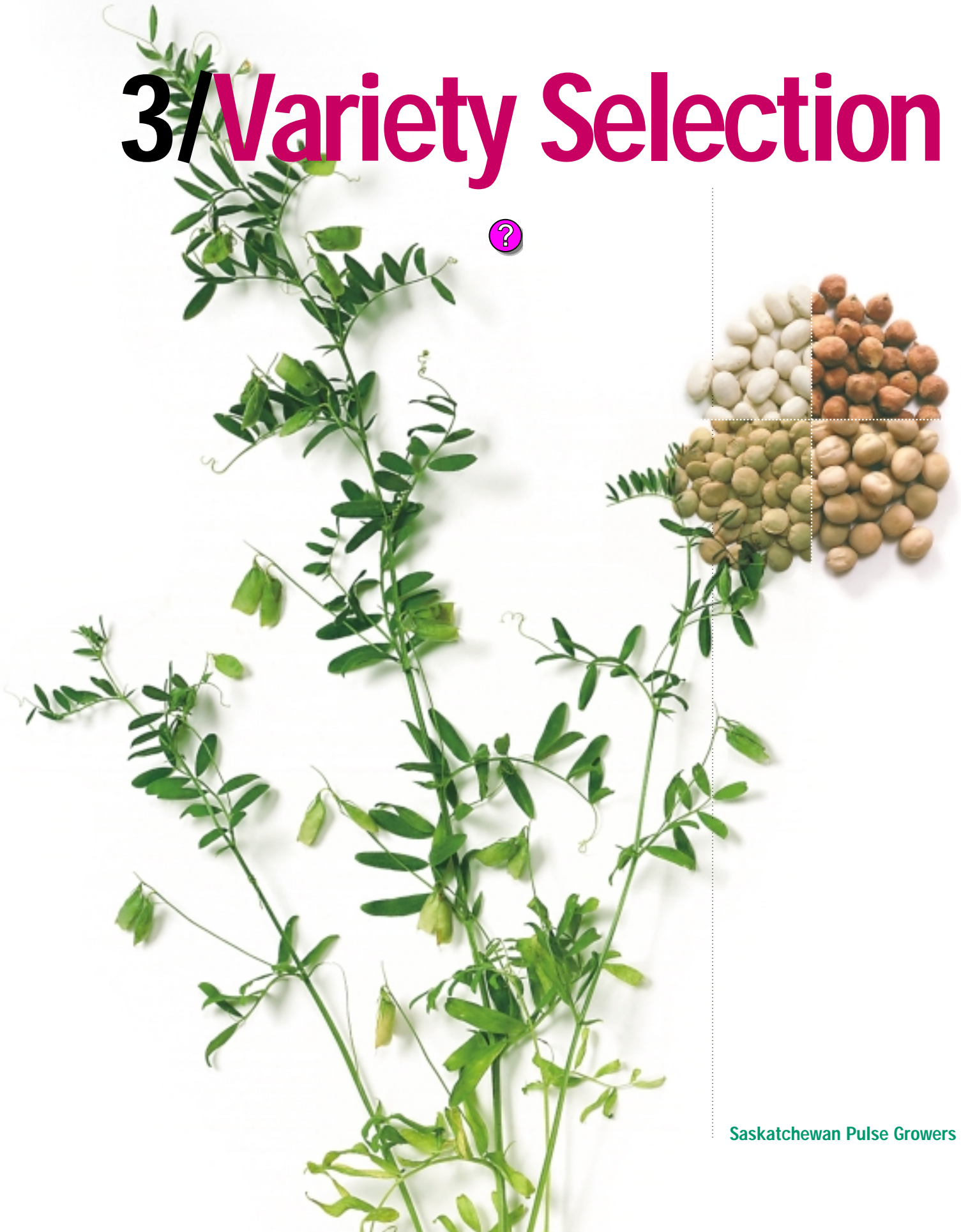


3/Variety Selection



3/Variety Selection

Variety Selection Contents

Introduction	3.3
Table 3.1 Accredited pulse seed testing laboratories in the prairies	
Field Pea	3.7
Figure 3.1 Yellow seeded/green seeded pea	
Lentil	3.8
Figure 3.2 Yellow cotyledon/red cotyledon lentil	
Figure 3.3 Large seeded/small seeded lentil	
Chickpea	3.9
Figure 3.4 Kabuli large seeded/desi small seeded chickpea	
Dry Bean	3.9
Figure 3.5 Navy bean	
Appendix	3.11
Table 3.2 Description of registered dry pea cultivars adapted to Saskatchewan	
Table 3.3 Description of registered lentil cultivars adapted to Saskatchewan	
Table 3.4 Description of chickpea cultivars adapted to Saskatchewan	
Table 3.5 Description of registered dry bean cultivars adapted to Saskatchewan	

Variety Selection

Introduction

The goal of every producer should be to plant seed of the highest quality from a variety well suited to their area. Selection and use of high-quality seed is the first step in establishing a rapidly emerging, vigorous stand and producing a high quality, profitable crop. Proper inoculation, fertilization, pest control and following recommended cultural practices will be of limited value, if planted seeds do not produce a healthy, vigorous stand or if a poorly adapted variety is selected.

Some of the advantages of using high quality seed include:

- **Increased resistance to seedling diseases.**
- **Rapid and uniform stand establishment.**
- **Enhanced tolerance to early season stresses, such as adverse temperature and moisture conditions.**
- **Rapid root development and improved nutrient and water use efficiencies.**
- **Enhanced disease, weed and insect control.**
- **Uniform stand, maturity and improved harvest efficiencies.**
- **Higher yields and superior seed quality.**
- **Uniform product with better market acceptance.**

Factors that determine seed quality, include genetic and mechanical purity, germination, vigour, and the presence of seedborne disease. Seed purity is determined by the nature and amount of unwanted contaminants in the pure seed. These include unwanted crop seed, weed seeds, and inert material, which can adversely impact crop yield and quality as well as increase production costs.

Seed germination tests assess the ability of the seed to produce a healthy plant under favourable

growing conditions. These tests are generally conducted under controlled conditions that provide ideal moisture, temperature and light for a prescribed period of time.

Unfortunately, these tests often over estimate actual field emergence. Germinated seeds from seed lots with low germination often lack the ability to produce strong, healthy seedlings. Seed vigour tests, conducted by some seed testing labs, are conducted under more adverse conditions than a germination test. Vigour tests are not standardized and conditions imposed upon the seed may vary from lab to lab. Vigour tests are an attempt to more realistically predict field seedling emergence. Seed vigour can decrease due to mechanical damage, immaturity at harvest, seed age, disease infection, wet harvest conditions, and seed handling during cleaning and seeding operations.

Ideally, contamination from seedborne diseases should be as low as possible in planting stock. No set guidelines are available for "safe" infection levels since this decision depends on a variety of factors including:

- **The cost and availability of disease-free seed with good germination.**
- **Availability of registered seed treatments to control the disease(s).**
- **Typical weather conditions and disease pressure associated with the growing area.**
- **The type of pulse crop grown.**

As a rule of thumb, seedborne mycosphaerella (ascochyta) levels in field pea should be less than 10%; higher levels impact germination and seedling vigour. Windborne inoculum is more important than seedborne infection in initiating early infections of pea plants. No

3.4 Variety Selection

seed treatments are registered for control of ascochyta in field pea.

Up to 5% seedborne infection is generally acceptable for lentil production in the Brown and Dark Brown soil zones. Seed treatment with Crown should be considered when infection levels approach, or exceed 5%. In general, Crown will control approximately 90% of the seedborne ascochyta infection. For example, seed with 9% infection will be reduced to approximately 0.9% infection. However, if infection levels exceed 10%, seed should not be planted, as other quality-limiting factors are possible and not improved by seed treatment.

Ascochyta seed infection in chickpea should be as close to 0% as possible. Though not registered, seed treatment with Crown may assist with seed to seedling transmission of the disease. A four-year crop rotation between chickpea crops should be observed, detailed field scouting should be done just before flowering to determine whether foliar fungicide application is needed.

It is strongly advised that seed germination, vigour and seed-borne disease incidence of intended planting stock be tested from an accredited lab (Table 3.1)



Table 3.1 Accredited pulse seed testing laboratories in the prairies.

Lab	Purity	Germination	Seedling vigour	Disease
Accu-Test Lab Box 579 Rivers, MB ROK 1XO Ph: 204 328-5313 Fax: 204 328-7400	Pea Lentil Chickpea Dry bean	Pea Lentil Chickpea Dry bean	Unofficial advisory on pea, lentil, chickpea, dry bean	Ascochyta Unofficial advisory on anthracnose, botrytis
Agricore 4722 39 St. Camrose, AB T4V OZ5 Ph: 780 672-5612 Fax: 780 672-6971	Pea Lentil Chickpea Dry bean	Pea Lentil Chickpea Dry bean	Unofficial advisory on pea, lentil, chickpea, dry bean	Unofficial advisory on ascochyta
Agricore 9728 – 128 Ave. Grande Prairie, AB T8L 4J4 Ph: 780 532-8890 Fax: 780 539-1924	Pea	Pea	Unofficial advisory on pea	Unofficial advisory on ascochyta
BioVision Seed Lab 9954 67 Ave. Edmonton, AB T6E OP5 Ph: 1-800-952-5407 Fax: 780 437-6875	Pea Lentil Chickpea Dry bean	Pea Lentil Chickpea Dry bean	Unofficial advisory on pea, lentil, chickpea, dry bean	Ascochyta Unofficial advisory on anthracnose, sclero- tinia, botrytis
Brett-Young Seeds Ltd. Box 99, St. Norbert Postal Station Winnipeg, MB R3V 1L5 Ph: 204 478-2212 Fax: 204 275-7333	Pea Lentil Chickpea Dry bean	Pea Lentil Chickpea Dry bean	Unofficial advisory on pea, lentil, chickpea, dry bean	
Discovery Seed Labs Ltd. #4- 1527 Ontario Ave. Saskatoon, SK S7K 1S7 Ph: 306 249-4484 Fax: 306 249-4434	Pea Lentil Chickpea Dry bean	Pea Lentil Chickpea Dry bean	Unofficial advisory on pea, lentil, chickpea, dry bean	Ascochyta Unofficial advisory on anthracnose, botrytis, and bean blight
Imperial Seed (1979) Ltd. 1038 Arlington Street Winnipeg, MB R3E 2G1 Ph: 204 786-8457 Fax: 204 786-6004	Pea	Pea		
Lendon Seeds Ltd. Box 10 Riceton, SK SOG 4EO Ph: 306 738-2064	Pea Lentil Chickpea Dry bean	Pea Lentil Chickpea Dry bean	Unofficial advisory on pea, lentil, chickpea, dry bean	Unofficial advisory on ascochyta, anthrac- nose, botrytis, sclero- tinia
Peace River Seed Co-op Ltd. Box 40 Rycroft, AB TOH 3AO Ph: 780 765-3737 Fax: 780 765-3800	Pea Lentil Chickpea Dry bean	Pea Lentil Chickpea Dry bean	Unofficial advisory on pea, lentil, chickpea, dry bean	

3.6 Variety Selection

Lab	Purity	Germination	Seedling vigour	Disease
Peace Valley Seeds Ltd. Box 100 Rycroft, AB TOH 3AO Ph: 403 765-3069 Fax: 403 765-3960	Pea Lentil Chickpea Dry bean	Pea Lentil Chickpea Dry bean	Unofficial advisory on pea, lentil, chickpea, dry bean	
Precision Seed Testing Box 210 Beaverlodge, AB TOH OCO Ph: 780 354-2107 Fax: 780 354-8955	Pea Lentil Chickpea Dry bean	Pea Lentil Chickpea Dry bean	Unofficial advisory on ascochyta	
Priority Lab Services Box 1180 Nipawin, SK SOE 1EO Ph: 306 862-4212 Fax: 306 862-4440	Pea Lentil Chickpea Dry bean	Pea Lentil Chickpea Dry bean	Unofficial advisory on pea, lentil, chickpea, dry bean	Ascochyta Unofficial advisory on anthracnose, botrytis, and sclerotinia
Saskatchewan Wheat Pool 102 – 407 Downey Rd. Saskatoon, SK S7N 4L8 Ph: 306 933-0541 Fax: 306 933-0478	Pea Lentil Chickpea Dry bean	Pea Lentil Chick pea Dry bean	Official ascochyta Unofficial advisory on anthracnose, botrytis, sclerotinia	
20/20 Seed Labs Ltd. Suite 201 – 509 11th Ave Nisku, AB T9E 7N5 Ph: 780 955-3435 Fax: 780 955-3428	Pea Lentil Chickpea Dry bean	Pea Lentil Chickpea Dry bean	Unofficial advisory on pea, lentil, chickpea, dry bean	Ascochyta Unofficial advisory on anthracnose, botrytis, sclerotinia and fusari- um, bacterial blight
20/20 Seed Labs (Manitoba) Inc. 1150 – 19th St. Brandon, MB R7B 2M4 Ph: (204) 571-2400 Fax: (204) 571-2409	Pea Lentil Chickpea Dry bean	Pea Lentil Chickpea Dry bean	Unofficial advisory on pea, lentil, chickpea, dry bean	Ascochyta Unofficial advisory on anthracnose, botrytis, sclerotinia and fusari- um, and bacterial blight
Valley Seed Lab Ltd. Box 72 Morris, MB ROG 1KO Ph:/Fax: 204 758-3207		Pea Lentil Chickpea Dry bean	Unofficial advisory on pea, lentil, chickpea, dry bean	

Field Pea

A large number of pea varieties are adapted to Saskatchewan (Appendix Table 3.2). Many of them are introduced European varieties. Most are higher yielding, earlier maturing, shorter in vine length, and less prone to lodging compared to older varieties.

Selection of a variety depends on the

- **target market,**
- **yield potential,**
- **ease of harvest,**
- **vine length,**
- **maturity,**
- **seed size,**
- **adaptation to the area.**

A selected market will have colour, size, shape, or cooking quality requirements. Yellow and green cotyledon types are the primary market classes.

Quality is extremely important in the food pea market. (Figure 3.1) A large proportion of production is yellow pea. These are often about 15% higher yielding than green pea, which is subject to bleaching, especially if rainy and hot sunny days are interspersed just prior to harvest. Bleaching can downgrade the green pea seed quality, and may make them unsuitable for food.

• Good quality green pea seed usually sells at a slightly higher price than yellow pea; however, the net returns may still be higher for yellow pea because of its higher yield.

Green and yellow food pea markets pay attention to smoothness, roundness, colour uniformity and size. Some varieties are more consistently round than others. Many yellow pea varieties are acceptable for food markets when their quality level is high.

Food pea seed of unacceptable quality can be sold as feed. Disease, poor weather, and damage

during threshing and cleaning can downgrade food pea to a feed quality level.

A high yield and small seed size (which reduces cost of planting seed) are important in the livestock feed market. Varieties with coloured flowers and brown or maple coloured seeds are slightly less desirable as feed because they have higher tannin levels than the green or yellow pea. Tannins are bitter and slightly reduce protein digestibility. The level is low enough in these varieties that detrimental effects are minimal. All field pea varieties may be considered feed peas, but only specific quality parameters are acceptable for either the green or yellow food market.

Vine length and leaf type can be important considerations. The strongly indeterminate varieties have a lower risk of major yield loss due to flower blasting on hot days because of the longer flowering period. Under adequate moisture conditions, the early types are more likely to mature in a limited growing season, such as may occur in cooler areas. Under all moisture conditions, the semi-leafless varieties are less prone to lodging. Short and medium vine types and semi-leafless types provide less weed competition, so effective weed control is more important.

No currently registered variety is resistant to ascochyta (*mycosphaerella*) blight. Some of the newer varieties are resistant to powdery mildew.

Figure 3.1 *Yellow seeded/green seeded pea*





Figure 3.2 Yellow cotyledon/red cotyledon lentil



Figure 3.3 Large seeded/small seeded lentil



Lentil

Registered lentil varieties for production in Saskatchewan are shown in Appendix Table 3.3.

More than 60% of the lentils grown in Canada today are the variety **Laird**, which has extra-large seeds that suit the quality preferences of many international markets. Laird has a strongly indeterminate growth habit and, in cool moist areas, it may continue to grow late into the season. This thick vegetative growth and late maturity provide an excellent environment for the development of disease, particularly in moist weather.

• **Laird is best suited to drier production areas which have longer growing seasons.**

Eston makes up a further 10 to 15% of the Canadian production of lentil. Eston is a small-seeded lentil. It is less indeterminate and earlier maturing than Laird, and performs better in moist conditions. When affected by drought conditions, however, the plants may be too short to harvest readily. Eston lentils are especially suited to markets where a firm, cooked seed is important as they remain intact after cooking.

CDC Richlea has a seed size between Laird and Eston, and generally out yields Eston. CDC Richlea is susceptible to both ascochyta blight and anthracnose.

CDC Glamis is a larger-seeded lentil intended to replace Laird. It is higher yielding than Laird and is ascochyta blight resistant. Seed size is slightly smaller than Laird.

CDC Grandora is slightly larger-seeded than Laird. It is higher yielding than Laird and ascochyta blight resistant.

CDC Sovereign is slightly smaller-seeded than Laird. It is higher yielding than Laird and ascochyta blight resistant.

CDC Milestone is an ascochyta-blight-resistant, small-seeded Persian type variety expected to replace Eston. It is higher yielding than Eston with comparable plant characteristics and seed size.

CDC Vantage is an ascochyta-resistant, medium-seed-sized, Chilean-type variety to replace CDC Richlea. CDC Vantage is higher yielding than CDC Richlea with similar seed size, but slightly shorter in plant height.

CDC Redwing has red seeds and pale green seed coats and is intended for the red, split lentil market. CDC Redwing is ascochyta resistant, but susceptible to anthracnose. Red cotyledon lentil accounts for approximately half the world trade of the crop in either whole or split form.

CDC Robin is a small-seeded, red cotyledon variety with resistance to ascochyta. CDC Robin is the only variety with improved levels of anthracnose resistance. Seed coat is brown.

CDC Redcap is a high-yielding, red cotyledon variety with some tolerance to anthracnose and resistance to ascochyta. Seed coat is pale green and the seed is plump.

Crimson is a red cotyledon variety with a brown seed coat developed by Dr. Fred Muehlbauer of USDA at Washington State University and is a public release. It has very poor resistance to ascochyta blight.

Indianhead is a black-seeded lentil used as a green manure or plowdown crop. It is seeded at 30 to 35 lb/ac (34 to 39 kg/ha) and will produce seed, if seeded early and if drought stress occurs in July and August. To use it as a green manure, it is generally seeded in mid to late May to avoid seed production, and the plants are killed with 2,4-D herbicide or by cultivation when flowering begins. Either herbi-

cides or a high residue retention method of cultivation helps to protect the soil from erosion and provides for greater snow-trap capability. Indianhead lentil does not add as much nitrogen to the soil as a plow-down of pea, but it can be a cost-effective alternative as the small seed size makes it relatively inexpensive to grow. It is resistant to ascochyta.

Chickpea

The list of recommended varieties for Saskatchewan is shown in Appendix Table 3.4. All of these varieties have a high level of resistance to ascochyta blight, but prolonged periods of wet weather in the presence of abundant ascochyta inoculum will result in some infection.

Sanford kabuli chickpea has medium-large-sized seeds and is acceptable for the dry pack market and in some canning markets. Maturity is the late end of the range considered acceptable for Saskatchewan. The plants have a unifoliolate leaf type, different from the fern leaf of most chickpea varieties. Sanford was bred by Dr. Fred Muehlbauer of USDA at Washington State University (WSU) and is a public release.

Dwelley kabuli chickpea was also developed by the USDA at WSU. It is larger-seeded than Sanford, but very late maturing.

B-90 is a small seeded, fern-leaf kabuli chickpea, with a yield usually lower than CDC Chico but higher than Sanford. The food market for this small-seeded kabuli chickpea is limited, but the feed market may have some potential.

CDC Yuma kabuli chickpea has medium-large seeds, similar to Sanford. Maturity is a little earlier than Sanford. The leaves are the normal fern leaf type.

CDC Xena kabuli has seed size larger than Sanford or CDC Yuma, similar to Dwelley. It flowers and matures earlier than Sanford. CDC Xena has the unifoliolate leaf type similar to Sanford.

Myles desi chickpea was developed by Dr. Fred Muehlbauer of the USDA at Washington State University. The seed size is in the medium range for desi types and it has the standard angular seed shape combined with a tan to brown seed coat. Leaf type is fern. It is the most widely grown desi chickpea in Canada and is the current check for desi types.

CDC Desiray desi chickpea is similar to Myles desi chickpea, but the seed supply is very limited for 2000. It has a light tan seed coat combined with a plump seed shape.

Dry Bean

Varieties currently recommended for production in Saskatchewan are listed in Appendix Table 3.5. Comparative data for many varieties is still limited because regional testing is only just beginning. Varieties have distinct growth habits. Type I refers to a determinate upright bush growth habit. Type II varieties are upright and indeterminate. Type III varieties are indeterminate but have a spreading canopy which causes problems with low hanging pods at maturity. Most currently available pinto varieties (especially Othello) develop canopies with low-hanging pods. With swathing or direct harvest systems, this causes high harvest losses. Over the next several years, early maturing varieties with better canopy structure for direct harvesting will become available. The development of new varieties is an essential component in the improvement of dry bean production in Saskatchewan.

Figure 3.4 *Kabuli large seeded/desi small seeded chickpea*



Figure 3.5 *Navy bean*



Pulse Crops

2003 Regional Variety Trials

In 2003, Saskatchewan Pulse Growers provided a one-year grant of over \$85,000 to fill an urgent need for pulse crop regional variety testing in Saskatchewan.

The Crop Development Centre (CDC) collaborated with researchers already onsite at several locations (such as the Agri-ARM sites) in order to make best use of project dollars. The project collected data on varieties from the CDC program as well as Cebeco, Svalof Weibull, Agriculture & Agri-Food Canada (AAFC), and other breeding programs. This project will augment data from Co-op Tests.

Methodology

Field pea, lentil, chickpea, and dry bean variety trials were conducted at 8-14 locations per crop in their target areas of adaptation in Saskatchewan. The number of entries per trial was 24 for pea, 20 for lentil, 24 for chickpea, and 16 for dry bean. Trials were set up and managed by the pulse crop breeding program at the CDC.

Lentil

Main characteristics of varieties

Market class	Variety	Years tested*	-- Yield % of Laird --		Height (cm)	Days to flower	Maturity rating	----- Resistance to -----			Cotyledon colour	Seed weight (g/1000)
			Areas 1-2	Areas 3-4				Ascochyta blight	Anthracnose Race 1			
Large green	Laird	9	100	100	41	53	VL	VP	VP	yellow	67	
	CDC Glamis	8	110	105	39	54	VL	G	VP	yellow	60	
	CDC Grandora	7	107	107	40	53	VL	G	VP	yellow	69	
	CDC Plato	5	126	109	38	52	ML	G	P	yellow	62	
	CDC Sovereign	7	115	107	40	52	L	G	P	yellow	66	
	CDC Sedley	6	115	106	39	51	M	F	VP	yellow	68	
Medium green	CDC Richlea	8	132	114	35	50	M	VP	VP	yellow	51	
	CDC Vantage	8	133	124	33	49	M	G	VP	yellow	52	
Small green	CDC Milestone	9	137	127	31	49	E	G	VP	yellow	37	
	CDC Viceroy	4	143	136	34	49	E	G	G	yellow	33	
	Eston	8	118	110	30	48	E	VP	VP	yellow	33	
French green	CDC LeMay	5	121	114	35	48	E	F	VP	yellow	32	
	common	5	122	113	32	49	E	P	VP	yellow	31	
Small red	CDC Blaze	5	123	117	30	47	E	G	P	red	34	
	CDC Redberry	3	133	130	34	50	EM	G	G	red	42	
	CDC Redcap	7	119	117	30	49	E	G	F	red	35	
	CDC Redwing	7	118	109	30	50	E	G	VP	red	38	
	CDC Robin	6	124	110	30	49	E	G	G	red	30	
	Crimson	6	117	112	29	49	E	VP	VP	red	35	

* Coop and Regional Trials in Saskatchewan since 1995. Direct 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 LeMay**, **CDC Plato**, **CDC Viceroy** and **CDC Redberry**.

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 % Alfetta ----			Leaf type**	Relative maturity	Vine Length (cm)	----- Resistance to -----					Seed coat dimpling***	Green seed coats****	Seed weight g/1000
		Area 1,2 & 3	Area North	Area 3 and 4				Irrigation	Myco-phaerella blight	Powdery mildew	Seed coat breakage	Lodging			
Yellow															
Alfetta ☼	7	100	100	100	SL	M	60	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
Badminton	4	107	102		SL	E	65	P	P	G	F	n/a	F	G	250
Carneval ☼	7	89	85	107	SL	M	75	F	P	F	G	n/a			230
CDC Bronco	4	119	128	119	SL	M	75	F	VG	G	G	n/a	G	G	230
CDC Golden	4	122	114	120	SL	M	85	F	VG	G	G	n/a	G	G	230
CDC Handel	5	112	99	112	SL	L	75	P	VG	G	F	n/a	G	F	220
CDC Mozart	7	116	110	115	SL	M	70	F	VG	G	F	n/a	G	F	230
CDC Minuet	5	109	108	—	SL	M	70	F	VG	F	F	n/a	G	F	190
Croma ☼	5	101	100	—	SL	E	70	P	P	G	F	n/a	G	G	300
Cutlass	4	122	125	117	SL	M	75	F	VG	F	G	n/a	F	G	220
Delta ☼	4	101	98	—	SL	E	70	P	P	G	F	n/a			250
DS Admiral ☼	5	101	110	96	SL	E	80	F	VG	G	G	n/a	G	G	240
DS Stalwarth	4	97	95	103	SL	M	80	P	VG	G	F	n/a	G	G	240
Eclipse ☼	5	111	110	116	SL	M	80	F	VG	G	G	n/a	F	G	250
Grande ☼	7	93	91	93	N	L	90	F	P	G	F	n/a	G	F	220
Integra ☼	4	85	100	—	SL	E	75	F	P	G	G	n/a	F	F	280
Mandy	4	88	94	96	SL	M	60	P	P	F	F	n/a			270
Miami ☼	5	102	102	—	SL	E	80	P	P	F	G	n/a	G	F	240
Miser ●	4	113	126	—	SL	M	80	F	VG	G	F	n/a	G	G	190
Nicole ☼	4	106	105	—	SL	M	65	P	P	F	F	n/a	G	G	260
SW Belfield ●	4	112	121	114	SL	E	70	P	P	F	F	n/a	F	G	220
SW Bravo ☼	4	88	95	—	SL	E	75	F	P	G	G	n/a	G	G	260
SW Circus ●	4	104	116	108	SL	E	75	F	P	F	G	n/a	F	G	220
SW Capri ●	4	102	108	—	SL	E	75	F	P	F	G	n/a	F	G	210
SW Prize ●	4	100	97	—	SL	E	80	F	P	G	G	n/a	G	G	240
SW Salute ●	4	114	115	—	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
Topeka ●	5	113	108	—	SL	E	65	F	VG	G	F	N/A	G	G	260
Green															
CDC Montero	5	99	95	—	SL	M	80	F	VG	G	F	F	F	n/a	230
CDC Striker	4	99	98	—	SL	M	80	F	P	VG	G	G	G	n/a	230
CDC Verdi	5	90	73	—	SL	L	75	F	P	G	F	G	F	n/a	200
Cruiser	4	91	87	—	SL	M	75	F	P	VG	F	G	G	n/a	200
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 ☼	6	96	99	104	SL	E	70	P	P	F	F	F	F	n/a	250
Majoret ☼	5	79	75	95	SL	M	60	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 ☼	7	94	97	94	SL	M	75	F	P	G	G	G	F	n/a	250
Scuba ☼	4	82	87	—	SL	E	80	P	P	F	F	F	F	n/a	230
Stratus ●	5	118	110	—	SL	M	70	F	VG	G	F	P	G	n/a	270
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
Venture ☼	4	97	88	—	SL	E	75	P	P	G	F	F	F	n/a	220
Maple															
CDC Acer	3	109	100	—	SL	L	60	F	VG	G	F	n/a	G	F	170
CDC April +	4	82	70	—	SL	L	60	F	P	G	F	n/a		n/a	140
CDC Vienna +	5	86	81	—	SL	L	60	F	P	G	F	n/a		n/a	170
Courier ☼	4	98	92	79	SL	M	75	F	P	F	P	n/a	G	F	210
Whero	3	60	57	—	N	L	110	P	P	G	P	n/a		n/a	210
Silage															
CDC Sonata	4	111	100	—	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
Victoria	7	80	77	—	N	M	85	P	P	F	P	n/a			190
40-10	2	91	100	—	N	L	100	P	P	F	P	n/a	G		170

* Coop and regional trials in Saskatchewan.

**N-normal leaf type; SL-semi-leafless.

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


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

+ Check with your buyer about acceptability in the Maple market.

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

Chickpea - Kabuli

Main characteristics of varieties

Variety	Years	-- Yield (% Sanford) --		Leaf	Ascochyta	Height	Days to	Maturity**	Seed weight
	tested	Area 1	Area 2	type*	blight	(cm)	flower		(g/1000)
Sanford	7	100	100	U	VP	49	56	L	425
Amit (B-90) 	6	130	137	F	F	46	55	M	265
CDC ChiChi	5	117	117	F	P	45	53	M	385
CDC Chico	7	136	147	F	P	45	51	E	265
CDC Diva	4	104	117	U	VP	43	52	M	490
CDC Frontier	3	160	164	F	F	45	54	M	375
CDC Xena	7	116	129	U	VP	44	52	M	470
CDC Yuma	7	113	116	F	P	47	53	L	410
Dwelley	3	86	88	U	VP	45	57	VL	490
Evans	4	90	98	U	VP	50	53	L	430

Chickpea - Desi

Main characteristics of varieties

	Years	Yield (% Myles)		Leaf	Ascochyta	Height	Days to	Maturity**	Seed	Seed	Seed coat
	tested	Area 1	Area 2	type*	blight	(cm)	flower		weight	shape***	color****
Myles	7	100	100	F	F	41	50	E	200	A	T
CDC Anna	6	108	113	F	F	42	52	M	210	P	T
CDC Cabri	5	111	111	F	F	43	48	E	295	P	T
CDC Desiray	7	97	108	F	F	37	49	E	210	P	LT
CDC Nika	6	97	104	F	F	39	50	M	320	P	T

Area 1: Brown soil zone

Area 2: Dark brown soil zone

* Leaf type: F=fern; U=unifoliate

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

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

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

Additional Information

Kabuli chickpea is best adapted to stubble or summerfallow production in the Brown soil zone. Desi chickpea is best adapted to stubble production in the Brown and Dark Brown soil zones. 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 10°C 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. Chickpea seeds are highly susceptible to damage and should be handled gently 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. Seed treatment with Crown (carbathiin and thiabendazole) is strongly recommended for both desi and kabuli varieties to reduce the severity of seed-borne ascochyta blight. Plant chickpea seeds approximately 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** which has a round seed shape.

Certified Seed of **CDC Yuma, CDC Xena, CDC Chico, CDC Diva, CDC Desiray, CDC Anna, and CDC Nika** will be available in 2004.

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

Dry Bean

Main characteristics of varieties

Variety	Type	Years tested*	- Yield as % of CDC Pintium -			Days to		Pod** clearance (%)	Seed weight (g/1000)	Growth*** habit
			Irrigation	Area 2	Area 3	flower	Maturity			
CDC Pintium	pinto	7	100	100	100	50	E	80	350	I
CDC Altiro	pinto	6	102	86	77	47	E	64	357	III
CDC Camino	pinto	6	97	86	76	52	L	81	323	I
CDC Minto	pinto	5	101	95	95	51	M	62	410	III
CDC Pinnacle	pinto	5	102	103	98	53	L	67	352	III
Earliray	pinto	5	82	89	80	50	E	65	349	I
Othello	pinto	6	96	96	89	52	L	51	323	III
Envoy	navy	3	81	78	95	53	M	73	184	I
CDC Whitecap	navy	5	101	95	95	56	M	75	194	II
AC Polaris	great northern	5	106	84	97	52	L	70	310	III
CDC Crocus	great northern	7	101	94	85	47	E	59	355	III
CDC Nordic	great northern	6	77	79	68	52	L	62	319	I
CDC Polar Bear	great northern	4	98	87	77	52	L	65	339	III
US 1140	great northern	6	88	87	81	51	L	53	289	III
CDC Rosalee	pink	4	100	97	85	50	L	65	247	III
Viva	pink	4	94	102	80	51	L	50	242	III
AC Redbond	small red	5	104	102	97	51	M	65	290	II
CDC Espresso	black	7	68	77	71	47	M	87	191	I
CDC Jet	black	4	92	105	111	58	L	80	175	II
CDC Nighthawk	black	5	62	61	67	58	L	77	165	II
UI906	black	5	93	96	71	60	L	76	148	II

* Coop and regional trials grown in narrow rows. Direct comparisons to CDC Pintium.

** Pod clearance: percentage of pods that completely clear the cutter bar at time of swathing.

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

Faba Bean

Main characteristics of varieties

Variety	Years tested	— Yield 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.