



Canada-Saskatchewan
Irrigation
Diversification
Centre

Cereals

Oilseeds

Pulses

Forages

Specialty
Crops

Crop Varieties for Irrigation



January 2002

Canada


Irrigation Crop Diversification Corporation



Saskatchewan



Canada-Saskatchewan
Irrigation
Diversification
Centre

The Canada-Saskatchewan Irrigation Diversification Centre (CSIDC) is managed and funded by the federal and provincial governments, and by industry. The federal contribution is provided by Agriculture and Agri-Food Canada, PFRA. The provincial partner is Sask Water. Industry is represented by the Irrigation Crop Diversification Corporation (ICDC) and the Saskatchewan Irrigation Projects Association (SIPA).

The goal of CSIDC is to promote economic security and sustainable rural development primarily through diversified cropping and more intensive management of irrigated cropland.

Funding for variety testing and the production of this report was provided by the Irrigation Crop Diversification Corporation, the Canada-Saskatchewan Agri-Food Innovation Fund, the Partnership Agreement on Water-Based Economic Development, the Prairie Farm Rehabilitation Administration, and Sask Water.

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Using the Variety Guide

Introduction

The yield comparison tables are compiled from irrigated yield tests conducted by the Canada-Saskatchewan Irrigation Diversification Centre (CSIDC). The data used in the tables are from irrigated co-operative (pre-registration) trials, regional yield trials, agronomic and observational trials, and producer funded yield trials.

The trials are conducted on small replicated plots using specialized plot equipment. A high level of management is applied to eliminate differences caused by soil variability, weed pressure, or disease. The aim is to make conditions as uniform as possible so that yield differences are due to the varieties themselves, and not some other factor. Emphasis is placed on testing those varieties with good lodging tolerance, suitable disease resistance, and ease of harvest under irrigated production.

Crop varieties respond differently from year to year. The highest yielding variety one year may be one of the lowest yielding in another year (for example it may mature late and be at risk of frost). Choosing the highest yielding variety is no guarantee that it will give the highest yield for this season, or for your farm. A choice of one of the higher ranked varieties may be suitable, especially if some other characteristic such as disease resistance or early maturity is desired.

Interpreting the Tables

Site years

One site year is a test performed for one year at one site. A test conducted over 10 years at one site, or one year at 10 sites equals 10 site years in both cases. Results from less than six site years are reported for those cases where data is limited and producer interest in those crops is high.

Relative yield of varieties

All varieties are compared as a percent of a standard "check" variety. This variety is included in all tests. All other varieties are compared to it. This allows comparisons from year to year, from site to site, and from test to test.

A well-run test performed over a large number of site years can detect yield differences of 2 or 3 percent. Consider four varieties that yield 108, 107, 106, and 102 percent of the check. The top three have produced comparable yields, and will outyield the fourth. Where site years are limited, varieties within 6 or 8 percent cannot be said to be different based on the available data. Further testing will then be needed to rank the varieties more precisely.

Lodging ratings

Lodging ratings are reported on a four point subjective scale. Varieties within the same lodging class will have had similar lodging ratings on the 1 to .9 scale used previously. The ratings are based on both numerical ratings and on general field observations throughout the growing season. Lodging varies widely from year to year and from site to site.

Lodging ratings are subjective, based on the judgement of the researcher. The rankings at CSIDC have been performed using a consistent method wherever possible. This improves the accuracy of the ranking of the varieties, but does not predict results for any given year, field, or level of management.

Interpreting the Tables (continued)

Agronomic information

Agronomic information includes plant height, days to flowering or maturity, and seed size. Crop height, for example, varies widely from year to year. Therefore the agronomic information is useful only as a comparison between varieties. Find a variety you are familiar with and compare others to it to determine whether it is likely to be different.

Disease ratings

CSIDC does not routinely collect disease ratings for each variety. **Please consult Varieties of grain crops 2002, a publication of Saskatchewan Agriculture and Food, for detailed disease ratings of specific varieties.**

A Word of Caution

Occasionally the comparison with the check variety can be misleading. In some years the check may have an exceptionally low or high yield, skewing the rankings. For example, a new variety with limited site years of data (compared to the long term check) may rank unusually high if the check performed much worse than average during one year. Further testing will even out the variability and the ranking of the varieties will more closely reflect performance in the field.

Management practices may have a greater impact on yield than choice of variety. Seeding date experiments for irrigated flax show a 20 percent yield reduction for late May seeding as compared to early May. This 20 percent spread is greater than the yield difference between flax varieties.

Plant Breeder's Rights



Plant Breeders' Rights (PBR) ensure that private sector and institutional crop breeders are afforded reasonable control of their varieties and fair compensation for their efforts. Plant breeders may apply under the Plant Breeders' Rights Act to obtain certain controls over seed increase and seed sales of their varieties.

Sale or any other transfer of ownership of seed protected under the act is prohibited without the written permission of the breeder or the breeder's agent, and without payment of a royalty to the breeder or the agent. Under PBR, bona fide farmers are allowed to keep seed of the variety for use on their own farms only.

Varieties for which Plant Breeders' Rights are in effect at the time of printing are identified by the symbol . Varieties for which Plant Breeders' Rights have been applied for are identified by the symbol .

For more detailed information on specific varieties, refer to the Saskatchewan Agriculture and Food publication Varieties of grain crops 2002

Barley

Two-row Malt barley

AC Metcalfe, CDC Kendall, CDC Stratus, Harrington, Merit and Stein are recommended for 2002-03 by the Malting Barley Industry Group. AC Metcalfe is widely accepted in the domestic and export markets. Market demand for CDC Kendall and CDC Stratus is expanding. Merit has an expanding export market. Irrigators should consult with their malt barley buyer(s) about local variety demand.

Limited quantities of **AC Bountiful** and **CDC Copeland** are being grown for market development and testing purposes.

Six-row Malt Barley

CDC Sisler, Excel, and Robust are recommended by the Malting Barley Industry Group.

Demand for Excel is declining, Robust has an established market, and domestic demand for CDC Sisler has been growing. Irrigators should consult with their malt barley buyer(s) about local variety demand.

CDC Yorkton is being grown for market development and testing purposes.

Semi-Dwarf Feed barley

The 2-row variety **CDC Bold** has yielded similar to AC Rosser in limited testing under irrigation.

The 6-row variety **Vivar** has yielded equal to or greater than Duke in limited testing.

Hulless barley

The 2-row variety **HB 805** has yielded greater than CDC Gainer in limited testing. **CDC McGwire**, a 2-row, has yielded greater than CDC Freedom in limited testing.

Variety	2 or 6 row	Site years	Yield as % of Harrington	Lodging rating	Height (cm)	Maturity rating
Malt Barley						
CDC Copeland ☼	2	4	157	P	99	VL
AC Bountiful	2	6	145	G	100	M
Merit ☼	2	5	131	F	97	M
CDC STRATUS	2	8	130	G	93	M
AC Metcalfe ☼	2	9	122	F	103	M
CDC Kendall	2	9	121	P	101	M
Stein	2	4	112	P	96	E
Harrington	2	23	100	P	96	M
CDC YORKTON ☼	6	4	166	G	96	M
Excel	6	8	143	F	95	M
CDC Sisler ☼	6	8	130	P	107	E
Robust	6	6	125	P	105	E
Feed Barley						
CDC Dolly	2	9	127	P	95	M
CDC Fleet	2	9	120	G	96	M
AC Rosser ☼	6	6	165	P	102	M
Stander ☼	6	7	157	G	96	M
AC Harper ☼	6	6	130	F	90	M
Tukwa	6	8	123	P	85	---
Semi-dwarf Feed Barley						
CDC THOMPSON	2	8	124	G	72	L
Stetson	6	5	150	VG	82	E
CDC EARL	6	9	141	VG	89	E
Duke	6	14	130	VG	91	---
Hulless						
CDC Gainer	2	5	126	G	99	L
CDC Freedom	2	5	114	F	93	VL
CDC Dawn	2	9	112	P	98	M
AC Bacon	6	6	115	G	103	M
AC Hawkeye	6	6	106	P	117	M

Average plot yield of Harrington: 4655 kg/ha (85 bu/ac)

Lodging: P = poor F = fair G = good VG = very good

Maturity: E = early M = medium L = late VL = very late
M = Harrington = 101 days

☼ PBR in effect
☼ PBR applied for
--- Data not available

Spring wheat

The check variety for wheat has been changed from Katepwa to AC Barrie.

Canada Western Red Spring wheat

Seed of **CDC Bounty** will be in limited supply in 2002. Seed of **AC Superb** will not be available in 2002.

McKenzie has high yield potential under irrigation but has lower lodging resistance and tends to have lower protein content.

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

Roblin has yielded similar to AC Barrie with higher protein content in limited testing.

AC Cora, **AC Majestic**, and **Katepwa** have yielded approximately 90% of the check .

Canada Western Amber Durum wheat

All durum wheat varieties are susceptible to two races of loose smut. Seed treatment will provide control.

Kyle produces superior grades than other varieties under most conditions but has poor lodging resistance under irrigation.

AC Napoleon tends to produce a lighter test weight relative to other varieties. This may result in lower grades.

AC Morse has greater lodging resistance and higher protein content than do both AC Melita and Plenty under irrigated conditions.

Canada Prairie Spring wheats

AC Vista has greater protein content and higher gluten strength than AC Karma.

AC Crystal has improved end use quality compared to AC Taber and AC Foremost. AC Vista, AC Karma, AC Crystal, and AC Foremost have resistance to loose smut, except for race T9.

Canada Western Extra Strong wheat

Both **AC Glenavon** and **Amazon** have outyielded Glenlea in limited testing in the irrigated trials.

Soft White Spring wheat













AC Reed and **AC Phil** are shorter, earlier, and higher yielding than Fielder. Both are moderately resistant to 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 or Fielder.

AC Nanda has improved resistance to common bunt, powdery mildew, and black point.

Triticale


Triticale grows taller and matures 7 to 10 days later than most wheats. **AC Alta**, **Wapiti**, and **AC Certa** had highest grain yields in CSIDC trials. Recently released varieties have not been tested.

Spring Wheat

Variety	Site years	Yield as % of AC Barrie	Lodging rating	Height (cm)	Days to maturity	% Protein +/- AC Barrie
Canada Western Red Spring						
McKenzie	11	114	F	95	101	-0.7
AC Superb 	6	105	G	90	---	---
Prodigy	7	105	G	100	102	+0.8
CDC Bounty	7	103	G	100	100	+0.6
AC Barrie 	38	100	G	95	101	15.5%
CDC Teal	12	99	G	95	101	0.0
AC Elsa 	11	99	F	90	99	+0.3
AC Intrepid 	21	98	F	90	100	+0.2
AC Cadillac 	19	97	F	100	101	+0.1
Canada Western Amber Durum						
AC Napoleon 	7	118	F	100	101	-0.9
AC Morse 	17	112	G	90	103	-0.4
AC Melita	12	107	F	100	103	-0.9
AC Avonlea 	22	106	G	90	102	-0.2
Plenty	12	106	P	105	103	-1.0
AC Pathfinder 	14	104	F	90	105	---
Sceptre	6	103	F	100	103	-0.9
AC Navigator 	18	101	F	80	105	---
Kyle	15	98	P	110	103	-0.3
Canada Prairie Spring White						
AC Vista 	21	123	F	85	102	-1.8
AC Karma	17	113	F	85	103	-2.7
Canada Prairie Spring Red						
AC Taber	12	121	G	85	105	-2.1
AC Crystal 	24	118	G	85	103	-2.3
AC Foremost	16	110	G	75	102	-1.8
Canada Western Extra Strong						
Laser	7	107	VG	95	---	---
Glenlea	12	96	F	105	103	-1.4
AC Corinne	7	86	F	100	102	---
Soft White Spring						
AC Phil	12	117	VG	80	103	-3.9
AC Reed	17	116	G	80	103	-3.8
Fielder	7	113	G	90	105	-3.5
AC Nanda	15	109	F	90	104	-3.8

Average plot yield of AC Barrie: 5160 kg/ha (76bu/ac)

 PBR in effect

 PBR applied for

Lodging: P = poor F = fair G = good VG = very good

--- Data not available

Argentine Canola

Variety	Site	Yield as % of Quantum	Lodging rating	Height (cm)	Days to maturity	
InVigor 2153	LL	8	114	F	120	93
1174CA		5	111	P	125	95
InVigor 2663	LL	7	106	VG	135	96
InVigor 2573	LL	7	105	VG	140	96
InVigor 2273	LL	11	104	F	125	96
Magellan		15	104	F	120	93
Ebony ☉		13	103	F	130	97
Quantum ☉		33	100	G	125	95
45A55 ☼	RR	4	99	G	125	94
OAC Dynamite ☉		14	99	F	110	95
46A65 ☉		13	97	F	115	96
Q2 ☉		15	95	F	120	96
DKL3235 ☉	RR	11	94	F	110	94
DKL34-55 ☼	RR	7	94	VG	125	95
45A71 ☉	C	9	94	G	120	94
45A51 ☉	RR	8	92	P	115	94
46A76 ☉	C	7	91	G	125	96
Cartier BX ☼	B	7	88	P	110	95
Hylite 201 ☉		7	86	G	105	93

Average plot yield of Quantum: 3430 kg/ha (61 bu/ac)

LL = Liberty Link C = CLEARFIELD
RR = Roundup Ready B = Bromoxynil

☉ PBR in effect
☼ PBR applied for
--- Data not available

Lodging: P = poor F = fair G = good VG = very good

Hylite 201 is apetalous (no yellow flowers). **LoLinda**, a conventional low linolenic variety, has yielded approximately 70% of the check in limited testing.

Grow varieties that are resistant to blackleg. Use of treated, laboratory certified blackleg-free seed in a minimum four year rotation (three rotation crops between canola crops) will help prevent the spread of virulent blackleg. InVigor 2153, 1174CA, Magellan, 45A71 and 45A51 are rated fair for resistance to blackleg. All other varieties listed are rated good to very good. Consult Varieties of grain crops 2002 for further information.

Conventional and herbicide tolerant varieties are grown in the same test using conventional management. This ensures that all varieties are compared to the check. The relative ranking of the herbicide tolerant canolas in the table will not be affected.

Lodging ratings are for the years 1998 to 2001.

Flax and Solin

Variety	Site years	Yield % of AC McDuff	Lodging rating	Days to maturity
Oilseed flax				
AC Hanley ☼	4	110	G	106
CDC Bethune ☼	15	105	G	110
AC Lightning ☼	9	101	G	110
AC McDuff ☼	30	100	VG	112
Flanders	22	99	F	111
AC Carnduff ☼	12	98	G	109
AC Linora	16	98	P	109
Taurus ☼	8	98	G	111
CDC Normandy	21	97	F	111
AC Watson ☼	17	97	G	110
Somme	21	97	P	108
AC Emerson	17	95	F	109
Solin				
Linola™ 989 ☼	19	95	G	110
Linola™ 1084 ☼	9	93	G	111

Average plot yield of AC McDuff: 2755 kg/ha (44 bu/ac)

Lodging: P = poor F = fair G = good VG = very good

☼ PBR in effect
 ☼ PBR applied for
 --- Data not available

Performance of the top varieties can be expected to be similar in the field. Choice of a variety may depend upon other considerations such as lodging rating, days to maturity, or seed cost and availability.

Linola™ 989 and **Linola™ 1084** are solin types. They are yellow seeded and have less than 5% linolenic acid in the oil. Solin produces food quality oil, therefore the grain must be handled and stored separate from oilseed flax. Production is under contract only.

Hybrid Oilseed Sunflower

Variety	Site years	Yield as % of IS6111	Height (cm)	Days to maturity
IS5757	2	107	170	124
SF270	3	102	151	124
IS6230	2	101	173	124
IS6111	3	100	135	121
SF128	2	100	173	124
SF187	3	100	161	124

Results for irrigated co-operative yield trials, 1997 to 2000
Average plot yield of IS6111 = 3440 kg/ha (3060 lb/ac)

Canary Seed

Elias and **Keet** perform similarly under irrigation. Keet is considered to be more resistant to lodging than is Elias. The hairless variety **CDC Maria** has not been tested under irrigation.

Variety	Site years	Yield as % of Elias	Height (cm)	Days to heading
Elias	6	100	106	51
Keet	6	99	112	52

Average plot yield of Elias: 1900 kg/ha (1700 lb/ac)

Coriander

Variety	Yield		Height (cm)	Days to flower	Days to maturity	1000 seed wt (g)
	kg/ha	lb/ac				
CDC Major	2305	2050	95	76	131	9.7
CDC Minor	2795	2490	97	75	129	8.6

Results for 2000 season only

Field Pea

All varieties listed in the table are semi-leafless types.

The green seeded variety **CDC Montero** has yielded similar to SW PARADE in limited testing.

The normal leafed green seeded varieties **Clipper** and **Olivin** have yielded similar to the check. The normal leafed green variety **Princess** has yielded similar to Madoc in limited testing at CSIDC. Normal leaf type varieties are not normally recommended for irrigated production due to increased potential for disease development within the thick crop canopy typical of these varieties.

All pea varieties will lodge under irrigation. Those with better lodging resistance will stand later into the season. These varieties tend to suffer less from disease, to fill more fully, and to produce a generally higher yield and seed quality.

Variety	Site years	Yield as % of Radley	Lodging rating	Days to mature	Vine length (cm)	Seed weight (g/1000)
Green seeded						
SW PARADE ☼	12	138	F	101	90	---
Madoc ☼	8	128	G	97	80	---
MAJORET ☼	23	113	G	98	85	255
Nitouche ☉	8	112	F	98	90	---
Keoma	16	112	P	97	70	215
Radley	42	100	P	100	80	195
Yellow seeded						
CDC Mozart	12	146	F	98	85	---
DS-Stalwarth	12	136	F	99	90	---
Eiffel ☉	10	123	P	96	80	295
Highlight ☉	20	123	P	99	85	220
Eclipse ☉	8	122	G	101	85	---
Carneval ☉	21	120	G	100	85	250
Alfetta ☉	13	119	F	98	75	290
PROFI ☉	13	118	F	95	85	255
AC Melfort ☼	13	117	F	99	75	245
Carrera	8	116	P	97	70	260
Mandy	10	111	F	98	80	275
CDC Handel	8	110	F	99	85	---
Colored flower						
CDC Vienna	11	99	F	103	80	150
CDC April	5	85	F	103	80	110

Average plot yield of Radley: 4300 kg/ha (64bu/ac)

Lodging: P = poor F = fair G = good VG = very good

☉ PBR in effect
 ☼ PBR applied for
 --- Data not available

Dry Bean

Variety	Plant type	Site years	Yield as % of Othello	Days to maturity	Seed weight (g/1000)
Pinto bean					
AC Burrito	II	7	124	102	330
Othello	III	30	100	106	335
CDC Pinnacle	III	9	96	106	355
CDC Camino	I	12	86	106	325
CDC Pintium	I	4	84	97	330
CDC Altiro	III	5	82	98	280
Navy bean					
AC Skipper	I	7	66	111	195
Black bean					
UI 906	II	15	101	110	160
AC Black Diamond	II	4	81	105	250
CDC Espresso	I	11	61	104	180
Great Northern bean					
AC Polaris	II	3	131	104	325
US 1140	III	20	100	109	305
CDC Crocus	III	6	97	104	355
CDC Bianca	I	6	92	109	365
CDC Polar Bear	III	3	87	109	350
CDC Nordic	I	10	72	106	315
Pink bean					
Viva	III	20	105	106	255
CDC Rosalee	III	4	93	103	260
Red Mexican bean					
AC Redbond	II	3	128	101	315
AC Earlired	II	5	120	99	305
NW-63	III	7	106	106	305

Average plot yield of Othello, 1996 to 2001: 3120 kg/ha (2770 lb/ac)

Wide Row Trials

Commercial row crop production is typically on 55 cm (22 in.) or 75 cm (30 in.) centres. The wide row bean trials are grown on 60 cm (24 in.) rows to evaluate varieties under conditions similar to conventional practice.

Yield and days to maturity are important factors when choosing a bean variety. Spring or fall frost can destroy a dry bean crop. It is important to select a variety that will mature in the normal frost-free season for your region.

Certified seed of newer varieties may not be available, or will be in short supply for 2002. A list of seed distributors can be found in Varieties of grain crops 2002.

I = Determinate bush
 II = Indeterminate short vine
 III = Indeterminate sprawling vine

Narrow Row Trials

The narrow row dry bean trials are sown on 20 cm (8 in.) row spacing to evaluate performance in a solid seeding management practice. The pod clearance rating is a measure of the proportion of pods held 5 cm (2 in.) or more above ground level. This gives an indication of the suitability for harvest using a direct cut harvest system. Varieties with higher pod clearance ratings will normally have lower harvest losses.

The narrow row variety trials are a separate test from the wide row trials. These tests are not designed to compare conventional and solid seeded management. **Yields and variety rankings cannot be compared between the tables.**

Variety	Site	Yield as % of Othello	Pod clearance rating*	Days to maturity
Plant type I: Determinate bush				
CDC Bianca	GN	4	103	103
CDC Pintium	P	5	100	96
CDC Camino	P	11	95	102
CDC Nordic	GN	11	81	105
AC Skipper	N	9	68	108
CDC Expresso	B	7	56	101
Plant type II: Indeterminate short vine				
AC Black Diamond	B	2	114	102
AC Polaris	GN	4	112	105
AC Earlired	R	2	107	97
AC Burrito	P	4	96	101
CDC Whitecap	N	2	93	105
UI 906	B	7	81	112
CDC Nighthawk	B	6	69	109
Check				
Othello	P	16	100	104

Average plot yield of Othello: 3410 kg/ha (3020 lb/ac)

B = Black GN = Great Northern N = Navy P = Pinto R = Red Mexican

*Pod clearance rating = % of pods on the plant that are held >5 cm (2 in.) above the soil surface. The rating is measured using a standard 2x4 board laying flat on the ground.

--- data not available

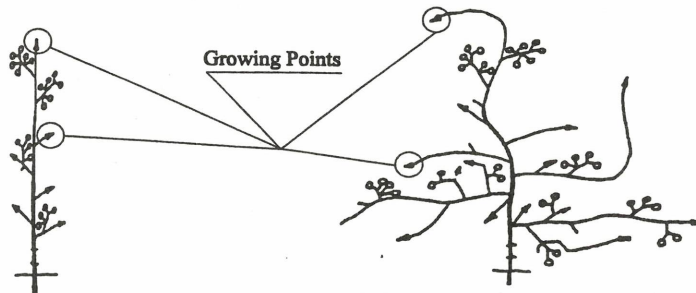
Dry Bean Plant Type



Type I

Determinate bush

The main stem and branches end in flowers. Flowering lasts 10 to 20 days with fairly uniform pod maturity



Type II

Indeterminate short vine

The main stem is erect. The stem and branches end in vegetative buds. Flowering lasts 10 to 30 days with uneven pod maturity


Type III

Indeterminate sprawling vine

The stems are semi-prostrate with well developed branches and a dense canopy. Flowering is similar to Type II plants.

Graphic courtesy Colorado Dry Bean Production and IPM Bulletin 548A. Colorado State University Co-operative Extension and Agricultural Experimental Station. 1990.

Kabuli Chickpea

Variety	Site years	Yield as % of Sanford	Average Days to flower	Average Days to maturity	Height (cm)	Seed weight (g/1000)	Leaf type
Amit 	2	174	55	114	55	245	F
CDC Chico	2	164	58	95	58	280	F
CDC Xena	2	126	54	100	52	570	U
CDC Yuma	2	107	59	98	58	415	F
Sanford	5	100	60	112	65	315	U

Average plot yield of Sanford: 1850 kg/ha (1640 lb/ac)
 F = fern U = unifoliolate

 PBR in effect

CDC Diva has yielded similar to Sanford in limited testing. It is a unifoliolate type with large seed size. Maturity and plant height are similar to CDC Xena. **Evans** yielded slightly less than the check in limited testing. Evans is a unifoliolate type with plant height and maturity similar to CDC Xena. Seed size is slightly larger than CDC Yuma.

Kabuli chickpea suffered severe disease pressure in the 2000 irrigated trials resulting in low yield and poor grain quality for all varieties. Yield and quality were higher in 2001.

Desi Chickpea

Variety	Yield as % of Myles	Average Days to flower	Average Days to maturity	Height (cm)	Seed weight (g/1000)
CDC Desiray	107	48	93	47	234
CDC Nika	103	48	94	41	353
Myles	100	48	94	51	214
CDC Anna	91	48	99	46	213

Results for the 2001 season are presented. The plot yield of Myles in 2001 was 2840 kg/ha (2520 lb/ac). All desi chickpeas in the table have the fern leaf type.

Lentil

Variety	Site years	Yield as % of Eston	Days to maturity	Seed weight (g/1000)
CDC Milestone	3	106	93	36
Eston	14	100	90	32
CDC Richlea	9	98	92	46
CDC Glamis	3	98	93	59
French Green	3	93	---	32
CDC Redwing	6	81	87	32
Laird	12	76	92	63

CDC Vantage and **CDC Grandora** have outyielded the check in limited testing under irrigation.

Average plot yield of Eston: 2670 kg/ha (2380 lb/ac)

Faba Bean

Faba bean is late maturing, and should be sown early for best results.

CDC Fatima combines early maturity and shorter height with high yield potential. Its large seed size is preferred in some markets.

Variety	Site years	Yield as % of CDC Fatima	Height (cm)	Days to maturity	Seed weight (g/1000)
Aladin	9	104	139	116	435
CDC Fatima	10	100	130	114	535
CDC Blitz	6	98	135	118	445
Orion	6	91	124	120	360

Average plot yield of CDC Fatima, 1990 to 2000: 5590 kg/ha (4980 lb/ac)

Alfalfa

Variety	Site years	Yield as % of Beaver
AC Grazeland Br ☼	3	108
53Q60	3	108
Survivor	3	106
AgriMaster	3	105
TMF 421	3	105
Atomic	3	104
StockWell	3	104
Barrier	9	102
Proleaf	3	102
Quattro HR	3	101
Beaver	12	100
TrueNorth	3	100
WL 324	3	100
53V08	3	98
Magnum III-Wet	3	97
Rambler	12	83

☼ PBR applied for

The varieties included in the table were evaluated in the Western Forage Testing System trials under irrigated production at Outlook, Saskatchewan from 1996 to 2001. Variety trials are established each year and forage yields are measured for each of the following three years. All data is for a two cut system except for 2001 in which three cuts were taken.

Varieties with rapid regrowth after cutting are best suited to intensive management. For more information on alfalfa varieties, consult the latest Saskatchewan Forage Crop Production Guide.

Average plot yield of Beaver: 12,740 kg/ha (5.65 tons/ac)

Barley Varieties for Forage

A western Canada-wide trial was conducted to evaluate the performance of barley when grown for forage. Yield and agronomic results for registered varieties grown under irrigation at CSIDC are reported. **Westford**, a hooded six-row type, is registered for forage crop use.

Variety	Dry matter yield		Height (cm)	Days to heading
	t/ha	tons/ac		
Westford	15.4	6.9	118	64
AC Lacombe ☼	14.5	6.5	109	58
Virden	14.1	6.3	124	61
Duke	13.6	6.1	100	60

☼ PBR in effect

Timothy

The irrigated timothy hay trials were conducted at the CSIDC and at the Semiarid Prairie Agricultural Research Centre (SPARC) in Swift Current from 1995 to 1997. Hay was harvested in early July and in late August for each year. Leaf content was measured on the first cut only.

Export markets prefer high leaf content and long seed heads. **Drummond** had the longest seed heads and the second highest leaf content.

Richmond had a lower fiber content and better nutritive value making it better suited to the domestic dairy hay market than the other varieties tested.

Grindstad has yielded 106% of Climax in tests conducted from 1997 to 1999.

Variety	Leaf content (%)	Yield t/ha @ 12% moisture		Total yield		Yield as % of Climax
		Cut 1	Cut 2	t/ha	tons/ac	
Richmond	32	9.1	4.2	13.3	5.9	109
Timfor	34	9.3	3.8	13.1	5.8	108
Alexander	32	8.6	3.6	12.3	5.5	101
Climax	36	8.6	3.6	12.2	5.4	100
Nike	32	8.6	3.5	12.2	5.4	100
Winmor	38	8.6	3.5	12.1	5.4	99
Argus	31	8.6	3.2	11.9	5.3	97
Toro	33	8.1	3.8	11.8	5.3	97
Drummond	37	8.4	3.0	11.4	5.1	94
Carola	33	8.0	3.4	11.4	5.1	93
Bottnia II	34	8.3	2.5	10.9	4.8	89

Average of Outlook and Swift Current data

Perennial Forages

Birdsfoot Trefoil

AC Langille yielded 117% of the check variety **Leo** in a two cut harvest system in irrigated trials conducted from 1997 to 1999. The average plot yield of Leo was 10.7 t/ha (4.75 tons/ac).

Cicer Milkvetch

Irrigated trials with a two cut harvest were conducted at CSIDC in 1998 and 1999. **Windsor** yielded 101% of the check variety **Oxley**. **AC Oxley II** yielded 91% of Oxley. AC Oxley II has improved seedling vigor and faster regrowth compared to Oxley. The average plot yield of Oxley was 10.5 t/ha (4.65 tons/ac).

Crested Wheatgrass


The tetraploid varieties **AC Goliath** and **Kirk** were tested in irrigated trials in a two cut harvest system from 1999 to 2001. AC Goliath yielded 104% of the check variety Kirk. The average plot yield of Kirk crested wheatgrass was 13.0 t/ha (5.75 tons/ac).

Smooth Bromegrass

Radisson yielded 99% of the check variety **Carlton** in irrigated trials conducted from 1996 to 1998. Two cuts per year were taken. The average plot yield of Carlton was 16.3 t/ha (7.25 tons/ac).

The contribution and co-operation of Dr. B. Coulman of the Saskatoon Research Centre (Agriculture and Agri-Food Canada) toward the alfalfa, timothy, and forage grass variety testing, and of Drs. P. Jefferson and A. Kielly of the Semiarid Prairie Agricultural Research Centre toward the timothy variety testing are gratefully acknowledged.

Potato

Variety	Consumption Grade Yield		Seed Grade Yield	
	Site years	as % of Shepody	Site years	as % of Shepody
Table potato				
Norland	13	112	13	119
Russet Norkotah	17	103	17	116
Sangre	4	105	3	117
Atlantic	12	101	10	109
Shepody	24	100	17	100
Viking	3	100	---	---
Goldrush	3	93	---	---
Red La Soda	3	88	---	---
Alpha	10	64	8	97
French Fry potato				
Russet Burbank	17	100	18	116
Shepody	20	100	21	100
Goldrush	3	93	---	---
Ranger Russet	9	91	10	99
Chipping potato				
Atlantic	12	101	10	109
AC Ptarmigan	4	96	---	---
Niska	3	87	---	---
Snowden 	3	76	---	---
Norchip	3	72	---	---

Average plot yield of Shepody = 44.1 t/ha (392 cwt/ac)

Consumption grade: tubers greater than 45 mm diameter

Seed grade: tubers less than 90 mm diameter

The potato variety comparisons shown are based on varietal, agronomic, and fertility trials conducted from 1995 to 2000. The potatoes were grown using standard commercial practice under full irrigation in all tests used to create the table.

Varieties which are commonly used in more than one market appear twice in the table. Shepody, for example, is used primarily as a French fry potato but is also grown for table use.