Varieties of grain crops 2000

Saskatchewan Agriculture and Food

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Crop Production Areas

The cropland of Saskatchewan has been divided into four areas based roughly on climate, vegetation and soil type. The relative yields of crop varieties tend to vary from area to area. In choosing a variety farmers will want to consider the yields in their area and special requirements such as early maturity, disease resistance or sawfly resistance.

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 sawflies may be problems in the western and central sections of the area. Cereal rust may be a problem in the southeastern section.

Area 3: 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 northwestern and northeastern sections.

Area 4: Rainfall is usually adequate for crop production. However, early fall frosts and wet harvest weather 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.

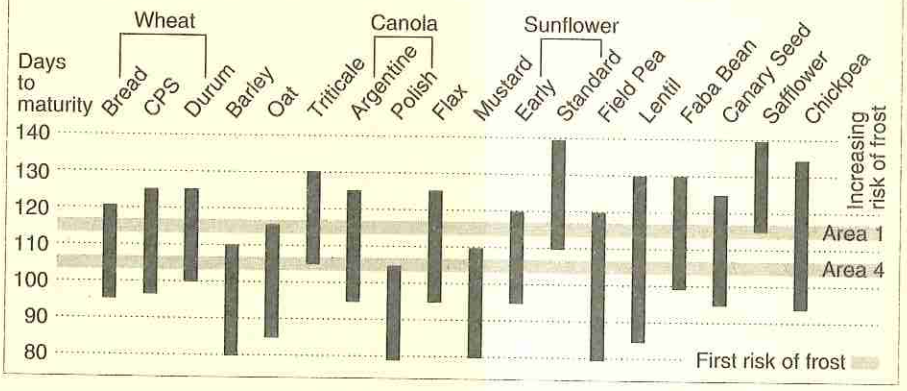
Relative Maturity

Ratings

Relative maturity ratings are average number of days from seeding to swathing ripeness. The actual number of days to reach maturity depends on local climate and to some extent on management practices.

Some of the following tables 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). Medium applies to the most widely grown check variety which appears at the top of each table. The limits for each category vary from crop to crop. In barley, for example, Harrington would be medium with L and E varieties + or -,1-2 days and VL and VE varieties beyond these, e.g. L-Manley, M-Harrington, E-CDC Fleet, VE-CDC Thompson.

Relative maturity ranges for spring crops grown in Saskatchewan



Comparisons

The relative maturity of varieties of different crops is important when making plans for seeding. The above table compares the relative maturity ranges for crops grown in Saskatchewan.

Maturity is measured from seeding to swathing ripeness. 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.

Cereal Crops

Wheat

Main characteristics of varieties

Type & Variety	Years tested	Area 1	Area 2	Area 3	Area 4	Irrigation	Relative maturity in days	Protein	Resistance to* Lodging	Shattering	Sprouting	Stem rust	Leaf rust	Loose smut	Bunt	Leaf spot	FHB**
Bread Wheat		— Yield as % of Barrie - —															
AC Barrie▲	9	100	100	100	100	100	100	14.8	G	G	G	G	P	G	G	P	F
Katepwa	9	97	94	91	93	89	-2	-0.6	F	G	F	G	VP	G	G	P	F
AC Abbey▲	6	97	94	94	95	98	-1	-0.9	F	G	P	G	P	F	G	P	P
Alikat=PT755	3	---	---	85	---	---		N/A	F	G	N/A	G	P	G	F	N/A	N/A
AC Cadillac▲	7	101	103	102	101	98	-1	-0.2	F	G	F	G	G	VG	VG	P	F
Columbus	5	---	94	93	---	84	+3	-0.2	F	F	VG	F	P	F	VG	P	P
AC Cora	8	99	97	93	95	92	-2	-0.3	F	G	F	G	VG	G	G	P	F
AC Domain	6	93	91	91	86	87	-2	+0.1	G	G	VG	G	G	VG	F	VP	P
AC Eatonia	7	92	92	89	84	---	0	+0.2	P	G	VG	F	P	F	G	P	N/A
AC Elsa▲	7	102	104	104	98	97	-1	-0.1	F	G	F	G	G	G	G	F	P
AC Intrepid▲	6	101	102	103	102	102	-3	-0.3	G	G	P	G	G	F	G	P	P
Laura++	8	99	102	96	94	83	+1	-0.4	F	G	F	G	G	F	P	P	P
AC Majestic	8	93	97	96	96	86	+2	-0.2	G	F	VG	G	P	F	VG	F	F
CDC Makwa++	6	97	95	91	90	88	-1	-0.5	F	G	F	G	P	G	F	P	N/A
McKenzie	6	105	105	100	95	109	-2	-0.5	F	G	G	G	VG	VP	VG	P	F
Prodigy	5	99	105	103	99	---	+1	+0.4	G	F	F	G	G	F	VG	P	P
Roblin++	8	91	91	91	90	92	-3	+0.1	G	G	P	G	G	G	P	P	VP
AC Splendor	7	91	92	92	90	89	-4	+0.3	F	G	F	G	VG	F	G	VP	P
CDC Teal	7	98	99	99	95	96	-2	-0.1	G	G	P	G	G	G	F	P	VP
5600HR =BW238	4	98	99	97	101	---	+2	-0.5	G	G	N/A	F	VG	VG	VG	P	P
Canada Prairie Spring Wheat**																	
Red Seeded																	
AC Crystal▲	7	119	125	119	116	115	+3		VG	VG	P	G	P	F	G	F	VP
AC Foremost	7	119	122	118	116	109	+2		G	G	F	G	P	F	G	P	VP
AC Taber	7	116	124	118	112	116	+4		VG	VG	P	G	G	P	G	F	VP
White Seeded																	
AC Karma▲	9	117	123	120	120	110	+2		G	G	P	G	G	F	G	P	P
AC Vista▲	7	120	125	124	113	118	+1		G	G	F	G	G	G	G	P	VP
Canada Western Extra Strong**																	
Amazon▲ = ES4	3	102	106	109	107	---	+2		F	G	P	G	G	VG	F	F	F
AC Corrine = ES7	3	98	102	101	105	---	+3		F	G	F	G	G	VG	F	P	P
Bluesky++	2	---	---	---	---	---	-1		F	G	P	G	F	VG	F	P	P
Glenlea	6	103	106	109	106	---	+2		F	G	P	G	G	VG	F	P	P
Laser++	7	97	103	104	101	92	-1		F	G	P	P	P	VG	VP	P	VP
Durum Wheat		— Yield as % of Kyle —															
Kyle	12	100	100	100	100	100	+3	13.6	P	VG	F	VG	VG	P	VG	P	VP
AC Avonlea▲	6	103	106	113	---	---	+2	+0.2	F	VG	F	VG	VG	P	VG	P	VP
AC Melita	7	95	96	101	---	110	+1	-0.2	F	VG	F	VG	VG	P	VG	VP	VP
AC Morse▲	7	102	101	109	---	111	+3	-0.1	G	VG	F	VG	VG	VP	VG	VP	VP
AC Navigator▲	4	104	102	100	---	---	+3	-0.4	G	VG	F	VG	VG	VP	VG	VP	VP
AC Pathfinder▲	4	99	101	106	---	---	+2	-0.6	F	VG	F	VG	VG	P	VG	VP	VP
Plenty	12	101	106	107	---	109	+2	-0.1	F	VG	F	VG	VG	P	VG	F	VP
Sceptre	11	96	97	99	103	112	0	-0.6	G	VG	P	VG	VG	P	VG	P	VP

* Resistance ratings: VG = very good; G = good; F = fair; P = poor; VP = very poor ** Includes direct and indirect comparisons with AC Barrie
++ This variety might not be described in 2001.--- No data available. Regional Trials funded by Sask Agr. Food, AAFC, Sask Water, and SWP.

Progress through Research

AT TIME OF PRINTING:
Protected by Breeders' Rights: AC Barrie, AC Elsa, AC Cadillac, AC Crystal, AC Karma, AC Vista, AC Navigator, AC Pathfinder, AC Avonlea.
Applied for Protection: AC Abbey, AC Intrepid, AC Morse, Amazon.

Additional Information

All varieties of common wheat are compared to **AC Barrie**.

Several new races of leaf rust capable of overcoming leaf rust resistance gene Lr 16 have multiplied rapidly. If varieties rated poor or very poor for leaf rust are sown in south eastern Saskatchewan, risk of crop losses may be minimized by early seeding.

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

Seed of varieties rated poor and very poor for bunt and loose smut should be treated. Please refer to the Seed Treatment section of this pamphlet.

Most of the varieties have been rated for their relative resistance to pre-harvest sprouting. During wet harvest weather grades drop more rapidly due to sprouting in swathed than in standing crops.

Canada Western Red Spring Wheat

Seed of the new varieties **AC Abbey**,

Alikat, and **5600HR** will not be available in 2000.

AC Abbey is resistant to the wheat stem sawfly, has semidwarf stature and an awned head.

AC Cadillac has a large seed size and an exceptionally heavy test weight.

AC Eatonia is resistant to wheat stem sawfly.

Alikat has improved tolerance to aluminum toxicity caused by acid soil conditions.

McKenzie has an awned head and may also be identified by a purplish stem.

Invader and **Laura** are awned.

Prodigy has awns and an exceptionally heavy test weight.

Canada Prairie Spring Wheat

AC Karma, **AC Vista**, **AC Crystal**, and **AC Foremost** have resistance to loose smut, except the new race **T9**. In order to prevent the spread of this new race, all Canada Prairie Spring seed produced in northeastern Saskatchewan should be treated with a systemic fungicide. Please refer to the Seed Facts section or to the *Crop Protection Guide 2000*.

AC Vista has higher protein content, and stronger gluten than **AC Karma**.

AC Crystal has improved quality compared to **AC Foremost** and **AC Taber**.

Canada Western Extra Strong

Certified seed of **Amazon** and **AC Corrine** will not be available in 2000.

Laser has weaker gluten strength than **Glenlea**. Limited quantities of seed will be available in 2000. **Laser** is proposed for deregistration in 2004.

Canada Western Amber Durum

All durum varieties are susceptible to two new races of loose smut. Seed can be treated to provide control. See the Seed Facts section for details.

Kyle receives better grades than other varieties even under adverse harvesting conditions.

AC Avonlea has shorter stronger straw than **Kyle**. **AC Avonlea** has higher pigment content in the grain than other varieties.

AC Morse has short strong straw like **Scepter**, and has lower test weight than **Kyle**. Under some conditions, the stems of **Plenty** break off near ground level.

AC Navigator and **AC Pathfinder** have extra strong gluten properties. **AC Navigator** has semidwarf stature. They may be grown only under contract with the Canadian Wheat Board and Saskatchewan Wheat Pool.

Soft White Spring Wheat

AC Reed and **AC Phil** have similar yield potential to **Fielder** and mature about two days earlier. **AC Reed** and **AC Phil** are moderately resistance to shattering, powdery mildew, and common root rot, moderately susceptible to leaf and stem rust, and susceptible to common bunt. **AC Phil**, generally, has less black point than **AC Reed** and **Fielder**. **AC Nanda** has improved resistance to common bunt, powdery mildew, and black point. It yields about the same as **Fielder** and is two days later maturing. Seed of **AC Nanda** will not be available in 2000. Soft-white spring wheats are susceptible to pre-harvest sprouting.

Winter Wheat

Main characteristics of varieties

Variety	Years tested	—Grain yield as % of CDC Kestrel— Areas 1 & 2	Areas 3 & 4	Irrigation	Protein	Resistance to* Lodging	Winter Damage	Stem Rust	Leaf Rust	Bunt
CDC Kestrel	14	100	100	100	10.8	G	G	P	P	P
CDC Clair	9	102	100	93	+0.9	G	G	P	P	P
CDC Osprey	9	99	98	89	+1.0	G	G	P	P	P
CDC Harrier	6	103	103	109	+0.3	G	G	G	P	P
CDC Falcon**	5	100	100	117	+1.0	VG	G	G	G	P

* Resistance ratings: VG - Very Good; G - Good; P – Poor ** CDC Falcon, a short-strawed variety, performs best in high moisture environments. Detailed agronomic information may be found in the *Winter Wheat Production Manual* available from Winter Cereals Canada.

Triticale

Main characteristics of varieties

Variety	Years tested	Yield as % of Frank— Area 1	Area 2	Area 3	Area 4	Irr**	Test wt. (kg/hl)	Maturity+	Resistance to* Lodging	Stem rust	Leaf rust	Bunt	Root rot
Frank***	15	100	100	100	100	100	70	M	G	VG	VG	VG	F
AC Alta	8	101	100	101	---	109	68	L	G	VG	VG	VG	F
Banjow	11	93	96	98	97	100	68	L	G	VG	VG	VG	F
AC Certa	8	99	97	102	---	101	75	M	G	VG	VG	VG	G
AC Copia	10	97	95	95	99	100	73	M	G	VG	VG	VG	F
Pronghorn	8	97	98	103	---	108	69	E	G	VG	VG	VG	F
Sandro	5	97	98	97	---	---	73	E	G	VG	VG	VG	G
AC Ultima	4	104	104	107	---	---	71	E	G	VG	VG	VG	F

* Resistance ratings: VG - very good; G - good; F - fair; P - poor; VP - very poor
+ Relative maturity: VE - very early; E - early; M - midseason; L - late; VL - very late; --- No data available
** Relative Yields under irrigation are based on limited data; *** These varieties might not be described in 2001

Additional Information

Triticale matures 2-3 days later than **AC Taber** CPS wheat, therefore it should be planted as early as possible. Some cultivars of triticale will mature very late in Area 4. 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. Susceptiblity to fusarium head blight is at least as great in triticale as in wheat. **AC Ultima** is a new cultivar of spring triticale. It has improved Hagberg Falling Number. Seed supplies of **AC Ultima** will not be available in 2000.Winter triticale has winter hardiness equal to that of winter wheat. **Pika** is the only cultivar of winter triticale with seed available. **Bobcat** is a new cultivar of winter triticale. It is awnletted with shorter and stronger straw than **Pika**. Seed of **Bobcat** will not be available in 2000.

Malting Barley

Main characteristics of varieties

Category† and variety	Years tested	2 or 6 row	Rough or smooth awns	Yield as % of Harrington: Area 1	Area 2	Area 3	Area 4	Relative maturity rating*	Straw††	Lodging	Resistance to**: Net blotch	Scald	Loose smut	Other smuts	Root rot	Stem rust	Tolerance*** to Fusarium Head Blight
Malting acceptance: Recommended																	
Harrington	18	2	R	100	100	100	100	M	N	F	VP	P	P	P	F	P	P
Stein	12	2	R	105	107	108	109	M	N	F	F	P	P	G	P	G	n/a
B1602	9	6	R	90	101	99	100	M	N	G	F	P	P	G	VG	G	P
Excel	5	6	S	100	116	118	119	M	N	VG	F	P	P	G	G	G	P
Robust	4	6	S	89	106	110	105	M	N	G	F	P	P	F	G	G	P
Malting acceptance: Limited																	
B1215	8	2	R	103	105	108	110	L	N	G	VP	P	P	P	P	P	n/a
CDC Kendall▲	7	2	R	100	113	114	115	M	N	G	F	P	P	P	F	G	F
Manley	13	2	R	106	111	112	112	L	N	G	F	P	P	VG	F	G	P
Merit▲	5	2	R	108	121	131	123	L	N	F	F	P	P	G	F	G	P
AC Metcalfe▲	7	2	R	103	109	112	113	M	N	G	F	P	VG	F	F	G	G
AC Oxbow	9	2	R	97	99	103	105	M	N	VG	F	P	VG	G	P	G	G
CDC Stratus	7	2	R	103	113	119	116	M	N	G	F	P	F	F	F	G	G
Foster▲	7	6	S	99	115	122	116	M	N	VG	F	P	P	F	G	G	P
CDC Sisler▲	5	6	S	100	113	123	121	M	N	F	P	P	P	P	F	G	G
Malting acceptance: Under test																	
AC Bountiful	6	2	R	105	112	120	122	M	N	G	G	P	VG	VG	F	G	G
CDC Copeland▲	3	2	R	110	122	129	--	M	N	G	F	P	P	F	F	G	n/a
CDC Unity	7	2	R	107	114	116	120	M	N	G	F	VP	P	P	G	G	n/a
BT 435	5	6	S	101	105	115	115	M	N	G	F	P	P	P	F	G	n/a
CDC Yorkton▲	3	6	S	92	111	128	--	M	N	G	G	P	P	G	F	G	n/a

*: Relative maturity: The relative maturity of the check, Harrington, is M (on average, 91 days from seeding to swathing ripeness) VE=very early, E=early, M=medium, L=late, VL=very late.

† These cathegories are established annually by the Malting Barley Industry Group (Call 1-800-275-4292 for more information.) Please see the 2000 Malting Barley Industry Group Recommendations on pages 70 and 71 of the 2000 Saskatchewan Seed Guide.

††: N = normal, SD = semidwarf,

**: Resistance ratings: VG=very good, G=good, F=fair, P=poor, VP=very poor

***: Fusarium Head Blight (FHB) infection is highly inluenced by environment and heading date. Data on varietal reaction to FHB are limited. Under high levels of the disease, all varieties will sustain damage.

PBR Progress through Research

AT TIME OF PRINTING:
Protected by Breeders' Rights: AC Metcalfe, CDC Sisler, Foster, Merit, CDC Kendall.
Applied for Protection: CDC Copeland, CDC Yorkton.

Lines under Evaluation of 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 2000 will be malted in January-February, 2001. It will be brewed in May-June, 2001, aged and tasted in October-November 2001. A crop grown in 2001 will be tasted in October-November, 2002.

Growers are reminded that the industry is cautious about using new varieites.

Additional Information

Six-rowed white aleurone malting varieties cannot be distinguished from feed varieties. Therefore, they should be grown under contract to ensure purity and eligibility for malting consideration.

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 seeding or malting purposes.

Growers are cautioned that malting varieties, especially two rows, are very susceptible to sprouting.

Rye

Main characteristics of varieties

Variety	Years tested	Yield as % of Prima: Area 1	Area 2	Area 3	Area 4	Maturity**	Resistance to*: Winter killing	Shattering	Lodging	Stem rust
Prima	20	100	100	100	100	M	VG	F	F	G
AC Rifle	11	115	95	94	---	M	VG	VG	VG	G
Dakota	3	---	117	---	---	L	VG	---	G	---
AC Remington	3	---	100	---	---	M	VG	VG	G	---*

* Resistance ratings: VG - very good; G - good; F - fair; P - poor; VP - very poor

** Relative Maturity: VE - very early; E - early; M - midseason; L - late; VL - very late

Additional Information

Gazelle is the only registered variety of spring rye. **Danko** and **Kodiak** are very susceptible to winter killing, therefore should only be considered when using some form of tillage conservation.

Feed and Food Barley

Main characteristics of varieties

Category and variety	Years tested	2 or 6 row	Rough or smooth awns	—Yield as % of Harrington— Area 1	Area 2	Area 3	Area 4	Relative maturity rating*	Straw††	Lodging	Resistance to** Net blotch	Scald	Loose smut	Other smuts	Root rot	Stem rust	Tolerance*** to Fusarium Head Blight
Feed																	
Brier	9	6	S	112	115	115	118	M	N	F	G	F	P	VG	VP	G	n/a
CDC Dolly	6	2	R	110	116	118	114	M	N	G	P	G	P	G	F	G	P
CDC Fleet	7	2	R	91	101	99	102	E	N	VG	F	G	P	VP	P	G	P
AC Harper⧋	7	6	S	106	109	120	120	M	N	G	F	G	P	F	F	G	P
AC Lacombe⧋	9	6	S	103	112	113	117	M	N	G	F	F	P	VG	F	G	VP
AC Rosser⧋	7	6	S	110	121	130	133	M	N	G	F	VP	P	VG	G	G	VP
Stander⧋	7	6	S	97	117	125	127	M	N	VG	F	P	P	P	G	G	VP
Xena	3	2	R	113	123	140	--	M	N	G	P	VP	P	VG	G	G	n/a
Hulless																	
AC Bacon	5	6	--	90	104	105	110	M	N	G	P	G	P	F	F	G	P
CDC Dawn	7	2	R	96	103	102	102	M	N	F	F	G	P	F	F	G	F
Condor	8	2	R	85	83	82	79	M	N	G	P	P	P	F	F	G	F
Falcon⧋	7	6	S	74	88	85	90	M	SD	VG	F	G	P	F	F	G	P
CDC Freedom	5	2	R	90	96	99	107	M	N	G	F	P	--	G	P	G	F
CDC Gainer	6	2	R	93	99	108	107	M	N	F	F	G	P	F	F	G	F
AC Hawkeye⧋	7	6	S	87	102	109	109	M	N	F	F	G	P	P	F	G	F
Jaeger⧋	4	6	R	--	98	113	--	L	N	VG	P	F	F	P	F	F	n/a
CDC McGwire⧋	4	2	R	--	112	114	--	M	N	G	G	F	P	G	G	F	n/a
Peregrine⧋†	3	6	R	--	86	99	--	M	SD	VG	F	F	P	F	G	G	n/a
Phoenix⧋	7	2	R	82	94	94	94	M	N	G	P	P	P	F	G	P	F
CDC Silky	7	6	--	85	101	99	101	M	SD	VG	F	G	P	F	G	G	F
Tercel⧋	6	2	R	90	91	99	97	M	N	F	P	P	P	F	F	G	P
Intensive Management																	
CDC Bold	2	2	R	--	--	143	--	L	SD	G	P	G	P	VG	G	G	n/a
CDC Earl	7	6	R	101	111	110	113	L	SD	VG	G	G	P	G	G	G	P
Kasota⧋	5	6	S	98	109	101	110	E	SD	G	F	G	P	G	P	G	n/a
Mahigan⧋	5	6	S	103	113	114	102	E	SD	VG	F	G	P	G	P	G	n/a
Niska⧋†	3	6	S	--	--	132	--	L	SD	F	P	P	P	G	P	G	n/a
Stetson	6	6	S	102	113	120	115	L	SD	VG	F	G	P	G	F	--	n/a
CDC Thompson	7	2	R	88	101	96	88	VE	SD	VG	F	G	F	F	F	G	n/a

†: No seed available in 2000 *: Relative maturity: The relative maturity of the check, Harrington, is M (on average, 91 days from seeding to swathing ripeness) VE=very early, E=early, M=medium, L=late, VL=very late. †† : N = normal, SD = semidwarf. **: Resistance ratings: VG=very good, G=good, F=fair, P=poor, VP=very poor ***: Fusarium Head Blight (FHB) infection is highly inluenced by environment and heading date. Data on varietal reaction to FHB are limited. Under high levels of the disease, all varieties will sustain damage. Hulless barley typically has reduced levels of DON when compared to regular barley with similar levels of disease.

PBR Progress through Research

AT TIME OF PRINTING:
Protected by Breeders' Rights: AC Harper, AC Hawkeye, AC Lacombe, AC Rosser, Falcon, Kasota, Phoenix, Mahigan, Stander
Applied for Protection: Tercel, Niska, Peregrine, CDC McGwire, Jaeger.

Additional Information

Hulless

In hulless varieties the hull is left in the field, therefore, comparable yields are 10-15 percent lower. Hulless seed is more susceptible to damage than hulled seed, so handling should be minimized.

Hulless Waxy

CDC Candle, HB803⧋ and **Merlin⧋** are waxy starch varieties for specialty markets. For further information contact the Prairie Pools.

General comments

A race of stem rust which attacks all of our previously resistant varieties has appeared in the eastern prairies and the northern great plains. It is not clear how persistent this race will be over time.

Early sowing is the only practical measure which can be taken at this time.

None of the current two-rowed varieties have good field resistance to all races of net blotch.

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

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

Other Crops

Buckwheat

Buckwheat is sensitive to high temperatures and dry weather conditions in the blossom stage which can reduce seed set and yields. Pollination is required to maximize yield. 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 some 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.

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 extremely limited.

Oat

Main characteristics of varieties

Variety	Years tested	Yield as % of Calibre — Area 1	Area 2	Area 3	Area 4	Test wt. (kg/hl)	% Hull	% Plump	Maturity rating*	Resistance to** Lodging	Stem rust	Leaf rust	Smut
Calibre	18	100	100	100	100	50.0	22.9	44	M	G	VP	VP	P
***AC Antoine	3	102	104	102	-	48.6	23.2	25	E	P	VP	VP	F
AC Assiniboia	8	93	99	97	96	47.9	22.9	74	M	VG	VG	VG	VG
CDC Boyer	9	100	104	101	102	47.2	22.6	81	E	G	VG	F	P
Derby	13	100	101	103	103	50.1	22.2	74	M	G	VP	VP	P
SW Exactor	3	97	111	111	-	48.2	25.0	44	L	VG	VP	VP	F
AC Juniper	9	101	106	104	104	48.7	23.9	60	E	G	VP	VP	P
AC Medallion	7	102	105	103	100	48.2	24.1	71	L	P	VG	VG	VG
AC Mustang	9	102	109	113	110	49.5	29.0	70	L	G	VP	VP	P
CDC Pacer	6	103	110	109	103	48.9	23.7	71	M	G	VP	VP	F
AC Preakness	10	98	104	103	102	48.8	22.6	66	L	G	VG	F	VG
AC Rebel	5	101	106	104	101	48.8	23.1	67	L	G	VG	VP	VG
Triple Crown	6	96	106	112	110	47.6	24.7	67	L	VG	VP	VG	P
#AC Belmont	8	74	79	81	79	52.0	N/A	N/A	M	G	VG	F	VG

* Maturity rating: E = early; M = medium; L = late, VL = very late; M = 96 days
** Resistance rating: VG = very good; G = good; F = fair; P = poor; VP = very poor
*** Interim Registered
\# Hulless variety

PBR Progress through Research

AT TIME OF PRINTING:
Protected by Breeders Rights: AC Assiniboia, AC Belmont, AC Juniper, AC Preakness, Triple Crown
Applied for Protection: AC Medallion, AC Rebel, SW Exactor.

Additional Information

AC Assiniboia has brown hulls.

While not as leaf rust resistant as **AC Assiniboia**, **AC Medallion** or **Triple Crown**, **CDC Boyer** may be considered for the oat rust area of southeastern Saskatchewan, but should be planted early to avoid late disease infection. All other varieties are susceptible to rusts and may be at risk if grown in the rust area.

HULLESS OAT: 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.

Other Crops

Canary Seed

The seed of annual canarygrass, more commonly called canary seed, is used as food for caged and wild birds. Three registered varieties are available. **Elias** and **Keet** are similar in yield, but **Keet** is earlier maturing and more resistant to lodging. Seeds and plants of **CDC Maria** do not have the small sharp hairs that cause irritation when canary seed is threshed and handled. The maturity requirements are equal to wheat. Canary seed plants have a dense shallow root system and thus growing the crop on sandy soils is not recommended. Summerfallow is generally used, but canary seed may be grown successfully on stubble, providing adequate moisture is available for rapid germination and emergence.

Sow at the same optimum date as spring wheat at 34 kg/ha (30 lb/a) (germination greater than 85 percent). Early seeding may lower yields in some cases. Plant the seed 3.5 to 5 cm deep into a firm seedbed.

Fertilizer requirements are similar to those for cereal crops.

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 August and may require an insecticide application to prevent yield loss. Information from the United States indicates that infestations of 10-20 aphids per stem may cause enough damage to warrant insecticide application. The aphids often hide in the dense head of canary seed. Damage may occur at populations below these levels; data do not exist to support the suggested action threshold.

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 should not be seeded on land that was treated with trifluralin or ethalfluralin the previous year.

Canary seed is resistant to shattering. It may be straight-combined or swathed when fully matured.

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 shallow but into a firm moist seedbed at about 30 kg/ha (27 lbs/A). **Saffire** has moderate resistance to Sclerotinia head rot and Alternaria leaf spot. Contract production is advisable.

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

Oilseed Crops

Argentine Canola

Main characteristics of varieties

Variety	Yield as a % of AC Excel (years in test) Area 2	Area 3	Area 4	Average % Oil	Average maturity in days	Resistance to* Lodging	Blackleg**
AC Excel	100 (13)	100 (13)	100 (13)	45.8	98	G	F
220	118 (3)	117 (3)	***	45.9	99	VG	G
1492	***	129 (3)	***	45.9	99	VG	G
45A51 (RR)	110 (3)	109 (3)	115 (3)	45.9	102	G	F
45A71 (SM)	113 (3)	107 (3)	108 (3)	45.4	98	F	F
46A52 (RR)	125 (3)	116 (3)	***	45.6	99	G	G
46A65	113 (3)	115 (4)	123 (3)	46.6	98	F	VG
46A73 (SM)	101 (3)	115 (3)	***	45.2	101	G	G
46A76 (SM)	134 (3)	128 (3)	***	45.5	100	VG	VG
Agassiz	103 (3)	108 (3)	***	44.1	103	G	F
Armor BX	106 (4)	100 (4)	108 (3)	45.0	98	G	G
SW ARROW (RR)	105 (3)	108 (4)	***	44.3	97	F	F
Ascent	103 (3)	111 (3)	***	46.9	98	G	F
Battleford	***	109 (3)	111 (3)	45.9	98	G	G
CLAVET	106 (4)	107 (4)	***	45.5	98	F	G
Cyclone	107 (5)	115 (4)	121 (5)	44.5	98	G	G
OAC Dynamite	118 (3)	115 (4)	118 (3)	45.6	97	G	VG
EAGLE	***	114 (3)	***	45.7	97	G	G
LG Dawn (RR)	111 (3)	101 (3)	***	45.2	99	F	F
Foremost	131 (3)	118 (3)	***	46.0	101	VG	VG
Hi-Q	114 (3)	111 (3)	***	46.8	99	VG	VG
Hudson	117 (3)	116 (3)	***	45.6	96	G	G
Hyola 401	102 (3)	121 (3)	107 (3)	44.1	98	G	P
Hyper Star 100	115 (4)	122 (4)	***	45.9	100	VG	G
IMPULSE	108 (3)	121 (4)	112 (3)	45.4	100	G	VG
InVigor 2153 (LL)	107 (3)	116 (3)	***	45.4	96	F	F
InVigor 2273 (LL)	119 (3)	119 (3)	***	46.2	99	G	G
InVigor 2463 (LL)	128 (3)	122 (3)	***	46.7	99	VG	F
InVigor 2473 (LL)	128 (3)	123 (3)	***	45.5	100	VG	G
Legacy	***	117 (3)	112 (3)	45.1	98	G	F
LG3220	110 (3)	104 (3)	***	45.1	96	VG	G
LG3235 (RR)	110 (3)	103 (3)	***	45.9	97	G	G
LG3310	99 (3)	110 (3)	***	46.0	99	G	VG
LG3333	***	113 (3)	104 (3)	47.7	99	G	G
LG3345 (RR)	108 (3)	99 (3)	***	45.6	98	G	G
Magellan	114 (3)	110 (3)	***	45.2	99	G	F
Option 500	109 (3)	112 (3)	***	46.8	99	F	G
Option 501	***	102 (3)	***	48.4	99	G	VG
Q2	109 (3)	122 (3)	109 (3)	45.0	99	G	VG
Quantum	107 (3)	124 (3)	111 (3)	44.3	98	G	VG
Quest (RR)	111 (4)	106 (4)	***	46.3	98	G	F
SW RideR (RR)	***	***	112 (3)	46.0	99	G	F
Sentry	97 (5)	101 (5)	***	44.5	98	G	VG
Sprint	97 (5)	97 (5)	97 (3)	44.8	94	G	G
Trailblazer	109 (3)	111 (3)	***	46.5	100	G	G
AC Tristar (TT)	75 (4)	79 (4)	67 (4)	43.8	97	P	VP
WILDCAT	***	119 (3)	115 (3)	45.7	97	VG	***

* Resistance ratings: VG-very good; G-good; F-fair; P- poor; VP- very poor.
** A minimum of 3 years between canola crops (4 year rotation) is essential to reduce the incidence of blackleg
*** Limited data
Herbicide tolerance: RR = Roundup Ready, LL = Liberty Link, SM = Smart Canola, TT = triazine, BX = Bromoxynil

Progress through Research

AT TIME OF PRINTING:

Protected by Breeders' Rights: 45A71, 46A65, Battleford, CLAVET, Cyclone, OAC Dynamite, EAGLE, IMPULSE, InVigor 2153, InVigor 2273, Legacy, LG3220, LG3310, LG3333, Quantum, Quest, Sprint, Trailblazer, WILDCAT.

Applied for Protection: InVigor 2463, InVigor 2473, LG3235, LG3345, 45A51, 46A52, 46A73, 46A76, Armor BX, SW ARROW, Ascent, LG Dawn, Foremost, Hi-Q, Hudson.

Polish Canola

Main characteristics of varieties

Variety	Yield as a % of AC Parkland (years in test) Area 2	Area 3	Area 4	Average % Oil	Average maturity in days	Resistance to* Lodging	White rust
AC Parkland	100 (13)	100 (13)	100 (13)	44.2	84	G	VG
1000 SP	102 (3)	98 (4)	***	44.4	84	F	G
1007	104 (3)	106 (3)	***	44.5	85	VG	G
41P55	103 (4)	107 (4)	108 (3)	42.9	84	F	F
AC Boreal	99 (5)	97 (5)	100 (4)	45.1	84	F	VG
AC Sunbeam	103 (6)	105 (6)	103 (5)	43.5	83	G	VG
Cash	97 (3)	109 (3)	110 (3)	43.9	84	G	F
CHINOOK	99 (4)	103 (4)	108 (3)	43.4	84	G	F
Eclipse	100 (7)	93 (6)	89 (5)	43.9	84	G	F
FAIRVIEW	104 (3)	107 (3)	***	44.3	85	G	G
Foothills	105 (3)	100 (3)	***	43.5	84	G	VG
Hysyn 100	107 (3)	108 (3)	111 (3)	43.6	85	G	F
Hysyn 110	109 (5)	108 (5)	121 (5)	42.9	84	G	F
Hysyn 111	105 (4)	107 (5)	116 (3)	42.8	86	G	G
Hysyn 120 CS	98 (3)	103 (4)	***	44.0	85	G	G
NORWESTER	105 (4)	109 (4)	109 (3)	43.3	85	G	G
Reward	104 (8)	103 (8)	100 (6)	44.4	84	F	VG
WESTWIN	105 (3)	109 (3)	106 (3)	44.6	84	G	G

* Resistance ratings: VG-very good; G-good; F-fair; P- poor; VP- very poor.
*** limited data
Use of capital letters in variety names is as they were registered.

PBR Progress through Research

AT TIME OF PRINTING:
Applied for Protection: 1007, 41P55, Foothills.

Additional Information

Argentine Canola

Argentine varieties yield about 20-30 percent more than Polish varieties.

Argentine varieties mature 10 to 14 days later than Polish varieties and are therefore better suited to the longer season growing areas of Saskatchewan.

Blackleg disease, which is now wide spread in Saskatchewan, can cause severe yield losses in varieties that have poor (P) resistance.

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. Late maturing varieties should therefore be planted early to reduce green seed counts.

All Argentine varieties are susceptible to Sclerotinia stem rot.

Herbicide tolerant varieties should be considered when severe weed infestations are expected.

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.

All Polish varieties are susceptible to Sclerotinia stem rot and blackleg. Blackleg is less of a threat in Polish canola because of its early maturity, which tends to reduce the impact of the disease on seed yields.

Specialty Oil Rapeseed and Canola

High erucic acid is needed for special industrial oil markets. Argentine type, high erucic acid varieties have been developed for these markets. These varieties are typically lower yielding than standard canola varieties but have very good blackleg and lodging resistance.

Low linolenic acid Argentine type canola varieties have been developed. The oil is used as a premium vegetable oil for human consumption.

Information on the contract production of these specialty oil rapeseed and canola varieties should be obtained from companies that contract such production.

Irrigation

Argentine varieties respond well to irrigation. Only varieties that are highly resistant to lodging and blackleg should be grown under these conditions. Irrigation may delay maturity by one week or more under certain conditions.

Sunflower (Oilseed)

Main characteristics of varieties

Type and Variety	Years tested	Yield as % of IS 6111	Average maturity in days	Oil %
IS 6111	9	100	121	46.5
SF 270	9	105	121	47.6
6230	9	97	122	46.6
IS 5757	4	117	121	50.2
XF 361	4	111	123	48.1
IS 5077	4	108	122	47.7
EMSS				
P6150	7	2038 kg/ha	114	46.3

Additional Information

Sunflower requires 110-125 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) variety **P6150** is adapted to production in most areas of Saskatchewan.

Additional Information

Mustard is grown in the drier regions of Saskatchewan because of the better seed quality obtained under these conditions. Mustard is normally grown under contract production.

Yellow mustard varieties are large seeded, and the seed is light yellow in colour. The yield of yellow mustard is approximately 30 percent less than that of Oriental mustard. Differences in seed yield between these two species is normally compensated for by price. Yellow mustard should be straight combined because of possible losses due to wind damage in the swath.

Oriental and Brown mustards are usually swathed, but straight combining is also possible. Any mixtures of rapeseed or canola in mustard, due to volunteer plants in the field, or to improper handling on the farm, cause substantial losses through grade reductions. All mustard varieties have very good resistance to blackleg. **AC Vulcan** and **Cutlass** are resistant to white rust (staghead), while **Forge** and commercial Brown are highly susceptible.

Mustard

Main characteristics of varieties

Type & Variety	Yield as % of Cutlass	Average maturity in days
Oriental		
Cutlass	100	93
Forge	99	93
Lethbridge 22A	90	93
AC Vulcan	102	93
Brown		
commercial	92	94
	Yield as % of Ochre	**Average maturity in days**
Yellow		
Ochre	100	94
AC Base	104	91
AC Pennant	106	93
Gisilba	97	93
Tilney	99	94
Viscount	95	95

PBR Progress through Research

AT TIME OF PRINTING:
Applied for Protection: Viscount

Flax

Main characteristics of varieties

Type & Variety	Years tested	Yield as % of Vimy — Area 1	Area 2	Area 3	Area 4	Irr	Maturity[1]	Seed size[2]	Resistance to Lodging[3]
Vimy	14	100	100	100	100	100	M	L	P
CDC Arras	5*	104	108	105	---	---	M	L	F
CDC Bethune	5*	113	116	114	---	---	L	M	G
AC Carnduff	3*	---	92	104	---	---	M	M	G
AC Emerson	6	97	96	96	93	119	M	L	F
Flanders	10	93	97	96	97	109	L	S	G
AC Linora	8	84	91	95	93	102	L	M	G
AC McDuff	7	93	95	97	94	102	VL	M	VG
NorLin	17	91	96	96	99	105	M	M	G
CDC Normandy	5	94	100	102	103	108	M	M	F
Somme	10	94	97	98	97	109	M	M	F
CDC Valour	3	94	102	97	95	95	E	M	G
AC Watson	3	92	98	103	101	108	M	M	G
Solin									
Linola™ 989	5	93	92	98	100	96	L	M	G
Linola ™ 1084	3*	---	100	102	---	---	M	M	G

--- Limited data. * Data from Regional and COOP Yield Trials.

1) Relative Maturity: The relative maturity of the check, Vimy, is M (on average 103 days from seeding to swathing ripeness). VE-very early; E-early; M-medium; L-late; VL-very late.

2) Seed size: S-small; M-medium; L-large. 3) Resistance ratings: VG-very good; G-good; F-fair; P-poor; VP-very poor.

PBR Progress through Research

AT TIME OF PRINTING:
Protected by Breeders' Rights: AC McDuff, Linola™989.
Applied for Protection: AC Watson, CDC Valour, CDC Bethune, AC Carnduff, Linola™ 1084.

Additional Information

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

CDC Arras, CDC Bethune, AC Carnduff and **Linola™ 1084** are newly registered varieties and seed will be available in 2000, however there will be limited amount for **CDC Arras** and **CDC Bethune**.

Solin is defined as a type of flax with less than 5% linolenic acid in its oil and having a yellow seed coat. Solin varieties produce food quality oil and, as such, cannot be sold in traditional flax markets. **Linola™ 989** and **Linola™ 1084** are available only for contract production.

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.

Pulse Crops

Lentil

Main characteristics of varieties

Variety	Years tested*	--Yield % of Laird-- Areas 1-2	Areas 3-4	Height (cm)	Days to flower	Maturity rating**	——Resistance to***—— Ascochyta blight	Anthracnose	Cotyledon color	Seed weight (g/1000)
Laird	5	100	100	41	53	VL	VP	VP	yellow	67
CDC Glamis	4	107	101	39	54	VL	VG	VP	yellow	60
CDC Grandora	3	103	106	40	53	VL	VG	VP	yellow	69
CDC Sovereign	3	115	108	40	52	L	VG	P	yellow	66
CDC Richlea	4	135	115	35	50	M	VP	VP	yellow	51
CDC Vantage	4	123	119	33	49	M	VG	VP	yellow	52
Eston	4	120	108	30	48	E	VP	VP	yellow	33
CDC Milestone	5	133	127	31	49	E	VG	VP	yellow	37
Crimson	2	111	100	29	49	E	VP	VP	red	35
CDC Robin	2	119	111	30	49	E	VG	G	red	30
CDC Redcap	3	119	119	30	49	E	VG	F	red	35
CDC Redwing	5	119	105	30	50	E	VG	VP	red	38

* Coop and Regional Trials in Saskatchewan since 1995. Limited data for Crimson and CDC Robin.
** Maturity ratings: E - early; M - medium; L - late; VL - very late. *** Resistance ratings: VG - very good; G - good; F - fair; P - poor; VP - very poor.

Additional Information

Indianhead lentil is a black-seeded variety released for green manure use. **CDC Matador** is a brown-seeded variety with yellow cotyledons. Seed supplies are limited for **CDC Glamis, CDC Grandora, CDC Sovereign, CDC Vantage, CDC Robin** and **CDC Redcap**.

Detailed agronomic information may be found in the *Pulse Production Manual* available from the Saskatchewan Pulse Growers.

Dry Bean

Main characteristics of varieties

Variety	Type	Years tested*	—Yield as % of Othello— Irrigation	Area 2	Area 3	Days to flower	Maturity rating**	Pod++ clearance (%)	Seed weight (g/1000)	Growth habit+
Othello	pinto	7	100	100	100	52	L	51	323	III
CDC Altiro	pinto	4	86	85	75	47	E	64	357	III
AC Burrito	pinto	5	95	103	99	53	M	64	307	II
CDC Camino	pinto	6	87	89	90	52	L	81	323	I
Earliray	pinto	5	73	90	90	50	E	65	349	I
Fargo	pinto	5	98	95	105	50	M	53	341	III
CDC Pinnacle	pinto	5	96	100	111	53	L	67	352	III
CDC Pintium	pinto	3	--	107	98	50	E	80	350	I
CDC Bianca	great northern	5	103	99	103	52	L	69	365	I
CDC Crocus	great northern	3	--	121	89	47	E	59	355	III
CDC Nordic	great northern	6	73	84	84	52	L	62	319	I
US 1140	great northern	5	97	93	93	51	L	53	289	III
CDC Rosalee	pink	3	--	98	102	51	L	65	247	III
CDC Expresso	black	5	56	81	86	47	M	87	191	I
CDC Nighthawk	black	5	64	68	73	58	L	77	165	II
AC Skipper	navy	5	68	69	80	54	L	77	206	I
GTS 523	navy	5	71	90	87	51	M	75	147	I
UI906	black	5	81	97	79	60	L	76	148	II

* Coop and regional trials -- insufficient data - less than 6 total sites ++ % of pods clearing the cutterbar
+ Growth habit: I - determinate bush; II – indeterminate bush; III – indeterminate vine. ** Maturity ratings: L-late; M - medium; E – early

Additional Information

Dry bean can be grown under irrigation in Saskatchewan in regions with a warm, long growing season (110 days from seeding after May 20). On dryland, yields are generally lower but maturity is usually earlier. Dry bean crops on dryland do best in the longer season black soil zones and greatly benefit from rainfall in late July/early August. In Dark Brown soils (Area 2), the crop may do better on fallow in dry cycles. Early maturity is more critical in Area 3 where cooler weather may create quality problems due to fall frost damage. Data for yield, flowering, maturity, pod clearance and seed weight are based on direct comparisons with the check variety **Othello**. Navy beans are more susceptible to cold soil injury. Seed stocks of **CDC Nordic, CDC Bianca, CDC Crocus, CDC Altiro, CDC Pinnacle, CDC Pintium** and **CDC Rosalee** will be limited in spring of 2000.

The crop does not tolerate frost, flooding or salt-affected soils. Seed in late May when soil temperature at seeding depth is 15C or higher. Seed at a rate of 80-100 kg/ha (70-100 lb/A) for pinto bean and 25 percent less for black and navy beans. Plant seed five to six cm deep in a firm, moist seedbed. Minimize seed damage by using a hoe or press drill with a metering mechanism suitable for large seeds.

The plants are short and pods may hang to ground level, especially some pinto and great northern varieties. The field should be smooth, level and rock-free to facilitate swathing or direct

(Continued on page 11)

Field Pea

Main characteristics of varieties

Type & Variety	Years tested*	Yield as % of Alfetta — Areas 1, 2 & South 3	Areas 4 & North 3	Irrigation	Relative maturity**	Vine length (cm)	Resistance to+ — Ascochya blight	Powdery mildew	Seed coat breakage	Lodging	Bleaching	Seed weight (g/1000)
Food Type Yellow-Seeded												
Alfetta ▲	6	100	100	100	M	72	P	P	P	F	n/a	290
AC Melfort ▲	4	98	86	---	M	70	F	VG	P	P	n/a	240
Baccara ▲	3	105	105	---	E	65	P	P	P	F	n/a	300
Carneval ▲	7	89	85	107	M	75	F	P	P	G	n/a	250
Carrera ▲	6	99	98	107	E	55	VP	VP	F	F	n/a	270
CDC Winfield (N)	5	94	89	---	M	62	VP	VP	P	F	n/a	260
CDC HANDEL	4	107	94	---	L	75	P	VG	F	F	n/a	220
CDC MOZART	3	108	101	---	M	70	F	VG	F	F	n/a	230
COBRA	3	96	94	---	M	75	P	P	F	F	n/a	240
Cresta	3	106	106	---	E	70	P	P	P	F	n/a	290
CROMA ▲	4	102	103	---	E	70	P	P	F	F	n/a	310
Delta ▲	4	101	98	---	E	72	P	P	F	F	n/a	270
Eiffel ▲	5	93	101	---	E	67	VP	VP	P	F	n/a	290
Exchequer ▲	4	88	92	---	E	73	P	P	P	F	n/a	220
GRANDE (N) ▲	7	93	91	93	L	90	F	P	F	F	n/a	260
Highlight ▲	5	84	84	97	E	66	P	VG	P	F	n/a	210
INTEGRA ▲	3	85	94	---	E	75	F	P	F	G	n/a	280
Mandy	4	88	94	96	M	57	VP	VP	P	F	n/a	270
Miami ▲	5	102	102	---	E	80	P	P	P	F	n/a	270
Nicole ▲	4	106	105	---	M	65	P	P	P	F	n/a	290
PASSAT	3	103	103	---	M	65	F	P	F	F	n/a	260
PROFI ▲	5	90	85	95	E	72	P	P	P	F	n/a	270
SWING ▲	3	92	96	---	E	75	F	P	G	G	n/a	250
TENOR ▲	5	94	97	101	E	72	VP	VP	P	F	n/a	260
Trapper (N)	7	74	73	---	L	95	P	P	P	P	n/a	140
Victoria (N)	7	80	77	---	M	84	P	P	P	P	n/a	190
YORKTON (N)	4	92	88	91	M	72	P	P	P	F	n/a	270
Food Type Green-Seeded												
Adagio	4	90	84	---	M	70	P	P	P	F	F	270
Ascona	4	75	65	116	M	50	P	P	P	F	P	300
Astuce	3	83	88	---	E	65	P	VP	P	F	P	290
CDC Peko (N)	5	82	74	---	L	65	F	P	F	P	F	220
CDC VERDI	3	95	81	---	L	75	F	P	F	F	G	200
Danto	4	68	51	93	M	52	P	P	F	F	F	290
Espace ▲	4	96	101	---	M	75	P	P	P	F	F	250
Keoma	7	85	80	96	M	53	P	P	F	P	G	220
MAJORET ▲	5	79	75	102	M	59	P	P	F	G	F	250
Millenium ▲	5	103	97	---	E	65	P	VP	P	F	F	280
NITOUCHE ▲	3	94	92	---	M	75	F	P	F	G	G	250
Obelisque	4	93	89	---	E	62	VP	VP	P	F	F	310
Olivin (N) ▲	4	87	92	89	M	64	VP	VP	F	P	F	270
SW Parade ▲	3	99	89	---	M	70	F	VG	F	F	F	220
Pekisko ▲	4	83	83	---	VE	75	VP	VP	F	F	F	210
Princess (N)	5	72	55	85	E	58	P	P	G	P	G	200
Radley	6	72	68	85	M	57	F	P	G	F	G	210
Scuba ▲	4	82	87	---	E	80	P	P	P	F	F	230
TOLEDO ▲	3	86	92	---	M	70	P	P	F	G	F	280
Coloured flower types												
CDC April	4	82	70	---	L	53	F	P	G	F	n/a	140
CDC Vienna	5	86	81	---	L	61	F	P	G	F	n/a	170
Whero (N)	3	60	57	---	L	110	P	P	G	P	n/a	210

* Coop and regional trials in Saskatchewan. --- Insufficient data available - less than 6 sites over 3 years. (N) Variety with normal leaf type - all others are semi-leafless

** Relative maturing ratings compared to Alfetta: VE-very early; E-early; M-medium; L-late; n/a not applicable

Relative ratings for disease, seed coat breakage, lodging, and bleaching (for green seeded types): VG-very good; G-good; F-fair; P-poor; VP-very poor

PBR Progress through Research

AT TIME OF PRINTING:

Protected by Breeders' Rights: Alfetta, CROMA, Carneval, Carrera, Delta, GRANDE, Highlight, MAJORET, , Pekisko, PROFI, SWING, Espace, NITOUCHE.

Applied for Protection: Baccara, Eiffel, Exchequer, Miami, Millenium, Olivin, Scuba, TENOR, AC Melfort, Nicole, SW Parade, TOLEDO, INTEGRA.

(Continued from page 10)

harvesting with a flex header equipped with an air reel. Field rolling must be done within four days of seeding. Seed should be free of bacterial diseases such as halo blight or common blight. Colour, size and condition of seeds are important quality characteristics affecting marketability. For more details on production consult the *Pulse Production Manual* published by Saskatchewan Pulse Growers.

Additional Information

Field pea is well adapted to all areas of Saskatchewan.

Production in the Dark Brown and Brown soil zones is more reliable if moisture is not limiting and the crop is seeded early. Seed splitting can be reduced by harvesting tough and drying in an aeration bin.

The recommended seeding rate for **Alfetta** is 170 kg/ha (150 lb/ac). Other varieties should be sown at seeding rates in proportion to seed weight.

Under dry conditions, short vine types (< 80 cm) and semi-leafless varieties may provide poor weed competition and may be difficult to harvest. On the other hand, the semi-leafless characteristic may facilitate harvest, as vines do not lay as flat on the ground if a good stand is achieved.

Green-seeded varieties are often lower-yielding than yellow-seeded varieties. Many green varieties will bleach if moist conditions before harvest are followed by warm sunny weather.

Varieties differ in resistance to seed coat damage during threshing and cleaning. If the target market is feed, select varieties with small seed size and high yield potential.

If the target market is food, marketability will be affected by seed size, seed shape and seed colour. Field pea, like other legumes, offers considerable benefit when grown in rotation with other crops.

Proper seed inoculation results in nitrogen fixation and can reduce input costs by supplying most of the nitrogen required by a productive crop. In addition, succeeding crops require less nitrogen fertilizer to attain high yields. See Seed Inoculation section. For detailed production information consult the *Pulse Production Manual* published by Saskatchewan Pulse Growers.

GREEN SEEDCOAT RATINGS (percentage) were recorded for yellow-seeded varieties from 10 dryland sites in 1998 and 1999. Ratings from high to low for percentage of seeds with green-ish seed coat were **Grande**, **Miami**, **Baccara** > **Nicole**, **AC Melfort**, **CDC Mozart**, **Cobra**, **CDC Handel** > **Integra**, **Alfetta**, **Nicole**, **Passat**, **Swing**,and **Croma**.

Data for PERCENT SEED DIMPLING were recorded from 10 dryland sites in 1998 and 1999. For yellows, dimpling percentage was low (0-5%) for **Miami**, **CDC Handel**, **CDC Mozart**, **Swing**, **AC Melfort**, **Croma**, **Nicole**, **Grande**, and **Alfetta**; and intermediate (6-20%) for **Baccara**, **Delta**, **Passat**, **Integra** and **Cobra**. For greens, dimpling percentage was low (0-5%) for **SW Parade**, **Pekisko** and **Keoma**; and intermediate (6-20%) for **Nitouche**, **Millenium**, **Toledo**, **CDC Verdi**, **Adagio**, **Espace**, **Explorer**, **Scuba**, and **Astuce**.

Certified seed of **AC Melfort**, **CDC Handel**, **CDC Mozart**, **SW Parade**, and **CDC Verdi** and some other recently registered varieties will not be available in large quantities for 2000 planting.

Chickpea

Main characteristics of varieties

Variety	Type	Years tested	Yield as % Sanford		Height (cm)	Days to flower	Days to maturity*	Seed weight (g/1000)	Leaf type
			Area 1	Area 2					
Sanford	kabuli	5	100	100	49	56	L	425	unifoliolate
Dwelley	kabuli	3	86	88	45	57	VL	490	unifoliolate
B-90	kabuli	3	118	121	46	55	M	265	fern
CDC Yuma	kabuli	4	106	106	45	53	M	410	fern
CDC Xena	kabuli	3	111	144	44	52	M	470	unifoliolate
CDC Chico	kabuli	4	123	137	44	51	E	265	fern
Myles	desi	4	113	126	41	50	E	200	fern
CDC Desiray	desi	3	104	121	40	49	E	200	fern

*Maturity ratings: E - early; M - medium; L - late; VL - very late. Maturity will be delayed in areas with a cool moist summer, especially on clay soils.

Additional Information

Kabuli chickpea is best adapted to stubble production in the Brown soil zone. Desi chickpea is best adapted to stubble production in the Brown and Dark Brown soil zones. **B-90** and **CDC Chico** are small-sized kabuli varieties; B-90 has round seed shape. **Myles** is a small-seeded desi (brown seed coat) variety. Seed supplies for **CDC Yuma**, **CDC Xena**, **CDC Chico**, and **CDC Desiray** will be limited in spring 2000.

Ascochyta blight can **COMPLETELY DESTROY** the crop. In most years, the varieties listed have adequate resistance to ascochyta blight until early pod fill stage. In cool wet years, fungicide application may be necessary to protect the crop late in the season. The foliar fungicide chlorothalonil (BRAVO 500) may be applied to reduce disease severity on uninfected plant material. Although all listed varieties have resistance to ascochyta blight, seed lots may be contaminated with diseased seeds at low rates that may be undetected in standard seed analyses. Therefore, growers should use seed with ascochyta blight levels as close to 0% as possible.

Chickpea is a deep rooted crop which is efficient in water uptake. Planting on clay soils, regardless of soil zone, increases the risk of prolonged vegetative growth and failure to mature on time. Risk is reduced by planting on sandier, drought prone soils. Chickpea will tolerate light frosts in the spring. Desi types can be seeded in late April or early May. Kabuli types should be seeded between early to mid May into a warm seedbed, preferably at least 10C average soil temperature at depth of seeding. This means that kabuli types are often later maturing.

Kabuli types require planting equipment with a seed-feeding mechanism capable of handling large seeds. The large kabuli types are highly susceptible to seed damage and should be handled gently at all times. Seed treatment for root rot diseases is strongly recommended for kabuli types.

Plant 6 cm deep. Seeding rates are 90-110 kg/ha (80-100 lb/A) for desi and 160 kg/ha (140 lb/A) for kabuli. Desi types are generally earlier maturing and higher yielding compared to the currently available kabuli types. The crop stands well and can be swathed or straight cut at maturity. Thresh kabuli types gently to avoid splitting damage. For more details on production consult the Pulse Production Manual published by the Saskatchewan Pulse Growers.

Additional Information

Faba bean should be seeded early (late April to early May). It is best adapted to irrigated areas in the Dark Brown Soil Zone and that portion of the Black Soil Zone with the longest growing season.

Seed supplies of **CDC Blitz, Scirocco** and **Cresta** are limited.

Faba bean is a legume and thus is able to use nitrogen from the air provided the seed is inoculated with the proper bacteria prior to planting. Faba bean requires a special strain of inoculum which is different from other pulse crops.

Faba Bean

Main characteristics of varieties

Variety	Years tested	Yield as % of Outlook (Northeast) Dryland	Yield as % of Outlook (South-central) Irrigated	Maturity in days	Average seed size
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
Cresta	3	92	101	105	630
Orion	6	95	94	103	350
Scirocco	3	96	110	107	550

Seed Facts

Pedigreed Seed

Use certified seed regularly, and especially when changing to a different variety. This assures that the seed has high genetic purity, high germination and is relatively free from weeds and other crop seeds. Some pedigreed seed may be paid for by an over-quota delivery of commercial grain. Ask your elevator agent or seed dealer for details.

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 percent 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 will also occur.

Seed Cleaning

Seed should be carefully cleaned to remove weed seeds, trash, small or broken kernels, ergot and sclerotia. **Country grain elevators are not equipped to clean grain to seed standards and the risk of mixing varieties and types of grain is very high.**

Seed Treatment

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 also introduce the diseases of the Fusarium complex into unaffected areas.

"Smuts that attack wheat, barley, oat and rye can be controlled by chemical seed treatments. If bunt or smut was observed in a crop which is being used for seed, the seed should be treated. **If the presence of smut is uncertain, then varieties rated VERY POOR should be treated every year, POOR every second year and FAIR every third year.**

Only systemic fungicides will control true loose smut of barley, and wheat and stem smut of rye because the pathogens are present within the seed. The other types of smut (covered, false loose, oat, and bunt) are carried on the outside of the seed and may be treated with non-systemic seed treatments containing maneb or formaldehyde. However, use of formaldehyde may reduce seed germination.

The virulent form of blackleg is widespread on canola in Saskatchewan. Treatment of seed with a recommended fungicide can reduce the risk of disease and the risk of introducing the disease into unaffected areas. Growers with carryover stocks of treated seed should have these tested for germination.

Coating of canola with the appropriate seed dressing is a convenient alternative to on-farm seed treatment.

Various fungicides have been registered for the control of seedling disease. Flax, canola, rye and winter wheat seed should be treated to promote good seedling growth.

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

Seed-borne diseases of pulses

Lentil and chickpea growers should only plant seed that has been tested for seed-borne ascochyta disease and avoid planting next to the previous year's pulse residue. Consult the *Pulse Production Manual* (Saskatchewan Pulse Growers) for details of seed infection tolerances and seed treatment.

Read the label carefully before using any seed treatment or insecticide. Information on their use and recommended rates are found in the provincial publication Crop Protection Guide 1999. Treated seed must not be delivered to an elevator or used for feed.

Ergot

Ergot attacks all varieties of rye, triticale, wheat and barley, as well as most common species of grass. Oat is rarely attacked and all broadleaved species are immune. Grain containing 0.1% ergot is considered poisonous and should not be used as food. Details of this disease are found in *Ergot of Grains and Grasses*, Publ. 1438.

Seed Inoculation

Legume crops obtain much of their nitrogen (N) requirement from the atmosphere 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 immediately prior to seeding with the proper strain of bacteria specific to that crop. For further details please refer to the *Inoculation of Pulse Crops* publication.

Damp and Frozen Seed

Seed which is stored damp or tough may be low in germination. Grain which is being saved for seed should be dried if necessary, soon after harvest. Drying temperature should be kept below 37°C for batchdriers, or 43°C for recirculating and continuous driers. Frozen grain should never be sown without a laboratory germination test. Such grain will frequently produce a high percentage of abnormal seedlings.

Production Notes

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 *Orange Wheat Blossom Midge* publication.

Residue of infected crops may harbor disease agents. Seeding into stubble of the same crop kind will increase disease risk, particularly in the higher rainfall areas.

Breeding Institutions and Seed Distributors of Varieties Listed in this Publication

Crop kind, Class & Variety	Breeding Institution	Distributor
Wheat		
Bread Wheat		
5600 HR	Agripro/UGG	Proven Seed
AC Abbey	AAFC (Swift Current)	Canterra Seeds
Alikat	University of Alberta	Canterra Seeds,
AC Barrie	AAFC (Swift Current)	SeCan Members
AC Cadillac	AAFC (Swift Current)	Value Added Seeds
Columbus	AAFC (Winnipeg)	SeCan Members
AC Cora	AAFC (Winnipeg)	SeCan Members
AC Domain	AAFC (Winnipeg)	SeCan Members
AC Eatonia	AAFC (Swift Current)	Proven Seed
AC Elsa	AAFC (Swift Current)	SeCan Members
AC Intrepid	AAFC (Swift Current)	Canterra Seeds
Katepwa	AAFC (Winnipeg)	SeCan Members
Laura	AAFC (Swift Current)	SeCan Members
AC Majestic	AAFC (Winnipeg)	Cargill Seed
CDC Makwa	U of S - CDC	SeCan Members
McKenzie	Sask. Wheat Pool	Sask. Wheat Pool
Prodigy	Sask. Wheat Pool	Sask Wheat Pool
Roblin	AAFC (Winnipeg)	SeCan Members
AC Splendor	AAFC (Winnipeg)	Cargill Seed
CDC Teal	U of S - CDC	Value Added Seeds
Canada Prairie Spring Wheat		
AC Crystal	AAFC (Swift Current)	SeCan Members
AC Foremost	AAFC (Swift Current)	SeCan Members
AC Karma	AAFC (Swift Current)	SeCan Members
AC Taber	AAFC (Swift Current)	SeCan Members
AC Vista	AAFC (Swift Current)	Value Added Seeds
Canada Western Extra Strong		
Amazon	University of Manitoba	Canterra Seeds
AC Corrine	AAFC (Winnipeg)	Performance Seeds
Bluesky	AAFC (Beaverlodge)	SeCan Members
Glenlea	University of Manitoba	Public
Laser	University of Alberta	Canterra Seeds
Durum		
AC Avonlea	AAFC (Swift Current)	Value Added Seeds
Kyle	AAFC (Swift Current)	SeCan Members
AC Melita	AAFC (Winnipeg)	SeCan Members
AC Morse	AAFC (Winnipeg)	SeCan Members
AC Navigator	AAFC (Swift Current)	SK Wheat Pool
AC Pathfinder	AAFC (Swift Current)	SK Wheat Pool
Plenty	U of S - CDC	SeCan Members
Sceptre	U of S - CDC	SeCan Members
Soft White Spring Wheat		
Fielder	University of Idaho & USDA; AAFC (Lethbridge)	Public
AC Nanda	AFFC (Lethbridge)	Value-Added Seeds
AC Phil	AAFC (Lethbridge)	Proven Seed
AC Reed	AAFC (Lethbridge)	SeCan Members
Winter Wheat		
CDC Clair	U of S - CDC	SeCan Members
CDC Falcon	U of S - CDC	SeCan Members
CDC Kestrel	U of S - CDC	SeCan Members
CDC Osprey	U of S - CDC	Canterra Seeds
CDC Harrier	U of S - CDC	SeCan Members
Winter Rye		
AC Remington	AAFC (Swift Current)	Proven Seed
Dakota	Agricore	Sask. Wheat Pool
Danko		Agricore
Kodiak	University of Alberta	Agricore
Prima	AAFC (Swift Current)	SeCan Members
AC Rifle	AAFC (Swift Current)	Proven Seed/Canterra
Spring Rye		
Gazelle	U of S	Public
Triticale		
AC Alta	AAFC (Swift Current)	Progressive Seeds
AC Ultima	AAFC (Swift Current)	Quality Assured
AC Certa	AAFC (Swift Current)	Progressive Seeds
AC Copia	AAFC (Swift Current)	Value Added Seeds
Banjo	University of Manitoba	Value Added Seeds
Bobcat	AAFRD (Lacombe)	Progressive Seeds
Frank	AAFC (Swift Current)	SeCan Members
Pika	AAFRD (Lacombe)	Progressive Seeds
Pronghorn	AAFRD (Lacombe)	Progressive Seeds
Sandro	Swiss Fed Ag Res	Newfield Seeds
Barley		
Malting		
B1215	Busch Ag. Res. Inc.	Sask Wheat Pool
B1602	Busch Ag. Res. Inc.	Sask Wheat Pool
CDC Copeland	U of S - CDC	SeCan Members
Excel	U of Minnesota	Proven Seed, Others
Foster	NDSU	Proven Seed
CDC Kendall	U of S - CDC	Sask. Wheat Pool
Harrington	U of S - CDC	SeCan Members
AC Metcalfe	AAFC (Brandon)	SeCan Members
Manley	U of S - CDC	SeCan Members
Merit	Busch Ag. Res. Inc.	Agricore/SWP
AC Oxbow	AAFC (Winnipeg, Brandon)	SeCan Members
Robust	U of Minnesota	Cargill Seed, Others
Stein	U of S - CDC	Proven Seed
CDC Sisler*	U of S - CDC	Proven Seed
CDC Stratus	U of S - CDC	Performance Seeds
CDC Unity	U of S - CDC	SeCan Members
CDC Yorkton	U of S - CDC	Proven Seed
AC Bountiful	AAFC (Brandon)	Value Added Seeds
BT 435	U of S - CDC	Proven Seed
Feed		
Brier	U of S - CDC	SeCan Members
CDC Dolly	U of S - CDC	SeCan Members
CDC Fleet	U of S - CDC	Value Added Seeds
AC Harper	AAFC (Lethbridge)	SeCan Members
AC Lacombe	AAFC (Lacombe)	SeCan Members
AC Rosser	AAFC (Brandon)	SeCan Members
Stander	U of Minnesota	Sask. Wheat Pool
Xena	Agricore/W. Plant Breeders	Agricore
Hulless		
AC Bacon	AAFC (Brandon)	SeCan Members
Condor	AAFRD (Lacombe)	SeCan Members
CDC Dawn	U of S - CDC	SeCan Members
Falcon	AAFRD (Lacombe)	Progressive Seeds
CDC Freedom	U of S – CDC	SeCan Members
CDC Gainer	U of S - CDC	Value Added Seeds
AC Hawkeye	AAFC (Brandon)	Sask. Wheat Pool
Jaeger	AAFRD (Lacombe)	Progressive Seeds
CDC McGwire	U of S - CDC	SeCan Members
Peregrine	AAFRD (Lacombe)	Progressive Seeds
Phoenix	AAFRD (Lacombe)	Progressive Seeds
CDC Silky	U of S - CDC	Value Added Seeds
Tercel	AAFRD (Lacombe)	Progressive Seeds
Intensive Management		
CDC Bold	U of S - CDC	Canterra Seeds
Duke	U of S - CDC	SeCan Members
CDC Earl	U of S - CDC	SeCan Members
Kasota	AAFRD (Lacombe)	SeCan Members
Mahigan	AAFRD (Lacombe)	SeCan Members
Niska	AAFRD (Lacombe)	Canterra Seeds
Stetson	W. Plant Breeders	Sask. Wheat Pool
CDC Thompson	U of S - CDC	Value Added Seeds
Oat		
AC Antione	AAFC (Ottawa)	Cargill Seed
AC Assiniboia	AAFC (Winnipeg)	Canterra Seeds, Proven Seed
AC Belmont	AAFC (Winnipeg)	SeCan Members
CDC Boyer	U of S - CDC	SeCan Members

AC	- as a prefix to variety names Agriculture Canada (Agriculture and Agri-Food Canada)
AAFC	- Agriculture and Agri-Food Canada
CDC	- Crop Development Centre
AAFRD	- Alberta Agriculture Food and Rural Development, Lacombe, Alta.
U	- University
U of S	- University of Saskatchewan, Saskatoon
USDA	- United States Department of Agriculture

Crop kind, Class & Variety	Breeding Institution	Distributor
Calibre	U of S - CDC	SeCan Members
Derby	U of S - CDC	Proven Seed
AC Juniper	AAFRD (Lacombe)	Sask. Wheat Pool
AC Medallion	AAFC (Winnipeg)	Cargill Seed
AC Mustang	AAFRD (Lacombe)	Sask Wheat Pool
CDC Pacer	U of S - CDC	Value Added Seeds
AC Preakness	AAFC (Winnipeg)	Proven Seed
AC Rebel	AAFC (Winnipeg)	Canterra Seeds
SW Exactor	Svalöf Weibull AB	Performance Seeds
Triple Crown	Svalöf Weibull AB	Wheat City Seeds
Canola		
Argentine		
1492	NPZ-LEMBKE	Canterra Seeds
220	NPZ-Svalöf Weibull AB	Cargill Seed
45A51	Pioneer Hi-Bred	Proven Seed
45A71	Pioneer Hi-Bred	Proven Seed
46A52 (RR)	Pioneer Hi-Bred	Proven Seed
46A65	Pioneer Hi-Bred	Proven Seed
46A73	Pioneer Hi-Bred	Proven Seed
46A76 (SM)	Pioneer Hi-Bred	Proven Seed
Agassiz	DSV	Brett Young Seeds
Armor BX	University of Manitoba	Sask Wheat Pool
Ascent	DSV	Brett-Young Seeds
Battleford	Svalöf Weibull	Sask. Wheat Pool
CLAVET	Svalöf Weibull AB	Cargill Seed
Cyclone	DLF-Trifolium	Limagrain Canada
OAC DYNAMITE	U of Guelph	Newfield Seeds
Eagle	Svalöf Weibull AB	SeCan Members
AC Excel	AAFC (Saskatoon)	SeCan Members
Foremost	DLF-Trifolium A/S	Seed Link Inc.
Hi-Q	University of Alberta	Sask Wheat Pool
Hudson	Danisco Seeds	Performance Seeds
Hyola 401	Advanta Seeds	Advanta Seeds
Hyper Star 100	NPZ/LEMBKE	Performance Seeds
IMPULSE	Svalöf Weibull AB	Newfield Seeds, Wheat City Seeds
Legacy	Svalöf Weibull AB	Sask. Wheat Pool
LG3220	Danisco Seeds	Limagrain Canada
LG3235 (RR)	Limagrain Canada	Limagrain Canada
LG3345 (RR)	Limagrain Canada	Cargill Seed
LG3310	Limagrain Canada	Limagrain Canada
LG3333	Limagrain Canada	Limagrain Canada
LG Dawn (RR)	Limagrain Canada	Agricore
Magellan	IMC Cargill	Cargill Seed
Option 500	Danisco Seed	Advanta Seeds
Option 501	Advanta Seeds	Advanta Seeds
InVigor 2463 (LL)	Aventis	Aventis
InVigor 2473 (LL)	Aventis	Aventis
InVigor 2153 (LL)	Aventis	Aventis
InVigor 2273 (LL)	Aventis	Aventis
Q2	U. of Alberta	Sask. Wheat Pool
Quantum	U of Alberta	Sask. Wheat Pool
Quest	Alberta Wheat Pool	Sask. Wheat Pool
Sentry	U of Manitoba	Value Added Seeds
Sprint	Agricore	Sask. Wheat Pool
SW ARROW (RR)	Svalof Weibull AB	SWP/Agricore
SW RideR (RR)	Svalof Weibull AB	Sask. Wheat Pool
TRAILBLAZER	Limagrain Canada	Northstar Seed Prairie Seeds
AC Tristar	AAFC (Saskatoon)	
WILDCAT	Svalöf Weibull AB	Brett-Young Seeds
Polish		
41P55	Pioneer Hi-Bred	Proven Seed
1000 SP	Advanta Seeds	Canterra Seeds
1007	Svalof Weibull AB	Canterra Seeds
AC Boreal	AAFC (Saskatoon)	SeCan Members
Cash	Svalöf Weibull AB	Newfield Seeds
CHINOOK	Svalöf Weibull AB	Limagrain Canada
Eclipse	University of Alberta	Agricore
FAIRVIEW	Svalöf Weibull AB	Sask. Wheat Pool
FOOTHILLS	Svalöf Weibull AB	Sask. Wheat Pool
Hysyn 100	Advanta Seeds	Advanta Seeds
Hysyn 110	Advanta Seeds	Advanta Seeds
Hysyn 111	Advanta Seeds	Advanta Seeds
Hysyn 120 CS	Advanta Seeds	Cargill Seed
NORWESTER	Svalöf Weibull AB	Northstar Seed
AC Parkland	AAFC (Saskatoon)	SeCan Members
Reward	U of Manitoba	SeCan Members
AC Sunbeam	AAFC (Beaverlodge)	SeCan Members
WESTWIN	Svalöf Weibull AB	Brett-Young Seeds

Crop kind, Class & Variety	Breeding Institution	Distributor
Flax		
CDC Arras	U of S – CDC	Value-Added Seeds
CDC Bethune	U of S – CDC	SeCan
AC Carnduff	AAFC (Morden)	SeCan Members
AC Emerson	AAFC (Morden)	SeCan Members
Flanders	U of S - CDC	SeCan Members
Linola™989	CSIRO/UGG	Proven Seed
Linola™ 1084	CSIRO/UGG	Proven Seed
AC Linora	AAFC (Morden)	SeCan Members
AC McDuff	AAFC (Morden)	Proven Seed
NorLin	AAFC (Morden)	SeCan Members
CDC Normandy	U of S - CDC	SeCan Members
Somme	U of S - CDC	SeCan Members
CDC Valour	U of S - CDC	SeCan Members
Vimy	U of S - CDC	SeCan Members
AC Watson	AAFC (Morden)	Sask. Wheat Pool
Mustard		
Brown		
commercial		Trade
Oriental		
Cutlass	AAFC (Saskatoon)	Trade
Forge	Colman's of Norwich	Sask. Wheat Pool
Lethbridge 22A	AAFC (Saskatoon)	Trade
AC Vulcan	AAFC (Saskatoon)	Sask. Wheat Pool
Yellow		
AC Base	AAFC (Saskatoon)	
Gisilba	Kurt Behm GMBH	Northern Sales/ Klempnauer Seeds
Ochre	AAFC (Saskatoon)	Trade
AC Pennant	AAFC (Saskatoon)	Sask. Wheat Pool
Tilney	Colman's of Norwich	Proven Seed
Viscount	Colman's of Norwich/UGG	Proven Seed
Sunflower		
IS 5077	Interstate Seeds	
IS 5757	Interstate Seeds	
IS 6111	Interstate Seeds	
6230	Pioneer Hi-Bred	Pioneer Hi-Bred
P6150	Pioneer Hi-Bred	Pioneer Hi-Bred
SF 270	Cargill Seed	Cargill Seed
XF 361	Pioneer Hi-Bred	Pioneer Hi-Bred
Field Pea		
Adagio	Blondeau	Performance Seeds
Alfetta	Cebeco Zaden	Performance Seed
CDC April	U of S - CDC	Value Added Seeds
Ascona	Cebeco Zaden	St. Denis Seeds (AB)
Astuce	Blondeau	Brett-Young Seeds
Baccara	Forimond Desprez	St. Denis Seeds (AB)
Carneval	Svalöf Weibull AB	Sask. Wheat Pool
Carrera	Cebeco Zaden	Canseed Ltd.
COBRA	Danisco Seeds	Canterra Seeds
Cresta	Sharpes Int. Seed Ltd.	
CROMA	Cebeco Zaden	Canterra Seeds
Danto	L. Dsenfeldt	Brett-Young Seeds
Delta	Cebeco Zaden	Performance Seeds
Eiffel	Danisco Seeds	SeCan Members
Espace	Cebeco Zaden	St. Denis Seeds AB
Exchequer	Svalöf Weibull AB	Bonis & Co. Ltd.
GRANDE	Svalöf Weibull AB	Sask. Wheat Pool
CDC HANDEL	U of S - CDC	Sask. Pulse Growers
Highlight	Svalöf Weibull AB	Newfield Seeds
INTEGRA	Cebeco Zaden	St. Denis Seeds AB
Keoma	Anttila P.B. Farm	Sask. Wheat Pool
Mandy	Mansholt	Terramax
MAJORET	Svalöf Weibull AB	Newfield Seeds
AC Melfort	AAFC (Morden)	Canterra Seeds
Miami	Sharpes Intl.Seeds Ltd.	Value Added Seeds
Millenium	Mansholt	
CDC MOZART	U of S - CDC	Sask. Pulse Growers
Nicole	Sharpes Intl. Seeds Ltd.	Value Added Seeds
NITOUCHE	DLF Trifolium (Denmark)	Canseed Canada
Obelisque	Danisco Seeds	Agriprogress Inc.
Olivin	Slovosivo H.S.	Terramax
PASSAT	Cebeco Zaden	
Pekisko	Agricore	Agricore
CDC Peko	U of S – CDC	SeCan Members
Princess	Wilbur Ellis Co.	Walker Seeds
PROFI	Danisco Seeds	SeCan Members
SW Parade	Svalöf Weibull AB	Sask. Wheat Pool
Radley	Sharps-Columbia Seeds	Columbia Seeds (AB)

Crop kind, Class & Variety	Breeding Institution	Distributor
Scuba▲	Sharpes Intl.Seeds Ltd.	Performance Seeds
SWING▲	Cebeco Zaden	Canseed Canada
TENOR▲	Danisco Seeds	Canterra Seeds
TOLEDO	Cebeco Zaden	Canterra Seeds
Trapper	AAFC (Morden)	Public
CDC VERDI	U of S - CDC	Sask. Pulse Growers
Victoria	Svalöf Weibull AB	Newfield Seeds
CDC Vienna	U of S - CDC	Walker Seed
Whero	Challenge Seeds	Newfield Seeds
CDC Winfield	U of S – CDC	SeCan members
YORKTON	Svalöf Weibull AB	Value Added Seeds
Lentil		
Crimson		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 Milestone	U of S - CDC	Sask. Pulse Growers
Laird	U of S - CDC	SeCan Members
CDC Redcap	U of S - CDC	Sask. Pulse Growers
CDC Redwing	U of S - CDC	Sask. Wheat Pool
CDC Richlea	U of S - CDC	SeCan Members
CDC Robin	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
Faba Bean		
Aladin	University of Manitoba	Public
CDC Blitz	U of S - CDC	
Cresta	Saatbau Linz	Canterra Seeds/ Agriprogress Inc.
CDC Fatima	U of S - CDC	R.Legumex/Walker S.
Orion	AAFC (Lacombe)	Roger Lee, Lyster Farm
Outlook	U of S - CDC	SeCan Members
Scirocco	NPZ-Lembke	Agriprogress Inc.
Dry Bean		
AC Burrito	AAFC (Harrow)	
CDC Camino	U of S - CDC	Sask. Pulse Growers
CDC Crocus	U of S - CDC	Sask. Pulse Growers
Fargo		Rogers Brothers
Othello	USDA/ARS (Prosser, WA)	Public
Earliray	Gen-Tec	Gen-Tec
US 1140	USDA	public
CDC Expresso	U of S - CDC	Specialty Seeds
CDC Nighthawk	U of S - CDC	Value Added Seeds
CDC Nordic	U of S - CDC	Sask. Pulse Growers
CDC Pintium	U of S - CDC	Sask. Pulse Growers
GTS 523	Gen-Tec	Gen-Tec
CDC Rosalee	U of S - CDC	Value Added Seeds
AC Skipper	AAFC (Lethbridge)	Klempnauer/ Performance Seeds
UI 906	University of Idaho	Public
CDC Pinnacle	U of S - CDC	Sask. Pulse Growers

Crop kind, Class & Variety	Breeding Institution	Distributor
CDC Altiro	U of S - CDC	Sask. Pulse Growers
CDC Bianca	U of S - CDC	Value Added Seeds
Chickpea		
Desi		
CDC Desiray	U of S - CDC	Sask. Pulse Growers
Myles	USDA/Washington State U	Public
Kabuli		
B-90		Terramax
Sanford	USDA/Washington State U	Public
Dwelley	USDA/Washington State U	Public
CDC Chico	U of S - CDC	Sask. Pulse Growers
CDC Xena	U of S - CDC	Sask. Pulse Growers
CDC Yuma	U of S - CDC	Sask. Pulse Growers
Canary Seed		
Ellias	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
Safflower		
Saffire	AAFC (Lethbridge)	Jerry Kubic (AB)
AC Stirling	AAFC (Lethbridge)	SeCan Members
AC Sunset	AAFC (Lethbridge)	Alberta Wheat Pool

The **Advisory Council on Grain Crops**, a committee of the Saskatchewan Agricultural Services Co-ordinating Committee (SASCC), supervises, co-ordinates and reviews the collection, analysis and reporting of information in this pamphlet.

Membership of the Advisory Council on Grain Crops consists of representatives from:

- Agriculture and Agri-Food Canada
- Saskatchewan Agriculture and Food
- University of Saskatchewan
- Crop Development Centre
- Saskatchewan Wheat Pool
- Canadian Seed Trade Association
- Saskatchewan Seed Growers' Association
- Saskatchewan Association of Rural Municipalities
- Farmers
- Saskatchewan Irrigation Development Centre
- Representatives from Saskatchewan Seed Distributing Companies

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Contributing Agencies

Saskatchewan Agriculture and Food

POOL Saskatchewan Wheat Pool

University of Saskatchewan

Agriculture and Agri-Food Canada