless																	
CDC Freedom §	9	2	R	88	89	M	N	G	G	P	P	P	G	F	G	G	
CDC McGwire ☼	8	2	R	98	99	M	N	G	VG	F	F	P	G	G	F	G	
AC Bacon §	9	6	R	93	96	M	N	G	P	F	F	P	F	F	G	G	
Peregrine §	7	6	R	69	75	M	SD	VG	F	---	F	P	P	G	G	VP	

* Relative maturity: The relative maturity of the check, **AC Metcalfe**, is M (on average, 91 days from seeding to swathing ripeness)

‡ : N = normal, SD = semi-dwarf

Forage Barley

Binscarth, Dillon, AC Ranger, and Westford are six-row forage varieties.

CDC Cowboy and **Stockford** are two-row forage varieties.

Hulless

In hulless varieties the hull is left in the field, therefore, comparable yields are 9-12 percent lower. Hulless seed is more susceptible to damage than hulled seed, so handling should be minimized.

Hulless Food

CDC Alamo, CDC Candle, CDC Fibar, Merlin, and CDC Rattan are waxy starch varieties for specialty markets. For further information contact Viterra.

Millhouse is a two-row hulless food barley. For further information contact FarmPure Seeds.

Irrigation

Disease resistance, straw strength and maturity are more critical when barley is grown under irrigation. Growers should select early, strong-strawed, disease resistant varieties and should consider semi-dwarf varieties.

Feed and Food Barley (cont'd)

General Comments

Of the current two-row varieties, **CDC Trey** and **CDC McGwire** have good field resistance to all races of net blotch. Growers who choose to plant barley on barley stubble should select varieties with the best leaf disease resistance.

Most available varieties are susceptible to one or more types of smut. Therefore, seed should be treated with a registered fungicide on a regular basis.

Harvesting grain over 16 percent moisture and then using aeration bins for drying can lead to sprouting and embryo death. Seed with reduced germination is undesirable for seed or malting.

Two-row barley varieties are generally more resistant to shattering than six-row varieties.

Oat

Main Characteristics of Varieties

Variety	Years Tested	Yield as % of CDC Dancer		Test Weight (g/0.5L)	% Hull	% Plump	Relative Maturity*	Resistance to: -----			
		Area 1 & 2	Area 3 & 4					Lodging	Stem Rust	Leaf Rust	Smut
CDC Dancer ☼	8	100	100	253	19.8	70	M	G	F	F	VG
Calibre	8	97	99	246	23.6	39	M	F	VP	VP	P
7600M ☼	6	96	97	261	22.0	69	L	F	F	VP	VG
SW Betania ☼	5	105	106	245	22.0	67	L	G	VP	F	G
CDC Boyer	8	99	100	232	23.3	71	M	G	F	F	P
Derby	8	98	102	247	22.9	65	M	G	VP	VP	P
Furlong ☼	6	102	104	245	21.6	76	L	G	F	P	VG
HiFi ☼	4	99	98	253	22.4	55	M	G	F	VG	P
Jordan ☼	5	109	118	238	22.4	76	VL	G	F	F	VG
Leggett ☼	6	103	104	256	22.0	71	L	G	F	VG	VG
Lu	6	102	103	248	25.2	47	E	G	VP	VP	G
AC Morgan	8	104	108	236	25.1	54	L	VG	VP	VP	F
AC Mustang	8	105	111	244	29.9	62	L	G	VP	VP	P
CDC Orrin ☼	6	108	109	253	23.2	74	L	G	VP	VP	VG
Pinnacle ☼	8	113	109	244	23.6	70	VL	F	F	P	VG
CDC ProFi	3	100	92	245	19.8	72	M	G	F	P	VG
Ronald ☼	7	96	99	249	22.4	55	L	VG	F	P	VG
CDC Sol-Fi ☼	5	93	93	246	22.2	50	M	F	VP	VP	G
Triactor ☼	3	113	110	240	22.8	66	L	G	P	G	VG
CDC Weaver ☼	6	107	111	245	19.2	71	L	F	F	P	VG

* Maturity Rating M = 96 days

Additional Information

Although disease pressure is lower than in Manitoba, leaf rust races capable of attacking most varieties, except **Leggett**, **HiFi**, and **Triactor** are increasing in southeast Saskatchewan. Early seeding will reduce the likelihood of severe infection.

Furlong has brown hulls.

Forage Oat

CDC Baler, **CDC Bell**, and **Murphy** are forage oat varieties available for annual production in Saskatchewan.

Hulless Oat

Boudrias, **Bullion**, **AC Gwen**, and **Lee Williams** are hulless varieties available for production in Saskatchewan. The hull is part of normal oat yield, thus hulless types yield less. They are difficult to handle and should be stored at less than 12% moisture.

Wheat Midge

By Saskatchewan Ministry of Agriculture

The wheat midge (*Sitodiplosis mossellana*) is a small fly that can cause significant damage to wheat crops. It is widely distributed in Saskatchewan and Manitoba, and adjacent northern US states. In recent years, significant damage has been reported in these areas. The midge larvae feed on developing wheat kernels, resulting in yield loss and/or grade reduction. The appearance of damaged kernels can range from being slightly misshaped to being completely shriveled. Tiny cracks in the seed coat can also occur. In some instances, this could promote sprouting, which releases enzymes that can interfere with the baking quality.

Although the wheat midge attack other members of the grass family, including barley, couch grass, intermediate wheat grass and fall rye, infestations on these plants are generally not serious. Spring rye is highly susceptible. Until 2007, all registered spring wheat varieties were susceptible to the midge.

Agriculture & Agri-Food Canada has recently developed four wheat lines (three Canada Western Red Spring and one Canada Western Extra Strong) that are damaged less by wheat midge. The lines have either been registered or are in the variety registration process. The first lines for release will be through FarmPure Seeds and SeCan members. The FarmPure variety is called Goodeve, while the SeCan variety is called Unity. Certified seed will be available as early as 2009 or 2010.

The source of reduced damage is from a highly effective single gene. Resistance based on an effective single gene is often short-lived due to genetic mutations that occur in the insect population, and the high selection pressure that results from a very effective gene in a mono-culture crop situation.

In order to maintain the maximum benefit of the gene, it is proposed that these varieties be released with a refuge (susceptible wheat variety) to discourage the development of a mutant midge population that could overcome the resistance. Essentially, the refuge allows sufficient numbers of susceptible type midge to survive, ensuring that a midge that has overcome the resistance will most likely mate with a susceptible midge. This will discourage the retention of virulence mutations in the midge population.

Based on current literature, the plant breeders of these lines are recommending that the refuge consist of 10% susceptible

wheat. The blended varieties will be released as certified seed. Examples of using a refuge in other crops include *Bt* crops such as corn, potato and cotton. Refuges are sometimes incorporated in rows within the field, as borders around the field, or interspersed throughout the field. Since the adult midge generally doesn't move far from its site of emergence prior to mating, the interspersed method of refuge will be utilized.

Of particular concern, due to lack of pertinent research, is the stability of the composition of these varietal blends. After several generations, the refuge may decline to a very low frequency putting the midge resistance at risk; alternatively, the refuge may increase in frequency in some situations and not provide the level of resistance expected in years when midge infestations are significant. Research on the stability of the varietal blend composition is currently underway. Using certified seed will lessen the uncertainty and ensure the refuge is within a desired range. Although efforts have been made to find other sources of midge resistance, none have been conclusively identified. This highlights the importance of maintaining the efficacy of this gene.

The following is some background information on the wheat midge, as well as cultural and chemical control options that can be used in the interim. These methods can also be used in combination with genetic resistance when these varieties are available for commercial production.

Description of the Pest

The wheat midge is about one-half the size of a mosquito. The adult midge lay eggs on the glumes of the wheat head. The most critical period is from the time the head becomes visible until flowering. Larvae emerge from the eggs and feed on the developing kernels. After feeding for two to three weeks, the larvae crawl off the wheat head and fall to the ground in order to burrow into the soil to over-winter. This usually occurs during damp conditions. The following spring, once temperature and soil conditions end the over-wintering period, the larvae become active and move to the soil surface to pupate. In late June and early July, the adult wheat midge emerge from the pupae, starting the cycle over again.

During the egg laying period, the adult midge remain within the crop canopy where conditions are humid in the daytime. During the evening, females become active at the top of the canopy, laying eggs on the newly emerged wheat heads. The female midge live for less

than seven days and lay an average of 80 eggs.

Monitoring

Careful and regular monitoring of wheat fields between heading and flowering is necessary to identify an infestation. The field should be inspected in at least three or four locations. Infestations are sometimes higher at field edges, and low lying areas where moisture is higher.

Field inspection should occur within an hour of dusk when the female midge are most active. This generally occurs when the temperature is above 15°C and wind speed is less than 10 km/h. When wind speeds are greater than 10 km/h, egg-laying may still occur on lower heads that are sheltered within the crop canopy.

Pest Management – Biological, Cultural and Chemical

Biological

On the prairies, wheat midge populations can be maintained at tolerable levels by a small, 1 – 2 mm long parasitic wasp. The wasp lays its eggs inside the eggs of the midge, and starts to slowly grow inside the midge larva. The parasite remains dormant within the midge larva over the winter period, but in the following spring, it grows rapidly and destroys the midge larva.

Cultural

Midge populations will increase in continuous wheat cropping situations. Rotations with oilseeds and pulse crops, and other less susceptible cereal crops are recommended.

Chemical

An insecticide application should be considered when economically warranted. One adult midge for every four to five wheat heads generally equates to a 10% yield loss. One adult midge for every eight to ten heads could possibly affect grade. Insecticides should be applied in the evening when female midge are most active; however, early morning applications may also produce acceptable results. Application during advanced stages of flowering is discouraged because plants at this growth stage are no longer susceptible, and larvae that are inside the florets are unlikely to be affected.

For more information on wheat midge and a forecast map, see the Saskatchewan Agriculture publications *Wheat Midge* and *Wheat Midge Forecast Map* on the Saskatchewan Agriculture website <http://www.agriculture.gov.sk.ca>.

OTHER CROPS:

Buckwheat

Buckwheat is sensitive to high temperatures and dry weather conditions in the blossom stage which can reduce seed set and yields. New self-pollinated varieties are being released. Buckwheat is very susceptible to frost at all stages of growth. Delayed seeding is advisable to avoid spring frost.

Caraway

Caraway is a biennial spice crop, producing seed in the second year and sometimes in the third year. Seedlings are small, slow in developing and compete poorly with weeds. The crop is usually swathed because of its indeterminate growth habit and seed shattering. For more information, consult the Saskatchewan Agriculture publication, *Caraway in Saskatchewan*.

Coriander

Coriander is an annual spice crop. Seedlings are small, slow to develop, and compete poorly with weeds. The large seeded type is earlier maturing than the small seeded type. **CDC Major** is a large-seeded coriander variety and **CDC Minor** is a small-seeded variety. The crop is usually straight-cut to avoid wind damage in swaths. For more information, consult the Saskatchewan Agriculture publication, *Coriander in Saskatchewan*.

Fenugreek

Fenugreek is a leguminous spice crop adapted to dryland conditions in the Dark Brown and Brown soil zones. The crop should be seeded early to avoid yield and quality loss from fall frost. Contract production is advisable, as

markets are limited. For more information, consult the Saskatchewan Agriculture publication, *Fenugreek in Saskatchewan*.

Safflower

Safflower is an annual oilseed or birdseed crop which can be grown successfully in the Brown soil zone. Safflower must be sown early (late April).

Saffire matures in about 120 days. Seed should be planted shallow but into a firm, moist seedbed at about 30 kg/ha (27 lbs/ac). **Saffire** has moderate resistance to Sclerotinia head rot and Alternaria leaf spot. Contract production is advised.

AC Sunset has the earliness of **Saffire** combined with higher oil content and resistance to Sclerotinia head rot.

Canary Seed

Main Characteristics of Varieties

Variety	Type	No. of Trials	Yield as % of CDC Maria*	Days to Heading	Days to Maturity	Height (cm)	Test Weight (kg/hL)**	Seed Weight (g/1000)
CDC Maria	glabrous	64	100	55	97	96	71	7.3
CDC Togo ☺	glabrous	46	111	2	2	2	-1	0.5
CDC Bastia	glabrous	43	110	1	1	1	0	0.1
Keet	hairy	64	114	-1	0	2	-7	-0.3
Cantate***	hairy	8	122	1	2	-1	-7	0.7

* Yield data not collected by Area

** multiply by 0.8 = lb per bushel

*** 2004-2007 data only

No seed of **CDC Bastia** will be available in 2008.

Additional Information:

The seed of annual canarygrass, more commonly called canary seed, is used as food for caged and wild birds. In head to head testing **Elias**, **Keet** and **Cantate** are similar in yield. **Elias** pedigreed seed has not been produced in recent years. Seeds and plants of **CDC Maria**, **CDC Togo** and **CDC Bastia** do not have the small sharp hairs that cause irritation when canary seed is threshed and handled and are called glabrous.

Canary seed plants have a dense, shallow root system and growing the crop on sandy soils is not recommended. Canary seed may be grown successfully on stubble, providing adequate moisture is available for rapid germination and emergence. The recommended seeding rate is 34 kg/ha (30 lb/ac) (germination greater than 85 per cent). Plant the seed 3.5 to 5 cm deep into a firm seedbed.

Canary seed is subject to damage by English grain aphid and bird cherry oat aphid. Aphid populations build up rapidly on leaves, stems and head of the plant in July and August and may require an insecticide application to prevent yield loss. Information from the United States indicates that infestations of 10 to 20 aphids on 50 per cent of the stems prior to soft dough stage may cause enough damage to warrant insecticide application. The aphids often hide in the dense head of the canary seed plant. Damage may occur at populations below these levels.

Canary seed leaf mottle is a foliar disease that can cause yield losses. Leaf mottle is caused by a fungus, *Septoria triseti*, that only affects canary seed. The disease is inconspicuous at early stages because there is little visual contrast between healthy and diseased leaf area. Stubble borne inoculum is the source of infection, thus crop rotation is key in limiting the severity of leaf mottle. Canary seed is resistant to shattering. It may be straight-combined or swathed when fully mature. For more information on canary seed, consult the Saskatchewan Agriculture publication, *Canary Seed in Saskatchewan*.

GENERAL SEED FACTS

Pedigreed Seed

Use certified seed regularly. This assures that the seed has high genetic purity, high germination and is relatively free from weeds and other crop seeds.

Reuse of Hybrid Variety Seed

Seed grown from a hybrid variety (regardless of crop or variety) should not be reused since a 20 to 25% yield reduction can occur in the next generation. This reduction is due to loss of hybrid vigour and possible occurrence of male-sterile plants. Lack of uniformity for maturity and quality traits can also occur.

Seed Cleaning

Seed should be cleaned carefully to remove weed seeds, trash, small or broken kernels, ergot and sclerotia. Not all seed-cleaning plants are equipped to clean grain to acceptable seed standards.

Seed Treatment

Various fungicides have been registered for the control of seedling diseases caused by soil- and seed-borne pathogens.

Use of seed from cereal crops infected with *Fusarium* may result in poor emergence. Such seed should be treated with a registered fungicide before planting. Use of infected seed may introduce *Fusarium* diseases into unaffected areas.

Smuts that attack wheat, barley, oat and rye can be controlled by seed treatment. If seed from a crop in which bunt or smut was observed must be used for seed, seed should be tested and seed treatment should be considered. If the presence of smut is uncertain, varieties rated VERY POOR should be treated every year, those rated POOR every second year and those rated FAIR every third year.

Only systemic fungicides will control true loose smut of barley and wheat, and stem smut of rye. Pathogens causing the other types of smut (covered, false loose, oat smut and bunt) are carried on the outside of the seed and can be controlled by non-

systemic seed treatments.

The virulent form of blackleg of canola is widespread in Saskatchewan. Seed treatment with a recommended fungicide can reduce the level of disease. Use of canola seed commercially coated with an appropriate seed treatment is a convenient alternative to on-farm seed treatment.

Wireworms that attack all grain crops, and flea beetles that attack canola and mustard, can be controlled by seed treatment with insecticides.

Read the label carefully before using any seed treatment or insecticide. Information on their use and recommended rates is found in the Saskatchewan Agriculture publication, *Guide to Crop Protection*. Carryover stocks of treated seed should be tested for germination before planting. Treated seed **must not** be delivered to an elevator or used for feed.

Seed-borne diseases of pulses

Pulse growers should use seed that has been tested for seed-borne diseases such as ascochyta, anthracnose and botrytis. Tolerances for seed infection vary with the pulse crop, the disease, weather conditions of the region and the availability of a seed treatment. If infection of the crop from sources other than seed is likely, using seed with low infection levels becomes less important.

In regions with frequent rainfall and high humidity, tolerances will be lower. Thus, for ascochyta blight of lentil, use of seed with up to 5% seed infection is acceptable in the Brown and Dark Brown Soil Zones, but 0% is desirable in the Black Soil Zone. A seed treatment for ascochyta-infected lentil seed is available and is recommended if seed infection levels approach 5%. In pea, up to 10% seed infection with ascochyta is acceptable. In chickpea, 0% ascochyta seed infection is recommended because of the high rate of transmission of the disease from the seed to the emerging seedlings and its highly destructive nature. Refer to Saskatchewan Agriculture publication, *Guidelines for Seed-Borne Diseases of Pulse Crops*.

Crop Rotation

Seeding into stubble of the same crop kind will increase disease risk, particularly in higher rainfall areas. Residue of infected crops may harbour disease pathogens. Maintain a diverse crop rotation.

Ergot

Ergot attacks all varieties of rye, triticale, wheat and barley, as well as most common grass species. Oat is rarely attacked and all broadleaf species are immune. Grain containing 0.1% ergot is considered poisonous and should not be used for food. Refer to Saskatchewan Agriculture publication, *Ergot of Cereals and Grasses*.

Seed Inoculation

Legume crops obtain much of their nitrogen (N) requirement by forming a symbiotic association with soil bacteria called *Rhizobium*. These bacteria colonize the roots to form structures called nodules where they fix nitrogen for the legume plant. To enhance nitrogen fixation, the legume crop seed should be inoculated. **Use the proper strain of bacteria specific to that crop.** For further details, consult the *Pulse Production Manual* (Saskatchewan Pulse Growers).

Damp and Frozen Seed

Seed which is stored damp or tough may be low in germination and may lack adequate vigour. Grain which will be used for seed should be dried, if necessary, soon after harvest. The drying temperature should be below 37°C for batch driers and 43°C for recirculating and continuous driers. Frozen grain should always be tested for germination by a seed-testing laboratory before planting. Such grain will frequently produce a high percentage of abnormal seedlings.

Wheat Midge

All wheat classes, including durum and triticale, are susceptible to wheat midge. Farmers in infested areas should be prepared to spray fields with recommended insecticides if necessary. Refer to the Saskatchewan Agriculture publication, *Wheat Midge*.

Pulse Crops

2007 Regional Variety Trials

In 2007, the Saskatchewan Pulse Growers and the pulse breeding program at the Crop Development Centre (CDC), University of Saskatchewan continued a 5-year agreement with a budget of \$100,000 per year to conduct the pulse crop regional variety trials in Saskatchewan. The CDC collaborates with researchers at several locations, including Agriculture and Agri-Food Canada research stations, provincial Agri-ARM sites, and the Canada-Saskatchewan Irrigation Diversification Centre, in order to conduct the trials. The project collects data on varieties from the CDC program, as well as those arising from other public or private pulse breeding programs.

In 2007, field pea, lentil, chickpea, and dry bean variety trials were conducted at 8-14 locations per crop in their target areas of adaptation in Saskatchewan. The number of entries per trial was 26 for pea, 24 for lentil, 24 for chickpea, and 17 for dry bean.

Lentil

Main Characteristics of Varieties

Market class	Variety	Years Tested*	Yield % CDC Milestone		Height (cm)	Days to Flower	Maturity Rating	----- Resistance to: -----		Cotyledon Colour	Seed Weight (g/1000)
			Area 1 & 2	Area 3 & 4				Ascochyta Blight	Anthracnose Race 1		
Small green	CDC Milestone	12	100	100	31	49	E	G	VP	yellow	37
	CDC Viceroy	8	103	111	34	49	E	G	G	yellow	33
	Eston	12	88	89	30	48	E	VP	VP	yellow	33
Medium green	CDC Impress CL	2	94	---	34	50	M	G	P	yellow	52
	CDC Meteor	6	106	101	34	50	M	G	VP	yellow	51
	CDC Richlea	11	99	94	35	50	M	VP	VP	yellow	51
	CDC Vantage	11	97	94	33	49	M	G	VP	yellow	52
Large green	Laird	12	76	77	41	53	VL	VP	VP	yellow	67
	CDC Glamis	11	84	83	39	54	VL	G	VP	yellow	60
	CDC Grandora	10	80	84	40	53	VL	G	VP	yellow	69
	CDC Greenland	6	101	93	38	52	ML	G	VP	yellow	64
	CDC Improve CL	3	88	89	39	51	M	F	VP	yellow	67
	CDC Plato	8	91	93	38	52	ML	G	P	yellow	62
	CDC Sedley	9	81	85	39	51	M	F	VP	yellow	68
CDC Sovereign	10	90	88	40	52	L	G	P	yellow	66	
French green	CDC LeMay	6	91	91	35	48	E	F	VP	yellow	32
Small red	CDC Blaze	9	84	82	30	47	E	G	P	red	34
	CDC Impact CL	3	84	85	30	47	E	G	P	red	34
	CDC Maxim CL	2	101	104	34	51	EM	G	G	red	40
	CDC Redberry	5	98	106	34	50	EM	G	G	red	42
	CDC Red Rider	4	103	100	34	52	EM	G	F	red	45
	CDC Rouleau	5	100	108	33	52	M	G	G	red	37
	Crimson	7	85	87	29	49	E	VP	VP	red	35
Extra small red	CDC Impala CL	2	92	104	30	51	E	G	G	red	31
	CDC Robin	10	90	91	30	49	E	G	G	red	30
	CDC Rosetown	6	94	108	31	52	E	G	G	red	31
	CDC Imperial CL	4	91	88	30	49	E	G	G	red	30

* Co-op and Regional Trials in Saskatchewan since 1995. Comparisons to **CDC Milestone**

CL indicates Clearfield variety

Additional Information

Seed supplies are very limited for **CDC Impress CL**, **CDC Maxim CL**, **CDC Red Rider** and **CDC Impala CL**. Seed supplies are limited for **CDC Greenland** and for **CDC Improve CL**. **Indianhead** lentil is a black-seeded variety for green manure use. **CDC Matador** is a brown-seeded variety with yellow cotyledons. **Redchief** is a large red lentil with green seed coat.

Field Pea

Main Characteristics of Varieties

Variety	Years Tested*	Yield as % Cutlass			Leaf Type▼	Relative Maturity▲	Vine Length (cm)	Resistance to:						Seed Coat Dimpling+	Green Seed Coat+	Seed Weight g/1000
		1.2 & South 3	North 3 & 4	Irrigation				Mycosphaerella Bight	Powdery Mildew	Fusarium Wilt	Seed Coat Breakage	Lodging	Bleaching			
Yellow																
Cutlass	8	100	100	100	SL	M	75	F	VG	F	F	G	n/a	F	G	220
Canstar ☼	4	94	99	93	SL	M	85	P	VG	G	F	G	n/a	G	G	240
Carneval ☼	7	81	79	105	SL	M	75	F	P	P	F	G	n/a	---	---	230
CDC Bronco	6	108	104	106	SL	M	75	F	VG	F	G	G	n/a	G	G	230
CDC Centennial	5	106	112	117	SL	E	70	F	VG	F	G	F	n/a	G	F	270
CDC Golden	6	107	102	110	SL	M	85	F	VG	F	G	G	n/a	G	G	230
CDC Handel	5	103	93	110	SL	L	75	P	VG	F	G	F	n/a	G	F	220
CDC Mozart	7	104	101	108	SL	M	70	F	VG	F	G	F	n/a	G	F	220
CDC Meadow	6	105	109	108	SL	E	85	F	VG	F	G	G	n/a	G	G	220
CDC Minuet	5	100	101	---	SL	M	70	F	VG	F	F	F	n/a	G	F	190
DS Admiral ☼	5	93	103	95	SL	E	80	F	VG	F	G	G	n/a	G	G	240
Eclipse ☼	8	98	99	101	SL	M	80	F	VG	P	G	G	n/a	F	G	250
Fusion ☼	4	95	94	98	SL	M	75	F	VG	P	F	G	n/a	F	G	260
Miser ☼	5	99	106	90	SL	M	80	F	VG	F	G	F	n/a	G	G	190
Polstead ☼	4	100	110	97	SL	M	75	P	VG	P	F	G	n/a	G	F	280
Reward ☼	4	96	110	101	SL	M	90	F	VG	F	G	G	n/a	G	F	240
SW Benefit ☼	4	77	82	75	SL	E	80	F	VG	F	F	F	n/a	G	F	200
SW Carousel ☼	5	94	106	106	SL	E	85	F	VG	F	F	G	n/a	G	G	250
SW Cartier ☼	4	97	103	94	SL	E	75	F	VG	G	F	F	n/a	F	F	220
SW Circus ☼	4	95	108	106	SL	E	75	F	P	F	F	G	n/a	F	G	220
SW Capri ☼	4	94	101	---	SL	E	75	F	P	F	F	G	n/a	F	G	210
SW Marquee ☼	5	95	97	102	SL	M	80	F	VG	F	G	G	n/a	G	G	220
SW Midas ☼	5	96	91	105	SL	E	80	F	VG	F	G	G	n/a	G	G	220
Topeka ☼	6	103	96	87	SL	E	65	F	VG	P	G	F	n/a	G	G	260
Tudor ☼	5	94	94	107	SL	M	80	P	VG	F	F	G	n/a	G	F	270
Green																
Bluebird ☼	5	86	90	82	SL	E	65	F	VG	P	G	F	F	F	n/a	250
Camry ☼	5	96	90	94	SL	M	65	F	VG	P	F	G	F	G	n/a	260
CDC Montero	6	91	89	90	SL	M	80	F	VG	F	G	F	F	F	n/a	230
CDC Sage	5	80	84	86	SL	M	80	F	VG	G	G	G	G	F	n/a	220
CDC Striker	8	90	99	97	SL	M	80	F	P	G	VG	G	G	G	n/a	230
Cooper ☼	6	102	97	102	SL	L	80	F	VG	F	F	G	G	G	n/a	270
Cruiser	4	83	81	---	SL	M	75	F	P	F	VG	F	G	G	n/a	200
Majoret ☼	5	72	70	94	SL	M	60	P	P	---	G	G	F	---	n/a	250
Nitouche ☼	7	86	91	95	SL	M	75	F	P	F	G	G	G	F	n/a	250
Stratus ☼	7	105	99	104	SL	M	70	F	VG	P	G	F	F	G	n/a	270
SW Parade ☼	5	91	85	101	SL	M	70	F	VG	G	G	F	F	G	n/a	220
SW Sergeant ☼	5	88	87	90	SL	M	80	F	VG	F	G	G	G	G	n/a	200
Tamora ☼	4	92	84	85	SL	M	80	F	VG	P	F	G	F	G	n/a	290
Toledo	4	80	89	---	SL	M	70	P	P	P	G	G	F	F	n/a	280
Venture	4	89	82	---	SL	E	75	P	P	P	G	F	F	F	n/a	220
Vortex	5	94	99	97	SL	E	75	P	P	F	F	F	G	F	n/a	190
Maple																
CDC Acer	3	100	94	---	SL	L	60	F	VG	---	G	F	n/a	VG	n/a	170
CDC Rocket	2	93	109	98	SL	M	75	F	VG	---	G	F	n/a	VG	n/a	210
Courier	4	90	86	78	SL	M	75	F	P	---	F	P	n/a	VG	n/a	210
Silage																
CDC Sonata	4	102	94	---	N	L	85	F	VG	---	F	F	n/a	F	F	220
CDC Tucker	3	99	104	90	SL	M	85	F	VG	---	F	G	n/a	G	F	170
Trapper	7	68	68	---	N	L	95	P	P	---	F	P	n/a	---	---	130
40-10	2	83	94	---	N	L	100	P	P	---	F	P	n/a	G	---	160

* Co-op and regional trials in Saskatchewan

▼ N=normal leaf type; SL = semi-leafless

▲ Relative Maturity ratings compared to **Cutlass**

♣ Seed coat dimpling: VG = 0-5%; G = 6-20%; F = 21-50%

♦ Green seed coats: Good = 0-10%; Fair = 11-25%

The following varieties have purple flower colour and tannin containing seed coats: **CDC Acer, CDC Rocket, Courier, and 40-10**; all other varieties have white flower colour and colourless seed coats.

Additional Information

For detailed production information consult the *Pulse Production Manual* published by Saskatchewan Pulse Growers.

Chickpea

Characteristics of Kabuli and Desi Chickpea Varieties

KABULI Variety	Years Tested	---- Yield (% Amit) ----		Leaf Type**	Ascochyta Blight	Height (cm)	Days to Flower	Maturity	Seed Weight (g/1000)
		Area 1*	Area 2*						
Amit (B-90) ☼	10	100	100	F	F	47	56	L	260
Sanford	9	69	68	U	VP	50	57	VL	415
CDC ChiChi	5	76	84	F	P	45	53	L	385
CDC Chico	7	95	101	F	P	45	51	M	265
CDC Diva	4	69	71	U	VP	45	52	L	490
CDC Frontier	7	106	108	F	F	44	56	L	360
CDC Xena	9	75	81	U	VP	44	54	L	464
CDC Yuma	7	78	79	F	P	50	53	VL	410

DESI Variety	Years Tested	---- Yield (% Myles) ----		Leaf Type**	Ascochyta Blight	Height (cm)	Days to Flower	Maturity	Seed Weight (g/1000)	Seed Shape♦	Seed Coat Colour▼
		Area 1*	Area 2*								
Myles	11	100	100	F	F	40	51	M	191	A	T
CDC Anna	8	108	113	F	F	40	52	L	210	P	T
CDC Cabri	9	112	114	F	F	44	50	M	291	P	T
CDC Desiray	7	97	108	F	F	35	49	M	210	P	LT
CDC Nika	6	97	104	F	F	40	50	L	320	P	T

* Area 1: brown soil zone; Area 2: dark brown soil zone

** Leaf type: F = fern; U = unifoliate

♦ Seed shape: P = plump; A = angular

▼ Seed coat colour: T = tan; LT = light tan

Additional Information

Certified Seed of **CDC Frontier**, **CDC Yuma**, **CDC Xena**, **CDC Chico**, **CDC Diva**, **CDC Desiray**, **CDC Anna**, **CDC Nika** and **CDC Cabri** will be available in 2008. For more details on production consult the Pulse Production Manual published by the Saskatchewan Pulse Growers (website: www.saskpulse.com).

Dry Bean

Main Characteristics of Varieties

Variety	Type	Years Tested*	---- Yield % of CDC Pintium ----			Days to Flower	Maturity Rating	% Pod Clearance▲	Seed Weight (g/1000)	Growth Habit‡
			Irrigation	Area 2	Area 3					
CDC Pintium	pinto	11	100	100	100	50	E	80	350	I
CDC Camino	pinto	6	97	86	76	52	L	81	323	I
CDC Minto	pinto	8	91	101	100	51	M	62	410	III
CDC Pinnacle	pinto	6	102	103	98	53	L	67	352	III
Othello	pinto	6	96	96	89	52	L	51	323	III
Envoy	navy	6	73	79	86	53	M	73	184	I
CDC Whitecap	navy	6	88	88	87	56	M	75	194	II
Cruiser	navy	5	73	85	97	54	L	69	164	II
AC Polaris	great northern	6	96	98	95	52	L	70	310	III
CDC Polar Bear	great northern	5	95	87	77	52	L	65	339	III
US 1140	great northern	7	88	87	81	51	L	53	289	III
Viva	pink	4	94	102	80	51	L	50	242	III
AC Redbond	small red	7	95	102	97	51	M	65	290	II
AC Black Diamond	black	6	102	95	94	54	M	70	250	II
CDC Espresso	black	10	65	78	74	47	M	87	191	I
CDC Jet	black	7	74	89	95	58	L	80	175	II

* Co-op and regional trials grown in narrow rows. Direct comparisons to **CDC Pintium** since 1996

▲ Pod clearance: percentage of pods that completely clear the cutterbar at time of swathing

‡ Growth habit: I = determinate bush; II = indeterminate bush; III = indeterminate vine

Faba Bean

Main Characteristics of Varieties

Variety	Years Tested	-- Yield % of Outlook --		Maturity in days	Seed Weight (g/1000)
		(Northeast Dryland)	(South-Central Irrigated)		
Outlook	15	100	100	109	360
Aladin	15	104	110	112	400
CDC Blitz	6	101	105	109	410
CDC Fatima	8	100	104	105	520
Orion	6	95	94	103	350
Scirocco	3	96	110	107	550

Additional Information

Faba bean regional trials were started again beginning in 2006 to accommodate growing interest in this crop as a nitrogen-fixing high protein feed grain in moist areas where producers experience problems with pea diseases. White-flowered types are the only varieties that are zero tannin. **Snowbird** is the only white-flowered (zero tannin) variety with wide seed availability for spring of 2008. All coloured flower types have seed coats that contain tannins and are considered suitable for export food markets if seed size and quality match customer demand.

Oilseed Crops

Flax

Main Characteristics of Varieties

Variety	Years Tested	----- Yield as % of CDC Bethune* -----			Relative Maturity♣	Seed Size	-----Resistance to-----	
		Area 1 & 2	Area 3 & 4	Irrigation			Lodging	Powdery Mildew
CDC Bethune ☼	10	100	100	100	L	M	G	F
CDC Arras	10	95	92	92	M	L	F	P
Hanley ☼	4	90	90	93	M	M	G	F
Lightning ☼	6	92	92	93	L	M	G	F
Macbeth ☼	4	91	93	94	L	M	G	F
CDC Mons	4	99	96	93	L	S	G	F
CDC Normandy	6	91	93	89	M	M	F	P
Prairie Blue ☼	4	99	92	97	L	S	VG	F
Prairie Grande ☼	5	92	94	92	M	M	VG	F
Prairie Thunder ☼	5	96	96	101	M	M	VG	F
CDC Sorrel ☼	5	99	107	89	L	L	G	F
Taurus ☼	6	94	99	94	M	M	G	F
Vimy	10	94	90	85	M	L	P	P
AC Watson ☼	6	88	93	92	M	M	G	F

* Data from Regional and Co-op trials

♣ Relative maturity: The relative maturity of the check, **CDC Bethune**, is L (on average 101 days from seeding to swathing ripeness)

Additional Information:

All varieties are resistant to rust and moderately resistant to Fusarium wilt.

No seed of **Prairie Grande** will be available in 2008.

Frozen flax should be analyzed by a feed testing laboratory to determine that it is free of prussic acid before using it as a livestock feed.

Sunflower (Oilseed)

Main Characteristics of Varieties

Variety	Years Tested	Yield % of 63A70	Average Maturity	Oil %*
63A70	8	100	124	48.7
63M02**	5	96	122	49.4

* Dry Basis

**Mid oleic NuSun

Sunflower (Oilseed) EMSS

Main Characteristics of Varieties

Variety	Years Tested	Yield (kg/ha) (9 yr avg.)	Average Maturity	Oil %*
63A21	9	2255	115	46.9

* Dry Basis

Sunflower

Sunflower requires 105-125 days to mature, depending on the cultivar and the growing season. Oilseed sunflower has been grown in the Dark Brown and Black soil zones in southeastern Saskatchewan. The earlier maturing, short stature (EMSS) varieties are adapted to production in most areas of Saskatchewan.

The Saskatchewan Sunflower Committee has been conducting trials in Saskatchewan for the purpose of registration and demonstration since 1983. Varieties that have been tested in official Saskatchewan Sunflower Committee trials for three years, continue to be tested and are registered for production in Canada are placed on the list.

The Committee has been testing NuSun, a sunflower with a fatty acid profile desired by major frying companies. There will be additional acres of oilseed sunflower required to address the increased birdseed market.

Mustard

Main Characteristics of Varieties*

Type and Variety	Yield % of AC Pennant	Plant Height (cm)	Mucilage‡ cS*ml/g Seed	Protein % Seed	Fixed Oil % Seed	Seed Weight (g/1000)
Yellow						
AC Pennant	100	95	36.5	35.0	29.5	5.74
AC Base	101	99	34.9	35.0	29.4	5.96
Ace	99	101	41.5	35.8	29.1	5.58
Andante	100	100	45.2	36.0	28.4	6.20

Type and Variety	Yield % of AC Pennant	Plant Height (cm)	Volatile Oil§ mg/g Seed	Protein % Seed	Fixed Oil % Seed	Seed Weight (g/1000)
Oriental						
	Yield % of Cutlass					
Cutlass	100	114	10.8	29.2	41.9	2.72
Forge	95	126	11.7	29.8	39.3	2.47
AC Vulcan	97	116	11.9	29.7	41.5	2.77
Brown						
	Yield % of Commercial Brown					
Commercial Brown	100	112	8.8	28.6	38.9	2.56
Centennial Brown	102	117	9.5	29.7	37.4	2.94
Duchess ♣	101	113	8.9	28.5	39.0	2.65

* All varieties are tested at all locations from Areas 1 and 2 (Yield and height from the 1999 - 2007 Co-operative Mustard Test and quality data from the 1999 - 2006 Co-operative Mustard test)

‡ Mucilage is a measure of viscosity

♣ Volatile Oil as allyl isothiocyanate glucosinolate

Additional Information

Mustard

Three types of mustard are grown in western Canada: Yellow (*Sinapis alba*), Brown and Oriental (*Brassica juncea*). Mustard is typically grown under contract, where the contractor specifies the variety to be grown to meet industry specifications for product quality. Mustard varieties mature in 88-90 days. All mustard varieties have good resistance to blackleg disease.

All four yellow mustard varieties have similar yield. **AC Pennant** has shorter straw (95 cm) while newer varieties are slightly taller. A unique feature of yellow mustard is high mucilage content. Mucilage is valued by the mustard industry as a stabilizer in prepared food products. **Andante** has the highest mucilage content. High protein content is of importance for yellow mustard flour as an ingredient in meat products. The protein contents of **Andante** and **Ace** are significantly higher than **AC Pennant** and **AC Base**, with corresponding lower fixed oil content. **Andante** and **AC Base** have significantly higher seed weight than **AC Pennant**, with **Ace** having smaller seed.

Three varieties of Oriental mustard are available for production. **AC Vulcan** and **Forge** have similar yield. **Forge** is the tallest variety. **AC Vulcan** has the highest volatile oil content. All three varieties have similar protein content with **Forge** having significantly lower fixed oil content and smaller seed. **Cutlass** and **AC Vulcan** are resistant to white rust disease (race 2a) while **Forge** is susceptible.

Brown mustard is grown primarily for the Dijon mustard market. **Centennial Brown**, the newest variety, has significantly higher volatile oil and protein content, as well as lower fixed oil. It is also larger seeded than **Commercial Brown** or **Duchess**. All brown mustard varieties are highly susceptible to white rust disease (staghead).

The canola table and report, as presented, was provided by the Canola Council of Canada.

Canola													
Main Characteristics of Varieties													
2007 PCVT All Season Zone Summary			2007 Yield % of 45H21, 5020				Days to Maturity			Height	Lodging		
B. napus							+/- days to 45H21, 5020						
(Argentine)			Zones (Station Years)				Zones						
Organization	Checks	Type	Short (8)	Mid (14)	Long (11)	All Zone	short	mid	long	All Zone	+/- inches	rating +="better"	Blackleg Rating
	45H21, 5020						0	0	0	0	0	0	
	Conventional												
Pioneer-HiBred	46A65	OP	83			83	2			2	0	0	R
	Clearfield Res.												
Agriprogress/Lembke	30314-A5 *	Hyb		99	91	96	2	1		2	1	0	MR
BrettYoung	5843	OP	84	81	75	80	1	1	1	1	0	0	MR
Canterra Seeds	1651 H	Hyb	100	94	88	93	3	2	2	2	2	0	R
Monsanto Canada	71-30CL	Hyb	99	98	98	98	1	1	1	1	2	0	R
Pioneer-HiBred	45H73	Hyb	98	99	98	98	0	1	0	0	1	0	R
Viterra/Proven Seed	45P70	Hyb	100	103	103	102	1	1	0	1	2	0	R
Agriprogress Inc.	SP 761 CL	Hyb		95	87	92		3	3	3	2	0	MR
Viterra/Proven Seed	SP Force CL	OP	84	84	80	82	4	3	3	3	1	0	R
	Liberty Res.												
Bayer Crop Science	05RHY/959 ***	Hyb	105	101	103	103	1	0	0	0	0	0	R
Bayer Crop Science	1143 **	Hyb	99	99	97	98	1	0	1	0	1	0	R
Bayer Crop Science	5020	Hyb	104	101	98	101	0	-1	-1	-1	-1	0	R
Bayer Crop Science	5030	Hyb	114	114	114	114	2	2	1	2	6	1	R
Bayer Crop Science	5070	Hyb	108	111	115	111	1	2	1	2	4	0	R
Bayer Crop Science	5440	Hyb	113	116	117	115	2	2	1	2	2	1	R
Bayer Crop Science	8440	Hyb	105	107	109	107	1	0	1	1	-1	0	R
Bayer Crop Science	9590	Hyb	107	108	106	107	1	1	1	1	2	0	R
	Roundup Res												
BrettYoung	4414RR	Hyb	91	88	87	88	2	2	2	2	1	0	R
BrettYoung	4362RR	Hyb	91	89	79	86	1	0	1	0	1	0	MR
Canterra Seeds	1759S	Syn		93		93		1		1	0	0	MR
Canterra Seeds	1768 S	Syn	97	97		97	1	2		2	1	0	MR
Canterra Seeds	1818	OP	94	89	81	88	4	3	1	3	-3	0	R
Canterra Seeds	1839V	OP	84			84	0			0	-6	0	MR
Canterra Seeds	1841	Hyb		98	94	96		4	3	3	4	0	R
Canterra Seeds	1847V	OP	90	85		87	2	3		3	0	0	R
Canterra Seeds	1852H	Hyb	93	95		94	1	0		0	3	0	R
Canterra Seeds	1855H	Hyb		95		95		1		1	3	0	R
Canterra Seeds	1896	Hyb	88	84		85	1	0		1	0	0	R
Cargill	v1035 **	Hyb	101	102	98	100	1	1	0	1	-1	0	R
Cargill	v2018 **	Hyb	91	99	97	96	2	3	2	3	2	0	MR
FarmPure Seeds Inc.	93H01 RR	Hyb	97	97	92	95	3	2	2	2	3	0	MR
FarmPure Seeds Inc.	83S01 RR	Syn	90	94	88	91	2	0	0	1	1	0	MR
Monsanto Canada	71-45RR	Hyb	96	101	95	98	0	0	0	0	0	0	MR
Pioneer-HiBred	43H57	Hyb	83	80		81	-4	-3		-4	-2	0	MR
Pioneer-HiBred	45H21	Hyb	96	99	102	99	0	1	1	1	1	0	R
Pioneer-HiBred	45H24	Hyb	99	96	95	96	1	0	0	0	3	0	R
Pioneer-HiBred	45H25	Hyb	97	93	91	93	-1	0	0	0	3	0	R
Pioneer-HiBred	45H26	Hyb	102	102	99	101	1	1	1	1	2	0	R
Secan	Café	OP	83	78	68	76	-2	-2	-2	-2	-3	0	R
Secan	RUGBY	OP	95	90	85	89	2	1	0	1	0	0	R
Viterra/Proven Seed	SP Desirable RR	Syn	95	87	83	88	-1	-1	-1	-1	0	0	R
Viterra/Proven Seed	SP Banner RR	OP	87	82	74	80	1	0	0	1	0	0	R
Viterra/Proven Seed	SP 621 RR	Hyb	91	94	87	91	0	0	0	0	0	0	MR
Viterra/Proven Seed	SW-PI H02-0474*	Syn	94	94	92	94	1	1	1	1	2	0	MR
Viterra/Proven Seed	46P50	Hyb	102	104	101	103	3	3	2	3	3	0	R
Viterra/Proven Seed	SP Favourable RR	Syn	95	99	95	97	2	3	2	2	2	0	MR
Viterra/Proven Seed	43A56	OP	80	75		77	-3	-4		-4	-2	0	MR
Viterra/Proven Seed	9551	OP	92	89	85	89	3	2	2	2	2	0	MR

* Not registered

** Specialty oil

Type: OP - open pollinated; Syn - synthetic; and Hyb - hybrid

PCVT information is available on-line at www.canola-council.org

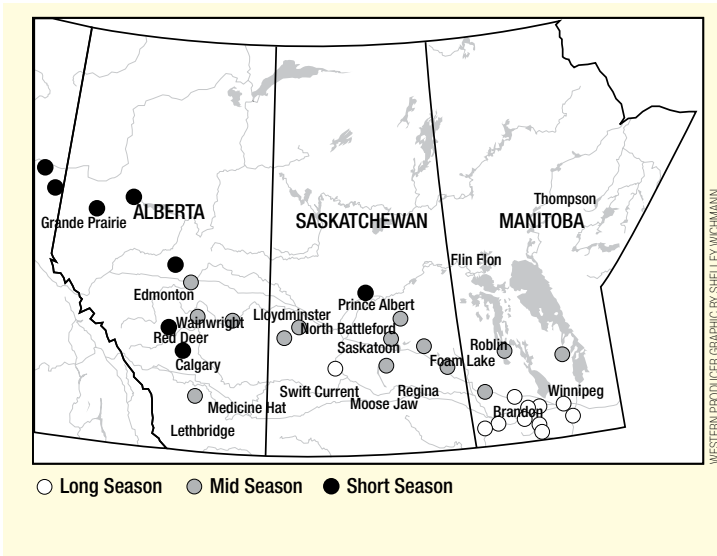
Additional Information

The Prairie Canola Variety Testing (PCVT) program entered its fifth year in 2007. The testing system unites the provincial variety testing programs to standardize protocol and improve trial consistency and quality. Now growers can look to a single source of information on how a canola variety performed in three different zones across western Canada. The Canola Council of Canada, canola seed industry, WCC/RRC, Saskatchewan Ministry of Agriculture, Manitoba Agriculture Food and Rural Initiatives, Alberta Agriculture, Food and Rural Development, Agriculture and Agri-Food Canada contributed to the development and operation of the PCVT.

Trials were conducted by seed companies, government researchers and independent contractors in three growing zones across the prairies: short-, mid- and long-season zones (see map). Varietal characteristics appear in the table. It is important to note that this table represents data collected in one year only (2007). Interpreting PCVT information: Use the map to identify your zone of adaptation. For site-specific data please refer to the Canola Digest or the Canola Council of Canada website. Don't limit your search to the areas closest to you. Comparing local results to other locations with similar growing conditions can also be valuable.

The table shows variety yield as a percent relative to the check varieties. Although variety trials are carefully conducted, small percentage differences (e.g. <5%) in yield are usually insignificant. The table includes information on maturity, resistance to lodging, blackleg resistance, varietal type (open-pollinated, hybrid, synthetic) and herbicide tolerance. Use this information in addition to yield to choose a variety.

2007 PCVT Locations:



Argentine Canola

Argentine varieties mature two weeks later than Polish varieties and are therefore better suited to the mid- and long-season growing areas of Saskatchewan. Blackleg disease, which is now widespread in Saskatchewan, can cause severe yield losses in varieties that are susceptible (S). Argentine varieties are susceptible to seed shattering when left standing at full maturity. Later maturing varieties tend to produce higher levels of green seed under wet and cool conditions at harvest, which can cause substantial grade reductions. The control of herbicide tolerant canola volunteers requires good agronomic practice such as proper crop and herbicide rotation.

Polish Canola

Polish varieties mature approximately two weeks earlier than Argentine varieties and are therefore less likely to produce green seed. Polish varieties are more heat and drought tolerant than Argentine varieties. They are also more shatter resistant than Argentine varieties and are therefore well suited to straight combining.

In 2005, three varieties were tested in the PCVT. ACSunbeam is available through SeCan members. ACS-C7 is available through the Seidle Seed Farm or authorized seed dealers. ACS-C7 is a synthetic variety with fair resistance to blackleg. AC Sunbeam is an open-pollinated variety. SW SPIRITRIVER is an open-pollinated variety available through Peace Pedigreed Seed.

Brassica juncea Canola

Brassica juncea canola is a new class of canola that is adapted to the brown and dark brown soil zones. It has very good resistance to blackleg and exhibits better heat and drought tolerance than other canolas. Juncea canola has shattering resistance similar to Polish canola, and is therefore well suited to straight combining. All production is contracted. The first two varieties, Arid and Amulet, yield approximately 112% of AC Excel(Argentine) in their zone of adaptation. The variety Dahinda yields about 103% of Arid and Amulet. A new variety, Estlin, has excellent lodging resistance and yields 110% of Arid and Amulet. Limited seed will be available in 2008.

The Canola POD The Canola POD, or Performance Online Database (<http://www.canola-council.org/pod>), was developed by the Canola Council of Canada to allow farmers to explore canola performance trial results from a broad range of sources in their own area. In addition to the Prairie Canola Variety Trial results, POD provides access to private seed company performance trial information which often includes more detailed information, such as notes on site management.

Breeding Institutions and Seed Distributors of Varieties Listed in this Publication

Crop Kind, Class & Variety	Breeding Institution	Distributor
WHEAT		
Bread Wheat		
5601HR ☼	Agripro / Viterra	Viterra / Proven Seed
5602HR ☼	Agripro / Viterra	Viterra / Proven Seed
AC Abbey ☼	AAFC (Swift Current)	CANTERRA SEEDS
Alvena ☼	AAFC (Swift Current)	SeCan Members
CDC Abound ☼	U of S - CDC	
CDC Alsask ☼	U of S - CDC	Viterra / Proven Seed
AC Barrie ☼	AAFC (Swift Current)	SeCan Members
CDC Bounty	U of S - CDC	CANTERRA SEEDS
AC Cadillac ☼	AAFC (Swift Current)	FarmPure Seeds Inc.
AC Domain	AAFC (Winnipeg)	SeCan Members
AC Eatonia	AAFC (Swift Current)	Willms Seeds (AB)
AC Elsa ☼	AAFC (Swift Current)	SeCan Members
CDC Go	U of S - CDC	Public
Goodeve VB ☼	AAFC (Swift Current)	FarmPure Seeds Inc.
Harvest ☼	AAFC (Winnipeg)	FarmPure Seeds Inc.
Helios ☼	AAFC (Swift Current)	Friendly Acres Seed Farm Inc.
CDC Imagine ☼	U of S - CDC	Viterra / Proven Seed
Infinity ☼	AAFC (Swift Current)	CANTERRA SEEDS
AC Intrepid ☼	AAFC (Swift Current)	CANTERRA SEEDS
Journey ☼	Viterra / Proven Seed	Viterra / Proven Seed
Kane ☼	AAFC (Winnipeg)	SeCan Members
Katepwa	AAFC (Winnipeg)	SeCan Members
Lillian ☼	AAFC (Swift Current)	SeCan Members
Lovitt ☼	AAFC (Swift Current)	CANTERRA SEEDS
McKenzie	Viterra / Proven Seed	Viterra / Proven Seed
CDC Osler	U of S - CDC	Public
Peace	AAFC (Winnipeg)	CANTERRA SEEDS
Prodigy	Viterra / Proven Seed	Viterra / Proven Seed
Somerset ☼	AAFC (Winnipeg)	SeCan Members
AC Splendor	AAFC (Winnipeg)	SeCan Members
Superb ☼	AAFC (Winnipeg)	SeCan Members
CDC Teal	U of S - CDC	FarmPure Seeds Inc.
Unity VB ☼	AAFC (Winnipeg)	SeCan Members
Waskada ☼	AAFC (Winnipeg)	SeCan Members
Canada Western Extra Strong		
Burnside	AAFC (Winnipeg)	Faurschou Farms Ltd.
CDC Rama	U of S - CDC	FarmPure Seeds Inc.
CDC Walrus	U of S - CDC	Public
Canada Prairie Spring Wheat		
5700PR ☼	Agripro / Viterra	Viterra / Proven Seed
5701PR ☼	Agripro / Viterra	Viterra / Proven Seed
AC Crystal ☼	AAFC (Swift Current)	SeCan Members
Snowwhite475 ☼	AAFC (Swift Current)	FarmPure Seeds Inc.
Snowwhite476 ☼	AAFC (Swift Current)	FarmPure Seeds Inc.
AC Taber	AAFC (Swift Current)	SeCan Members
AC Vista ☼	AAFC (Swift Current)	FarmPure Seeds Inc.
Hard White Spring Wheat		
Kanata ☼	AAFC (Winnipeg)	FarmPure Seeds Inc.
Snowbird ☼	AAFC (Winnipeg)	FarmPure Seeds Inc.
Snowstar ☼	AAFC (Winnipeg)	SeCan Members
Durum		
AC Avonlea ☼	AAFC (Swift Current)	FarmPure Seeds Inc.
Commander ☼	AAFC (Swift Current)	Viterra / Proven Seed
Kyle	AAFC (Swift Current)	SeCan Members
Napoleon ☼	AAFC (Winnipeg)	CANTERRA SEEDS
AC Navigator ☼	AAFC (Swift Current)	Viterra / Proven Seed
Strongfield ☼	AAFC (Swift Current)	SeCan Members

Crop Kind, Class & Variety	Breeding Institution	Distributor
Soft White Spring Wheat		
AC Andrew	AAFC (Lethbridge)	SeCan Members
Bhishaj	AAFC (Lethbridge)	Tony Crooymans
Winter Wheat		
AC Bellatrix	AAFC (Lethbridge)	FarmPure Seeds Inc.
CDC Buteo	U of S - CDC	SeCan Members
CDC Clair	U of S - CDC	SeCan Members
CDC Falcon	U of S - CDC	SeCan Members
CDC Harrier	U of S - CDC	SeCan Members
CDC Kestrel	U of S - CDC	SeCan Members
McClintock ☼	U of M (Winnipeg)	CANTERRA SEEDS
CDC Osprey	U of S - CDC	CANTERRA SEEDS
Radiant ☼	AAFC (Lethbridge)	CANTERRA SEEDS
CDC Raptor	U of S - CDC	SeCan Members
Rye		
Hazlet	AAFC (Swift Current)	SeCan Members
Prima	AAFC (Swift Current)	SeCan Members
AC Remington	AAFC (Swift Current)	Viterra / Proven Seed
AC Rifle	AAFC (Swift Current)	CANTERRA SEEDS
Triticale		
AC Alta	AAFC (Swift Current)	Progressive Seeds
Bobcat ☼	AAF (Lacombe)	Progressive Seeds
Bunker ☼	AAF (Lacombe)	FarmPure Seeds Inc.
AC Certa	AAFC (Swift Current)	Progressive Seeds
AC Copia	AAFC (Swift Current)	FarmPure Seeds Inc.
Fridge	Elliot Plant Breeding	FarmPure Seeds Inc.
Pika	AAF (Lacombe)	Progressive Seeds
Pronghorn	AAF (Lacombe)	Progressive Seeds
Tyndal ☼	AAF (Lacombe)	SeCan Members
AC Ultima	AAFC (Swift Current)	FarmPure Seeds Inc.
MALTING BARLEY		
Two-Row		
Calder ☼	AAFC (Brandon)	SeCan Members
CDC Copeland ☼	U of S - CDC	SeCan Members
Harrington	U of S - CDC	SeCan Members
CDC Kendall ☼	U of S - CDC	Viterra / Proven Seed
Merit ☼	Bush Ag Res. Inc.	Viterra / Proven Seed
AC Metcalfe ☼	AAFC (Brandon)	FarmPure Seeds Inc.
Newdale ☼	AAFC (Brandon)	FarmPure Seeds Inc.
CDC Select ☼	U of S - CDC	Viterra / Proven Seed
Six-Row		
CDC Battleford ☼	U of S - CDC	SeCan Members
CDC Clyde ☼	U of S - CDC	Viterra / Proven Seed
Excel	U of Minnesota	Viterra / Others
Lacey ☼	U of Minnesota	FarmPure Seeds Inc.
CDC Laurence ☼	U of S - CDC	
Legacy ☼	Bush Ag Res. Inc.	Viterra / Proven Seed
		FarmPure Seeds Inc.
		Cargill Seed, Others
Robust	U of Minnesota	
CDC Springside ☼	U of S - CDC	
CDC Tisdale	U of S - CDC	FarmPure Seeds Inc.
Tradition ☼	Bush Ag Res. Inc.	Viterra / Proven Seed
		FarmPure Seeds Inc.
CDC Yorkton ☼	U of S - CDC	CANTERRA SEEDS

Crop Kind, Class & Variety	Breeding Institution	Distributor
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FEED BARLEY

Crop Kind, Class & Variety	Breeding Institution	Distributor
Feed		
Alston *	Hyland Seeds	Viterra / Proven Seed
CDC Bold	U of S - CDC	CANTERRA SEEDS
Champion *	WestBred, LLC.	Viterra / Proven Seed
CDC Coalition *	U of S - CDC	CANTERRA SEEDS
CDC Cowboy *	U of S - CDC	SeCan Members
CDC Dolly	U of S - CDC	SeCan Members
Formosa	ACS Ltd.	FarmPure Seeds Inc.
CDC Helgason	U of S - CDC	SeCan Members
AC Lacombe	AAFC (Lacombe)	SeCan Members
Manny	AAF (Lacombe)	SeCan Members
McLeod	WestBred, LLC.	Viterra / Proven Seed
CDC Mindon *	U of S - CDC	SeCan Members
Niobe	AAF (Lacombe)	SeCan Members
Niska	AAF (Lacombe)	CANTERRA SEEDS
Ponoka	AAF (Lacombe)	SeCan Members
AC Rosser	AAFC (Brandon)	SeCan Members
Sundre *	AAF (Lacombe)	Mastin Seeds
CDC Trey	U of S - CDC	FarmPure Seeds Inc.
Trochu	AAF (Lacombe)	SeCan Members
Vivar	AAF (Lacombe)	SeCan Members
Xena	Viterra / WestBred, LLC.	Viterra / Proven Seed

Hullless

AC Bacon	AAFC (Brandon)	SeCan Members
CDC Freedom	U of S - CDC	SeCan Members
CDC McGwire	U of S - CDC	SeCan Members
Peregrine	AAF (Lacombe)	Progressive Seeds Ltd.

Forage

Binscarth	AAFC (Brandon)	Wagon Wheel Seeds
CDC Cowboy *	U of S - CDC	SeCan Members
Dillon	WestBred, LLC.	Viterra / Proven Seed
AC Ranger	AAFC (Brandon)	FarmPure Seeds Inc.
Stockford	WestBred, LLC.	Viterra / Proven Seed
Westford	WestBred, LLC.	Viterra / Proven Seed

Food Barley

CDC Alamo	U of S - CDC	Viterra / Proven Seed
CDC Candle	U of S - CDC	Viterra / Proven Seed
CDC Fibar	U of S - CDC	Viterra / Proven Seed
Merlin	WestBred, LLC.	Viterra / Proven Seed
CDC Rattan	U of S - CDC	Viterra / Proven Seed
Millhouse	AAFC (Brandon)	FarmPure Seeds Inc.

OAT

7600 M *	Viterra / Proven Seed	Viterra / Proven Seed
CDC Baler	U of S - CDC	FarmPure Seeds Inc.
CDC Bell	U of S - CDC	Viterra / Proven Seed
SW Betania	SW Seed Ltd.	Viterra / Proven Seed
CDC Boyer	U of S - CDC	SeCan Members
Boudrias	AAFC (Lacombe)	FarmPure Seeds Inc.
Bullion	SW Seed Ltd.	Viterra / Proven Seed
Calibre	U of S - CDC	SeCan Members
CDC Dancer	U of S - CDC	FarmPure Seeds Inc. / Cargill
Derby	U of S - CDC	Viterra / Proven Seed
Furlong	AAFC (Winnipeg)	CANTERRA SEEDS / Cargill
AC Gwen	AAFC (Winnipeg)	SeCan Members
HiFi	North Dakota State University	Seed Depot
Jordan	AAFC (Winnipeg)	SeCan Members
Lee Williams	AAFC (Lacombe)	CANTERRA SEEDS
Leggett	AAFC (Winnipeg)	FarmPure Seeds Inc.
Lu	AAFC (Lacombe)	SeCan Members
AC Morgan	AAFC (Lacombe)	SeCan Members
Murphy	AAFC (Lacombe)	SeCan Members
AC Mustang	AAFC (Lacombe)	Mastin Seeds
CDC Orrin	U of S - CDC	FarmPure Seeds Inc.
Pinnacle	AAFC (Winnipeg)	FarmPure Seeds Inc.
CDC ProFi	U of S - CDC	FarmPure Seeds Inc.
Ronald	AAFC (Winnipeg)	SeCan Members
CDC Sol-Fi *	U of S - CDC	Viterra / Proven Seed
Triactor *	Svalof Weibull AB	CANTERRA SEEDS
CDC Weaver	U of S - CDC	FarmPure Seeds Inc.

CANARY SEED

CDC Bastia	U of S - CDC	
Cantate		Hansen Seeds
Elias	U of Minnesota; U of S - CDC	Public
Keet	U of Minnesota; U of S - CDC	Public
CDC Maria	U of S - CDC	C. Special Crops
CDC Togo	U of S - CDC	CANTERRA SEEDS

Crop Kind, Class & Variety	Breeding Institution	Distributor
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SAFFLOWER

Saffire	AAFC (Lethbridge)	Jerry Kubic (AB)
AC Sunset	AAFC (Lethbridge)	Viterra / Proven Seed

LENTIL

CDC Blaze	U of S - CDC	Sask. Pulse Growers
Crimson	USDA / Washington State U	Public
Eston	U of S - CDC	SeCan Members
CDC Glamis	U of S - CDC	Sask. Pulse Growers
CDC Grandora	U of S - CDC	Sask. Pulse Growers
CDC Greenland	U of S - CDC	Sask. Pulse Growers
CDC Impact CL	U of S - CDC	Sask. Pulse Growers
CDC Impala CL	U of S - CDC	
CDC Imperial CL	U of S - CDC	Sask. Pulse Growers
CDC Impress CL	U of S - CDC	
CDC Improve CL	U of S - CDC	Sask. Pulse Growers
Indian Head		
Laird	U of S - CDC	SeCan Members
CDC LeMay	U of S - CDC	Sask. Pulse Growers
CDC Matador	U of S - CDC	
CDC Maxim CL	U of S - CDC	
CDC Meteor	U of S - CDC	Sask. Pulse Growers
CDC Milestone	U of S - CDC	Sask. Pulse Growers
CDC Plato	U of S - CDC	Sask. Pulse Growers
CDC Redberry	U of S - CDC	Sask. Pulse Growers
Red Chief		
CDC Red Rider	U of S - CDC	
CDC Richlea	U of S - CDC	SeCan Members
CDC Robin	U of S - CDC	Sask. Pulse Growers
CDC Rosetown	U of S - CDC	Sask. Pulse Growers
CDC Rouleau	U of S - CDC	Sask. Pulse Growers
CDC Sedley	U of S - CDC	Sask. Pulse Growers
CDC Sovereign	U of S - CDC	Sask. Pulse Growers
CDC Vantage	U of S - CDC	Sask. Pulse Growers
CDC Viceroy	U of S - CDC	Sask. Pulse Growers

FIELD PEA

40-10	SWS, Germany	FarmPure Seeds Inc.
CDC Acer	U of S - CDC	Sask. Pulse Growers
DS Admiral	Danisco Seeds	FarmPure Seeds Inc.
SW Benefit	Svalof Weibull	Nordicks Norsask
Bluebird	Limagrain Advanta	Bob Park - Lacombe, AB
CDC Bronco	U of S - CDC	Sask. Pulse Growers
Camry	Limagrain Advanta	FarmPure Seeds Inc.
Canstar	AAFC	Canseed
SW Capri	SW Seed Ltd.	CANTERRA SEEDS
Carneval	SW Seed Ltd.	Viterra / Proven Seed
SW Carousel	Svalof Weibull VB	FarmPure Seeds Inc.
SW Cartier	Svalof Weibull	CANTERRA SEEDS
CDC Centennial	U of S - CDC	Sask. Pulse Growers
SW Circus	SW Seed Ltd.	Secan Members
Cooper	Limagrain Advanta	CANTERRA SEEDS
Courier	NZ Crop & Food	CANTERRA SEEDS
Cruiser		
Cutlass	AAF / CDC	Sask. Pulse Growers
Eclipse	Limagrain Advanta	FarmPure Seeds Inc.
Fusion	Limagrain Advanta	CANTERRA SEEDS
CDC Golden	U of S - CDC	Sask. Pulse Growers
CDC Handel	U of S - CDC	Sask. Pulse Growers
MAJORET	Svalof Weibull BV	FarmPure Seeds Inc.
SW Marquee	SW Seed Ltd.	Viterra / Proven Seed
CDC Meadow	U of S - CDC	Sask. Pulse Growers
SW Midas	Svalof Weibull BV	FarmPure Seeds Inc.
Miser	AAFC (Morden)	FarmPure Seeds Inc.
CDC Minuet	U of S - CDC	Sask. Pulse Growers
CDC Montero	U of S - CDC	Sask. Pulse Growers
CDC Mozart	U of S - CDC	Sask. Pulse Growers
NITOUCHE	DLF Trifolium (Denmark)	FarmPure Seeds Inc.
SW Parade	SW Seed Ltd.	Viterra / Proven Seed
Polstead	Limagrain Advanta	FarmPure Seeds Inc.
Reward	AAFC (Lacombe)	SeCan members
CDC Rocket	U of S - CDC	Sask. Pulse Growers
CDC Sage	U of S - CDC	Sask. Pulse Growers
SW Sergeant	Svalof Weibull	FarmPure Seeds Inc.
CDC Sonata	U of S - CDC	Sask. Pulse Growers
Stratus	Limagrain Advanta	CANTERRA SEEDS
CDC Striker	U of S - CDC	Sask. Pulse Growers
Tamora	Limagrain Advanta	FarmPure Seeds Inc.
TOLEDO	Limagrain Advanta	CANTERRA SEEDS
Topeka	Limagrain Advanta	CANTERRA SEEDS

Crop Kind, Class & Variety	Breeding Institution	Distributor
Field Pea (cont'd)		
Trapper	AAFC (Morden)	Public
CDC Tucker	U of S - CDC	Sask. Pulse Growers
Tudor ☼	Limagrain Advanta	FarmPure Seeds Inc.
Venture	Axel Toft	Johnson Seeds (MB)
Vortex	Globe Seeds (Netherlands)	Terramax
Chickpea		
Desi		
CDC Anna	U of S - CDC	Sask. Pulse Growers
CDC Cabri	U of S - CDC	Sask. Pulse Growers
CDC Desiray	U of S - CDC	Sask. Pulse Growers
Myles	USDA / Washington State U	Public
CDC Nika	U of S - CDC	Sask. Pulse Growers
Kabuli		
Amit (B-90) ☼		Viterra / Proven Seed
CDC Chico	U of S - CDC	Sask. Pulse Growers
CDC ChiChi	U of S - CDC	Sask. Pulse Growers
CDC Diva	U of S - CDC	Sask. Pulse Growers
CDC Frontier	U of S - CDC	Sask. Pulse Growers
Sanford	USDA / Washington State U	Public
CDC Xena	U of S - CDC	Sask. Pulse Growers
CDC Yuma	U of S - CDC	Sask. Pulse Growers
Dry Bean		
AC Black Diamond		
CDC Camino	U of S - CDC	Sask. Pulse Growers
Cruiser		
Envoy		
Othello	USDA / ARS (Prosser, WA)	Public
US 1140	USDA	Public
CDC Espresso	U of S - CDC	CANTERRA SEEDS
CDC Jet	U of S - CDC	B&J Martens Seeds
CDC Minto	U of S - CDC	CANTERRA SEEDS
CDC Pinnacle	U of S - CDC	Sask. Pulse Growers
CDC Pintium	U of S - CDC	Sask. Pulse Growers
CDC Polar Bear	U of S - CDC	CANTERRA SEEDS
AC Polaris		
AC Redbond		
Viva		Public
CDC Whitecap	U of S - CDC	CANTERRA SEEDS
Faba Bean		
Aladin	University of Manitoba	Public
CDC Blitz	U of S - CDC	
CDC Fatima	U of S - CDC	R.Legumex / Walker Seeds
Orion	AAFC (Lacombe)	Roger Lee, Lyster Farm
Outlook	U of S - CDC	SeCan Members
Scirocco	NPZ-Lembke	Agriprogress Inc.
Snowbird ☼	Innoseeds BV	Bob Park - Lacombe, AB
Flax		
CDC Arras	U of S - CDC	FarmPure Seeds Inc.
CDC Bethune ☼	U of S - CDC	SeCan Members
Hanley ☼	AAFC (Morden)	SeCan Members
Lightning ☼	AAFC (Morden)	CANTERRA SEEDS
Macbeth ☼	AAFC (Morden)	Viterra / Proven Seed
CDC Mons	U of S - CDC	FarmPure Seeds Inc.
CDC Normandy	U of S - CDC	SeCan Members
Prairie Blue ☼	AAFC (Morden)	SeCan Members
Prairie Grande *		SeCan Members
Prairie Thunder *	AAFC (Morden)	CANTERRA SEEDS
CDC Sorrel *	U of S - CDC	SeCan Members
Taurus ☼	Limagrain Advanta	FarmPure Seeds Inc.
Vimy	U of S - CDC	SeCan Members
AC Watson ☼	AAFC (Morden)	Viterra / Proven Seed

Crop Kind, Class & Variety	Breeding Institution	Distributor
Mustard		
Brown		
Commercial Brown		Trade
Centennial Brown	AAFC (Saskatoon)	Members of the Canadian Mustard Association
Duchess *	Viterra / Proven Seed	Viterra / Proven Seed
Oriental		
Cutlass	AAFC (Saskatoon)	Trade
Forge	Colman's of Norwich	Viterra / Proven Seed
AC Vulcan	AAFC (Saskatoon)	Trade
Yellow		
Ace	John S. Hemingway	Viterra / Proven Seed
Andante	AAFC (Saskatoon)	Members of the Canadian Mustard Association
AC Base	AAFC (Saskatoon)	Trade
AC Pennant	AAFC (Saskatoon)	Trade
Sunflower		
63A21	Pioneer Hi-Bred	Pioneer Hi-Bred
63A70	Pioneer Hi-Bred	Pioneer Hi-Bred
63M02	Pioneer Hi-Bred	Pioneer Hi-Bred

Canola - see Canola table VR20

Abbreviations used in this list

AC	Prefix to variety names Agriculture Canada (Agriculture and Agri-Food Canada)
AAFC	Agriculture and Agri-Food Canada
CDC	Crop Development Centre
AAF	Alberta Agriculture and Food, Lacombe AB
U	University
U of S	University of Saskatchewan
USDA	United States Department of Agriculture