



Agriculture and
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Canada-Saskatchewan
Irrigation
Diversification
Centre

CROP VARIETIES FOR IRRIGATION



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Saskatchewan



**Canada-Saskatchewan
Irrigation
Diversification
Centre**

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

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

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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. The yield of small, uniform plots is generally greater than field yields; however, the relative ranking of varieties will be the same. Emphasis is placed on testing 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 your farm. Selecting a lower ranked variety may be suitable, especially if some other characteristic, such as disease resistance or early maturity, is desired.

Site years

Interpreting the Tables

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 only for those cases where data is limited.

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 are higher yielding than the fourth. However, where site years are limited, varieties within 6 or 8 percent cannot be said to be different based on the available data. Further testing is needed to rank the varieties more precisely.

Lodging ratings

Lodging ratings are reported on a four point subjective scale. 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.

**Interpreting
the Tables
(continued)**

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.

Agronomic information

Agronomic information includes plant height, days to flowering or maturity, seed size and quality measurements. Crop height, for example, varies 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 2011, a publication of Saskatchewan Agriculture, for 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. For example, seeding date experiments at CSIDC for irrigated flax have shown up to 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.

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 publication Varieties of Grain Crops 2011.

Canola (*B. napus*)

Clubroot is a serious soil-borne disease of canola. Currently, there are no economical control measures that can remove the disease from infected canola fields. Sanitation and crop rotation are the most effective methods of prevention. Information about clubroot is available on the following website: www.clubroot.ca.

45H29 is the first variety registered with tolerance to clubroot. More recent clubroot tolerant varieties include **73-67 RR**, **73-77 RR**, **D3152** and **9558C** (limited data not shown).

45S51 is the first variety registered with tolerance to white mold. More recent white mold tolerant varieties include **45S52** and **9557S** (limited data not shown).










Variety	Type	Site Years	Yield as % of 45H21	Lodging Rating	Height (cm)	Days to Maturity
Conventional						
46A65	OP	43	83	G	122	99
Clearfield						
5525 CL	HYB	9	108	VG	130	99
45H73	HYB	20	102	G	125	98
45P70	HYB	12	97	G	127	99
1651 H	HYB	10	82	G	131	98
Liberty Link						
8440	HYB	16	115	VG	121	99
L130	HYB	6	115	VG	127	99
5440	HYB	17	114	VG	130	99
L150	HYB	6	114	VG	131	100
5030	HYB	28	112	VG	135	99
5770	HYB	10	111	VG	113	100
9590	HYB	20	107	VG	124	99
Roundup Ready						
VT 500	HYB	4	114	VG	128	100
45H29	HYB	6	112	G	131	99
1956	COM	5	108	G	120	99
VT Remarkable	COM	4	107	G	125	100
1950	HYB	5	106	G	128	99
45H28	HYB	11	105	G	126	99
72-55 RR	HYB	5	104	G	119	98
9553	HYB	12	103	G	125	99
72-65 RR	HYB	5	103	G	121	99
D3150	HYB	11	103	G	125	99
46P50	HYB	16	103	G	131	100
6040 RR	HYB	9	103	G	126	100
71-45 RR	HYB	20	100	G	119	97
45H21	HYB	43	100	G	122	99
V1040*	HYB	4	98	G	121	100
V1037*	HYB	14	98	G	125	100
1855 H	HYB	5	98	VG	124	99
83S01 RR	COM	6	98	G	126	98
45S51	HYB	8	98	VG	121	97
1841	HYB	19	97	VG	129	99
4424 RR	HYB	5	97	G	128	99
93H01 RR	HYB	7	96	G	127	99
1852 H	HYB	10	96	G	135	99
VT Desirable	COM	14	90	G	122	98
997 RR	OP	13	86	G	122	99

Average plot yield of 45H21 (check): 4,907 kg/ha (87 bu/ac)

* Specialty oil

HYB = Hybrid; COM = Composite Hybrid; OP = Open Pollinated
Lodging: G = good; VG = very good

Flax

Variety	Site Years	Yield as % of CDC Bethune	Lodging Rating	Days to Maturity
CDC Bethune 	28	100	G	114
Prairie Thunder 	20	100	VG	114
Prairie Blue 	28	95	G	118
Macbeth 	27	93	G	114
Prairie Grande 	17	93	VG	113
Taurus 	14	93	G	113
Lightning 	15	92	G	114
AC Watson	18	92	G	113
Hanley 	27	91	G	112
CDC Sorrel 	20	90	G	115
CDC Arras	23	90	F	113
Vimy	17	83	P	112

Average plot yield of CDC Bethune (check): 3,239 kg/ha (52 bu/ac)
Lodging: P = poor; F = fair; G = good; VG = very good

 PBR in effect

All varieties are resistant to rust.

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.

Spring Wheat

Canada Western Red Spring

Goodeve, Unity, Fieldstar and **Shaw** are CWRS wheat midge tolerant varieties. They contain the “SM1” tolerant gene. To manage against the build-up of midge resistance to the gene, an “*interspersed refuge*” will be used commercially. These varieties are not immune to wheat midge and can suffer midge damage when high infestation levels occur. More information on midge tolerant wheat can be found at www.midgetolerantwheat.ca.

CDC Imagine, CDC Abound and **WR859CL** are tolerant to the CLEARFIELD® herbicides Adrenalin SC and Altitude FX.

Lillian is a solid stem variety offering some resistance to wheat stem sawfly.

Limited quantities of seed of the new varieties **Fieldstar, Stettler, 5603HR** and **WR859CL** will be available in 2011. Seed of the varieties **Carberry, Muchmore,** and **Shaw** will not be available in 2011.

Canada Western Amber Durum

Limited quantities of seed of the new varieties **Brigade** and **Eurostar** will be available in 2011. Seed of **Enterprise** will not be available in 2011.

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

Brigade and **Eurostar** have strong gluten properties. They may be grown only under contract with the Canadian Wheat Board.

Canada Western Extra Strong

Glencross is the only CWES wheat midge tolerant variety using the “SM1” gene.

Limited quantities of seed of **Glencross** and **CDN Bison** will be available in 2011.

Canada Prairie Spring

Conquer is the only CPS-red midge tolerant variety using the “SM1” gene. Seed will not be available in 2011.

Canada Western General Purpose

Varieties in the General Purpose market class are intended for ethanol and livestock feed purposes.

Seed of **Minnedosa** will not be available in 2011.

Canada Western Soft White Spring



























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

Limited quantities of seed of **Sadash** will be available in 2011.


Irrigated areas in south and central Saskatchewan are susceptible to fusarium infestations. **High levels of fusarium were found in a number of irrigation districts across the province in 2010.** Sow less susceptible cereal types and varieties on irrigated fields with a history of fusarium head blight. Use fusarium tested seed to prevent new infestations of irrigated land. Durum and CWES are the most susceptible wheat types followed by CWSWS, CPS and CWRS. Information on tolerance levels in wheat varieties is available in the Saskatchewan Agriculture publication:

Varieties of Grain Crops 2011.

Spring Wheat

Variety	Site Years	Yield as % of AC Barrie	Lodging Rating	Height (cm)	Days to Maturity	% Protein +/- AC Barrie	Head Awns Present
Canada Western Red Spring							
Glenn 	6	118	G	88	109	-0.9	Y
Muchmore *	6	116	G	79	105	-1.3	Y
Carberry *	6	114	G	81	109	-1.0	Y
WR859CL 	7	112	G	85	104	-0.4	Y
CDC Abound 	15	111	G	85	109	-0.4	Y
Shaw *	6	109	G	98	104	-0.9	N
5603HR 	7	109	G	92	105	-0.7	Y
McKenzie	22	107	F	91	103	-0.6	Y
Unity 	17	107	G	92	103	-0.5	Y
Superb 	39	106	G	87	107	-0.4	Y
Stettler 	11	105	G	90	106	+0.3	Y
Fieldstar 	12	105	G	93	103	-0.2	Y
Goodeve 	15	104	G	91	103	+0.2	N
5602HR 	29	103	G	92	107	+0.2	Y
Kane 	17	101	G	87	104	-0.5	Y
AC Barrie 	53	100	G	93	105	15.7%	N
Waskada 	16	99	G	94	105	+0.3	Y
CDC Imagine 	17	97	G	89	103	-0.1	N
Lillian 	23	96	F	92	104	+0.4	N
Harvest 	15	94	G	87	102	-0.3	N
Canada Western Hard White							
Snowstar 	17	106	G	85	104	-1.5	N
Snowbird 	32	93	G	94	105	-0.3	N
Canada Western Amber Durum							
Strongfield 	39	108	F	89	109	-0.1	Y
Enterprise *	8	107	F	90	115	0.0	Y
Brigade 	14	106	G	95	114	-0.4	Y
CDC Verona *	14	105	G	90	116	0.0	Y
Eurostar 	14	101	F	92	113	-0.4	Y
Canada Prairie Spring White							
AC Vista 	49	119	F	83	107	-2.0	Y
Canada Prairie Spring Red							
Conquer *	6	137	G	91	106	-2.1	Y
5702PR 	16	115	G	85	106	-1.2	Y
AC Crystal 	46	114	G	83	107	-2.3	Y
Canada Western Extra Strong							
CDN Bison	11	111	G	88	109	-0.7	Y
Burnside	25	102	F	100	107	-0.7	N
Glencross	16	101	F	102	106	-0.7	N
Canada Western Soft White Spring							
Sadash 	34	131	G	87	110	-4.3	Y
AC Andrew	53	124	G	84	109	-3.7	Y
Bhishaj	45	121	G	85	108	-3.9	Y
Canada Western General Purpose							
Minnedosa 	6	122	G	86	104	-2.4	Y

Average plot yield of AC Barrie (check): 5,831 kg/ha (87 bu/ac)
Lodging: F = fair; G = good

 PBR in effect
* PBR applied for

Barley

Malt Barley

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

Information on recommended malting barley varieties for 2011-2012 can be found on the Canadian Malting Barley Technical Centre (CMBTC) website at www.cmbtc.com.

Recommended 2-row varieties include **AC Metcalfe**, **CDC Copeland**, **Newdale**, **CDC Kendall** and **CDC Polarstar** while recommended 6-row varieties include **Legacy**, **Tradition** and **Stellar-ND**.

For 2-row varieties, the market shares of **AC Metcalfe** and **CDC Copeland** are steady while **Newdale** gains acceptance. For the 6-row varieties, **Legacy** and **Tradition** show declining demand while demand for **Stellar-ND** is increasing.

Celebration and **Stellar-ND** are new 6-row varieties that have yielded similar to **CDC Kamsack** in limited testing (data not shown). **Major** and **Cerveza** are new 2-row varieties that have yielded higher than **AC Metcalfe**, while **CDC Kindersley** has yielded less than **AC Metcalfe** in limited testing (data not shown).

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

Feed Barley

For 2-row varieties, **CDC Austenson** has yielded similar to **Champion** while **Busby** has yielded similar to **CDC Dolly** in limited testing (data not shown).

Variety	Site Years	Yield as % of AC Metcalfe	Lodging Rating	Height (cm)	Relative Maturity	Awn Type
Malt 6-row						
CDC Clyde	6	125	G	84	M	S
CDC Laurence	6	120	G	95	M	S
CC Mayfair	3	117	G	88	M	R
Legacy	7	115	G	89	M	S
Tradition	8	112	G	90	M	S
CDC Kamsack	3	111	G	84	M	R
Malt 2-row						
Newdale	8	116	G	88	M	R
CDC Copeland	8	114	G	98	M	R
Bentley *	3	104	G	94	L	R
CDC Meredith	3	104	G	89	L	R
AC Metcalfe	11	100	F	92	M	R
CDC Kendall	10	100	P	97	M	R
CDC Landis	3	96	F	90	M	R
CDC Reserve	3	96	F	89	M	R
Merit 57	3	95	F	90	L	R
Norman *	3	92	F	89	M	R
Harrington	11	84	P	90	M	R
Feed 6-row						
AC Rosser	7	129	P	95	M	S
Alston	5	123	G	85	M	S
Sundre	5	112	G	93	L	S
Chigwell *	3	110	G	90	M	S
Feed 2-row						
Xena	6	121	F	83	M	R
CDC Coalition	5	120	G	86	M	R
Champion	5	119	G	87	M	R
CDC Bold	7	117	P	86	L	R
CDC Trey	7	114	G	92	M	R
McLeod	6	114	G	81	M	R
CDC Helgason	7	108	G	92	M	R
CDC Mindon	5	107	G	88	M	R
CDC Dolly	9	105	P	88	E	R
CDC Cowboy	6	100	F	108	L	R
Hulless 2-row						
CDC McGwire	7	88	F	92	M	R

Average plot yield of AC Metcalfe (check): 6,436 kg/ha (119 bu/ac)

Lodging: P = poor; F = Fair; G = Good

Maturity: E = early; M = medium; L = late

AC Metcalfe (check) = 100 days

R = rough; S = smooth.

☪ PBR in effect

* PBR applied for














Field Pea

All Green, Yellow and Maple varieties listed in the table are semi-leafless types. **CDC Sonata** and **40-10** are normal leaf silage varieties. Normal leaf varieties are not generally recommended for irrigated production.


Argus and **Hugo** are new yellow pea varieties that have yielded similar to **SW Midas** and **CDC Golden** respectively in limited testing (data not shown).

CDC Acer, **CDC Rocket** and **40-10** have purple flower colour and tannin containing seed coats. All other varieties have white flower colour and non-pigmented seed coat.

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

Variety	Site Years	Yield as % of Cutlass	Lodging Rating	Days to Maturity	Vine Length (cm)	Seed Weight (g/1000)
Green						
Stratus 	9	108	P	99	75	248
CDC Striker	36	104	F	97	81	229
Camry 	12	104	F	100	67	247
CDC Tetris	9	102	G	103	92	207
Cooper 	32	102	G	101	83	257
CDC Patrick	16	100	F	99	88	163
CDC Sage	14	93	F	99	80	172
SW Sergeant	14	92	F	99	81	185
Nitouche	20	92	F	98	82	231
Tamora 	13	89	F	100	80	263
Yellow						
CDC Centennial	14	120	P	99	76	246
Agassiz 	16	117	F	97	90	211
CDC Meadow	25	117	F	96	88	197
Reward 	12	114	G	98	90	235
CDC Hornet	11	114	F	99	93	199
SW Midas 	14	113	F	96	79	199
CDC Treasure	16	109	G	96	87	197
Thunderbird 	16	109	G	99	86	202
Polstead 	20	109	F	95	77	255
CDC Mozart	26	108	F	97	75	211
Sorento 	12	108	F	99	81	224
CDC Golden	26	104	F	96	84	198
Canstar 	15	101	F	95	84	219
Eclipse 	43	101	G	99	82	225
Cutlass	43	100	G	97	81	206
CDC Bronco	23	99	F	100	82	190
CDC Prosper	16	92	G	99	84	135
DS-Admiral 	11	87	F	96	83	230
Maple						
CDC Rocket	11	92	F	97	85	187
CDC Acer	3	56	VP	99	84	125
Forage/Silage						
CDC Leroy	11	91	F	100	85	136
CDC Tucker	11	88	G	100	93	159
40-10	7	53	VP	102	96	116
CDC Sonata	3	51	VP	100	82	196

Average plot yield of Cutlass (check): 5,190 kg/ha (77 bu/ac)
Lodging: VP = very poor; P = poor; F = fair; G = good

 PBR in effect

Dry Bean

Variety	Plant Type	Site Years	Yield as % of Othello	Days to Maturity	Seed Weight (g/1000)
Pinto					
Island	II	13	111	104	365
CDC WM-2 *	II	4	101	102	386
Othello	III	35	100	106	346
Winchester	II	14	98	102	345
CDC WM-1	I	8	74	99	357
Black					
AC Black Diamond	II	25	93	104	261
Black Violet	II	16	77	105	177
CDC Jet	II	10	70	109	173
Great Northern					
AC Polaris	II	25	101	105	324
Alert	II	11	89	107	338
Resolute	II	14	85	101	339
Pink					
CDC Rosalee	III	5	102	102	264
Early Rose	II	9	97	99	293
Viva	III	35	96	107	259
Small Red					
AC Earlired	III	12	107	98	312
AC Redbond	II	24	104	100	317
NW-63	III	14	90	107	300

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.

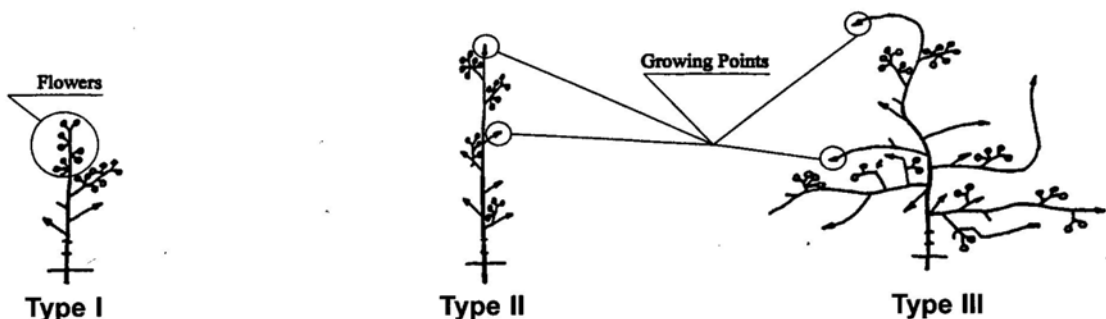
CDC WM-1 and **CDC WM-2** are slow darkening pinto dry bean varieties.

AC Black Diamond has large shiny seeds.

Average plot yield of Othello (check):
3,303 kg/ha (2943 lb/ac)

* PBR applied for

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.

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 wide row and solid seeded management. **Yields and variety rankings cannot be compared between the tables.**




Variety	Plant Type	Site Years	Yield as % of CDC Pintium	Pod Clearance Rating*	Days to Maturity
Pinto					
Maverick	II	4	119	75	109
Winmor	II	8	114	77	105
Winchester	II	13	113	77	101
Island	II	13	112	72	105
CDC WM-2 *	II	8	103	78	100
CDC Pintium	I	21	100	85	97
CDC WM-1	I	15	99	82	98
Black					
Carmen Black	II	4	119	87	107
Black Violet	II	5	111	83	107
AC Black Diamond	II	12	111	79	104
CDC Blackcomb	II	7	104	81	101
CDC Jet	II	21	89	86	108
Great Northern					
Alert	II	4	116	78	106
AC Polaris	II	19	112	74	105
Resolute	II	12	95	79	101
Pink					
CDC Rosalee	III	4	113	76	99
Viva	III	11	95	69	103
Small Red					
AC Redbond	II	17	109	78	102
Navy					
Lightning	II	4	87	86	110
Envoy	I	19	83	79	101
Kippen	II	6	73	77	103
Morden 003	I	8	69	76	104
Yellow					
CDC Sol *	I	4	84	80	105

Average plot yield of CDC Pintium (check): 3,198 kg/ha (2,849 lb/ac)

*Pod clearance rating = % of pods that completely clear the cutter-bar at time of swathing.

*: PBR applied for



Faba Bean

Variety	Site Years	Yield as % of CDC Fatima	Height (cm)	Days to Maturity	Seed Weight (g/1000)
Coloured Flower					
Florent	3	125	134	112	424
CDC Fatima	7	100	123	111	526
CDC Blitz	7	98	129	115	434
Orion	6	91	119	117	354
Taboar 	3	84	134	112	485
White Flower					
Imposa 	3	111	125	114	549
Snowbird 	4	86	115	111	509

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

CDC Fatima combines earlier maturity and shorter height with high yield potential. Its large seed size is preferred in some markets. White-flowered types are zero tannin. All coloured flower types have seed coats that contain tannins and are considered suitable for food markets if seed size and quality match customer demand.

Average plot yield of CDC Fatima (check): 5,187 kg/ha (4,622 lb/ac)

 PBR in effect
 PBR applied for

Soybean

Variety	Site Years	Yield as % of RR Rosco	Corn Heat Units*	Height (cm)	Lodge Rating	Seed Weight (g/1000)	Hilum Colour
Apollo RR	9	110	2450	73	VG	139	BR
NSC Warren RR	4	105	2350	83	VG	125	BR
RR Rosco	9	100	2450	75	G	140	IY
LS 0036RR	4	95	2425	69	VG	114	BR
IsisRR	4	92	2400	85	VG	136	BR
NSC Argyle RR	4	90	2475	77	G	140	BR
LS 0028RR	4	89	2400	65	VG	114	BR

Average plot yield of RR Rosco (check): 2,994 kg/ha (2,668 lb/ac)

Hilum is the point where the seed attaches to the pod : BR = Brown; IY = Imperfect Yellow

For a complete list of commercial varieties see **Seed Manitoba 2011** (www.seedmb.ca).

* Refer to the **Corn** section in this bulletin for information on corn heat units in Saskatchewan.










Corn


The Alberta Corn Committee (ACC) irrigated grain and silage corn hybrid performance trials were conducted at CSIDC from 2003-2010. Results from the trials for each individual year as well as a multi-year summary are available on the ACC website at www.albertacorn.com.

Select a variety with a Corn Heat Unit rating suitable to your area. A corn heat unit map of Saskatchewan is available on the Saskatchewan Agriculture website at [www.agriculture.gov.sk.ca/Corn Heat Units](http://www.agriculture.gov.sk.ca/Corn_Heat_Units).

Information on corn production can be found in **Corn Production in Manitoba**, published by the Manitoba Corn Growers Association. To order the manual, go to the Manitoba Agriculture website at www.gov.mb.ca/agriculture/crops/cropproduction/gaa01d22.html.

Annual Cereal Forage

Variety	Site Years	Dry Matter Yield (% of check)	% CP	% NDF	% ADF	% TDN
Barley 2-row						
Newdale 	7	103	12.3	48.4	29.7	63.9
CDC Cowboy 	8	102	12.4	51.2	31.9	62.6
CDC Copeland 	9	102	11.6	51.1	32.6	62.4
Stockford 	5	98	13.3	52.2	32.8	61.8
CDC Bold	10	95	12.9	49.3	30.5	64.1
Barley 6-row						
Binscarth	5	102	12.9	48.0	29.3	63.9
AC Ranger (check)	11	100	12.5	49.5	30.7	63.4
AC Rosser 	11	99	13.0	47.4	29.2	64.8
AC Hawkeye	11	96	12.7	51.9	32.6	62.2
Vivar 	11	96	11.8	48.9	29.7	64.4
Trochu 	11	94	12.7	48.1	29.8	60.5
CDC Battleford 	9	93	12.1	47.3	30.5	64.4
Oats						
Pinnacle 	11	105	11.0	52.5	34.6	60.2
Calibre	11	104	11.5	51.8	35.3	59.2
AC Morgan	11	102	11.1	51.0	33.7	60.3
CDC Baler* (check)	11	100	11.5	56.5	37.0	58.4
Triticale						
Comet*	11	102	12.1	58.5	40.0	55.3
Banjo	11	100	13.4	59.6	39.4	55.5
Viking*	11	100	12.2	59.5	40.1	55.2
Pronghorn (check)	11	100	13.9	57.9	38.3	55.8
AC Ultima	11	95	12.6	55.3	35.8	58.9


Average dry matter yield of check: AC Ranger = 15,683 kg/ha (6.99 tons/ac)  PBR in effect
 CDC Baler = 15,703 kg/ha (7.00 tons/ac)
 Pronghorn = 13,461 kg/ha (6.00 tons/ac)

Barley and oat varieties harvested at soft dough; triticale varieties harvested at late milk – early dough.

CP = Crude Protein; NDF = Neutral Detergent Fibre
 ADF = Acid Detergent Fibre; TDN = Total Digestible Nutrients

*Varieties available for annual forage production.

Alfalfa

Variety	Site Years	Yield as % of Beaver	Variety	Site Years	Yield as % of Beaver
Steak	3	118	Atomic	3	104
Approved	3	114	WL 319 HQ	3	104
Forecast 1001	3	112	Equinox	3	103
WinterGold	3	112	53Q60	7	103
AC Nordica	4	111	AC Grazelander Br 	7	103
WL 327	3	110	Dakota	3	103
Starbuck	3	109	Tophand	3	103
54V46	4	109	StockWell	10	102
WL 232 HQ	3	109	Proleaf	3	102
Spredor 4	3	108	Barrier	11	102
Gibraltar	3	107	Gala	4	102
Perfect	3	107	Magnum 3801 Wet	3	101
Multi5301	3	107	Quattro HR	3	101
Survivor	3	106	Beaver	31	100
AC Longview	7	106	Rangelander	19	98
Pickseed 2065MF	7	106	Rhino	3	98
54V54	7	106	Magnum III-WET	3	97
Pickseed 8925MF	4	105	Matrix	3	96
421Abacus	3	105	HayGrazer	3	96
AmeriStand 201+Z	7	105	Convoy	3	95
AgriMaster	3	105	53Q30	3	94
AC Blue J	19	104	54Q25	3	93
Geneva	7	104	Dalton	3	93
HybriForce-400	3	104	Runner	6	93
134	3	104	Rambler	31	92

Average dry matter yield of Beaver (check): 11,507 kg/ha (5.13 tons/ac)

 PBR in effect

The varieties were evaluated in the Western Forage Testing (WFT) System trials from 1996 to 2009 and in the ICDC/Saskatchewan Forage Council trials established under irrigation in 2002 at CSIDC and in 2003 at Osler, Saskatchewan. WFT 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 to 2003 in which three cuts were taken.

Varieties with rapid re-growth after cutting are best suited to intensive management. For more information on alfalfa varieties, including disease resistance, consult the latest **Forage Crop Production Guide** available from Saskatchewan Agriculture (www.agriculture.gov.sk.ca/Forage-Crop-Production-Guide).

The contribution and co-operation of Dr. B. Coulman of the Department of Plant Sciences, University of Saskatchewan, toward the alfalfa, timothy, and forage grass variety testing is gratefully acknowledged.

Timothy

Variety	Site Years	Yield as % of Climax
AC Alliance	5	116
Dolina	3	114
Express	3	113
Grinstad	11	112
Joliette	5	112
Jonatan	5	111
Richmond	8	109
Timfor	6	108
Turku	3	104
Winnetou	3	103
TimPro	3	102
Tenho	3	102
Alexander	6	101
Drummond	8	100
Nike	6	100
Climax	11	100
Argus	6	97
Toro	6	97
Glacier	3	96
Carola Champ	6	93
Topi	3	91
Bottnia II	6	89
Tuukka	3	87

Average dry matter yield of Climax (check):
11,040 kg/ha (4.92 tons/ac)

Irrigated timothy trials were conducted at the CSIDC and at the Semiarid Prairie Agricultural Research Centre (SPARC) in Swift Current from 1995 to 1997. Western Forage Testing (WFT) System trials were conducted at CSIDC from 1996 to 2007. AAFC Timothy Performance Trials were conducted at CSIDC in 2004 and 2005. Results from all trials are included in the table.

The trials were harvested in early July and in late August of each year. Export markets prefer high leaf content and long seed heads. **Drummond** had the longest seed heads and the second highest leaf content in the trials conducted from 1995 to 1997. **Richmond** had a lower fiber content and higher nutritive value making it better suited to the domestic dairy hay market than other varieties tested in the 1995 to 1997 trials.

Perennial Forage

Variety	Site Years	Yield as % of check
Birdsfoot Trefoil		
AC Langille	3	117
Leo (check)	3	100
Cicer Milkvetch		
Windsor	2	101
Oxley (check)	2	100
AC Oxley II	2	90
Crested Wheatgrass		
AC Goliath	2	109
Kirk (check)	3	100
Smooth Bromegrass		
Carlton (check)	3	100
AC Rocket	3	100
Radisson	3	99
Meadow Foxtail		
Dan (check)	3	100
Mountain	3	87

Variety	Site Years	Yield as % of check
Orchard Grass		
Tundra	3	121
Early Arctic	3	118
Kootenay	3	106
Killarney	3	105
Kay	3	100
Kayak	3	91
Meadow Bromegrass		
Montana	3	112
MBA	3	104
Fleet (check)	3	100
Tall Fescue		
Courtney (check)	3	100
Kokanee	3	88

Average dry matter yield of check:

Leo = 10,743 kg/ha (4.79 tons/ac) Dan = 10,155 kg/ha (4.53 tons/ac)
 Oxley = 9,496 kg/ha (4.24 tons/ac) Kay = 11,398 kg/ha (5.03 tons/ac)
 Kirk = 14,493 kg/ha (6.46 tons/ac) Fleet = 13,433 kg/ha (6.09 tons/ac)
 Carlton = 16,004 kg/ha (7.14 tons/ac) Courtney = 13,958 kg/ha (6.23 tons/ac)

 PBR in effect

Potato

Variety	Consumption Grade (>45 mm diameter tubers)		Seed Grade (<90 mm diameter tubers)	
	Site Years	Yield	Site Years	Yield
Table potato		% of Norland		% of Norland
Atlantic	31	106	28	96
Russet Norkotah	40	100	38	98
Norland	43	100	40	100
Shepody	43	99	40	92
French Fry potato		% of Russet Burbank		% of Russet Burbank
Shepody	50	124	44	101
Ranger Russet	34	108	28	97
Russet Burbank	50	100	44	100
Chipping potato		% of Atlantic		% of Atlantic
AC Ptarmigan	3	108	2	111
Niska	3	102	2	112
Atlantic	8	100	4	100
Snowden	8	93	4	94
Norchip	2	93	1	97

Average consumption grade plot yield of check:
 Norland = 32.8 tonnes/ha (292 cwt/ac)
 Russet Burbank = 27.7 tonnes/ha (247 cwt/ac)
 Atlantic = 38.3 tonnes/ha (341 cwt/ac)

Average seed grade plot yield of check:
 Norland = 46.1 tonnes/ha (411 cwt/ac)
 Russet Burbank = 43.1 tonnes/ha (385 cwt/ac)
 Atlantic = 44.0 tonnes/ha (392 cwt/ac)

The potato variety comparisons shown are based on varietal, agronomic, and fertility trials conducted at CSIDC from 1995 to 2010. The potatoes were grown using standard commercial practice under full irrigation.

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.