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Irrigation Crop Diversification Corporation

Crop Varieties for Irrigation





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

| <u>Crop</u> | <u>Page</u> | <u>Crop</u> | <u>Page</u> |
|----------------------------|-------------|----------------------|-------------|
| Using the Variety Guide | 2 | Faba Bean | 14 |
| Canola (<i>B. napus</i>) | 4 | Soybean | 14 |
| Flax | 5 | Corn | 17 |
| Spring Wheat | 6 | Annual Cereal Forage | 18 |
| Barley | 9 | Alfalfa | 19 |
| Field Pea | 11 | Timothy | 20 |
| Dry Bean | 12 | Perennial Forage | 20 |

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 2020***, 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, 2020*. You can find it at the following link:

https://pubsaskdev.blob.core.windows.net/pubsask-prod/96889/96889-Varieties_of_Grain_Crops_2018.pdf

Canola (B. napus)

Producers should note the recent change in the **check** variety from 5440 to L252. Consequently, the number of site years and varieties listed has declined. For varieties listed with only 4 site years producer caution should be used and other information sources sought. For queries on variety comparisons of older (not listed) varieties, contact Garry Hnatowich (see page 1).

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/>

| Variety | Type | Site Years | Yield as % of L252 | Lodging Rating | Height (cm) | Days to Maturity |
|----------------------|------|------------|--------------------------|-------------------|----------------|---------------------|
| Clearfield | | | | | | |
| PV 200 CL | HYB | 8 | 93 | VG | 129 | 98 |
| VR 9560 CL | HYB | 5 | 91 | G | 130 | 100 |
| CS 2200 CL | HYB | 6 | 91 | VG | 130 | 99 |
| 5545 CL | HYB | 6 | 86 | G | 129 | 100 |
| 5525 CL | HYB | 5 | 86 | G | 127 | 99 |
| Liberty Link | | | | | | |
| L252 | HYB | 10 | 100 | G | 125 | 99 |
| L140P | HYB | 4 | 98 | G | 130 | 98 |
| L261 | HYB | 7 | 97 | VG | 140 | 99 |
| L130 | HYB | 6 | 95 | VG | 127 | 98 |
| L230 | HYB | 5 | 90 | VG | 124 | 96 |
| Roundup Ready | | | | | | |
| 6074RR | HYB | 7 | 98 | VG | 128 | 100 |
| SY4135 | HYB | 4 | 97 | F | 120 | 99 |
| Canterra 1990 | HYB | 7 | 96 | G | 125 | 99 |
| VR 9562 GC | HYB | 6 | 96 | VG | 130 | 98 |
| 45H31 | HYB | 4 | 95 | VG | 128 | 98 |
| PV 540 G | HYB | 7 | 94 | VG | 127 | 99 |
| 6060 RR | HYB | 5 | 93 | VG | 136 | 100 |
| CS 2000 | HYB | 10 | 92 | VG | 134 | 99 |
| CS 2100 | HYB | 8 | 90 | VG | 125 | 98 |
| 74-44 BL | HYB | 4 | 90 | G | 118 | 97 |
| 45H33 | HYB | 5 | 88 | G | 128 | 97 |
| V12-1* | HYB | 7 | 88 | G | 128 | 100 |
| 6076 CR | HYB | 6 | 87 | VG | 133 | 99 |
| SY4114 | HYB | 4 | 86 | F | 118 | 97 |
| V12-2* | HYB | 4 | 86 | VG | 122 | 100 |
| 45S52 | HYB | 4 | 84 | F | 125 | 98 |

Average plot yield of L252 (check): 5,151 kg/ha (91.9 bu/ac) Lodging: F = fair; G = good; VG = very good

















HYB = Hybrid; COM = Composite Hybrid; OP = Open Pollinated

* Specialty oil profile

Flax

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.

| Variety | Site Years | Yield as % of CDC Bethune | Lodging Rating | Days to Maturity | Height (cm) |
|--|------------|---------------------------------|-------------------|---------------------|----------------|
| Topaz  | 5 | 104 | G | 113 | 66 |
| WestLin 71  | 9 | 103 | G | 116 | 61 |
| WestLin 72  | 9 | 102 | G | 117 | 63 |
| CDC Neela  | 8 | 102 | G | 114 | 66 |
| Prairie Sapphire  | 13 | 101 | G | 113 | 66 |
| NuLin VT50  | 9 | 100 | G | 118 | 59 |
| CDC Bethune  | 24 | 100 | G | 113 | 66 |
| Prairie Thunder  | 22 | 100 | G | 112 | 63 |
| CDC Glas  | 11 | 100 | G | 114 | 67 |
| AAC Bravo  | 7 | 96 | G | 115 | 64 |
| Prairie Grande  | 19 | 94 | G | 111 | 60 |
| CDC Sorrel  | 24 | 93 | F | 113 | 71 |
| WestLin 60  | 9 | 92 | G | 114 | 59 |
| CDC Plava  | 9 | 91 | G | 113 | 58 |
| CDC Sanctuary  | 13 | 88 | F | 113 | 70 |
| CDC Buryu  | 7 | 83 | G | 115 | 66 |

Average plot yield of CDC Bethune (check): 3,104 kg/ha (49.4 bu/ac)

 PBR in effect

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

Spring Wheat

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>.

5605HR CL is tolerant to the CLEARFIELD® herbicides Adrenalin SC and Altitude FX.

Muchmore, AAC Redwater, Vesper VB and 5605HR CL will be moving to the CNHR class as of August 1, 2021.

Canada Western Amber Durum

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

Durum wheat varieties are generally more susceptible than CWSRS 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.

Canada Prairie Spring Red

AAC Foray VB is a CPS-red midge tolerant variety using the same **SM1** gene as in the CWSRS 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 Soft White Spring

AAC Chiffon VB and **AAC Indus VB** are CWSWS midge tolerant varieties using the same **SM1** gene as in the CWSRS 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.

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 CWSRS. Information on tolerance levels in wheat varieties is available in the Saskatchewan Ministry of Agriculture annual publication: **Varieties of Grain Crops, 2020**.
































Spring Wheat & Durum

| Variety | Site Years | Yield as % of Carberry | Lodging Rating | Height (cm) | Days to & Maturity | % Protein +/- Carberry | Head Awns Present |
|---|------------|------------------------------|-------------------|----------------|-----------------------|------------------------------|----------------------|
| Canada Western Red Spring (CWRS) | | | | | | | |
| AAC Viewfield  | 7 | 117 | VG | 80 | 100 | -0.5 | Y |
| Goodeve VB  | 11 | 113 | VG | 95 | 95 | +0.2 | N |
| CDC Hughes VB  | 5 | 108 | VG | 88 | 97 | +0.2 | Y |
| CDC Landmark VB  | 5 | 108 | VG | 87 | 98 | -0.3 | Y |
| CDC Utmost VB  | 17 | 107 | G | 94 | 97 | +0.2 | N |
| AAC Brandon  | 13 | 106 | VG | 83 | 98 | -0.3 | Y |
| CDC Stanley  | 12 | 106 | VG | 94 | 98 | +0.4 | N |
| CDC Adamant VB  | 5 | 106 | VG | 86 | 100 | -0.1 | Y |
| Glenn  | 17 | 105 | VG | 92 | 100 | +0.1 | Y |
| Stettler  | 15 | 105 | G | 92 | 97 | +1.2 | Y |
| Parata  | 7 | 105 | VG | 91 | 95 | +0.1 | Y |
| CDC VR Morris  | 6 | 105 | F | 95 | 98 | +0.6 | N |
| AAC Tisdale  | 5 | 105 | G | 90 | 96 | +0.4 | Y |
| SY Obsidian  | 5 | 105 | VG | 86 | 97 | -0.6 | Y |
| Cardale  | 8 | 103 | G | 88 | 95 | +0.2 | Y |
| AAC Cameron VB  | 10 | 102 | G | 100 | 97 | -0.5 | Y |
| Shaw VB  | 16 | 102 | G | 100 | 96 | +0.3 | N |
| CDC Bradwell  | 7 | 102 | VG | 92 | 101 | +0.1 | Y |
| CDC Titanium VB  | 6 | 102 | F | 94 | 96 | +1.1 | Y |
| SY Chert VB  | 5 | 102 | VG | 91 | 100 | -0.7 | Y |
| AAC Redberry  | 10 | 101 | VG | 89 | 94 | -0.3 | Y |
| SY Slate  | 7 | 101 | VG | 88 | 97 | -0.2 | Y |
| AAC Alida VB  | 5 | 101 | VG | 90 | 96 | 0.0 | Y |
| Carberry  | 19 | 100 | VG | 84 | 98 | 14.7% | Y |
| AAC Jatharia VB  | 7 | 100 | VG | 97 | 101 | +0.3 | Y |
| AAC Redwater  | 7 | 99 | VG | 87 | 94 | +0.6 | Y |
| AAC Prevail VB  | 6 | 99 | F | 102 | 100 | +0.4 | N |
| Thorsby  | 8 | 97 | VG | 98 | 98 | -0.2 | N |
| AAC Elie  | 7 | 97 | VG | 82 | 99 | 0.0 | Y |
| AC Barrie  | 19 | 96 | G | 96 | 97 | +0.8 | N |
| SY479 VB  | 5 | 95 | VG | 98 | 99 | +0.8 | Y |
| Waskada  | 6 | 93 | F | 99 | 94 | +1.1 | Y |
| AAC Connery  | 8 | 93 | VG | 86 | 98 | +0.4 | N |
| CDC Plentiful  | 6 | 92 | F | 93 | 96 | +0.1 | N |
| SY Sovite  | 5 | 85 | VG | 90 | 99 | +0.1 | Y |

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 Garry Hnatowich (see page 1).

The spring wheat table continues on the following page.

Spring Wheat & Durum

| Variety | Site Years | Yield as % of Carberry | Lodging Rating | Height (cm) | Days to Maturity | % Protein +/- AC Barrie | Head Awns Present |
|--|------------|------------------------------|-------------------|----------------|---------------------|-------------------------------|----------------------|
| Canada Western Amber Durum (CWAD) | | | | | | | |
| AAC Stronghold  | 8 | 133 | VG | 93 | 104 | -0.9 | Y |
| AAC Congress  | 14 | 126 | F | 93 | 103 | -1.4 | Y |
| CDC Dynamic  | 12 | 124 | F | 95 | 101 | -0.5 | Y |
| CDC Precision  | 15 | 120 | G | 94 | 103 | -0.8 | Y |
| CDC Alloy  | 10 | 122 | F | 94 | 101 | -0.5 | Y |
| AAC Spitfire  | 13 | 121 | G | 92 | 100 | -0.2 | Y |
| AAC Cabri  | 8 | 117 | F | 98 | 103 | -0.2 | Y |
| CDC Carbide VB  | 9 | 117 | F | 97 | 100 | -0.2 | Y |
| AAC Succeed VB  | 8 | 116 | F | 95 | 100 | -1.0 | Y |
| CDC Credence  | 12 | 114 | F | 98 | 104 | -1.6 | Y |
| Enterprise  | 10 | 114 | P | 95 | 102 | +0.6 | Y |
| Transcend  | 6 | 112 | G | 101 | 102 | +0.6 | Y |
| CDC Fortitude  | 7 | 111 | F | 91 | 101 | 0.0 | Y |
| Brigade  | 8 | 110 | G | 99 | 103 | +0.2 | Y |
| Strongfield  | 18 | 110 | F | 92 | 101 | +0.1 | Y |
| CDC Verona  | 8 | 106 | VG | 93 | 102 | +0.5 | Y |
| Canada Northern Hard Red (CNHR) | | | | | | | |
| Prosper  | 10 | 128 | VG | 88 | 100 | -1.2 | Y |
| Faller | 10 | 127 | G | 88 | 99 | -1.3 | Y |
| Canada Western Special Purpose (CWSP) | | | | | | | |
| Charing VB  | 4 | 148 | VG | 86 | 106 | -3.0 | N |
| AAC Awesome VB  | 6 | 140 | VG | 91 | 102 | -3.4 | Y |
| KWS Sparrow VB | 6 | 140 | VG | 82 | 106 | -3.2 | N |
| KWS Alderon | 6 | 139 | VG | 78 | 106 | -3.7 | N |
| Pasteur  | 8 | 120 | VG | 88 | 103 | -1.6 | N |
| Minnedosa  | 10 | 119 | G | 90 | 96 | -1.6 | Y |
| Canada Western Hard White Spring (CWHWS) | | | | | | | |
| AAC Whitefox  | 6 | 105 | VG | 99 | 96 | -0.5 | N |
| CDC Whitewood  | 5 | 94 | VG | 89 | 97 | -0.3 | Y |
| Canada Prairie Spring Red (CPSR) | | | | | | | |
| AAC Foray VB  | 11 | 118 | G | 92 | 99 | -1.5 | Y |
| AAC Penhold  | 11 | 113 | VG | 78 | 97 | -0.9 | Y |
| AAC Goodwin  | 7 | 113 | VG | 85 | 97 | -0.8 | Y |
| SY Rowyn  | 4 | 112 | VG | 77 | 98 | -1.4 | Y |
| CDC Terrain  | 5 | 111 | G | 90 | 100 | -1.0 | Y |
| AAC Crossfield  | 8 | 109 | VG | 85 | 99 | -1.6 | Y |
| Canada Western Soft White Spring | | | | | | | |
| AAC Chiffon VB  | 9 | 144 | VG | 100 | 101 | -3.2 | Y |
| AAC Paramount VB | 6 | 137 | VG | 91 | 103 | -3.3 | Y |
| AC Andrew | 13 | 134 | VG | 88 | 101 | -3.0 | Y |
| Sadash  | 13 | 128 | VG | 90 | 100 | -2.6 | Y |

Average plot yield of Carberry (check): 5,442 kg/ha (80.9 bu/ac)

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

 PBR in effect or filed

Malt Barley

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













Information on recommended malting barley varieties for 2020-2021 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-February, brewed in May-June, and aged and tasted in October-November of the following year.

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

CDC PlatinumStar is available only through a closed loop Identity Preserved program offered by Prairie Malt Limited/Sapporo Breweries and their agents. **Sirish** has been moved to Feed & Food Barley

| Malting Variety | 2- or 6- Row | Site Years | Yield as % of AC Metcalfe | % Protein +/- AC Metcalfe | Lodging Rating | Height (cm) | Days to Maturity |
|--|--------------|------------|---------------------------|---------------------------|----------------|-------------|------------------|
| <i>Malting Acceptance: Recommended, in Development or Limited Demand</i> | | | | | | | |
| AAC Synergy  | 2 | 7 | 118 | -0.6 | F | 90 | 94 |
| Newdale  | 2 | 8 | 116 | +0.1 | G | 87 | 94 |
| CDC Fraser  | 2 | 5 | 115 | -0.7 | G | 91 | 96 |
| Legacy  | 6 | 9 | 114 | +0.2 | F | 87 | 96 |
| CDC Bow  | 2 | 5 | 113 | -0.5 | F | 91 | 95 |
| CDC Copeland  | 2 | 10 | 111 | -0.7 | F | 97 | 95 |
| Tradition | 6 | 10 | 112 | -0.2 | G | 87 | 96 |
| Lowe  | 2 | 4 | 109 | -0.8 | F | 96 | 98 |
| CDC PlatinumStar  | 2 | 5 | 105 | -0.5 | F | 97 | 96 |
| Bentley  | 2 | 6 | 104 | -0.7 | F | 93 | 95 |
| AC Metcalfe  | 2 | 10 | 100 | 13.8% | F | 90 | 94 |
| <i>Other: A malting market may exist, review CMBTC recommendation list for updates</i> | | | | | | | |
| Celebration  | 6 | 5 | 105 | +0.9 | G | 90 | 93 |
| CDC Kindersley  | 2 | 5 | 104 | -0.5 | F | 89 | 92 |

Average plot yield of AC Metcalfe (check): 6,533 kg/ha (121.4 bu/ac)

 PBR in effect or filed

* Limited site years, additional site years are required for accuracy

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

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

















For 2020 AAC Synergy becomes the new check for barley varieties in the Saskatchewan Ministry of Agriculture publication, *Varieties of Grain Crops, 2020*. ICDC will continue using AC Metcalfe for at least one more year.

Feed & Food Barley

CDC Cowboy and **CDC Maverick** are 2-row forage varieties of barley. **CDC Carter** and **CDC McGwire** are 2-row normal starch hulless barleys suitable for food use.

Disease resistance, straw strength, and maturity are more critical when barley is grown under irrigation. Growers should select early, strong-strawed, disease-resistant varieties.

In hulless varieties, the hull is left in the field; therefore, comparable yields are 9–12 percent lower. Hulless seed is more susceptible to damage than hulled seed, so handling should be minimized.

| Feed and Food Variety | 2- or 6- Row | Site Years | Yield as % of AC Metcalfe | % Protein +/- AC Metcalfe | Lodging Rating | Height (cm) | Days to Maturity |
|---|-----------------------|---------------|---------------------------------|---------------------------------------|-------------------|----------------|---------------------|
| Hulled | | | | | | | |
| Claymore  | 2 | 5 | 122 | -0.4 | F | 93 | 96 |
| CDC Austenson  | 2 | 6 | 121 | -1.1 | G | 89 | 95 |
| CDC Coalition  | 2 | 6 | 117 | -0.2 | G | 86 | 94 |
| Amisk  | 6 | 5 | 116 | -0.2 | F | 91 | 95 |
| Altorado  | 2 | 5 | 115 | -0.4 | G | 87 | 96 |
| Oreana  | 2 | 5 | 114 | -0.4 | F | 80 | 96 |
| Brahma  | 2 | 5 | 113 | -0.5 | G | 89 | 93 |
| Sirish  | 2 | 4 | 107 | -0.9 | VG | 78 | 97 |
| Canmore  | 2 | 5 | 103 | -0.5 | F | 92 | 97 |
| CDC Cowboy  | 2 | 8 | 102 | -0.2 | F | 105 | 99 |
| Muskwa  | 6 | 5 | 102 | -0.7 | F | 81 | 96 |
| AC Metcalfe  | 2 | 10 | 100 | 13.8% | F | 90 | 94 |
| CDC Ascent  | 2 | 4 | 100 | +1.2 | G | 90 | 100 |
| CDC Maverick  | 2 | 5 | 93 | +0.2 | P | 105 | 96 |
| Hulless | | | | | | | |
| CDC Clear | 2 | 5 | 100 | -1.4 | G | 98 | 97 |
| CDC Carter  | 2 | 5 | 91 | +0.9 | P | 90 | 97 |
| CDC McGwire  | 2 | 7 | 88 | +1.0 | P | 91 | 97 |

Average plot yield of AC Metcalfe (check): 6,533 kg/ha (121.4 bu/ac)

 PBR in effect or filed

* Limited site years, additional site years are required for accuracy

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

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

Most available varieties are susceptible to one or more types of smut. Therefore, seed of susceptible varieties should be treated with a registered fungicide of a regular basis. Harvesting grain that is in excess of 16 percent moisture and then 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.

For additional information, refer to the Saskatchewan Ministry of Agriculture annual publication, ***Varieties of Grain Crops, 2020***.







Field Pea

Growers should be aware that the check variety was changed from **CDC Golden** to **CDC Amarillo** in 2018, and the number of site years and relative performance of varieties has changed from past publications as a reflection of this.

The following varieties have purple flower colour and pigmented seed coats: **CDC Mosaic** and **CDC Dakota**. **CDC Mosaic** has a maple-patterned seed coat; **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.

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




| Variety | Site Years | Yield as % 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

Dry Bean – Wide Row

| 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 Rolute | 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 |
| CDC Sol  | I | 11 | 54 | 101 | 427 | 68 |

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 during the normal frost-free season for your region.

CDC WM-2 is a slow-darkening pinto dry bean variety.

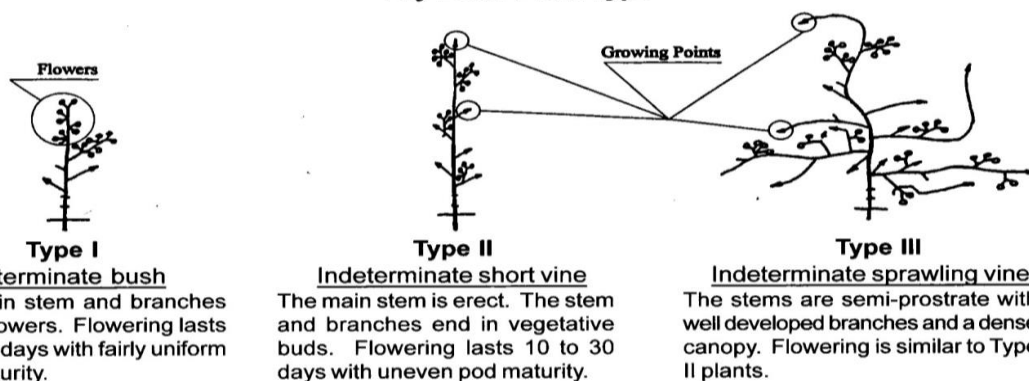
AC Black Diamond and **AAC Black Diamond II** have large shiny seeds. **Black Violet** has smaller, buff-coloured seeds.

Pod Clearance is the estimated % of pods that would clear the cutter bar in a direct combine harvest system.

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

 PBR in effect or filed na – not assessed

Dry Bean Plant Type



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







Dry Bean – Narrow Row

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. **Narrow row yields and variety rankings cannot be compared to Wide Row yields and variety rankings in these tables.**

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





| 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 |
| Yellow | | | | | |
| CDC Sol  | I | 15 | 72 | 73 | 101 |

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


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

 PBR in effect or filed

Faba Bean

| Variety | Site Years | Yield as % of CDC Fatima | Days to Maturity | Seed Weight (g/1000) |
|--|------------|--------------------------------|---------------------|----------------------------|
| Coloured Flower | | | | |
| Florent | 5 | 114 | 114 | 635 |
| CDC Fatima | 11 | 100 | 112 | 526 |
| CDC Blitz | 7 | 98 | 116 | 428 |
| FB9-4 | 5 | 97 | 111 | 759 |
| FB18-20 | 4 | 93 | 112 | 788 |
| Orion | 6 | 91 | 117 | 349 |
| Taboar  | 5 | 91 | 114 | 499 |
| White Flower | | | | |
| Imposa  | 3 | 111 | 115 | 667 |
| Tobasco  | 3 | 93 | 115 | 522 |
| Snowbird  | 8 | 86 | 114 | 483 |

Average plot yield of CDC Fatima (check): 5,054 kg/ha (4,508 lb/ac)

 PBR in effect

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.




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 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, they are 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 next page.

Soybean (continued)

| 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 |
|--|------|---------------|----------------------------------|----------------------|---------------------|----------------|-----------------|----------------------------|-----------------|
| Sampsa RR | R2Y | 6 | 118 | 00.8 | 121 | 89 | VG | 154 | BL |
| NSC Gladstone RR2Y | R2Y | 7 | 115 | 00.4 | 120 | 89 | VG | 192 | BL |
| Lono R2  | R2Y | 9 | 113 | 00.5 | 118 | 84 | VG | 157 | Y |
| Hero R2 | R2Y | 6 | 113 | 00.4 | 120 | 84 | G | 153 | BL |
| P006T46R  | RR1 | 6 | 113 | 00.6 | 119 | 82 | VG | 153 | BR |
| S007-Y4 | R2Y | 11 | 111 | 00.5 | 117 | 79 | VG | 153 | IY |
| Pekko R2 | R2Y | 7 | 111 | 00.8 | 116 | 95 | VG | 152 | BL |
| McLeod R2 | R2Y | 15 | 110 | 00.3 | 118 | 88 | VG | 175 | BL |
| Akras R2 | R2Y | 11 | 110 | 00.3 | 119 | 77 | VG | 157 | BL |
| 23-60RY | R2Y | 10 | 111 | 00.2 | 121 | 91 | VG | 161 | BL |
| LS 002R23 | R2Y | 6 | 110 | 00.2 | 119 | 86 | VG | 150 | BL |
| TH 32004R2Y | R2Y | 14 | 108 | 00.4 | 119 | 81 | G | 154 | BL |
| TH 33005R2Y | R2Y | 7 | 108 | 00.5 | 121 | 89 | VG | 167 | BL |
| NSC Reston RR2Y | R2Y | 11 | 107 | 00.1 | 117 | 80 | VG | 138 | BL |
| 900Y71 | RR1 | 6 | 107 | 00.7 | 121 | 82 | VG | 161 | TN |
| 22-60RY | R2Y | 10 | 104 | 000.9 | 116 | 71 | VG | 153 | BL |
| LS 002R24N | R2Y | 10 | 104 | 00.2 | 117 | 91 | VG | 172 | BL |
| S003-L3 | R2Y | 6 | 104 | 00.3 | 113 | 74 | VG | 152 | IY |
| PS 00095 R2 | R2Y | 6 | 104 | 000.9 | 113 | 76 | G | 151 | BL |
| HS 006RYS24 | R2Y | 10 | 103 | 00.6 | 120 | 93 | VG | 170 | BL |
| Mahony R2 | R2Y | 9 | 103 | 00.3 | 119 | 84 | VG | 152 | BL |
| TH 37004 R2Y | R2Y | 6 | 102 | 00.4 | 123 | 85 | VG | 154 | BL |
| PS 0035 NR2 | R2Y | 10 | 101 | 00.3 | 118 | 87 | VG | 153 | BL |
| TH 33003R2Y | R2Y | 15 | 100 | 00.3 | 118 | 86 | VG | 154 | BR |
| NSC Tilston RR2Y | R2Y | 11 | 100 | 00.4 | 118 | 88 | VG | 154 | BL |
| P002T04R  | RR1 | 8 | 100 | 00.2 | 113 | 79 | VG | 152 | TN |
| NSC Anola RR2Y | R2Y | 7 | 100 | 00.2 | 119 | 81 | VG | 149 | BL |
| 23-11RY | R2Y | 8 | 99 | 000.9 | 117 | 83 | G | 154 | BL |
| LS NorthWester | R2Y | 8 | 99 | 00.2 | 117 | 97 | VG | 153 | BL |
| TH 35002R2Y | R2Y | 6 | 99 | 00.2 | 117 | 82 | VG | 154 | BL |
| NSC Moosomin RR2Y | R2Y | 7 | 98 | 000 | 114 | 70 | VG | 154 | BL |
| S0009-M2 | R2Y | 10 | 97 | 000.9 | 110 | 72 | VG | 152 | IY |
| Bishop R2 | R2Y | 12 | 97 | 00.2 | 114 | 85 | VG | 150 | BL |
| NSC Watson RR2Y | R2Y | 10 | 95 | 000.8 | 110 | 72 | VG | 152 | IY |

Average plot yield of TH 33003R2Y (check): 3,442 kg/ha (3070 lb/ac).

Varieties are either RI = Roundup Ready 1 or R2Y = Genuity Roundup Ready 2 Yield TM.

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

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 2020** (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, the warmer the soil, the quicker the emergence, similar to dry bean. 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 – 200,000 plants/ac). Emergence should ensure 40 plants/m² (4 plants/ft²). Soybean varieties differ in seed size. Equipment calibration is required to achieve successfully established populations.
- Seeding depth should be approximately 2.0–3.8 cm (0.75–1.5 inches), 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 & 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, soybean are not as efficient as pea/lentil/faba bean in terms of nitrogen fixation, being more similar to dry bean. Should plants start yellowing by or during flowering, consider a top-dress application of 45–55 kg/ha N (40–50 lbs/ac N) and irrigate with 0.6–1.25 ml/ha (0.25–0.5 inch/ac).
- Do not exceed 22 kg/ha P₂O₅ (20 lbs/ac P₂O₅) 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, 2019*** 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 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

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.

| Hybrid | Company | CHU Rating | Site Years | Dry Matter | | Whole Plant Moisture (%) | Days to Anthesis | Days to Silking |
|-------------|-------------|------------|------------|--------------|------------------------|--------------------------|------------------|-----------------|
| | | | | Yield (T/ac) | % of Baxxos RR (check) | | | |
| HL R219 RR | Hyland | 2350 | 9 | 8.0 | 114 | 66.5 | 77 | 78 |
| SiEx 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 |

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://manitobacorn.ca/production/>.

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


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 |

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>).

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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 |


| Variety | Site Years | Yield as % of Climax |
|--------------|------------|-------------------------|
| 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 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 Brome | | |
| 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 (check) | 3 | 100 |
| Kayak | 3 | 91 |
| Meadow Brome | | |
| 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)
 Oxley = 9,496 kg/ha (4.24 tons/ac)
 Kirk = 14,493 kg/ha (6.46 tons/ac)
 Carlton = 16,004 kg/ha (7.14 tons/ac)
 Dan = 10,155 kg/ha (4.53 tons/ac)

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

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 web site:
www.irrigationsaskatchewan.com/icdc



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