2022

Irrigation Crop Diversification Corporation

Crop Varieties for Irrigation

ICDC
Irrigation Crop Diversification Corporation

Through innovation, the Irrigation Crop Diversification Corporation stimulates and services the development and expansion of sustainable irrigation in 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 Ministry of Agriculture. Industry is represented by Irrigation Crop Diversification Corporation (ICDC) and Saskatchewan Irrigation Projects Association (SIPA). Academia is represented by 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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Table of Contents

Using the Variety Guide

Introduction

The yield comparison tables are compiled from irrigated yield tests conducted by the Irrigation Crop Diversification Corp (ICDC). The data is collected 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, and 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 during the season or on your farm. Selecting a lower ranked variety 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 is equal to 10 site years in both cases. Results from less than six site years are reported only when data is limited.

Relative Yield of Varieties

All varieties are compared as a percent of a standard ***check*** variety. The check 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 greatly from year to year and from site to site.

Lodging ratings are subjective, based on the judgement of the researcher. The rankings by ICDC 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, 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

ICDC does not routinely collect disease ratings for each variety. **Please consult *Varieties of Grain Crops 2022***, a Saskatchewan Ministry of Agriculture annual publication, for disease ratings of specific varieties.

A Word of Caution

Occasionally 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 in a specific year compared to its overall average performance over time. 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 compared to an early May seeding date. This 20 percent spread is greater than the yield difference between flax varieties.

Plant Breeders' Rights

Plant Breeders' Rights (PBR) ensure that the 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 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 or have been applied for at the time of printing are identified by the symbol .

For more detailed information on specific varieties, refer to the annual Saskatchewan Ministry of Agriculture publication, *Varieties of Grain Crops, 2022*. You can find it at the following link:

https://www.saskatchewan.ca/business/agriculture-natural-resources-and-industry/agribusiness-farmers-and-ranchers/crops-and-irrigation/crop-guides-and-publications/varieties-of-grain-crops

Canola

Canola Performance Trials

The 2021 grower-funded Canola Performance Trials (CPT)provide relevant, unbiased canola variety performance data on a selection of leading and newly introduced varieties. Information on the CPT Program, the CPT protocols, and the data from 2011 through 2021 is available at www.canolaperformancetrials.ca.

The Canola Performance Trials (CPT) include small plot trials conducted across western Canada. Funding for the program is provided by the Saskatchewan Canola Development Commission (SKCanola), Alberta Canola Producers Commission and the Manitoba Canola Growers Commission with contributions from the B.C. Grain Producers Association. ICDC acknowledges and expresses it's appreciation for the permission to publish the CPT trials conducted by ICDC under irrigated conditions.

Caution

Producers must be aware that the results presented in the tables below represent the results form a **single year** of trialing from a **single location** for each test. Results may, or may not, represent true varietal comparisons and differences over multiple years of testing. ICDC trials were deemed conducted in a Long Season Zone.

Please note, comparisons between varieties within the same herbicide system reveal only genetic differences, whereas variety comparisons between herbicide systems compare the net effect of both genetic and herbicide effects (weed control and crop tolerance).

Canola Performance Trial – Swathed Varieties 2021

Variety (B. napus)	Distributor	Yield as a % of 45CM39	Days to Maturity	Lodging (1-5)	Height (cm)	Disease Tolerance
Liberty Link						
PV 680 LC	Proven Seeds	107	90	1.0	94	BL/CR
P501L	Pioneer Hi-bred	96	85	1.0	88	BL/CR
CP21L3C	WinField United Croplan	88	88	1.0	84	BL/CR
B3011	Brevant Seeds	83	88	1.0	85	BL/CR
PV 681 LC	Proven Seeds	83	89	1.2	88	BL/CR
Roundup Ready						
1028RR*	Brevant Seeds	105	89	1.0	86	BL/CR
CS2300	Canterra Seeds	101	91	1.0	98	BL
45CM39	Pioneer Hi-bred	100	90	1.0	81	BL/CR
45CS40	Pioneer Hi-bred	96	89	1.0	89	BL/CR/S
TruFlex						
BY 6207TF	BrettYoung Seeds	100	90	1.0	92	BL/CR
BY 6204TF	BrettYoung Seeds	91	87	1.0	86	BL/CR
DKTF 98 CR	Dekalb	89	88	1.0	83	BL/CR

Average plot yield of 45CM39 (check): 3,898 kg/ha (69.5 bu/ac)

Lodging is measured on the degree of lean to the lower stem of the plant on a 1 to 5 scale (1=erect, 5=flat)

Disease Tolerance – indicates genetic disease resistance with an "R" or resistant rating to BL = Blackleg, CR = Clubroot and improved tolerance to sclerotinia "S" as based on variety descriptions submitted to CFIA.

Canola Performance Trial – Straight Cut Varieties 2021

Variety (B. napus)	Distributor	Yield as a % of 45CM39	Days to Maturity	Lodging (1-5)	Height (cm)	Disease Tolerance
Liberty Link						
L340PC	InVigor	119	87	1.0	86	BL/CR
L345PC	InVigor	115	88	1.7	79	BL/CR
L357P	InVigor	111	89	1.0	92	BL
L233P	InVigor	109	87	2.2	81	BL
L255PC	InVigor	106	90	1.2	85	BL/CR
CS4000 LL	Canterra Seeds	106	88	2.7	71	BL/CR
DKTFLL 21 SC	Dekalb	104	88	1.2	80	BL
P506ML	Pioneer Hi-bred	103	88	2.0	77	BL/CR
B3010M	Brevant Seeds	95	88	1.5	87	BL/CR
DKLL 82 SC	Dekalb	92	88	2.0	72	BL
Roundup Ready						
D3158CM	Brevant Seeds	110	89	1.0	81	BL/CR
45CM39	Pioneer Hi-bred	100	90	1.0	84	BL/CR
TruFlex						
DKTF 99 SC	Dekalb	114	87	1.5	85	BL
CS2600 CR-T	Canterra Seeds	111	88	1.0	83	BL/CR
PV 761 TM	Proven Seeds	105	89	1.0	85	BL
DKTF 96 SC	Dekalb	104	89	1.2	79	BL
CP21T3P	WinField United Croplan	102	90	1.0	82	BL
DKTF 97 CRCS	Dekalb	102	88	1.2	86	BL/CR
BY 6211TF	BrettYoung Seeds	100	88	1.0	83	BL

Average plot yield of 45CM39 (check): 4,051 kg/ha (72.3 bu/ac)
Lodging is measured on the degree of lean to the lower stem of the plant on a 1 to 5 scale (1=erect, 5=flat)
Disease Tolerance – indicates genetic disease resistance with an "R" or resistant rating to BL = Blackleg, CR = Clubroot and improved tolerance to sclerotinia "S" as based on variety descriptions submitted to CFIA.

Additional Information

Clubroot is a serious soil-borne disease of canola. In 2018, clubroot was found in crop district 6B, in which the South Saskatchewan River Irrigation District is located. 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 at the following website: **https://www. canolacouncil.org/canola- encyclopedia/diseases/ clubroot/**.

All varieties in the preceding tables have a resistant (R) rating for blackleg. Lesions and yield loss can still occur, based on the level of inoculum and blackleg pathotype in the field, in combination with environmental conditions conducive for disease development.

Flax

Variety	Site Years	Yield as % of CDC Bethune	Lodging Rating	Days to Maturity	Height (cm)	Seed Colour
AC Marvelous	6	110	VG	115	65	brown
AAC Prairie Sunshine	5	108	VG	118	64	brown
Topaz	5	104	VG	113	66	brown
WestLin 71	9	103	VG	115	61	brown
CDC Rowland	5	103	VG	117	67	brown
WestLin 72	9	102	VG	117	63	brown
CDC Neela	8	102	VG	113	66	brown
Prairie Sapphire	13	101	VG	113	66	brown
CDC Glas	13	101	VG	114	67	brown
CDC Bethune	**24**	**100**	**VG**	**113**	**66**	**brown**
Prairie Thunder	22	100	VG	112	63	brown
NuLin VT50	9	100	VG	118	59	yellow
AAC Bright	5	98	VG	116	64	yellow
AAC Bravo	7	96	VG	115	64	brown
Prairie Grande	19	94	VG	111	60	brown
CDC Sorrel	24	93	G	113	71	brown
WestLin 60	9	92	VG	113	59	brown
CDC Plava	9	91	VG	112	58	brown
CDC Dorado	4	90	VG	119	59	yellow
CDC Sanctuary	13	88	G	112	70	brown
CDC Buryu	7	83	VG	114	66	brown

Average plot yield of CDC Bethune (check): 3,079 kg/ha (49.0 bu/ac)
Lodging: P = ppor; F = fair; G = good; VG = very good
PRB in effect or filed

ADDITIONAL INFORMATION

All flax varieties are immune to rust.

Frozen flax straw should be analyzed by a feed-testing laboratory to confirm that it is free of prussic acid before using it as a livestock feed.

Spring Wheat & Durum

Producers are strongly encouraged to use a combination of the Canadian Food Inspection Agency's List of Registered Varieties at:

http://www.inspection.gc.ca

and the Canadian Grains Commission's Variety Designation Lists at:

http://www.grainscanada.gc.ca

to determine the registration and grade eligibility status of varieties.

CANADA WESTERN RED SPRING

Varietal Blend ("VB") designated varieties possess the same ***"SM1"*** gene, which confers tolerance to Orange Wheat Blossom Midge. To manage against the build-up of midge resistance to the *SM1* gene, an ***interspersed refuge*** is used commercially. These varieties are not immune to wheat midge and can suffer midge damage when high midge infestation levels occur. More information on midge tolerant wheat cultivars and interspersed refuge can be found at **http://www.midgetolerantwheat.ca**.

AAC Adamant VB has a solid stem which may provide protection against the wheat stem sawfly.

CANADA PRAIRIE SPRING RED

AAC Foray VB is a CPS-red midge tolerant variety using the same ***SM1*** gene as in the CWRS varieties and will be marketed with an interspersed refuge.

CANADA WESTERN SPECIAL PURPOSE

Varieties in the Special Purpose market class have no defined quality attributes and may have specific end-uses. Most varieties are intended for ethanol and livestock feed purposes. Producers are encouraged to contact the variety distributor or developer regarding uses of these varieties.

CANADA WESTERN HARD WHITE SPRING

Varieties in the Hard White market class are intended for whole wheat bread and Yellow Alkaline Noodle Markets.

CANADA WESTERN SOFT WHITE SPRING

AAC Chiffon VB and **AAC Paramount VB** are CWSWS midge tolerant varieties using the same ***SM1*** gene as in the CWRS varieties and will be marketed with an interspersed refuge.

Soft white spring wheat may be used as a feedstock in the production of ethanol. 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.

CANADA WESTERN AMBER DURUM

CDC Carbide VB and **AAC Succeed VB** are wheat midge tolerant. **AAC Donlow, AAC Grainland**, **AAC Stronghold**, and **CDC Fortitude** have a solid stem and are resistant to the wheat stem sawfly.

CDC Flare is tolerant to the CLEARFIELD® herbicides Adrenalin SC and Altitude FX.

Durum wheat varieties are generally more susceptible than CWRS varieties to Fusarium Head Blight (FHB). Although no varieties are resistant, **Brigade**, **Transcend**, and **CDC Credence** generally express lower FHB symptoms compared to other durum varieties. Mycotoxin (DON) production by FHB fungi is generally lower for **Transcend**. All durum varieties are susceptible to two new races of loose smut.

Irrigated areas in Saskatchewan are susceptible to fusarium infestations. 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 are the most susceptible wheat types followed by CWSWS, CPSR, and CWRS. Information on tolerance levels in wheat varieties is available in the Saskatchewan Ministry of Agriculture annual publication: ***Varieties of Grain Crops, 2022***.

Spring Wheat

Variety	Site Years	Yield as % of AAC Brandon	Lodging Rating	Height (cm)	Days to Maturity	% Protein +/- AAC Brandon	Head Awns Present
Canada Western Red Spring (CWRS)							
AAC Wheatland VB	4	109	VG	85	99	0.1	Y
AAC Starbuck	4	106	VG	86	99	+0.3	Y
AAC Viewfield	5	105	VG	82	99	0.0	Y
SY Torach	4	103	VG	80	101	+0.5	Y
AAC Leroy VB	4	101	VG	90	94	+0.2	Y
AAC Brandon	17	100	VG	83	98	14.1%	Y
CDC Utmost VB	10	99	G	94	95	+0.3	N
Cardale	7	98	G	89	94	+0.4	Y
Ellerslie	4	98	VG	89	95	+0.2	N
AAC Warman VB	4	97	VG	96	94	+0.3	Y
Stettler	4	97	G	93	95	+1.4	Y
AAC Redberry	6	96	VG	89	93	0.0	Y
AAC Alida VB	4	96	VG	92	96	+0.8	Y
AAC Magnet	4	96	VG	88	96	+0.7	Y
Parata	6	95	VG	89	93	+0.8	Y
AAC Tisdale	5	95	VG	90	95	+0.6	Y
AAC Elie	5	95	VG	82	97	0.0	Y
Shaw VB	5	95	F	100	95	+0.4	N
CDC Titanium VB	4	95	F	95	94	+1.2	Y
AAC Cameron VB	7	94	G	101	95	-0.3	Y
CDC Stanley	5	94	G	93	95	+0.5	N
SY Obsidian	5	94	VG	86	95	-0.2	Y
Tracker	4	94	VG	88	93	+0.1	N
Carberry	17	92	VG	84	96	0.4	Y
CDC Adamant VB	3	91	VG	84	97	+0.1	Y
AAC Jatharia VB	5	88	VG	96	99	+0.3	Y
CDC Plentiful	3	88	F	93	93	+0.1	N
AAC Connery	5	86	VG	85	96	+0.5	N
SY Chert VB	3	83	VG	89	99	-0.1	Y

ADDITIONAL INFORMATION

A number of newer registered varieties are not yet included in the spring wheat table due to insufficient site years of testing. However, these varieties may have been evaluated; for inquiries about those varieties that have not been listed above, please contact Gursahib Singh (see page 1).

The spring wheat table continues on the following page.

Spring Wheat

Variety	Site Years	Yield as % of AAC Brandon	Lodging Rating	Height (cm)	Days to Maturity	% Protein +/- AAC Brandon	Head Awns Present
Canada Northern Hard Red (CNHR)							
Prosper	5	115	G	88	96	-0.9	Y
Canada Western Special Purpose (CWSP)							
KWS Alderon	3	135	VG	76	105	-3.1	N
AAC Awesome VB	3	129	VG	89	102	-2.8	Y
KWS Sparrow VB	3	129	VG	82	105	-2.7	N
Pasteur	4	115	G	88	103	-1.6	N
Canada Western Hard White Spring (CWHWS)							
AAC Cirrus	4	103	VG	87	97	-0.2	Y
Canada Prairie Spring (CPSR) – Red Seeded Wheat							
AAC Penhold	4	120	VG	77	95	-1.0	Y
AAC Foray VB	4	119	G	90	98	-1.5	Y
AAC Goodwin	5	103	VG	84	97	-0.4	Y
SY Rowyn	1	96	VG	82	96	-1.2	Y
AAC Crossfield	5	86	VG	85	98	-1.0	Y

Average plot yield of AAC Brandon (check): 6,024 kg/ha (89.6 bu/ac)
Lodging: P = poor; F = fair; G = good; VG = very good
PBR in effect or filed

Soft White Wheat

Variety	Site Years	Yield as % of AC Andrew	Lodging Rating	Height (cm)	Days to Maturity	% Protein +/- AC Andrew	Head Awns Present
Canada Western Soft White Spring (CWSWS)							
AAC Paramount VB	4	112	VG	90	102	+0.1	Y
AAC Chiffon VB	4	104	G	100	103	-0.1	Y
AC Andrew	16	100	VG	88	102	11.6%	Y
Sadash	16	95	VG	89	102	-0.3	Y

Average plot yield of AC Andrew (check): 6,901 kg/ha (102.6 bu/ac)
Lodging: P = poor; F = fair; G = good; VG = very good
PBR in effect or filed

Durum

Variety	Site Years	Yield as % of Strongfield	Lodging Rating	Height (cm)	Days to Maturity	% Protein +/- Strongfield	Head Awns Present
Canada Western Amber Durum (CWAD)							
AAC Spitfire	10	117	G	90	101	-0.3	Y
CDC Defy	5	116	G	101	103	-1.5	Y
AAC Congress	10	113	F	93	104	-0.7	Y
AAC Stronghold	9	111	G	92	104	-0.1	Y
AAC Donlow	5	111	F	94	103	-0.9	Y
CDC Dynamic	10	110	G	95	102	+0.1	Y
CDC Covert	5	110	G	93	103	-1.1	Y
CDC Flare	7	109	G	94	101	-0.3	Y
AAC GoldNet	5	109	G	98	103	-0.3	Y
CDC Precision	12	108	F	94	104	-0.3	Y
CDC Carbide VB	8	107	F	95	100	0.0	Y
CDC Alloy	10	106	F	93	103	0.0	Y
AAC Succeed VB	9	104	F	96	101	0.0	Y
AAC Grainland	7	103	F	97	104	+0.3	Y
CDC Verona	6	103	VG	94	104	-0.4	Y
CDC Credence	7	99	P	100	104	+0.2	Y
Brigade	6	101	F	99	103	-0.8	Y
Strongfield	12	100	F	92	101	14.8%	Y
CDC Fortitude	6	100	F	89	103	-0.6	Y
Transcend	2	96	VG	99	102	-0.2	Y

Average plot yield of Strongfield (check): 5,841 kg/ha (86.8 bu/ac)

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

PBR in effect or filed

Malt Barley

Malting Variety	2 or 6 Row	Site Years	Yield as % of AC Metcalfe	% Protein +/- AC Metcalfe	Lodging Rating	Height (cm)	Days to Maturity
Malting Acceptance: Recommended							
AAC Synergy	2	9	119	-0.6	F	90	93
CDC Fraser	2	7	115	-0.8	G	91	95
CDC Bow	2	7	112	-0.5	G	91	95
AAC Connect	2	5	112	-0.6	G	87	93
CDC Copeland	2	12	111	-0.9	F	97	95
AC Metcalfe	2	12	100	13.6%	F	90	94
Malting Acceptance: In Development or Limited Demand							
CDC Churchill	2	4	115	-0.8	F	85	96
Legacy	6	9	114	+0.2	F	87	95
CDC Copper	2	4	113	-0.8	F	83	96
Celebration	6	5	105	+0.8	G	90	92
CDC PlatinumStar	2	5	105	-0.5	F	96	95
Bentley	2	6	104	-0.7	F	93	94
Other*							
CDC Goldstar	2	5	115	-0.7	G	93	93
Lowe	2	5	110	-0.9	F	95	98

Average plot yield of AC Metcalfe (check): 6,636 kg/ha (123.3 bu/ac)

PBR in effect or filed

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

*Although not on the CMBTC list, a malting barley market may exist for these varieties.

ADDITIONAL INFORMATION

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

Information on recommended malting barley varieties for 2022-2023 can be found on the Canadian Malting Barley Technical Centre (CMBTC) website at **www.cmbtc.com** or call (204) 984-4399.

LINES UNDER TEST

Commercial acceptability of malting varieties is given only after two years of successful plant-scale evaluation. Several carload lots of barley are malted and brewed then subjected to a taste panel. This process normally takes a minimum of three years, since a crop grown in one year will be malted in January to February, brewed in May-June, and aged and tasted in October to November of the following year.

Growers are cautioned that most malting varieties, especially two-row barley, are more susceptible to sprouting.

CDC PlatinumStar and CDC Goldstar are available only through a closed loop Identity Preserved program offered by Prairie Malt Limited/Sapporo Breweries and their agents.

AAC Synergy is the check for barley varieties in the Saskatchewan Ministry of Agriculture publication, ***Varieties of Grain Crops, 2022***. ICDC will continue using **AC Metcalfe** for at least one more year.

Feed & Food Barley

Feed and Food Variety	2 or 6 Row	Site Years	Yield % of AC Metcalfe	% Protein +/- AC Metcalfe	Lodging Rating	Height (cm)	Days to Maturity
Hulled							
Claymore	2	5	122	-0.4	F	93	95
CDC Austenson	2	6	121	-1.1	G	89	94
CDC Coalition	2	6	117	-0.2	G	86	93
Amisk	6	5	116	-0.2	F	91	94
Altorado	2	5	115	-0.4	G	87	95
AB Cattlelac	6	4	115	+0.1	G	100	96
Oreana	2	5	114	-0.4	F	80	96
Brahma	2	5	113	-0.5	G	89	92
AB Advantage	6	4	113	-0.1	F	107	98
Sirish	2	5	107	-0.8	VG	77	97
Canmore	2	5	103	-0.5	F	92	96
CDC Cowboy	2	8	102	-0.2	F	105	98
AC Metcalfe	2	8	100	13.6%	F	90	94
CDC Maverick	2	5	93	+0.2	P	105	95
Hulless							
CDC Ascent	2	5	100	+1.0	G	89	99
CDC Clear	2	5	100	-1.4	G	98	96
CDC Carter	2	5	91	+0.9	P	90	96
CDC McGwire	2	7	88	+1.0	P	91	96

Average plot yield of AC Metcalfe (check): 6,636 kg/ha (123.3 bu/ac)

PBR in effect or filed

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

ADDITIONAL INFORMATION

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

Harvesting grain that is < 16% moisture and using aeration bins for drying can lead to sprouting and embryo death. Seed with reduced germination is undesirable for seed or malting.

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

AB Advantage and **AB Cattlelac** are six-row forage varieties, **CDC Cowboy** and **CDC Maverick** are two-row forage varieties.

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

Disease resistance, straw strength and maturity are more critical when barley is grown under irrigation. Growers should select early, strong-strawed, disease-resistant varieties. For more information, refer to the Saskatchewan Ministry of Agriculture annual publication, ***Varieties of Grain Crops, 2022***.

Oat

Variety	Test Years	Yield % of CDC Camden	% Protein +/- CDC Camden	Test Weight (g/0.5L)	Lodging Rating	Height (cm)	Days to Maturity	Hull Colour
CS Camden	4	100	12.9	250	VG	102	91	White
CDC Endure	3	97	-0.9	251	VG	109	93	White
CDC Norseman	4	90	+0.3	245	VG	108	94	White
CDC Ruffian	3	86	0.0	263	F	98	92	White
Ore3542M	4	88	-0.5	256	VG	103	95	White
Ore3541M	4	85	+0.1	266	VG	102	94	White
CDC Haymaker	4	83	+0.5	225	F	108	97	White
CDC Dancer	5	82	-0.8	268	VG	109	91	White
CDC Morrison	3	81	+1.8	258	VG	102	91	White
Varieties being tested for adaptability in Western Canada								
Kara	4	94	+0.2	259	G	99	93	White
Akina	4	92	-0.5	247	G	102	92	White

Average plot yield of CS Camden (check): 7,804 kg/ha (217.5 bu/ac)
PBR in effect or filed
Lodging: P = poor; F = fair; G = good; VG = very good

ADDITIONAL INFORMATION

Crown rust races capable of attacking most varieties, except those with an MR or R rating (see Saskatchewan Ministry of Agriculture publication, *Varieties of Grain Crops, 2022* for disease ratings), are increasing in southeast Saskatchewan. Irrigators should monitor their crop. Early seeding will reduce the likelihood of severe infection.

Producers growing oats for the milling market are advised to check the "approved" varieties list available from the various oat millers.

CDC Haymaker is a forage oat variety available for annual forage production.

False Oats or Fatuloids. False wild oats, or fatuloids, are off-types within common oat fields that have an appearance similar to wild oat, most notably a prominent, dark awn and increased hairiness at the base of each floret. They are thought to result from the infrequent cross-pollination between common oat (*Avena sativa*) and true wild oat (*Avena fatua*). As such, their presence will likely be observed more often in fields planted from farm-saved seed. They have been reported within fields of common oat at rates up to 1% and occur within all oat varieties.

Winter Wheat

Variety	Site Years	Yield as % of CDC Buteo	Lodging Rating	Height (cm)	Days to Maturity (+/- CDC Buteo)	% Protein +/- CDC Buteo	Head Awns Present
Canada Western Red Winter (CWRW)							
Moats	4	111	VG	100	+2	+0.5	Y
CDC Chase	4	106	G	104	+2	+0.1	Y
AAC Elevate	6	103	VG	87	0	-0.1	Y
Radiant	6	101	VG	95	+2	-0.3	Y
AAC Gateway	6	100	VG	81	0	+0.8	Y
AAC Wildfire	5	100	vg	90	+3	0	y
CDC Buteo	6	100	VG	96	0	11.0%	Y
AAC Goldrush	4	97	VG	92	-1	+0.6	Y
Emerson	6	95	VG	92	+2	+1.0	Y
Canada Western Experimental (CW Experimental)							
AAC Icefield	4	97	VG	83	+3	-0.3	Y
Canada Western Special Purpose (CWSP)							
Pintail	4	108	G	94	+3	-0.9	N

Average plot yield of CDC Buteo (check): 6,960 kg/ha (103.5 bu/ac)
Lodging: P = poor; F = fair; G = good; VG = very good
PBR in effect or filed

ADDITIONAL INFORMATION

Winter wheat can be grown successfully in most areas if seeded into standing stubble within the optimum seeding date period (generally before Sept. 15) and if there is adequate snowfall. Under irrigation the previous crop may not be harvested by Sept. 15 but winter wheat is an option for in early harvests or fields where a crop has failed (hail). Winter cereals assist in minimizing soil erosion loss.

Winter wheat will often escape fusarium head blight and orange wheat blossom midge damage if recommended seeding dates are followed. Our experience also indicates in-season herbicide applications can sometimes be eliminated by the early regrowth of winter wheat out competing weeds.

Radiant and **AAC Elevate** have tolerance to the wheat curl mite vector that transmits Wheat Streak Mosaic Virus. To preserve effectiveness of this wheat curl mite tolerance gene, agronomic practices that eliminate the “green bridge” of plant material that provides a reservoir for the mite should be followed whenever possible.

AC Wildfire expresses tolerance to some biotypes of the Russian wheat aphid. **AC Wildfire** and **Radiance** express bronze chaff at maturity.

AAC Icefield is a hard white winter wheat eligible for experimental grades under an Identity Preserved system to facilitate market research. AAC Icefield expresses qualities that may interest niche markets, for more information contact FP Genetics.

Varieties in the Special Purpose market class have no defined quality attributes and may have specific end uses. Most varieties are intended for ethanol and livestock feed purposes. Producers are encouraged to contact the variety distributor or developer regarding specialty uses of these varieties. The awnless head of Pintail may improve palatability when harvested for forage or silage.

Fall Rye

Variety	Site Years	Yield as % of Hazlet	Lodging Rating	Height (cm)	Days to Maturity (+/- Hazlet)	% Protein +/- Hazlet	Seed Weight (mg)	Volume Weight (kg/hl)	Falling Number (sec)
Open-Pollinated									
Hazlet	6	100	VG	109	0	10.8%	37.2	72.7	180
Prima	6	92	VG	122	-4	-0.1	36.1	72.6	+48
Danko	4	87	VG	111	0	+0.8	36.7	72.2	---
Hybrid Varieties									
KWS Bono	5	128	VG	99	0	-0.5	36.2	71.4	+107
KWS Gatano	4	121	VG	100	+2	-0.6	36.6	71.4	+148
KWS Daniello	4	118	VG	103	+1	-0.4	36.3	70.8	+120
Brasetto	3	106	VG	102	0	-0.7	34.9	70.1	+107

Average plot yield of Hazlet (check): 6,944 kg/ha (110.6 bu/ac)
Lodging: P = poor; F = fair; G = good; VG = very good
PBR in effect or filed
Volume weight multiply by 0.8 = lbs/bu
Falling Number obtained from *Varieties of Grain Crops, 2022*.

ADDITIONAL INFORMATION

Fall rye is much more cold tolerant than winter wheat or winter triticale, with field survival being approximately 30 to 100% better than winter wheat for current fall rye varieties.

A major factor in marketing rye grain into the milling market is sprouting. This is generally measured using the Hagberg falling number test and is measured in seconds. Typically, a falling number of 180 seconds or greater is preferred by the rye milling market. Falling number is heavily influenced by moisture around harvest time and producers must ensure rye is harvested in a timely manner, similar to wheat crops. There is considerable variation in fall rye varieties for falling number; this must be considered if the milling market is the targeted end-user for rye grain.

Very little recent information on shattering in rye has been obtained, as it has not been observed in field trials recently, thus no information is available for recently released varieties.

All rye varieties are susceptible to ergot.

Our experience also indicates in-season herbicide applications can sometimes be eliminated by the early, vigourous regrowth of fall rye out competing weeds.

Field Pea

ADDITIONAL INFORMATION

The following varieties have purple flower colour and pigmented seed coats: **CDC Mosaic** and **CDC Dakota**. **CDC Mosaic** has a maple-patterned seed coat and **CDC Dakota** has a solid dun (tan) coloured seed coat. All other varieties have white flower colour and non-pigmented seed coats.

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 by disease, fill more fully, and generally produce a higher yield with superior seed quality.

Variety	Site Years	Yield % of CDC Amarillo	Lodging Rating	Days to Maturity	Vine Length (cm)	Seed Weight (g/1000)
Green						
CDC Spruce	4	105	G	95	97	259
CDC Patrick	7	97	F	92	89	176
AC Radius	3	97	P	93	100	224
CDC Limerick	8	94	G	94	91	206
CDC Pluto	4	94	F	90	82	156
CDC Greenwater	6	92	G	94	97	233
CDC Raezer	8	90	G	91	94	228
CDC Tetris	7	86	G	95	93	216
CDC Striker	8	82	G	91	81	244
Cooper	4	70	G	92	86	247
Yellow						
CDC Inca	6	114	G	93	96	235
CDC Spectrum	4	103	G	97	90	248
Agassiz	8	102	F	91	90	233
CDC Amarillo	8	100	G	92	96	236
Abarth	5	98	G	89	96	272
AAC Ardill	6	96	G	92	92	244
CDC Golden	7	90	F	90	86	205
CDC Saffron	8	88	G	91	84	237
CDC Meadow	8	86	G	90	87	205
Red						
Redbat 8	5	100	P	91	86	197
Redbat 88	3	71	P	98	92	180
Dun						
CDC Dakota	8	92	G	95	90	209
Maple						
CDC Mosaic	4	64	G	93	90	158
Forage/Silage						
CDC Horizon	4	62	G	92	91	156

Average plot yield of CDC Amarillo (check): 5,702 kg/ha (84.8 bu/ac)

PBR in effect or filed

Lodging: VP = very poor; P = poor; F = fair; G = good

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

Dry Bean – Wide Row

ADDITIONAL INFORMATION

Commercial row crop production is typically on 55 cm (22") or 75 cm (30") centres. The wide row bean trials are grown on 60 cm (24") 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 during the normal frost-free season for your region.

Variety	Plant Type	Site Years	Yield as % of AC Island	Days to Maturity	Seed Weight (g/1000)	Pod Clearance* (%)
Pinto						
AC Island	II	27	100	100	384	64
Medicine Hat	II	10	99	100	368	67
AAC Burdett	II	8	99	95	385	78
Othello	III	9	91	100	364	na
CDC WM-2	II	15	86	98	396	62
Winchester	II	25	85	97	361	73
AAC Explorer	II	7	79	99	375	65
CDC Pintium	I	4	72	95	401	na
Black						
AAC Black Diamond II	II	10	91	99	276	74
AC Black Diamond	II	27	88	99	279	78
Black Violet	II	12	86	101	198	na
CDC Blackcomb	II	9	76	97	193	78
CDC Jet	II	4	68	102	196	na
Great Northern						
AAC Tundra	II	16	88	98	373	68
AAC Whitehorse	II	11	87	97	393	70
AAC Whitestar	II	9	87	97	401	75
AC Resolute	II	26	76	97	360	72
Pink						
Viva	III	11	85	102	275	na
Small Red						
AC Redbond	II	15	87	95	333	64
Yellow						
AC Y015	I	7	57	101	407	66
AC Y012	I	7	56	101	397	65

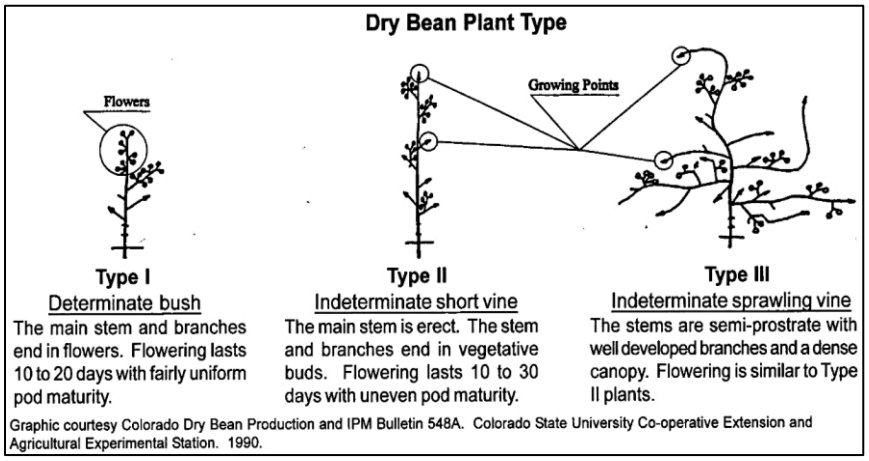
Average plot yield of AC Island (check): 4,196 kg/ha (3,743 lb/ac)

PBR in effect or filed

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

na – not assessed

CDC WM-2 is a slow-darkening pinto dry bean variety. **AC Black Diamond** and **AAC Black Diamond II** have large shiny seeds. **Black Violet** has smaller, buff-coloured seeds.



Dry Bean – Narrow Row

ADDITIONAL INFORMATION

The narrow row dry bean trials are sown on 20 cm (8") 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") 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. **Narrow row yields and variety rankings cannot be compared to wide row yields and variety rankings in these tables**.

Variety	Plant Type	Site Years	Yield as % of AC Island	Pod Clearance Rating*	Days to Maturity
Pinto					
Medicine Hat	II	18	106	77	100
Winmor	II	10	103	70	100
AC Island	II	35	100	69	99
AAC Burdett	II	10	98	90	95
Winchester	II	35	95	79	97
CDC WM-2	II	26	88	74	98
Mariah	II	8	91	72	103
CDC Pintium	I	23	84	81	93
CDC Marmot	I	16	77	73	92
Black					
Carmen Black	II	7	103	81	104
AC Black Diamond	II	21	97	83	99
CDC Jet	II	18	97	82	102
AAC Black Diamond II	II	9	91	84	100
CDC Superjet	II	9	91	78	103
CDC Blackcomb	II	19	87	81	99
CDC Blackstrap	II	11	86	82	98
Great Northern					
AAC Tundra	II	15	91	74	98
AAC Whitestar	II	7	90	83	99
Resolute	II	20	85	76	98
AAC Whitehorse	II	9	84	79	98
AAC Explorer	II	5	79	67	100
Small Red					
AC Redbond	II	10	98	74	95
Navy					
Bolt	II	6	98	83	103
Lightning	II	8	83	82	102
Portage	II	8	80	81	102
Envoy	I	16	76	74	97
OAC Spark	I	9	75	79	100
Skyline	I	7	69	69	103

Average plot yield of Winchester (check): 4,788 kg/ha (4,271 lb/ac)

PBR in effect or filed

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

For other Market Type Varieties not listed here, please contact Garry Hnatowich (see page 1).

Faba Bean

ADDITIONAL INFORMATION

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

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.

Variety	Site Years	Yield as % of CDC Fatima	Days to Maturity	Seed Weight (g/1000)
Coloured Flower				
Vertigo	2*	108	114	534
CDC Fatima	12	100	112	519
Taboar	7	91	113	504
FB9-4	8	89	111	699
CDC SSNS-1	9	81	112	303
White Flower				
Tobasco	4	103	117	471
Snowbird	9	100	113	467
CDC Snowdrop	8	86	115	368

Average plot yield of CDC Fatima (Coloured check): 4,927 kg/ha (4,395 lb/ac)
Average plot yield of Snowbird (White check): 4,283 kg/ha (3,820 lb/ac)
PBR in effect or filed
*limited site years, caution required, seek additional information from additional sources.

Soybean

As of 2017, the ***check*** variety for the Saskatchewan Soybean Regional Variety Trials was changed to **TH 33003 R2Y**. ICDC has limited consecutive growing season years of trials with this variety. Therefore, the following table provides soybean results from both our irrigated and dry land trials to increase site years of observations. Producers are cautioned on the limited number of test years in the soybean table and to use this information as a guide but to seek further information on any variety. Yield values are subject to vary highly until additional site years are obtained.

Soybean is a potential new legume crop that may have promise within the irrigated areas of Saskatchewan. By definition, soybean is not a "pulse crop." The Food and Agricultural Organization (FAO) categorizes pulse crops as those harvested solely for the dry seed, such as field pea, dry bean, and lentil. Soybean is primarily grown for its oil content, although its meal is also a commodity. In practical terms, consider soybean as an oilseed crop with the ability to fix nitrogen!

The soybean table begins on the next page.

Soybean

Variety	Type	Site Years	Yield as % of TH 33003 R2Y	Relative Maturity	Days to Maturity	Height (cm)	Lodge Rating	Seed Weight (g/1000)	Hilum Colour
Akras R2	RR2	12	110	00.3	119	77	VG	154	BL
S007-Y4	RR2Y	12	110	00.5	117	78	VG	157	IY
23-60RY	RR2Y	10	111	00.2	122	90	VG	158	BL
TH 32004R2Y	RR2Y	14	108	00.4	120	81	VG	151	BL
P005A27X	RR2X	4	107	00.5	120	75	VG	167	BR
Mahony R2	RR2Y	10	103	00.3	119	82	VG	156	BL
S0009-M2	RR2Y	11	102	000.9	111	74	VG	149	IY
TH 33003R2Y	RR2Y	14	100	00.3	119	85	VG	151	BR
NSC Watson RR2Y	RR2Y	13	97	000.8	111	72	VG	160	IY
PV 15s009 R2X	RR2X	4	94	000.9	122	91	VG	140	BL
PV 16s004 R2X	RR2X	3	94	00.4	120	82	VG	158	BL
TH 87003 R2X	RR2X	5	92	00.3	118	80	VG	150	BL
Prince R2X	R2X	3	88	00.1	119	77	VG	150	BL
NSC Redvers RR2X	RR2X	4	85	00.2	118	73	VG	132	BL
Torro R2	RR2Y	6	83	00.1	115	81	VG	141	BL
RX00918	RR2X	4	83	000.9	118	69	VG	140	BL
NSC Newton RR2X	RR2X	3	83	00.3	125	88	VG	145	BR
DKB003-29	RR2X	3	81	00.3	121	81	VG	177	BL
DKB0005-44	RR2X	3	76	000.5	110	71	VG	132	BL
Fisher R2X	R2X	3	69	000.9	118	70	VG	144	BL

Average plot yield of TH 33003R2Y (check): 3,470 kg/ha (3095 lb/ac, 51.6 bu/ac)

PBR in effect or filed

Varieties are either RRI = Roundup Ready 1 or R2Y = Genuity Roundup Ready 2 Yield®

Hilum is the point where the seed attaches to the pod: BR = Brown, BL = Black, TN = Tan, IY = Imperfect Yellow, Y = Yellow

ADDITIONAL INFORMATION

In North America, soybean varieties are classified into maturity groupings from 9 in the southern USA to 1 or 0 in southern Ontario. 00 refers to shorter season varieties than 0 types, while 000 refers to shorter season varieties than 00 types. The decimal point notation refers to differences within a class, for example, 00.1 should be a shorter season variety than 00.2.

For a complete list of commercial varieties see **Seed Manitoba 2022 (www.seedmb.ca)**.

Soybean - Notes

Experience in commercial production in Saskatchewan is limited. However, the following considerations, based upon established soybean producing areas, should be considered:

- Limit first time acreage - start slowly.
- Select an early maturing variety. Relative maturity ratings are assigned by individual seed companies; growers should not rely on only one source for judging maturity.
- Best suited to medium to light (irrigated) soils. Heavy textured soils may cause planting and emergence problems such as compaction and crusting. However, heavier textured soils can produce soybean well once the crop is established.
- Despite their long maturity, do not seed too early! Soil temperatures need to warm to, or exceed, 10°C. Similar to dry bean, the warmer the soil, the quicker the emergence. Cool soil temperatures can result in seed rot and pathogenic seedling diseases. Treat with a recommended fungicide seed treatment.
- Target a plant population of 445,000 to 495,000 plants/ha (180,000 to 200,000 plants/ac). Emergence should ensure 40 plants/m^2 (4 plants/ft^2). Soybean varieties differ in seed size, so equipment calibration is required to achieve successfully established populations.
- Seeding depth should be approximately 2.0 to 3.8 cm (0.75 to 1.5”) as soybean are sensitive to deep seeding.
- **INOCULATE** – soybean require a specific species of rhizobia not native to our soils. Failure to inoculate with a “soybean” specific inoculant will result in complete nitrogen fixation failure! For the first- and second-time soybean is planted on any field, growers are advised to use a full rate of granular inoculant coupled with a liquid seed-applied inoculant. Though inoculant costs exceed those of pea/lentil, they are warranted.
- Generally, soybeans are not as efficient as pea/lentil/faba bean in terms of nitrogen fixation and are more similar to dry bean. Should plants start yellowing by or during flowering, consider a top-dress application of 45 to 55 kg N/ha (40 to 50 lbs N/ac) and irrigate with 0.6 to 1.25 mL/ha (0.25 to 0.5“/ac).
- Do not exceed 22 P_2O_5 kg/ha (20 lbs P_2O_5/ac) seed-placed phosphorus in solid seeded production. Soybean is an efficient “scavenger” of soil phosphorus, but these phosphorus rates may be insufficient for soils with low soil phosphorus reserves. Higher rates need to be side banded. For row cropped production reduce seed row rates. Side band applications are recommended.
- Weed control is essential, as soybean seedlings are non-competitive. Cultivation can be used in wide row production. For both conventional and herbicide tolerant varieties, refer to the Saskatchewan Ministry of Agriculture annual publication, ***Guide to Crop Production, 2021*** for herbicide options.
- Wireworms and grasshoppers may be the primary insect pests in irrigated areas.
- Sclerotinia (white mold) can affect soybean. Sufficient separation from pulses and canola in crop rotation is important.
- A killing frost will likely dictate time of harvest. A killing frost will not degrade the oil quality of the crop but will diminish seed size of later maturing top pods. Soybean varieties tested have excellent lodging resistance, so that they can be direct combined. Combine when seed moisture is less than 20% and adjust cylinder speed and concave clearance to minimize cracking or splitting of seed. Safe seed storage is 12% moisture or less.

Corn

Hybrid	Company	CHU Rating	Site Years	Dry Matter Yield (T/ac)	Yield as % of Baxxos RR	Whole Plant Moisture (%)	Days to Anthesis	Days to Silking
HL R219 RR	Hyland	2350	9	8.0	114	66.5	77	78
SilEx Bt RR	Pickseed	2200	5	8.0	114	68.9	75	78
A4705HMRR	Pride Seeds	2350	3	8.0	114	68.6	75	77
P7443R RR	Pioneer	2100	4	7.8	111	58.2	73	77
39M26 RR	Pioneer	2100	4	7.6	109	62.4	67	74
HL 3085 RR	Hyland	2400	7	7.3	104	67.8	77	80
HL B22R	Hyland	2400	3	7.3	104	74.7	76	81
39F57	Pioneer	2200	4	7.2	103	64.7	75	77
Fusion RR	Elite	2200	4	7.3	103	66.6	74	77
2791RR	Seeds 2000	2250	3	7.3	103	68.8	77	78
P8210HR	Pioneer	2475	4	7.1	102	66.6	75	79
Baxxos RR	Hyland	2250	9	7.0	100	66.3	71	75
N05C-GT	Syngenta	2250	4	7.0	100	65.5	73	76
DKC30-07RIB	Monsanto	2325	8	7.0	99	69.2	76	81
39V05	Pioneer	2350	4	6.9	98	62.7	73	79
HL 2093	Hyland	2300	5	6.8	97	62.7	70	75
X14008GH	Dow Seeds	2450	4	6.8	97	70.3	81	86
DKC27-55RIB	Monsanto	2200	3	6.8	97	68.2	70	77
DKC26-78	Monsanto	2150	3	6.7	96	63.7	69	73
X13002S2	Dow Seeds	2300	4	6.7	95	69.5	75	82
DKC33-78RIB	Monsanto	2500	4	6.6	94	69.4	76	80
39D95	Pioneer	2150	5	6.3	90	65.1	73	78
39F45	Pioneer	2000	3	6.3	90	54.9	63	70

ADDITIONAL INFORMATION

The Alberta Corn Committee (ACC) irrigated grain and silage corn hybrid performance trials were conducted at CSIDC from 2003–2015. This organization ceased to exist as of 2020.

A second silage corn hybrid performance trial was initiated in 2012, specifically on behalf of ICDC. For this trial, seed company representatives were invited to submit silage hybrids they deemed adapted to the Lake Diefenbaker Development Area and that were commercially available at the local level.

On the basis of these two trials, the following **silage** corn hybrid performance results were generated specifically for the irrigated area of West Central Saskatchewan. Presently how, or if, ICDC is going to proceed with corn variety evaluations is under review.

Select a variety with a Corn Heat Unit (CHU) rating suitable to your area. A CHU map of Saskatchewan is available on the Saskatchewan Ministry of Agriculture website at **https://pubsaskdev.blob.core.windows.net/pubsask-prod/83796/83796-corn_heat_units_maps.pdf.**

Information on corn production can be found in ***Field Corn Production in Manitoba***, published by the Manitoba Corn Growers Association. To order the manual, go to the Manitoba Corn Growers Association website at **https://gov.mb.ca/agriculture/crops/guides-and-publications/index.html**.

Annual Cereal Forage

Variety	Site Years	Dry Matter Yield (% of check)	% CP	% NDF	% ADF	% TDN
Barley 2-row						
Newdale	8	108	12.3	48.4	29.7	63.9
CDC Cowboy	9	108	12.4	51.2	31.9	62.6
CDC Copeland	9	102	11.6	51.1	32.6	62.4
Stockford	6	103	13.3	52.2	32.8	61.8
CDC Bold	10	95	12.9	49.3	30.5	64.1
Barley 6-row						
Binscarth	6	110	12.9	48.0	29.3	63.9
AC Ranger (check)	12	100	12.5	49.5	30.7	63.4
AC Rosser	12	102	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*	12	101	12.1	58.5	40.0	55.3
Banjo	12	100	13.4	59.6	39.4	55.5
Viking*	12	98	12.2	59.5	40.1	55.2
Pronghorn (check)	12	100	13.9	57.9	38.3	55.8
AC Ultima	12	94	12.6	55.3	35.8	58.9

Average dry matter yield of check: AC Ranger = 15,248 kg/ha (6.80 tons/ac)
CDC Baler = 15,703 kg/ha (7.00 tons/ac)
Pronghorn = 13,908 kg/ha (6.00 tons/ac)

PBR in effect or filed

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
Steak	3	118
Approved	3	114
Forecast 1001	3	112
WinterGold	3	112
AC Nordica	4	111
WL 327	3	110
Starbuck	3	109
54V46	4	109
WL 232 HQ	3	109
Spredor 4	3	108
Gibraltar	3	107
Perfect	3	107
AC Blue J	22	106
Survivor	3	106
AC Longview	7	106
Pickseed 2065MF	7	106
54V54	7	106
Pickseed 8925MF	4	105
421Abacus	3	105
AmeriStand 201+Z	7	105
AgriMaster	3	105
Geneva	7	104
HybriForce-400	3	104
134	3	104

Variety	Site Years	Yield as % of Beaver
Atomic	3	104
WL 319 HQ	3	104
Equinox	3	103
53Q60	7	103
AC Grazelander Br	7	103
Dakota	3	103
Tophand	3	103
StockWell	10	102
Proleaf	3	102
Barrier	11	102
Gala	4	102
Magnum 3801 Wet	3	101
Quattro HR	3	101
Beaver	34	100
Rhino	3	98
Magnum III-WET	3	97
Rangelander	22	96
HayGrazer	3	96
Convoy	3	95
53Q30	3	94
54Q25	3	93
Dalton	3	93
Runner	6	93
Rambler	34	91

PBR in effect or filed

ADDITIONAL INFORMATION

Alfalfa 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, when 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 Ministry of Agriculture (**http://www.saskatchewan.ca/business/agriculture-natural-resources-and-industry/agribusiness-farmers-and-ranchers/crops-and-irrigation/forage-production-annual-native-perennial/forage-crop-production**).

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

Irrigated timothy trials were conducted at 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.

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

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

Average dry matter yield of check:
Leo = 10,743 kg/ha (4.79 tons/ac)
Oxley = 9,496 kg/ha (4.24 tons/ac)
Kirk = 14,493 kg/ha (6.46 tons/ac)
Carlton = 16,004 kg/ac (7.14 tons/ac)
Dan = 10,155 kg/ha (4.53 tons/ac)

Variety	Site Years	Yield as % of check
Orchard Grass		
Tundra	3	121
Early Arctic	3	118
Kootenay	3	106
Killarney	3	105
Kay (check)	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:
Kay = 10,137 kg/ha (4.52 tons/ac)
Fleet = 13,433 kg/ha (6.09 tons/ac)
Courtney = 13,958 kg/ha (6.23 tons/ac)

PBR in effect or filed

The research ICDC conducts is summarized in several useful publications, including:

- Annual Research and Demonstration Program Report
- Irrigated Alfalfa Production in Saskatchewan
- Management of Irrigated Dry Beans
- Corn Production
- Irrigation Economics and Agronomics
- Crop Varieties for Irrigation (annual update)
- Irrigation Scheduling Manual
- *The Irrigator* (newsletter)

For these and other publications concerning irrigation in Saskatchewan, see our website:
www.irrigationsaskatchewan.com/icdc

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