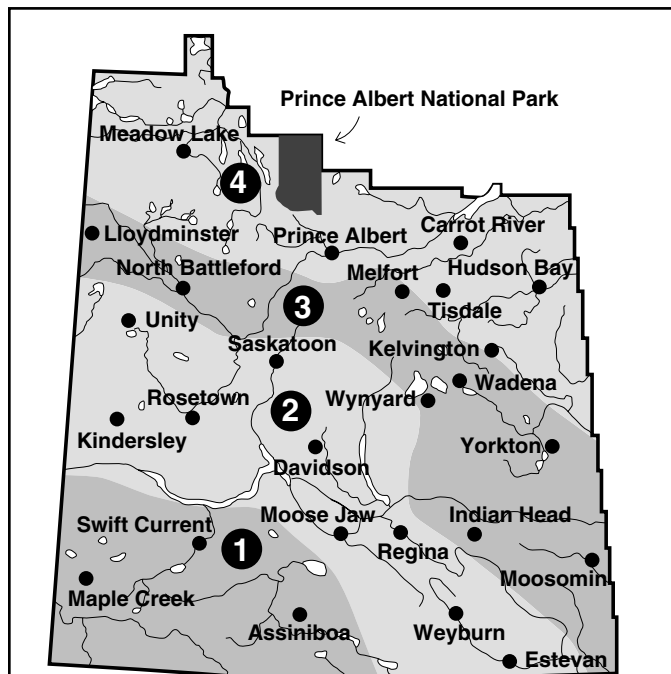


Varieties of grain crops 2002



Saskatchewan
Agriculture
and Food

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.

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Symbols Used in 2002 Seed Guide:

- ^ Variety may not be described in 2002
- 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 Agriculture

The performance of crop varieties is tested regularly at a number of locations across Saskatchewan. Data from these trials are summarized and interpreted by the Saskatchewan Advisory Council on Grain Crops every year.

The trials are conducted by researchers from plant breeding institutions. The most recently registered varieties and promising experimental lines that might become registered are compared to standard varieties.

Wheat, oat, barley and flax varieties are grown at all locations, while canola, mustard, field pea, lentil, bean and chickpea are tested in those regions where they are best adapted. Information on sunflower production is received from trials conducted under the auspices of the Saskatchewan Sunflower Committee.

The reaction of varieties to diseases and seed treatment recommendations are updated and forwarded to the Grain Crops Council by pathologists who meet as members of the

Plant Disease Sub-council of the Council on Crop Protection.

Variety trials are grown both on farmers' fields and research stations.

Multiple small plots of the various varieties are sown and harvested with small-scale press-drills and combines.

Relative yield of varieties

Grain yield results from the interplay of genetic factors and non-genetic factors. Variety trials are designed to measure the differences among varieties that are due to genetic causes. It is important to minimize variability due to non-genetic factors such as soil type, nutrients, moisture, weeds, diseases, and other pests.

Experimental designs using replication (repeated plantings of the varieties) and randomization (the position of the varieties within the test are assigned by chance) are then used to estimate the precision with which the genetic factors can be measured. Yield potential of a variety is estimated by measuring the weight of grain produced per unit area.

Comparisons among varieties for yield potential involves an evaluation of both their absolute amounts of grain and their relative yield. Relative yield is the yield of one variety expressed as a percentage of a second variety.

Yields obtained in these trials are not identical to those obtained under commercial production conditions. However, the average yield for these varieties, obtained over a number of years at several locations, would remain in relatively the same ratio regardless of whether the grain yields were measured in small plots or large-scale fields.

Relative yields are the best estimates of expected yield advantage in the areas indicated. They are more reliable than estimates based on data from a single test or from a single location. Farmers should be aware, however, that actual yields within an area, or in a particular year, may vary substantially from the average figures reported because of natural variability.

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

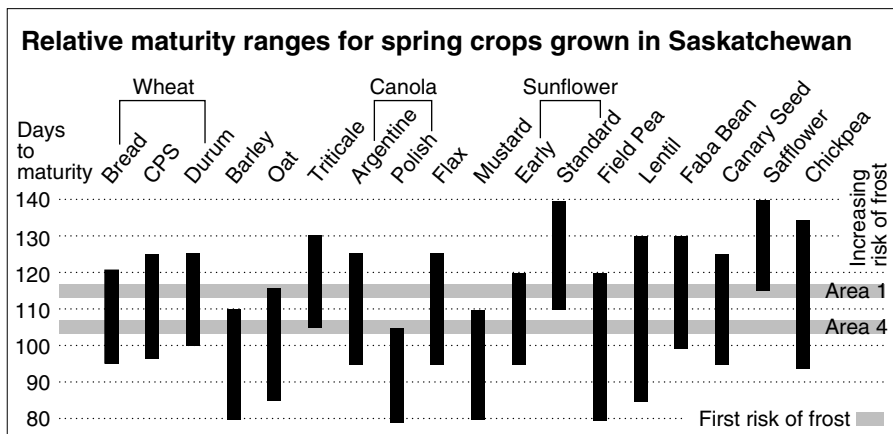
plus or minus 1-2 days, and VL and VE varieties beyond these.

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.

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.



Plant Disease Resistance

Resistance to the most important diseases in western Canada is generally assessed in each crop 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 good resistance can show disease symptoms under favourable conditions, a susceptible variety would have much more disease under the same conditions. 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. Current commercial chickpea varieties such as Sanford and Dwelley have some resistance to the disease. 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 such as Sanford and Dwelley do not show good 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.

What is Plant Breeders' Rights

Plants 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 improved crop varieties for Canadian farmers.



Plants 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, he 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 his agent and; 2) payment of a royalty to the breeder or his 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 PBR logo above.

Further information on Plant Breeders' Rights can be obtained from the Plant Breeders' Rights Office, tel. (613) 225-2342, fax (613)228-6629.

Cereal Crops

Wheat

Main characteristics of varieties

Type & Variety	Years tested	Yield as % of Barrie					Relative maturity in days	Protein	Resistance to								
		Area 1	Area 2	Area 3	Area 4	Irrigation			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
AC Abbey 🌾	7	99	93	95	95	98	-1	-0.8	F	G	P	G	P	F	G	P	P
CDC Bounty	6	106	104	107	108	---	-1	-0.1	F	G	F	G	F	G	F	P	F
AC Cadillac 🌾	7	100	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	94	95	92	-2	-0.3	F	G	F	G	VG	G	G	P	F
AC Domain ^	6	96	94	94	86	89	-2	+0.1	G	G	VG	G	G	VG	F	VP	P
AC Eatonia	7	92	94	90	84	---	0	+0.2	P	G	VG	F	P	F	G	P	--
AC Elsa 🌾	7	102	104	105	98	97	-1	-0.1	F	G	F	G	G	G	G	F	P
AC Intrepid 🌾	7	101	100	105	102	102	-3	-0.3	G	G	P	G	G	F	G	P	P
Katepwa	9	97	94	92	93	89	-2	-0.5	F	G	F	G	VP	G	G	P	F
Laura ^	8	100	103	98	95	82	+1	-0.4	F	G	F	G	G	F	P	P	P
AC Majestic	8	93	97	97	96	86	+2	-0.2	G	F	VG	G	P	F	VG	F	F
McKenzie	7	107	105	102	96	109	-2	-0.5	F	G	G	G	VG	VP	VG	P	F
Prodigy	7	103	104	106	99	---	+1	+0.4	G	F	G	G	G	F	VG	P	VP
AC Splendor	8	91	92	95	92	89	-4	+0.4	F	G	F	G	G	F	G	VP	P
AC Superb 🌾	5	113	106	113	105	---	+4	-0.3	G	G	G	G	F	F	G	VP	F
CDC Teal	7	98	100	103	96	96	-2	-0.1	G	G	P	G	G	G	F	P	VP
5500HR 🌾	4	97	98	99	98	---	+1	-0.4	F	G	G	F	VG	F	VG	P	F
5600HR 🌾	5	99	100	99	102	---	+2	-0.5	G	G	G	F	VG	VG	VG	P	P
Canada Prairie Spring - Red Seeded*																	
AC Crystal 🌾	9	119	121	117	118	112	+3		VG	VG	P	G	P	F	G	F	VP
AC Foremost	5	119	122	118	116	109	+2		G	G	F	G	P	F	G	P	VP
AC Taber	5	117	122	118	114	116	+4		VG	VG	P	G	F	P	G	F	VP
5700PR 🌾	5	118	119	122	123	120	+2		VG	G	P	G	F	F	VG	P	P
Canada Prairie Spring - White Seeded*																	
AC Karma ^	8	117	122	119	121	110	+2		G	G	P	G	P	F	G	P	P
AC Vista 🌾	9	120	125	125	121	116	+1		G	G	F	G	P	G	G	P	VP
AC2000 🌾	5	109	111	108	109	103	+3		G	G	F	F	P	F	G	P	P
Hard White Wheat																	
AC Ivory 🌾	4	96	90	92	92	---	-2		G	G	G	F	G	F	P	P	F
AC Snowbird 🌾	4	103	97	105	102	---	+2		G	G	G	G	VG	G	F	P	F
Canada Western Extra Strong*																	
Amazon 🌾	6	102	104	109	111	---	+2		F	G	P	G	G	VG	F	F	P
AC Corinne	6	99	102	103	110	---	+3		F	G	G	G	G	VG	F	P	P
AC Glenavon 🌾	6	101	105	108	115	---	+2		F	G	--	G	G	VG	F	P	P
Glenlea	8	102	105	108	112	---	+2		F	G	P	G	F	VG	F	P	P
Laser^	6	97	103	104	101	92	-1		F	G	P	P	P	VG	VP	P	P
Durum																	
— Yield as % of Kyle —																	
Kyle	12	100	100	100	100	100	+3	13.8	P	VG	F	VG	VG	P	VG	P	VP
AC Avonlea 🌾	8	105	106	109	--	108	+2	+0.1	F	VG	F	VG	VG	P	VG	P	VP
AC Melita	6	95	96	101	--	110	+1	-0.2	F	VG	F	VG	VG	P	VG	VP	VP
AC Morse 🌾	8	103	102	109	--	111	+3	-0.1	G	VG	F	VG	VG	VP	VG	VP	VP
AC Napoleon 🌾	5	104	104	109	--	--	+2	-0.4	F	VG	--	VG	VG	P	VG	P	VP
AC Navigator 🌾	6	104	101	97	--	--	+3	-0.4	G	VG	F	VG	VG	VP	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

* Includes direct and indirect comparisons with AC Barrie

Wheat (Cont'd)

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 southeastern Saskatchewan, early seeding may minimize risk of crop losses.

Durum wheat varieties are 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 pamphlet or the *Guide to Crop Protection 2002*.

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 **5600HR** and **AC Superb** will not be available in 2002.

Limited quantities of seed of the new varieties **CDC Bounty** and **5500HR** will be available in 2002.

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

AC Cadillac and **CDC Bounty** have a large seed size and an exceptionally heavy test weight.

AC Eatonia is resistant to wheat stem sawfly. **McKenzie** has an awned head and may also be identified by a purplish stem.

Prodigy has an awned head and exceptionally heavy test weight. **AC Superb** has an awned head and very large seeds.

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 2002*.

AC Vista and **AC2000** have higher protein content, and stronger gluten than **AC Karma**. Limited quantities of seed of **AC2000** and **5700HR** will be available in 2002.

AC Crystal and **5700HR** have improved quality compared to **AC Foremost** and **AC Taber**.

Canada Western Extra Strong

Limited quantities of **Amazon**, **AC Corinne** and **AC Glenavon** will be available in 2002.

Laser has weaker gluten strength than **Glenlea**. **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 **Sceptre**, and has lower test weight than **Kyle**.

AC Napoleon has shorter and stronger straw than **Kyle** and low test weight.

Under some conditions, the stems of **Plenty** break off near ground level.

AC Navigator has extra strong

gluten properties and semidwarf stature. It may be grown only under contract with the Canadian Wheat Board and Saskatchewan Wheat Pool.

Soft White Spring Wheat

AC Reed and **AC Phil** are moderately resistant 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 2 days later maturing. Limited seed of **AC Nanda** will be available in 2002. 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—				Resistance to				
		Areas 1 & 2	Areas 3 & 4	Irrigation	Protein	Lodging	Winter Damage	Stem Rust	Leaf Rust	Bunt
CDC Kestrel	11	100	100	100	10.8	G	G	P	P	P
AC Bellatrix	3	101	---	---	12.2	G	G	VP	P	G
CDC Clair	11	104	103	94	11.7	G	G	P	P	P
CDC Osprey	11	100	103	90	11.8	G	G	P	P	P
CDC Harrier	8	103	100	104	11.1	G	G	G	P	P
CDC Falcon	7	101	95	111	11.9	VG	G	VG	G	P
CDC Raptor	6	102	99	107	11.8	VG	G	VG	G	P
CDC Ptarmigan [^]	6	116	108	---	9.8	G	F	VP	P	P

CDC Ptarmigan is a soft white winter wheat. All other cultivars belong to the hard red winter wheat class.

Rye

Main characteristics of varieties

Variety	Years tested	Yield as % of Prima				Maturity	Resistance to			
		Area 1	Area 2	Area 3	Area 4		Winter Killing	Shattering	Lodging	Stem Smut
Prima	12	100	100	100	100	M	VG	F	F	G
AC Rifle	12	112	95	93	---	M	VG	VG	VG	G
AC Remington	3	128	100	99	---	M	VG	VG	G	---

Additional Information:

Gazelle is a registered variety of spring rye. **Danko** and **Kodiak** are very susceptible to winter killing in Saskatchewan and therefore should only be considered for production using some form of tillage conservation.

Triticale

Main characteristics of varieties

Variety	Years tested	Yield as % of AC Certa						Test wt. (kg/hl)	Maturity	Resistance to				
		Area 1	Area 2	Area 3	Area 4	Irr*	Lodging			Stem rust	Leaf rust	Bunt	Root rot	
AC Certa	10	100	100	100	---	100	74	M	G	VG	VG	VG	G	
AC Alta	10	104	104	99	---	109	68	L	G	VG	VG	VG	F	
AC Copia	10	99	99	95	---	99	72	M	G	VG	VG	VG	F	
Pronghorn	10	99	102	102	---	107	69	E	G	VG	VG	VG	F	
Sandro	7	104	101	95	---	---	73	E	G	VG	VG	VG	G	
AC Ultima	6	105	104	103	---	---	70	E	G	VG	VG	VG	F	

* Relative yield under irrigation is based on limited data.

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. Susceptibility 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.

Winter triticale has winter hardiness equal to that of winter wheat. **Bobcat** is a new cultivar of winter triticale. It is awnletted with shorter and stronger straw than **Pika**. Seed of **Bobcat** will be available in 2002.

Wheat Stem Sawfly

Area of Infestation: In 2001 sawfly (*Cephus cinctus* Nort.) damage to wheat occurred over a large area in south central Saskatchewan and southern Alberta and as far north as Unity and Wilkie. Sawfly are expected to be a major pest again in 2002.

Symptoms: The wheat appears to be lodged. On close examination, the stems are cut at ground level or detach easily when tugged. A stem split lengthwise reveals an abundance of frass, powdery waste from the sawfly. The subcrown internode contains the sawfly larva in its cocoon.

Life Cycle: To survive the winter, the larva spins its cocoon in the wheat stem below the soil surface. Mid June to mid-July the following year, the sawfly emerge as a wasp-like insect. It finds a tender elongating portion of a wheat stem, saws a tiny hole, and lays an egg inside the wall. The egg hatches and the larva



Above: A crop with sawfly damage
Right: Sawfly larva with characteristic 'S' shape.

feeds on the inside wall of the stem. At maturity the larva girdles the stem above the sub-crown internode. The larva makes a plug in the stem just below the cut on the stem, and encloses itself in a cocoon.

Damage: Girdling weakens the stem so it easily falls over, making it difficult to harvest which results in a yield loss. Another source of yield loss is from the sawfly feeding on the inside of the stem which reduces the number of seeds per head and seed plumpness.

Sawfly Control

Resistant Varieties:

CWRS Two solid stem varieties are available, **AC Eatonia** and **AC Abbey**

Sawfly feed easily throughout the length of regular hollow stem varieties. Sawfly resistant varieties have solid stems that are filled with pith, especially in the lower part. The pith slows the movement of the sawfly larvae, many dying before they reach the sub-crown internode. As a result, there is much less cutting in sawfly resistant varieties. The reduction in cutting also depends on the growing season. Formation of pith is depressed when the conditions during stem growth are cloudy. Under those conditions a 'solid stem' variety may have more cutting than desirable.

Considerations for Use of Resistant Varieties Sawfly resistant varieties are lower yielding than hollow

reduced, then grow a hollow stem variety until an increase in cutting is observed.

Border Planting of Resistant Variety Sawfly inhabit the native grasses in uncultivated areas around a field. If the source of sawfly is adjacent uncultivated land or an adjacent wheat field, a border of a sawfly resistant variety may be planted around a field containing a non-resistant variety. The border should be from the same wheat class. The sawfly is a weak flyer so most will lay their eggs in this border strip which reduces the damage to the non-resistant variety.

Mixtures of resistant and non-resistant wheat varieties may be tried.

Durum Another consideration may be to grow durum wheat which is generally cut less by the sawfly than hollow stemmed wheats. In 2001, durum wheat was cut almost as severely as hollowed stemmed wheat in some areas.

Agronomic Practices:

Sawfly damage can be reduced by:

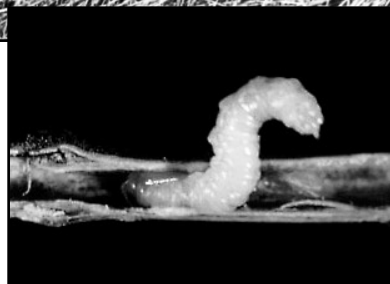
- delayed planting
- swathing before the stems are cut
- fall cultivation brings the plugs to the surface where they are dried out, and buries others too deep for the sawfly to emerge.
- using pick-up reels
- tillage
- summerfallow
- burning
- crop rotations with non-host crops such as lentils, peas, canola, mustard, oats, barley and rye. Barley and rye can be slightly infected.

Insecticide: Insecticides are not effective in controlling sawfly.

Parasite: The natural parasite, *Bracon cephi*, eats the larvae. A build-up of the parasite reduces sawfly damage and plugs available for the next growing season. The problem is that the parasite takes a couple of seasons to build up, and the sawfly damage is already taking its toll.

Websites:

<http://www.gov.mb.ca/agriculture/crops/insects/fad20s00.html>
<http://itsd-s3.agric.gov.ab.ca/pests/insects/62010240.html>
<http://www.agr.gov.sk.ca>



stem varieties. The farmer must weigh potential income loss from sawfly damage of hollow stem cultivars against the financial loss from growing a lower yielding sawfly-resistant variety.

Alternate varieties: A sawfly resistant variety may be grown on a field until the sawfly level is

Malting Barley

Main characteristics of varieties

Category† and variety	Years tested	2 or 6 row	Rough or smooth awns	—Yield as % of Harrington—				Relative maturity rating*	Straw††	Lodging	Resistance to						
				Area 1	Area 2	Area 3	Area 4				Net blotch	Scald	Loose smut	Other smuts	Root rot	Stem rust	Fusarium** Head Blight
Malting acceptance: Recommended																	
Harrington	15	2	R	100	100	100	100	M	N	F	VP	P	P	P	F	P	F+
CDC Kendall	9	2	R	101	112	115	118	M	N	G	F	P	P	P	F	G	F+
Merit ☼	7	2	R	107	125	127	125	L	N	F	F	P	P	G	F	G	F
AC Metcalfe ☼	9	2	R	102	110	113	116	M	N	G	F	P	VG	F	F	G	F+
Stein	14	2	R	105	107	113	115	M	N	F	F	P	P	G	P	G	F
CDC Stratus	9	2	R	101	114	118	120	M	N	G	F	P	F	F	F	G	F+
B1602	10	6	R	89	107	107	116	M	N	G	F	P	P	G	VG	G	VP
Excel	7	6	S	101	114	120	120	M	N	VG	F	P	P	G	G	G	VP
Robust	6	6	S	88	105	111	108	M	N	G	F	P	P	F	G	G	VP
CDC Sisler ☼	7	6	S	99	114	121	118	M	N	F	P	P	P	P	F	G	P
Malting acceptance: Limited																	
Legacy ☼	3	6	S	107	111	110	122	M	N	G	F	P	P	F	G	G	VP
Malting acceptance: Not Recommended																	
Manley^	15	2	R	107	111	115	118	L	N	G	F	P	P	VG	F	G	F
Malting acceptance: Under Test																	
AC Bountiful	8	2	R	106	115	122	120	M	N	G	G	P	VG	VG	F	G	F+
CDC Copeland 🍀	5	2	R	109	120	124	126	M	N	G	F	P	P	F	F	F	F+
Newdale 🍀	3	2	R	120	127	125	136	M	N	G	F	P	P	F	F	G	F
CDC Select 🍀	4	2	R	105	118	115	126	M	N	G	F	P	F	F	F	F	P
CDC Battleford 🍀	3	6	S	111	122	122	136	M	N	G	G	P	VP	G	F	G	P
CDC Yorkton 🍀	5	6	S	97	113	124	132	M	N	G	G	P	P	G	F	G	P

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

** F+ indicates that these lines have superior resistance to those rated F but not good enough to rate G.

† These categories are established annually by the Malting Barley Industry Group (Call 1-800-275-4292 for more information)

†† N = normal, SD = semi-dwarf

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 malting 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 2002 will be malting in January-February, 2003. It will be brewed in May-June, 2003, aged and tasted in October-November 2003.

Additional Information:

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

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

Recommended Malting Barley Varieties

From the Malting Barley Industry Group

2002-03

Recommendations are based on anticipated markets in 2002-03. These recommendations are one source of information used to decide whether to grow a variety of malting barley. Other important considerations are disease resistance and the suitability of a variety's agronomic characteristics in a farming area. Consult your provincial agriculture representative and talk to your elevator manager about local market demand for particular varieties.

TWO-ROW

Variety	Recommended	Limited	Not Recommended	Comments
AC Metcalfe	✓			Widely accepted domestically and for export
Harrington	✓			Reduced demand
CDC Kendall	✓ (Agricore & SWP)			Expanding domestic markets; potential export markets
Stein	✓ (UGG)			Established export markets
CDC Stratus	✓			Expanding domestic markets; potential export markets
Merit	✓			Limited domestic markets; expanding export markets
B1202		✓		Limited domestic and export markets
Manley			✓	

The varieties AC Bountiful (TR243) and CDC Copeland (TR150) are not being grown for the commercial market. Limited quantities are being grown for market development and testing purposes

SIX-ROW

Variety	Recommended	Limited	Not Recommended	Comments
Excel	✓			Reduced demand
Robust	✓			Established demand
B1602	✓ (Agricore, SWP & BARI)			Established demand
CDC Sisler	✓ (UGG)			Growing domestic demand
Legacy		✓		Growing export demand; potential domestic demand

The varieties CDC Yorkton (BT459) and CDC Battleford (BT456) are not being grown for the commercial market. Limited quantities are being grown for market development and testing purposes.

Recommended

Varieties that have proven commercial market demand. Demand for some varieties may be finite.

Limited

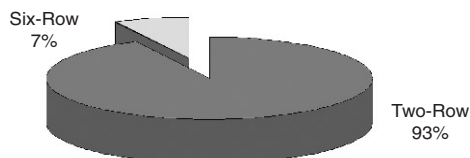
Varieties that are undergoing market development and commercial testing.

Not Recommended

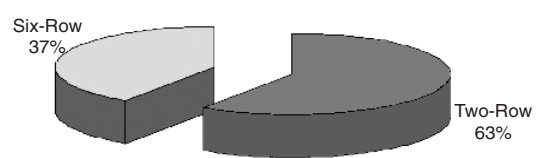
Varieties that have no known commercial market demand for malting and brewing

In **Limited** cases, some acreage is required. Growers should only grow these varieties if they received a commitment from a local elevator, a company with proprietary rights to those varieties or a maltster that is selecting this variety.

Varieties selected for domestic use, 2000-01
(1 095 150 tonnes delivered)



Varieties selected for export, 2000-01
(1 328 350 tonnes delivered)



**Malting
Barley
Industry
Group**

Agricore, Brewing and Malting Barley Research Institute, Busch Agricultural Resources Inc., Canada Malting Co. Ltd., Canadian Grain Commission, Canadian Malting Barley Technical Centre, Canadian Wheat Board, Cargill Ltd., ConAgra Grain, Dominion Malting Ltd., James Richardson International, Louis Dreyfus Canada Ltd., N.M. Paterson & Sons Ltd., North East Terminal, Parrish & Heimbecker Ltd., Pioneer Grain Company Ltd., Prairie Malt Ltd., Saskatchewan Wheat Pool, South West Terminal, UGG, Westcan Malting Ltd., Western Barley Growers Association, XCAN Grain Pool Ltd.

Questions?

Call your selector or handling company. Or call the CWB at: **1-800-ASK-4-CWB** (1-800-275-4292)

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—				Relative maturity rating*	Straw†	Lodging	Resistance to						
				Area 1	Area 2	Area 3	Area 4				Net blotch	Scald	Loose smut	Other smuts	Root rot	Stem rust	Fusarium** Head Blight
Feed																	
CDC Dolly	8	2	R	107	114	118	118	M	N	G	P	G	P	G	F	G	F+
CDC Fleet	9	2	R	89	97	101	102	VE	N	VG	F	G	P	VP	P	G	F
CDC Helgason 🐾	4	2	R	108	119	120	123	M	N	G	G	P	VG	G	F	F	P
Xena ☼	5	2	R	112	126	135	130	M	N	G	F	P	P	VG	F	G	F
Brier^	11	6	S	102	119	102	129	M	N	F	G	F	P	VG	VP	G	P
AC Harper ☼	9	6	S	104	116	121	117	M	N	G	F	G	P	F	F	G	VP
AC Lacombe ☼	11	6	S	101	117	120	121	M	N	G	F	F	P	VG	F	G	VP
AC Rosser ☼	9	6	S	110	128	133	134	M	N	G	F	VP	P	VG	G	G	VP
Stander ☼	9	6	S	94	116	124	128	M	N	VG	F	P	P	P	G	G	VP
Trochu 🐾	4	6	S	93	118	126	138	M	N	F	P	F	P	G	G	G	VP
Hulless																	
CDC Dawn	9	2	R	96	105	121	104	M	N	F	F	G	P	F	F	G	F
CDC Freedom	7	2	R	90	100	104	102	M	N	G	F	P	--	G	P	G	F+
CDC Gainer	8	2	R	87	97	101	101	M	N	F	F	G	P	F	F	G	P
HB 805	3	2	R	95	108	113	108	L	N	F	F	P	F	G	F	F	--
CDC McGwire 🐾	6	2	R	97	111	112	114	M	N	G	VG	G	P	G	G	F	F
Phoenix ☼	9	2	R	82	93	88	--	M	N	G	P	P	P	F	G	P	F
CDC Speedy	3	2	R	73	91	103	93	VE	N	G	F	G	P	P	F	G	F+
Tercel ☼	8	2	R	90	95	98	99	M	N	F	P	P	P	F	F	G	P
AC Bacon	7	6	R	86	108	112	110	M	N	G	P	G	P	F	F	G	P
Falcon ☼	9	6	S	70	90	88	95	M	SD	VG	F	G	P	F	F	G	VP
Peregrine 🐾	5	6	R	71	80	87	90	M	SD	VG	F	F	P	P	G	G	VP
CDC Silky^	9	6	S	84	102	101	105	M	SD	VG	F	G	P	F	G	G	P
Intensive Management																	
CDC Bold	4	2	R	115	126	130	133	L	SD	G	P	G	P	VG	G	G	P
CDC Thompson	9	2	R	89	98	97	101	VE	SD	VG	F	G	F	F	F	G	F
CDC Earl	9	6	R	97	111	110	120	L	SD	VG	G	G	P	G	G	G	VP
Kasota ☼	7	6	S	97	106	109	108	E	SD	G	F	G	P	G	P	G	VP
Mahigan	7	6	S	105	112	114	115	E	SD	VG	F	G	P	G	P	G	VP
Niska 🐾	5	6	S	103	120	127	134	L	SD	F	P	P	P	G	P	G	VP
Vivar 🐾	4	6	R	110	118	120	136	L	SD	G	F	P	F	G	F	G	VP

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

** F+ indicates that these lines have superior resistance to those rated F but not good enough to rate G.

† : N = normal, SD = semi-dwarf.

Feed and Food Barley (Cont'd)

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 Waxy: CDC Candle, HB803 and Merlin are waxy starch varieties for specialty markets. For further information contact Agricore United.

Irrigation: Under irrigation, disease resistance, straw strength and maturity are more critical. Growers should select early, strong-strawed, disease resistant varieties and should consider semi-dwarf varieties.

General Comments: A race of stem rust which attacks all of our previously resistant varieties is present in the eastern prairies and the northern great plains. This race has not reached high levels but if conditions are favorable, it could become a problem. Early sowing is the only practical measure which can be taken at this time.

Of the current two-rowed varieties, only **CDC McGwire** has good field resistance to all races of net blotch. Therefore, growers who must plant barley on barley stubble should either select six-rowed varieties which are more tolerant or the above mentioned two-rowed variety.

Most of the available varieties are susceptible to one or more types of smut. Therefore, seed should be treated 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 seeding or malting purposes.

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

Forage Barley:

AC Ranger, AC Hawkeye and Westford are six-row varieties marketed as forage barley.

Oat

Main characteristics of varieties

Variety	Years tested	— Yield as % of Calibre —				Test wt. (g/0.5L)	% Hull	% Plump	Maturity rating*	Lodging	— Resistance to —		
		Area 1	Area 2	Area 3	Area 4						Stem rust	Leaf rust	Smut
Calibre	13	100	100	100	100	250	22.9	44	M	G	VP	VP	P
AC Antoine •	4	99	106	101	93	243	23.2	25	E	P	VP	VP	F
AC Assiniboia ☼	10	94	99	96	93	240	22.9	74	M	VG	VG	VG	VG
Boudrias ♣ #	3	--	90	89	--	263	n/a	16	L	G	VG	VG	VG
CDC Boyer	11	99	104	100	99	236	22.6	81	E	G	VG	F	P
CDC Dancer ☼	4	101	106	101	94	257	19.2	80	M	G	VG	VP	VG
Derby	13	100	101	103	103	251	22.2	74	M	G	VP	VP	P
SW Exactor ♣	5	93	109	106	100	241	25.0	44	L	VG	VP	VP	F
AC Gwen ♣ #	4	67	75	76	67	278	n/a	11	L	G	VG	VG	VG
Kaufmann ♣	4	95	100	96	88	250	22.1	85	L	F	VG	VG	VG
AC Medallion ☼ ^	9	100	105	101	98	241	24.1	71	L	P	VG	VG	VG
AC Morgan ♣	5	103	113	110	111	242	24.2	63	M	VG	VP	VP	F
CDC Pacer	8	101	109	108	102	245	23.7	71	M	G	VP	VP	F
AC Pinnacle ♣	5	112	118	111	108	245	23.1	80	VL	G	G	VG	VG
AC Rebel ♣ ^	7	99	105	102	99	244	23.1	67	L	G	VG	VP	VG
AC Ronald ♣	4	91	98	98	95	253	21.8	62	L	VG	VG	VG	VG
Triple Crown ☼	8	95	107	109	107	238	24.7	67	L	VG	VP	F	P

• Interim registered

* Maturity rating: M = 96 days

Hulless variety

Additional information:

AC Assiniboia has brown hulls.

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.

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

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. Canary seed plants have a dense shallow root system and thus 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 maturity requirements are equal to wheat.

Sow at the same optimum date as spring wheat at 34 kg/ha (30 lb/ac) (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 on 50 percent 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 canary seed. 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 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.

For more information on canary seed, consult the SAF publication, *Canary Seed 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 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 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.

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 SAF publication, *Caraway 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.

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 to swaths. For more information consult the SAF publication, *Coriander in Saskatchewan*.

Oilseed Crops

Argentine Canola

Main characteristics of varieties

Variety†	Yield as a % of AC Excel (years in test)——			Average % Oil*	Average maturity in days	Resistance to——		Varietal Kind***
	Area 2	Area 3	Area 4			Lodging	Blackleg**	
AC Excel	100	100	100	46.8	98	G	F	OP
220	118 (3)	117 (3)	--	45.9	99	VG	G	S
CLAVET	106 (4)	107 (4)	--	45.5	98	F	G	OP
IMC106 (RR)	97 (3)	95 (3)	93 (2)	47.6	99	G	G	OP
Magellan	114 (4)	112 (4)	--	45.2	99	G	F	OP
279	--	109 (3)	--	48.6	99	G	G	OP
499RR	103 (3)	110 (3)	--	46.9	99	G	VG	HYB
Agassiz	103 (4)	108 (4)	107 (3)	44.1	102	G	F	OP
Ascent	99 (4)	108 (4)	--	46.9	98	G	F	OP
561RR	97 (3)	109 (3)	--	45.7	98	G	G	OP
601	119 (3)	--	--	47.0	99	VG	G	HYB
799RR	103 (3)	114 (3)	--	45.9	99	G	G	S
2573 (LL)	126 (4)	133 (3)	129 (2)	45.5	97	VG	VG	HYB
2663 (LL)	123 (4)	136 (3)	148 (2)	44.5	95	VG	VG	HYB
HyLite 225 (RR) ⚡	107 (3)	104 (3)	99 (2)	48.2	97	G	G	OP
215 (CL) ⚡	93 (2)	100 (3)	106 (2)	48.5	100	G	F	OP
243 (CL) ⚡	86 (2)	99 (3)	--	47.1	100	G	F	OP
Hyola 401	102 (3)	121 (3)	107 (3)	44.1	98	G	P	HYB
Hyola 454 (RR)	98 (2)	103 (2)	96 (2)	44.7	97	G	G	HYB
Canterra 1867 (RR)	93 (3)	103 (4)	85 (2)	46.8	97	G	F	OP
1812 (RR)	104 (3)	102 (2)	--	47.1	101	G	G	S
1492	118 (4)	125 (5)	123 (4)	45.9	99	VG	F	HYB
3235 (RR) ☼	103 (5)	101 (5)	102 (3)	46.6	96	G	G	OP
34-55 (RR) ⚡	105 (3)	108 (3)	106 (2)	47.9	99	VG	G	OP
Dawn (RR) ☼	111 (3)	101 (3)	--	45.2	99	F	F	OP
3345 (RR) ☼	108 (3)	99 (3)	--	45.6	98	G	G	OP
45A51 (RR) ☼	110 (3)	109 (3)	115 (3)	45.9	102	G	F	OP
45A54 (RR) ☼	114 (3)	102 (3)	--	46.2	97	G	VG	OP
45A55 (RR) ☼	102 (3)	120 (3)	92 (2)	46.5	96	G	VG	OP
45A71 (CL) ☼	113 (3)	107 (3)	108 (3)	45.4	98	F	F	OP
45A77 (CL) ☼	112 (3)	128 (3)	115 (3)	47.5	98	G	VG	OP
46A65 ☼	111 (5)	112 (6)	115 (5)	47.5	98	F	VG	OP
46A73 (CL) ☼	101 (3)	115 (3)	--	45.2	101	G	G	OP
46A76 (CL) ☼	134 (3)	128 (3)	--	45.5	100	VG	VG	OP
AC Tristar (TT)	75 (4)	79 (4)	67 (4)	43.8	97	P	VP	OP
Bianca II ⚡	98 (2)	98 (2)	85 (2)	48.2	100	G	VG	OP
Heritage (RR)	95 (3)	99 (4)	83 (2)	45.5	97	F	G	OP
Cyclone ☼	107 (5)	115 (4)	121 (5)	44.5	98	G	G	OP
DS-Roughrider (RR) ⚡	101 (4)	107 (4)	91 (2)	49.4	98	G	F	OP
EAGLE ☼	--	114 (3)	--	45.7	97	G	G	OP
Foremost ☼	131 (4)	117 (3)	--	46.0	101	VG	VG	OP
Hy-PerStar 100	113 (5)	119 (6)	121 (3)	45.9	100	VG	G	HYB
Sentry	97 (5)	101 (5)	--	44.5	98	G	VG	OP
Hudson ☼	117 (3)	116 (3)	--	45.6	96	G	G	OP

Argentine Canola (Continued)

Main characteristics of varieties

Variety†	Yield as a % of AC Excel (years in test)			Average % Oil*	Average maturity in days	Resistance to		Varietal Kind***
	Area 2	Area 3	Area 4			Lodging	Blackleg**	
IMPULSE	108 (3)	121 (4)	112 (3)	45.4	100	G	VG	OP
OAC Dynamite ☼	118 (3)	115 (4)	118 (3)	45.6	97	G	VG	OP
Skyhawk 🦅	--	122 (3)	--	45.0	97	G	VG	OP
Admire (RR)	105 (2)	133 (3)	108 (2)	46.4	100	VG	G	S
Conquest (RR)	103 (3)	106 (3)	--	46.9	100	VG	VG	OP
Hi-Q 🦅	114 (3)	111 (3)	--	46.8	99	VG	VG	OP
Kelsey (RR)	91 (3)	101 (3)	91 (2)	47.7	96	G	G	OP
LoLinda	97 (2)	96 (3)	--	45.4	98	G	G	OP
Q2 ☼	106 (4)	117 (4)	105 (4)	45.0	102	G	VG	OP
SP Armada	103 (2)	117 (3)	101 (2)	46.9	98	VG	VG	OP
SW 5001	115 (3)	122 (3)	--	46.1	100	VG	VG	HYB
SW ARROW (RR)🦅	105 (3)	108 (4)	--	44.3	97	F	F	OP
SW GladiatoRR	--	115 (2)	101 (2)	46.8	96	VG	G	S
SW RazoR (RR)	--	119 (2)	--	45.3	97	VG	G	S
SW RideR (RR)	108 (2)	114 (2)	110 (4)	46.0	98	G	F	S
Thunder	101 (3)	106 (3)	105 (2)	46.4	98	G	G	OP
Trailblazer ☼	109 (3)	111 (3)	--	46.5	100	G	G	OP

† For seed distributors, please see pages 22 to 24 of this pamphlet.

* Dry basis

** A minimum of 3 years between canola crops (4 year rotation) is essential to reduce the incidence of blackleg .

*** OP = open-pollinated; HYB = hybrid; S = synthetic;

Herbicide tolerance: RR = Roundup Ready, LL = Liberty Link, CL = Clearfield, TT = triazine.

Note: In most instances, only new varieties are tested each year. Therefore, comparisons should only be made between the check variety (AC Excel) and the variety of interest.

Polish Canola

Main characteristics of varieties

Variety	Yield as a % of AC Parkland (years in test)			Average % Oil*	Average maturity in days	Resistance to		Varietal Kind**
	Area 2	Area 3	Area 4			Lodging	White rust	
AC Parkland	100	100	100	44.2	85	G	VG	OP
1007	104 (3)	106 (3)	-- (1)	44.5	85	VG	G	S
1000 SP	102 (3)	98 (4)	-- (2)	44.4	84	F	G	S
41P55	108 (6)	111 (6)	110 (5)	42.9	84	F	F	OP
AC Boreal	102 (7)	101 (7)	102 (6)	45.1	84	F	VG	S
AC Sunbeam	104 (7)	104 (8)	106 (7)	43.5	83	G	VG	OP
Cash	97 (3)	109 (3)	110 (3)	43.9	84	G	F	S
FAIRVIEW	104 (3)	107 (3)	--	44.3	85	G	G	S
Hysyn 110	109 (6)	110 (6)	120 (6)	42.9	84	G	F	S
Hysyn 111	105 (4)	107 (5)	116 (3)	42.8	86	G	G	S
Hysyn 120 CS	98 (3)	103 (4)	-- (2)	44.0	85	G	G	S
Reward	104 (9)	103 (10)	102 (8)	44.4	84	F	VG	OP
WESTWIN	105 (3)	109 (3)	106 (3)	44.6	84	G	G	S

* Dry basis

** OP = open-pollinated; S = synthetic;

Note: In most instances, only new varieties are tested each year. Therefore, comparisons should only be made between the check variety (AC Parkland) and the variety of interest.

A minimum of 3 years between canola crops (4 year rotation) is essential to reduce the incidence of blackleg.

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. Please note that only new varieties are tested each year. Therefore most varieties have not been tested in the same year. Varietal comparisons should therefore ONLY be made between the check variety (**AC Excel**) and the variety of interest.

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. Please note that only new varieties are tested each year. Therefore most varieties have not been tested in the same year. Varietal comparisons should therefore ONLY be made between the check variety (**AC Parkland**) and the variety of interest.

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 can be lower yielding than conventional open-pollinated canola varieties but have very good blackleg 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.

Additional Information

Mustard

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	92
Forge	99	93
Lethbridge22A	91	93
AC Vulcan	102	92
Brown		
commercial	92	91
Duchess	94	90
Yellow		
Ochre	100	93
AC Base	104	90
AC Pennant	106	92
Gisilba	97	93
Tilney	100	93
Viscount	96	93

Sunflower (Oilseed)

Main characteristics of varieties

Variety	Years tested	Yield as % of IS 6111	Average maturity in days	Oil %*
IS 6111	11	100	122	46.5
SF 270	11	106	122	47.6
SF 187	10	100	126	43.2
63A70	3	111	122	49.9

* Dry basis

Sunflower (Oilseed) EMSS

Variety	Years tested	Yield as % of P6150	Average maturity in days	Oil %*
P6150	9	100	113	46.6
63A21	4	111	114	47.5

* Dry basis

Flax

Main characteristics of varieties

Variety	Years tested	Yield as % of Vimy				Irr	Maturity**	Seed size	Resistance to Lodging
		Area 1	Area 2	Area 3	Area 4				
Vimy	16	100	100	100	100	100	M	L	P
CDC Arras	7*	104	107	104	104	105	M	L	F
CDC Bethune ☼	7*	111	117	114	116	113	L	M	G
AC Carnduff 🍀	6*	83	92	101	93	116	M	M	G
AC Emerson	8	96	96	95	93	98	M	L	F
Flanders	11	94	98	96	99	108	L	S	G
AC Hanley 🍀	4*	--	100	101	---	---	M	M	G
AC Lightning 🍀	5*	101	105	107	---	101	L	M	G
AC Linora ^	8	84	91	95	93	102	L	M	G
AC McDuff ☼	7	93	95	97	94	102	VL	M	VG
NorLin	16	91	96	96	99	105	M	M	G
CDC Normandy	7	96	100	101	104	105	M	M	F
Somme	10	94	97	98	97	109	M	M	F
Taurus ☼	5*	98	103	109	---	115	M	M	G
CDC Valour ☼	5	97	101	95	95	92	E	M	G
AC Watson 🍀	5	93	96	102	102	103	M	M	G
Solin									
Linola™ 989 ☼	6	93	92	97	103	96	L	M	G
Linola™ 1084 ☼	5*	94	96	95	106	102	M	M	G

* Data from Regional and Coop Yield Trials.

** The relative maturity of the check, Vimy, is M (on average 103 days from seeding to swathing ripeness).

Additional Information:

All varieties are resistant to rust and moderately resistant to Fusarium wilt. **AC Lightning** and **AC Hanley** are newly registered varieties.

AC Lightning is distributed by Canterra Seeds Ltd. and **AC Hanley** by SeCan Association and no seed is available for either variety in 2002.

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.

Sunflower (Confection)

Variety	Years tested	Yield as % of IS 6111	Average maturity in days	Seed size % over 20/64
IS 8048	3	91	124	57.7

Additional Information

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 and are registered for production in Canada are placed on this list.

The Committee has been testing **NuSun**, a sunflower with a fatty acid profile desired by major frying companies. The potential of **NuSun** and the growing birdseed market could increase production in Saskatchewan.

Pulse Crops

Lentil

Main characteristics of varieties

Variety	Years tested*	—Yield % of Laird—		Height (cm)	Days to flower	Maturity rating	— Resistance to —		Cotyledon color	Seed weight (g/1000)
		Areas 1-2	Areas 3-4				Ascochyta blight	Anthraco-nose		
Laird	7	100	100	41	53	VL	VP	VP	yellow	67
CDC Glamis	6	110	106	39	54	VL	G	VP	yellow	60
CDC Grandora	5	108	111	40	53	VL	G	VP	yellow	69
CDC Sovereign	5	112	109	40	52	L	G	P	yellow	66
CDC Sedley	4	118	106	39	51	M	F	VP	yellow	68
CDC Richlea	6	131	111	35	50	M	VP	VP	yellow	51
CDC Vantage	6	133	124	33	49	M	G	VP	yellow	52
Eston	6	114	105	30	48	E	VP	VP	yellow	33
CDC Milestone	7	137	125	31	49	E	G	VP	yellow	37
Crimson	4	120	112	29	49	E	VP	VP	red	35
CDC Blaze	3	129	121	30	47	E	G	P	red	34
CDC Redcap	5	126	117	30	49	E	G	F	red	35
CDC Redwing	6	122	112	30	50	E	G	VP	red	38
CDC Robin	4	135	116	30	49	E	G	G	red	30

* Coop and Regional Trials in Saskatchewan since 1995. Direct yield comparisons to Laird.

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 Blaze** and **CDC Sedley**. 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 Pintium— (In narrow row trials)†			Days to flower	Maturity	Pod clearance rating (%)	Seed weight (g/1000)	Growth habit**
			Area 2	Area 3	Irrigation					
CDC Pintium	pinto	5	100	100	100	50	E	80	350	I
Othello	pinto	5	99	88	108	52	L	51	323	III
CDC Pinnacle	pinto	4	101	88	114	53	L	67	352	III
CDC Altiro	pinto	5	86	77	102	47	E	64	357	III
AC Burrito	pinto	5	102	88	100	53	M	64	307	II
CDC Camino	pinto	5	86	76	95	52	L	81	323	I
Earliray	pinto	3	89	80	82	50	E	65	349	I
CDC Crocus	great northern	4	99	79	103	47	E	59	355	III
CDC Bianca	great northern	5	81	71	110	52	L	69	365	I
CDC Nordic	great northern	5	79	68	91	52	L	62	319	I
US 1140	great northern	5	92	83	103	51	L	53	289	III
CDC Rosalee	pink	4	96	94	110	50	L	65	247	III
Viva	pink	4	104	87	101	51	L	50	242	III
CDC Espresso	black	5	78	72	68	47	M	87	191	I
CDC Nighthawk	black	5	67	58	74	58	L	77	165	II
UI906	black	5	96	71	80	60	L	76	148	II
AC Skipper	navy	5	67	65	73	54	L	77	206	I
GTS 523	navy	5	89	78	--	51	M	75	147	I

* Coop and regional trials. All trials conducted at row spacing of 30 cm or less.

** Growth habit: I - determinate bush; II - indeterminate bush; III - indeterminate vine.

† For production in wide rows using undercutting, consult the CSIDC publication, *Crop Varieties for Irrigation*.

Additional Information: In short season regions, only the earliest maturing varieties should be grown. Detailed agronomic information may be found in the *Pulse Production Manual*, available from the Saskatchewan Pulse Growers.

Field Pea

Main characteristics of varieties

Variety	Years tested	Yield as % of Alfetta—			Leaf type*	Relative maturity	Vine Length (cm)	Resistance to					Seed coat dimpling**	Green seed coats***	Seed weight (g/1000)
		1,2 & South 3	North 3 and 4	Irrigation				Ascochyta blight	Powdery mildew	Seed coat breakage	Lodging	Bleaching			
Food Type Yellow-Seed															
Alfetta ☼	7	100	100	100	SL	M	72	P	P	F	F	n/a	F	G	290
AC Melfort 🍀	4	98	86	87	SL	M	70	F	VG	F	F	n/a	G	F	240
Carneval ☼	7	89	85	107	SL	M	75	F	P	F	G	n/a	--	--	230
Carrera	6	99	98	107	SL	E	55	P	P	G	F	n/a	--	--	270
CDC Winfield	5	94	89	--	N	M	62	VP	P	F	F	n/a	--	--	260
CDC HANDEL	5	112	99	--	SL	L	75	P	VG	G	F	n/a	G	F	220
CDC MOZART	5	114	104	109	SL	M	70	F	VG	G	F	n/a	G	F	230
CDC Minuet	4	108	105	--	SL	M	70	F	VG	F	F	n/a	G	F	190
COBRA	4	99	94	--	SL	M	75	P	P	G	F	n/a	F	F	240
CROMA ☼	5	101	100	--	SL	E	70	P	P	G	F	n/a	G	G	300
Delta ☼	4	101	98	--	SL	E	72	P	P	G	F	n/a	--	--	250
DS Admiral 🍀	4	103	111	--	SL	E	80	F	VG	G	G	n/a	G	G	240
DS Stalwarth	4	97	95	101	SL	M	80	P	VG	G	F	n/a	G	G	240
Eclipse 🍀	4	109	104	111	SL	M	80	F	VG	G	G	n/a	F	G	250
Eiffel ☼	5	93	101	--	SL	E	67	VP	P	F	F	n/a	--	--	290
GRANDE ☼	7	93	91	93	N	L	90	F	P	G	F	n/a	G	F	220
Highlight ☼	5	84	84	97	SL	E	66	P	VG	F	F	n/a			210
INTEGRA ☼	4	85	100	--	SL	E	75	F	P	G	G	n/a	F	F	280
Mandy	4	88	94	96	SL	M	57	VP	P	F	F	n/a	--	--	270
Miami 🍀	5	102	102	--	SL	E	80	P	P	F	G	n/a	G	F	240
Nicole 🍀	4	106	105	--	SL	M	65	P	P	F	F	n/a	G	G	260
PROFI ☼	5	90	85	95	SL	E	72	P	P	F	F	n/a		--	270
SW Bravo 🍀	4	88	95	--	SL	E	75	F	P	G	G	n/a	G	G	260
SW CAPRI 🍀	3	101	108	--	SL	E	75	F	P	F	G	n/a	G	F	210
SW Salute 🍀	3	113	108	--	SL	E	75	P	VG	F	F	n/a	F	F	220
SWING ☼	5	95	99	--	SL	E	75	F	P	VG	G	n/a	G	G	250
Victoria	7	80	77	--	N	M	84	P	P	F	P	n/a	--	--	190
Food Type Green Seed															
AC Advantage	4	79	68	--	SL	L	60	F	VG	G	P	F	F	n/a	270
Cascade	4	91	87	--	SL	M	75	F	P	VG	F	G	G	n/a	200
CDC Montero	4	99	90	--	SL	M	80	F	VG	G	F	F	F	n/a	230
CDC VERDI	5	90	73	--	SL	L	75	F	P	G	F	G	F	n/a	200
DS Dominator 🍀	3	86	67	--	SL	L	65	F	VG	G	G	F	F	n/a	230
Espace ☼	4	96	101	--	SL	M	75	P	P	F	G	F	F	n/a	230
Logan	4	85	86	--	SL	E	75	P	P	F	G	G	F	n/a	180
Madoc ☼	4	96	99	107	SL	E	70	P	P	F	F	F	F	n/a	250
MAJORET ☼	5	79	75	95	SL	M	59	P	P	G	G	F	--	n/a	250
Millenium ☼	5	103	97	--	SL	E	65	P	P	F	F	F	F	n/a	260
NITOUCHE ☼	5	92	94	92	SL	M	75	F	P	G	G	G	F	n/a	250
Olivin ☼	4	87	92	89	N	M	64	VP	P	G	P	F	--	n/a	270
Princess	5	72	55	85	N	E	58	P	P	VG	P	G	--	n/a	200
Radley	6	72	68	83	SL	M	57	F	P	VG	F	G	--	n/a	210
Scuba 🍀	4	82	87	--	SL	E	80	P	P	F	F	F	F	n/a	230
SW Parade 🍀	4	97	88	113	SL	M	70	F	VG	G	F	F	G	n/a	220
TOLEDO ☼	4	87	95	--	SL	M	70	P	P	G	G	F	F	n/a	280

Field Pea (Cont'd)

Main characteristics of varieties

Variety	Years tested	Yield as % of Alfetta—			Leaf type*	Relative maturity	Vine Length (cm)	Resistance to—						Seed weight (g/1000)	
		1,2 & South 3	North 3 and 4	Irrigation				Ascochyta blight	Powdery mildew	Seed coat breakage	Lodging	Bleaching	Seed coat dimpling**		Green seed coats***
Venture ➔	4	97	88	--	SL	E	75	P	P	G	F	F	F	n/a	220

Coloured Flower Varieties

CDC April	4	82	70	--	SL	L	53	F	P	G	F	n/a	--	n/a	140
CDC Vienna	5	86	81	--	SL	L	61	F	P	G	F	n/a	--	n/a	170
Courier ☼	2	88	83	--	SL	M	75	F	P	F	P	n/a	G	n/a	210
Whero	3	60	57	--	N	L	110	P	P	G	P	n/a	--	n/a	210

Forage Varieties

CDC Sonata	2	109	90	--	N	L	85	F	VG	F	F	n/a	F	F	220
Trapper	7	74	73	--	N	L	95	P	P	F	P	n/a	--	--	140

* N = Normal leaf type, SL = Semi-leafless

** Seed coat dimpling: Good = 0-5%; Fair = 6-20%.

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

Additional Information

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

Chickpea - Kabuli

Main characteristics of varieties

Variety	Years tested	Yield as % Sanford —		Leaf type*	Ascochyta blight	Height (cm)	Days to flower	Maturity†	Seed weight (g/1000)
		Area 1	Area 2						
Sanford	6	100	100	U	VP	49	56	L	425
Amit (B-90)	4	122	124	F	F	46	55	M	265
CDC Chico	6	132	141	F	P	45	51	E	265
CDC Diva	3	103	--	U	VP	43	52	M	490
CDC Xena	5	115	127	U	VP	44	52	M	470
CDC Yuma	6	114	114	F	P	45	53	L	410
Dwellely	3	86	88	U	VP	45	57	VL	490
Evans	3	92	--	U	VP	50	53	L	430

Chickpea - Desi

Main characteristics of varieties

Variety	Years tested	Yield as % of Myles		Leaf type*	Ascochyta blight	Height (cm)	Days to flower	Maturity†	Seed weight (g/1000)	Seed shape**	Seed coat color***
		Area 1	Area 2								
Myles	6	100	100	F	F	41	50	E	200	A	T
CDC Anna	4	108	108	F	F	42	52	M	210	P	T
CDC Desiray	5	96	104	F	F	40	49	E	210	P	LT
CDC Nika	4	97	103	F	F	39	50	M	320	P	T

*Leaf type: F=fern; U=unifoliate

**Seed shape: P=plump; A=angular

***Seed coat color: T=tan; LT=light tan

† Maturity will be delayed in areas with a cool moist summer, especially on clay soils.

Chickpea (Cont'd)

Additional Information

Kabuli chickpea is best adapted to stubble or summerfallow production in the Brown soil zone. Desi chickpea is best adapted to summerfallow or stubble production in the Brown soil zone and stubble production in the Dark Brown soil zone. 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. This risk can be reduced by planting on sandier, drought prone soils. Chickpea will tolerate light frosts in the spring. Desi varieties can be seeded in late April or early May. Kabuli varieties should be planted between early to mid May into a warm seedbed, preferably at least 10C average soil temperature at depth of seeding. This means that kabuli varieties are often later maturing.

Ascochyta blight can completely destroy a chickpea crop. Varieties listed in the recommendation tables differ in their resistance from "Very Poor" to "Poor" to "Fair"; none are

rated as "Good". To date, fern-leaf varieties tend to develop less ascochyta blight than unifoliate-leaf varieties. Susceptibility to the disease increases at the flowering and early podding stage. Field scouting for disease symptoms should begin in early June and continue throughout the growing season. Scouting should concentrate on areas where the risk of early infection is higher, e.g. fields adjacent to previous chickpea crops, where plant densities are higher, and in higher moisture areas. Scouting field margins is not sufficient. Fungicide application(s) may be necessary to protect crops. Disease risk is greater under conditions of frequent showers and/or heavy dew, and for varieties rated as Poor or Very Poor. Ascochyta blight is seed-borne and stubble-borne, therefore, growers should use seed with ascochyta blight levels as close to 0% as possible and plant chickpea in the same field no more than once in four years.

Chickpea requires planting equipment with a seed-feeding mechanism capable of handling large seeds. They are highly susceptible to seed damage and should be handled gen-

tly at all times. Seed treatment with Apron FL (metalaxyl) for seed rot diseases is strongly recommended for kabuli varieties, and may be required for desi varieties if conditions favour seed rotting diseases. Plant chickpea seeds 6 cm deep. Seeding rates vary with seed size; target 4 plants/ft². Desi varieties are generally earlier maturing and higher yielding compared to the currently available kabuli varieties. The chickpea crop has stiff stems and can be swathed or straight cut at maturity. Thresh kabuli varieties gently to avoid seed splitting. All kabuli chickpea varieties listed have normal ("ram's head") seed shape, with the exception of **Amit (B-90)** which has a round seed shape.

Certified Seed of **CDC Yuma**, **CDC Xena**, **CDC Chico**, and **CDC Desiray** will be available in 2002. Certified Seed of **CDC Diva**, **CDC Anna**, and **CDC Nika** will be available in 2003.

For more details on production consult the *Pulse Production Manual* published by the Saskatchewan Pulse Growers.

Faba Bean

Main characteristics of varieties

Variety	Years tested	—Yield as % 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
Cresta	3	92	101	105	630
Orion	6	95	94	103	350
Scirocco	3	96	110	107	550

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 the 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 fix nitrogen from the air, provided the seed is inoculated with the proper bacteria prior to planting. Faba bean requires a specific strain of inoculum.

Seed Facts

Pedigreed Seed

Use certified seed regularly, 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 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 seed standards.**

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 introduce *Fusarium* diseases into unaffected areas.

Smuts that attack wheat, barley, oat and rye can be controlled by chemical seed treatment. If seed from a crop in which bunt or smut was observed must be used for seed, 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 and bunt) are carried on the outside of the seed and can be controlled by non-systemic seed treatments containing maneb or thiram.

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 dressing is a convenient alternative to on-farm seed treatment.

Various fungicides have been registered for the control of seedling diseases. 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. At the time of publication, the insecticide lindane was no longer registered for flea beetle control, but alternatives are available.

Read the label carefully before using any seed treatment or insecticide. Information on their use and recommended rates is found in the *Guide to Crop Protection 2002* (SAF publication). Carryover stocks of treated seed should be tested for germination before using. 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. 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. **A seed treatment for ascochyta-infected lentil seed is now available and is recommended if seed infection levels approach 5%.**

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. Details of this disease are found in *Ergot of Grains and Grasses* (AAFC Publ. 1438).

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. Grain which will be used for seed should be dried, if necessary, soon after harvest. The drying temperature should be below 37C for batch driers and 43C 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.

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 SAF publication *Orange Wheat Blossom Midge*.

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

Breeding Institutions and Seed Distributors of Varieties Listed in this Publication

Crop kind, Class & Variety	Breeding Institution	Distributor	Crop kind, Class & Variety	Breeding Institution	Distributor
Wheat			Barley		
Bread Wheat			Malting		
5500HR	Agripro/Agricore United	Proven Seed	AC Certa	AAFC (Swift Current)	Progressive Seeds
5600 HR ☼	Agripro/Agricore United	Proven Seed	AC Copia	AAFC (Swift Current)	QAS
AC Abbey☼	AAFC (Swift Current)	Canterra Seeds	Bobcat	AAFRD (Lacombe)	Progressive Seeds
AC Barrie☼	AAFC (Swift Current)	SeCan Members	Pika	AAFRD (Lacombe)	Progressive Seeds
CDC Bounty	U of S - CDC	Canterra Seeds	Pronghorn	AAFRD (Lacombe)	Progressive Seeds
AC Cadillac☼	AAFC (Swift Current)	QAS	Sandro	Swiss Fed Ag Res	ProMark Seed
Columbus	AAFC (Winnipeg)	SeCan Members	AC Metcalfe ☼		
AC Cora	AAFC (Winnipeg)	SeCan Members	Manley	AAFC (Brandon)	SeCan Members
AC Domain	AAFC (Winnipeg)	SeCan Members	Merit ☼	U of S - CDC	SeCan Members
AC Eatonia	AAFC (Swift Current)	Proven Seed		Busch Ag. Res.	AgricoreUnited/SWP
AC Elsa ☼	AAFC (Swift Current)	SeCan Members			QAS
AC Intrepid☼	AAFC (Swift Current)	Canterra Seeds	Newdale	AAFC (Brandon)	QAS
Katepwa	AAFC (Winnipeg)	SeCan Members	Robust	U of Minnesota	Cargill Seed, Others
Laura	AAFC (Swift Current)	SeCan Members	CDC Select	U of S - CDC	Agricore United
AC Majestic	AAFC (Winnipeg)	SeCan Members	CDC Sisler☼	U of S - CDC	Proven Seed
McKenzie	Sask. Wheat Pool	SWP/Agricore	Stein	U of S - CDC	Proven Seed
Prodigy	Sask. Wheat Pool	SWP/Agricore	CDC Stratus	U of S - CDC	QAS
AC Splendor	AAFC (Winnipeg)	SeCan Members	CDC Yorkton	U of S - CDC	Proven Seed
AC Superb	AAFC (Winnipeg)	SeCan Members	AC Bountiful	AAFC (Brandon)	QAS
CDC Teal	U of S - CDC	QAS	Feed		
Canada Prairie Spring Wheat			Brier	U of S - CDC	SeCan Members
5700PR ☼	Agripro/Agricore United	Proven Seed	CDC Dolly	U of S - CDC	SeCan Members
AC 2000	AAFC (Swift Current)	SeCan Members	CDC Fleet	U of S - CDC	QAS
AC Crystal☼	AAFC (Swift Current)	SeCan Members	AC Harper☼	AAFC (Lethbridge)	SeCan Members
AC Foremost	AAFC (Swift Current)	SeCan Members	CDC Helgason	U of S - CDC	SeCan Members
AC Karma	AAFC (Swift Current)	SeCan Members	AC Lacombe☼	AAFC (Lacombe)	SeCan Members
AC Taber	AAFC (Swift Current)	SeCan Members	AC Rosser☼	AAFC (Brandon)	SeCan Members
AC Vista☼	AAFC (Swift Current)	QAS	Stander☼	U of Minnesota	SWP/Agricore
Canada Western Extra Strong			Trochu	AAFRD (Lacombe)	SeCan Members
Amazon	University of Manitoba	Canterra Seeds	Xena ☼	Agricore/W. Plant Breeders	Agricore/SWP
AC Corinne	AAFC (Winnipeg)	QAS	Hulless		
AC Glenavon	AAFC (Winnipeg)	SeCan Members	AC Bacon	AAFC (Brandon)	SeCan Members
Glenlea	University of Manitoba	Public	CDC Dawn	U of S - CDC	SeCan Members
Laser	University of Alberta	Canterra Seeds	Falcon☼	AAFRD (Lacombe)	Progressive Seeds
Durum			CDC Freedom	U of S - CDC	SeCan Members
AC Avonlea ☼	AAFC (Swift Current)	QAS	CDC Gainer	U of S - CDC	QAS
Kyle	AAFC (Swift Current)	SeCan Members	HB805	W. Plant Breeders	Agricore United
AC Melita	AAFC (Winnipeg)	SeCan Members	CDC McGwire	U of S - CDC	SeCan Members
AC Morse	AAFC (Winnipeg)	SeCan Members	Peregrine	AAFRD (Lacombe)	Progressive Seeds
AC Napoleon	AAFC (Winnipeg)	Canterra Seeds	Phoenix☼	AAFRD (Lacombe)	Progressive Seeds
AC Navigator☼	AAFC (Swift Current)	Sask. Wheat Pool	CDC Silky	U of S - CDC	QAS
Plenty	U of S - CDC	SeCan Members	CDC Speedy	U of S - CDC	QAS
Sceptre	U of S - CDC	SeCan Members	Tercel☼	AAFRD (Lacombe)	Progressive Seeds
Soft White Spring Wheat			Intensive Management		
Fielder	USDA/AAFC (Lethbridge)	Public	CDC Bold	U of S - CDC	Canterra Seeds
AC Nanda	AFFC (Lethbridge)	QAS	CDC Earl	U of S - CDC	SeCan Members
AC Phil	AAFC (Lethbridge)	Proven Seed	Kasota☼	AAFRD (Lacombe)	SeCan Members
AC Reed	AAFC (Lethbridge)	SeCan Members	Mahigan	AAFRD (Lacombe)	SeCan Members
Hard White Spring Wheat			Niska	AAFRD (Lacombe)	Canterra Seeds
AC Ivory	AAFC (Winnipeg)	QAS	CDC Thompson	U of S - CDC	QAS
AC Snowbird	AAFC (Winnipeg)	QAS	Vivar	AAFRD (Lacombe)	SeCan Members
Winter Wheat			<div style="border: 1px solid black; padding: 5px;"> <p>AC - as a prefix to variety names Agriculture Canada (Agriculture and Agri-Food Canada)</p> <p>AAFC - Agriculture and Agri-Food Canada</p> <p>CDC - Crop Development Centre</p> <p>AAFRD - Alberta Agriculture Food and Rural Development, Lacombe, Alta.</p> <p>U - University</p> <p>U of S - University of Saskatchewan, Saskatoon</p> <p>USDA - United States Department of Agriculture</p> <p>QAS - Quality Assured Seeds</p> <p>LCSI - Limagrain Canada Seeds Inc.</p> <p>SWP - Saskatchewan Wheat Pool</p> </div>		
AC Bellatrix	AAFC (Lethbridge)	QAS			
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			
CDC Osprey	U of S - CDC	Canterra Seeds			
CDC Ptarmigan	U of S - CDC	Mercer Seeds Ltd.			
CDC Raptor	U of S - CDC	SeCan Members			
Winter Rye					
AC Remington	AAFC (Swift Current)	Proven Seed			
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)	QAS			

Logan	Agricore	Agricore	Orion	AAFC (Lacombe)	Roger Lee, Lyster Farm
Madoc ☼		Terramax	Outlook	U of S - CDC	SeCan Members
Mandy	Mansholt	Terramax	Scirocco	NPZ-Lembke	Agriprogress Inc.
MAJORET ☼	Svalöf Weibull AB	ProMark Seed	Dry Bean		
AC Melfort	AAFC (Morden)	Canterra Seeds	AC Burrito	AAFC (Harrow)	
Miami	Advanta Seeds.	QAS	CDC Camino	U of S - CDC	Sask. Pulse Growers
Millenium ☼	Mansholt	Terramax	CDC Crocus	U of S - CDC	Klempnauer
CDC Minuet	U of S - CDC	Sask. Pulse Growers	Othello	USDA/ARS (Prosser, WA)	Public
CDC Montero	U of S - CDC	Sask. Pulse Growers	Earliray	Gen-Tec	Gen-Tec
CDC MOZART	U of S - CDC	Sask. Pulse Growers	US 1140	USDA	Public
Nicole	Advanta Seeds	QAS	CDC Expresso	U of S - CDC	Canterra Seeds
NITOUCHÉ ☼	DLF Trifolium (Denmark)	QAS	CDC Nighthawk	U of S - CDC	QAS
Olivin ☼	Slovosivo H.S.	Terramax	CDC Nordic	U of S - CDC	Sask. Pulse Growers
Princess	Wilbur Ellis Co.	Walker Seeds	CDC Pintium	U of S - CDC	Sask. Pulse Growers
PROFI ☼	Danisco Seeds	SeCan Members	GTS 523	Gen-Tec	Gen-Tec
Radley		Klempnauer	CDC Rosalee	U of S - CDC	QAS
SW Parade	Svalöf Weibull AB	Sask. Wheat Pool	AC Skipper	AAFC (Lethbridge)	Klempnauer/QAS
SW Salute	Svalöf Weibull	ProMark Seed	UI 906	University of Idaho	Public
Scuba	Advanta Seeds	QAS	Viva		Public
CDC Sonata	U of S - CDC	Sask. Pulse Growers	CDC Pinnacle	U of S - CDC	Sask. Pulse Growers
DS Stalwarth	Danisco Seeds	Secan Members	CDC Altiro	U of S - CDC	Sask. Pulse Growers
SWING ☼	Cebeco Zaden	QAS	CDC Bianca	U of S - CDC	QAS
TOLEDO ☼	Cebeco Zaden	Canterra Seeds			
Trapper	AAFC (Morden)	Public	Chickpea		
Venture	Axel Toft	Johnson Seeds (MB)	Desi		
CDC VERDI	U of S - CDC	Sask. Pulse Growers	CDC Anna	U of S - CDC	Sask. Pulse Growers
Victoria	Svalöf Weibull AB	ProMark Seed	CDC Desiray	U of S - CDC	Sask. Pulse Growers
CDC Vienna	U of S - CDC	Walker Seed	Myles	USDA/Washington State U	Public
Whero	Challenge Seeds	ProMark Seed	CDC Nika	U of S - CDC	Sask. Pulse Growers
CDC Winfield	U of S - CDC	SeCan members			
			Kabuli		
Lentil			Amit (B-90)		Agricore United
CDC Blaze	U of S - CDC	Sask. Pulse Growers	CDC Chico	U of S - CDC	Sask. Pulse Growers
Crimson		Public	CDC Diva	U of S - CDC	Sask. Pulse Growers
Eston	U of S - CDC	SeCan Members	Dwellely	USDA/Washington State U	Public
CDC Glamis	U of S - CDC	Sask. Pulse Growers	Evans	USDA/Washington State U	Public
CDC Grandora	U of S - CDC	Sask. Pulse Growers	Sanford	USDA/Washington State U	Public
CDC Matador	U of S - CDC	Sask. Pulse Growers	CDC Xena	U of S - CDC	Sask. Pulse Growers
CDC Milestone	U of S - CDC	Sask. Pulse Growers	CDC Yuma	U of S - CDC	Sask. Pulse Growers
Laird	U of S - CDC	SeCan Members			
CDC Redcap	U of S - CDC	Sask. Pulse Growers	Canary Seed		
CDC Redwing	U of S - CDC	Sask. Wheat Pool	Elias	U of Minnesota; U of S - CDC	Public
CDC Richlea	U of S - CDC	SeCan Members	Keet	U of Minnesota; U of S - CDC	Public
CDC Robin	U of S - CDC	Sask. Pulse Growers	CDC Maria	U of S - CDC	C. Special Crops
CDC Sedley	U of S - CDC	Sask. Pulse Growers			
CDC Sovereign	U of S - CDC	Sask. Pulse Growers	Safflower		
CDC Vantage	U of S - CDC	Sask. Pulse Growers	Saffire	AAFC (Lethbridge)	Jerry Kubic (AB)
			AC Stirling	AAFC (Lethbridge)	SeCan Members
Faba Bean			AC Sunset	AAFC (Lethbridge)	Alberta Wheat Pool
Aladin	University of Manitoba	Public			
CDC Blitz	U of S - CDC				
Cresta	Saatbau Linz	Canterra Seeds/ Agriprogress Inc.			
		R.Legumex/Walker S.			
CDC Fatima	U of S - CDC				

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**



Saskatchewan Wheat Pool



**Agriculture and
Agri-Food Canada**