B.C. GRAIN PRODUCERS ASSOCIATION

2014 FIELD CROP VARIETY PERFORMANCE

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AAFC, the BC Ministry of Agriculture, IAF and WGRF are committed to working with industry partners. Opinions expressed in this document are those of the BC Grain Producers Association and not necessarily those of AAFC, the Ministry of Agriculture IAF or WGRF.

B.C. Grain Producers Association

2014 Field Crop Variety Performance

B.C. Peace River Region

Revised Edition

Table of Contents

Front cover photo

Cereal plots (barley in the foreground) at the Dawson Creek (South Peace) research station, taken around mid-July 2014. Well over 8,500 plots were grown at both research stations in 2014 involving cereals, canola, flax, pulses, and new crops to the region like lentils, quinoa and camelina.

Front cover photo credit: Clair Langlois

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B.C. Grain Producers Association
2014 Field Crop Variety Performance
B.C. Peace River Region

Introduction and Acknowledgements:

Funding for this report has been provided by **AGRICULTURE AND AGRI-FOOD CANADA (AAFC)** through the **GROWING FORWARD 2 PROGRAM (GF2).** In British Columbia, this program is co-sponsored by the **PROVINCE OF BRITISH COLUMBIA** and is delivered by the **INVESTMENT AGRICULTURE FOUNDATION OF BC (IAF).** Other major co-sponsorship is provided by **WESTERN GRAINS RESEARCH FOUNDATION (WGRF)**, and further funding is provided by the **BC PEACE RIVER GRAIN INDUSTRY DEVELOPMENT COUNCIL (BCPRGIDC)**.

Local agri-businesses of Dawson Creek should be recognized for their contributions by providing access to kernel protein analysis, as well as several other local seed producers who provided their own certified seed to the program. We thank all these individuals/organizations plus head-offices of various seed development/distribution companies for their direct financial (through "fee-for-service" contracted research, see page 36-37) and "in-kind" support towards making our field-testing and the production of this book possible. Various other private organizations make financial contributions for field days, etc. throughout the year which further help support efforts of the research department. Thanks are extended as well to the site cooperators who continue to generously give their support to the program via allowing use of their leased land: ***Vic Blanchette*** for the Fort St. John site and ***School District #59*** of Dawson Creek, B.C**.** A further word of thanks goes out to ***Dennis Meier*** of Dawson Creek who continuously and generously offers us space on his own farm for storage of all our field equipment.

We should also thank our field and lab team who once again helped to make this year yet another success. They are full-time technicians ***Satoru Nosho***, ***Larissa Adams*** and ***Cindy Locken***, plus new to the team ***Xizhang (Henry) Song*** all who worked very hard. Further thanks to ***Colleen Anderson*** for her help with weather data and to all our part-time workers who were invaluable.

This document reports all tested materials grown during the 2014 growing season from performance trials placed at both the Dawson Creek and Fort St. John research farms. Materials not included in 2014 but which were previously tested, may now be viewed via earlier publications and are available for viewing or downloading at ***www.bcgrain.com***.

Cautionary Notes:

Multiple-year testing for any one variety is our goal, but often new materials have only been tested for one year, the current year usually. This can sometimes result in an unfair representation of the new single-year materials against statistically stronger multiple-year materials even though this report cautions readers about this possible effect. To try to resolve this issue, as of 2007 we now display the results in two graphs for each crop type, one with only the current year's results, and one with multiple-year results. In the multiple-year graphs, new one-year data is left out. Where **one-year results are shown**, be it in current-year graphs or in charts, **readers must still interpret and use such one-year data with considerable caution.** As additional results are obtained for a particular variety, the simple affect of compiling data from variable weather patterns over time may change its position regarding either or both yield and maturity. The more station years (defined as one test site at one location in one year) that can be used to produce an average, the more stable and reliable a result will be. Hence the association's steadfast efforts to procure multi-year data. By providing readers now with a separate "current year graph" many of the risks with looking at one-year data are still there but the chances of misrepresenting a new entry against its older neighbors is greatly reduced.

This book is produced without bias and is reported to the best of our ability from our own site data collection (except where noted as in any additional canola data). It should only be used as a guide, and where labels or agreements are signed or supplied with your product, always follow label directions and or agreements.

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B.C. Grain Producers Association
- Reference & Terminology -

Station Years
The number of station years that the variety has been tested can be seen in the yield tables inside the square bracket [ ]. A station year is one test site at one location in one year. For example, a canola trial conducted at two locations over three years would have six station years, or [6]. We advise using caution if the data is based on *less than three station years*, or less than two years at both locations. This is a concern for canola with high variety turnover.

Interpreting Yield Results
Crops in this book are managed using the same level of inputs as field-sized recommendations would suggest. Small-plot research plots offer better consistency and can be better controlled, whereas wet areas and variable soil fertility affect field-scale crop production. However, small plots are subject to *edge effect* which is caused by the spaces around the individual plots allowing extra sunlight to penetrate. This can boost yields on these exposed outer plants, as compared to the average plant in a field scale situation that would be shadowed by its neighbors. **The important concept here is that this *edge effect* can be assumed *equal* for *all* plots in a given trial, therefore we can compare varieties in a trial and look at resulting yields as *relative to one another*.** Yields presented here are the result of *small plot production* only, using *fully randomized, fully replicated and good scientific methods.* The same "*level*" or amplitude of production is unlikely to be achieved on a large-scale (commercial) basis. Statistics, which are vital to good science, are best used on original yield data and not on averaged data. We elected to show *bushels per acre* for the current year data only. However, when more than one trial per site per year is used to develop the datasets as seen in this report, it is incorrect to display statistical values. Treat *all* yield results as relative results. Current check varieties have been bolded.

Plant Breeders Rights
The Plant Breeders' Rights (PBR) gives plant breeders "copyright" protection of a variety for up to 18 years. Once a variety has been granted PBR, the breeder has control over the multiplication and sale of the seed. The breeder can take legal action for damages if someone infringes on their rights. Farmers may save some seed for seeding the next year on their own farm, but the sale of the crop as seed for planting purposes to others is not allowed. Most new transgenic herbicide-tolerant varieties have additional restrictions through '*technical use agreements*', so be aware of these also, as they replace PBR status and can have strong consequences if ignored. Varieties protected by PBR can be identified by their PBR logo on a seed bag, seed tag or advertising material. This book tries to identify such PBR lines within "*Variety Description*" tables with a solid square box (■). However, it is the responsibility of the grower to know which line is PBR.

Certified Seed
The cost of *certified seed* is a small additional expense in relation to total crop production input costs, especially when changing to a different variety. Certified seed assures genetic purity, high germination rates and low percentage of foreign seed when compared to common seed. Certified seed can be purchased in bulk through authorized seed dealer networks (see "Seed Distributors" at the back of this report).

Seed Treatment
Choosing disease-resistant varieties and using certified seed is good, but treated seed goes a long way in the fight against plant diseases as well. The cost of a fungicide or a combined fungicide/insecticide seed treatment can be a small price to pay for the amount of protection and peace of mind they provide. The right seed treatment choice is important as some perform better than others for certain crop types. Treated seed must not contaminate grain delivered to an elevator or be used for feed.

- Cereal seed should be treated to control *true loose smut* and early season *seedling* diseases.
- Seed of rye, winter wheat and flax should be treated to control *seedling blight*. Winter wheat and rye also require protection against *smut*.
- Canola seed should be treated to control seed borne *blackleg, damping off* and early *flea beetle* attack.

Ergot
The fungal disease Ergot can attack the grain of all varieties of wheat, barley, rye, triticale and most common species of grass. Oat varieties are rarely attacked. Grain having 0.1% ergot is considered poisonous to livestock and should not be used as feed. The black rice-like "*seed mummies"* can be spotted prior to harvest in heads during a field inspection.

Seed Inoculation
Peas can make much of their nitrogen (N) requirement from the air through a partnership with soil bacteria called *Rhizobium*. Cool, dry or excessively wet soils provide a harsh environment for proper inoculation. Under these conditions, a low level of nodulation formation will be the result. Survival of residual rhizobia organisms in our cool Peace Region soils is not consistently reliable; making use of inoculant with seed a good form of insurance. The pea seed must be inoculated immediately before or during seeding with a proper strain of bacteria specific to peas. *Rhizobia* are living organisms so check the expiry date on the package and follow inoculant label directions carefully. Generally, it is a good idea prior to its use and even during use if possible, to try and reduce the inoculant's exposure to sunlight, open-air and warmth. Granular formulations placed with the seed have traditionally offered good results in Peace Region soils, but new inoculants are constantly entering the market place which may offer excellent inoculation as well. Note that high residual soil nitrogen levels (over 60 kg N/ha) will reduce nodulation in the field regardless of inoculation. **Granular inoculant placed with the seed at planting was used on all pea-trials seen in this report.**

Seeding Rates

While the following *range* of seeding rates has given consistent yields for each crop listed, local producer experience has shown that the top end of the range provides more consistent results. **Risk of impaired emergence under stressful conditions can be reduced by increasing the seeding rate.** In addition, higher seeding rates can reduce the amount of secondary tillering, **produce earlier more uniform maturity**, and reduce the amount of green kernels at harvest.

Tests conducted by the Beaverlodge Research Station in the past throughout the Peace Region showed that by increasing the seeding rate of wheat from 80 to 120 lbs/ac (90 to 134 kg/ha), that the time to maturity was reduced by two days. Our own BCGPA trials involving seeding rates in barley initially showed that when increasing seeding rates from 2.25 to 2.5 bushels per acre for barley, it decreased maturity from 2 to even 4 days, which is significant by harvest. However, over the full five years of the project, our own results became less significant. Seeding rates in wheat is currently being tested by the BCGPA but no full conclusions yet.

Suggested Rates of Seeding

Wheat	90 - 120 lb/ac	100 - 135 kg/ha
CPS Wheat	130 - 180 lb/ac	145 - 200 kg/ha
Barley	75 - 100 lb/ac	85 - 110 kg/ha
Oat	70 - 90 lb/ac	85 - 100 kg/ha
Flax	26 - 40 lb/ac	30 - 35 kg/ha
Rye	65 - 85 lb/ac	73 - 95 kg/ha
Peas	150 - 300 lb/ac	165 - 330 kg/ha
Argentine Canola	5 - 8 lb/ac	6 - 9 kg/ha
Polish Canola	5.5 lb/ac	6 kg/ha

Due to large differences in seed sizes, seeding rates can vary considerably. Therefore, one should base the seeding rate on a *target number* of *viable seeds per square foot*. Using the 1000 kernel weight (TKW), adjusting for percent germination and allowing for seed mortality say 5%, calculate the number of pounds of seed required per acre. It is best to acquire the *actual* TKW.

Crop Type	Seeds / sq.ft	Avr. 1000 K wt
Wheat - CWRS	24 - 25	35 - 44 g
- CPS / CWES	24 - 25	44 - 52 g
Barley - 6 Row	24 - 25	35 - 43 g
- 2 Row	24 - 25	44 - 53 g
Oat - Hulled	24 - 25	38 - 47 g
Rye	24	30 - 35 g
Peas	8	200 - 345 g

Example (using wheat): Target **24** wheat plants per square foot, the variety has a 1000 K wt. of **35** grams. Then estimate a seedling survival rate, which is the germination percentage minus a small amount for seedling mortality. Field mortality is usually 5-20%, depending on harshness of spring seedbed conditions. A seed lot with 95% germination and an expected field mortality of 5% would have an expected emergence or survival rate of 90%. Using a *constant value* of **9.6**…

$$\frac{\textbf{24}\ \text{plants/sq.ft} \times \textbf{35}\ \text{(g/1000 K)}}{\textbf{90}\ (\%)} \times \textbf{9.6} = \textbf{90}\ \text{lb/acre}$$

Answer: You would plant **90 lbs.** of wheat seed/acre.

B.C. Grain Producers Association - 2014 Growing Conditions -

The past growing season was very fast paced through the summer months with significantly extra heat but less than 60% of our normal rainfall. The period from the completion of planting on May 22nd until the last week of July showed basically no significant rainfall for either North Peace or South Peace research farms. We saw many days over 27°C in temperatures and quite a lengthy stretch with temperatures in the lower 30's. During that time canola, flax and field pea were all attempting to bloom and pollinate.

A negative quality issue for our crops was that when the rains did return, it was early enough to bring on a second flush of tillers in the cereals and re-growth in canola and flax. This caused green seed issues in later maturing lines of our cereals, and to some degree in our canola too. However, most green seed in canola was due to the early September frost rather than re-growth issues. Hard frost that occurred around the start of the 2nd week of September came too early for some crops which caused a slower growth rate and later maturity. The green seed issue was kept under control by desiccant spraying.

The fast pace of the season did get us harvesting field peas by August 12th and all crops were off by October 8th. However damp weather due to lack of wind, high humidity and cloud cover brought combining down in pace and caused a finish in less than ideal conditions.

The key to this summer's success was last winter the snow was early and it stayed, long before the ground froze hard, so the moisture was able to seep and stay in the ground all winter. If it had not been for this good soil moisture reserve, the earlier summer drought would have likely devastated our yields and quality. In the end, yields have proven to be surprisingly exceptional considering the early conditions, with the one exception being the flax crop which did not like the heat at flower.

Interpreting Data

The yield for each variety is reported on a regional basis for the Dawson Creek and Fort St. John areas and as an average for the entire B.C. Peace. Also, the number of years each variety has been tested is given for each of the two regions. In the following examples, the number of years is indicated in **[ ]** right after the yield. "Station years" are the total number of times a variety has been tested in these trials.

Two Row Barley — **Yield as % of AC Metcalfe**

Variety		Type	Dawson Creek 2014 Yield	Dawson Creek 2009-2014 Avg.	Dawson Creek 2009-2014 Stn.Yrs.	Fort St.John 2014 Yield	Fort St.John 2009-2014 Avg.	Fort St.John 2009-2014 Stn.Yrs.	B.C. Peace 2014 Yield	B.C. Peace 2009-2014 Avg.	B.C. Peace 2009-2014 Stn.Yrs.
XENA	2-row	feed	115	109	[6]	83	100	[6]	106	104	[12]

Number of **years** the variety was tested at **each station**

Number of **times** in total the variety was tested in the **B.C. Peace**.

note: the above example is a dramatization

Statistical Values Entries into the Regional trials are replicated (or repeated) four times (three times minimum) at both locations. Replication is used to derive an overall average per entry per trial, and allow for statistical analysis.

Coefficient of Variance (CV value) , given as a percentage, tells us how statistically sound or reliable a given data set is. Generally, any value less than or equal to 15% is considered to be acceptable and indicates "sound" data. This means if you were to repeat the trial under similar conditions, you would get similar results, or at least we are 95% confident that we would. We tend to be a little more lenient on this 15% for such things as disease or insect data, as these are normally highly variable traits due to the nature of the beast. However, we do not like to see yield data from a single trial with a high CV value. Anything less than 10% is considered excellent and in our research we aim for CV values under 10%. As you will see in this report we reach this goal regularly.

Least Significant Difference test (LSD value) , are those little letters behind the *data means* (or averages). If two or more *data means* have the same letter behind their number, they are NOT significantly different from one another according to statistics. Therefore, means or averages with the same letter should not be viewed as one being "superior" or "inferior" from the other or others of the same letter. LSD takes variability into account, and compares "apples" to "apples".

Example:

	Dawson Creek	
	2014	2009-2014
Variety	Yield	Avg. Stn.Yrs.
Super X	105 ab	102 [3]
Superdooper Y	107 a	105 [3]
So-So 101	100 b	98 [2]
Old Goody	95 c	97 [6]

In this example, some people might think variety "*Superdooper Y*" is superior to variety " *Super X* " and "*So-So 101* ". This is not true according, to statistics, "*Superdooper Y*" is superior to variety "*So-So 101* ", but is equivalent to " *Super X* " in yield because both "*Superdooper* " and "*Super X* " have the letters "*a* " with them. In this example, " *Super X* " is not superior (or significantly different), from variety "*So-So 101* " either, as both have a " *b* " behind their means. Also, " *Superdooper Y*", "*Super X* ", and "*So-So 101* " are *superior to* , or a better term is *significantly different* from " *Old Goody* ".

Note: in 2014 we do not have LSD values next to current year's yield data (bu/ac) as in past years, except for CPT canola data. This is because multiple trials were used per site to produce one set of data per site for each crop-type tested in 2014, with the CPT canola being the exception.

One should still use long term averages when possible and that means preferably use data with at least **six station years** over the B.C. Peace. **For any varieties with less than three station years of data, you must compare data with caution.**

Fertilizer Rates Used In 2014

Fort St. John, B.C.	Legal Description: SW19 Tp84 R18 W6							
	Fertilizer	Pro.		lbs actual/ac	Soil-Test Results			
Crop	Applied	kg/ha	Placement	Recom. vs. Applied	N	$P_2 0_5$	K_2O	S
Canola	34-0-0-11	285	banded	*Recommended =	100	25	15	27
	5-26-30	72	banded	Actually applied =	92.3	28.3	19.3	28
	11-52-0	25	in-furrow					
Flax	34-0-0-11	184.9	banded	*Recommended =	65	25	15	12
	5-26-30	76	banded	Actually applied =	62.2	29.2	20.3	18
	11-52-0	25	in-furrow					
Wheat, Barley & Oat	46-0-0	101	banded	*Recommended =	45	22	15	12
	6-26-30	55	banded	Actually applied =	47.1	24.4	14.7	0
	11-52-0	25	in-furrow					
Pea/Lentil	20.5-0-0-24	41	banded	*Recommended =	20	27	15	12
	6-26-30	56	banded	Actually applied =	13.0	24.6	15	8.8
	11-52-0	25	in-furrow					
AAFC Coop A, B Wheat	34-0-0-11	150	banded	*Recommended =	45	22	15	21
	5-26-30	55.7	banded	Actually applied =	50.7	24.5	14.9	15
	11-52-0	25	in-furrow					

Dawson Creek, B.C.	Legal Description: SW20 Tp78 R14 W6							
	Fertilizer	Pro.		lbs actual/ac	Soil-Test Results			
Crop	Applied	kg/ha	Placement	Recom. vs. Applied	N	$P_2 0_5$	K_2O	S
Canola	34-0-0-11	285	banded	*Recommended =	100	25	15	27
	6-26-30	72	banded	Actually applied =	92.3	28.3	19.3	28
	11-52-0	25	in-furrow					
Pea/Lentil	20.5-0-0-24	41	banded	*Recommended =	0	25	15	5
	6-26-30	56	banded	Actually applied =	13.0	24.6	15	8.8
	11-52-0	25	in-furrow					
Flax	34-0-0-11	167.5	banded	*Recommended =	60	22	20	12
	5-26-30	76	banded	Actually applied =	56.9	29.2	20.3	16
	11-52-0	25	in-furrow					
Wheat, Barley	34-0-0-11	205.1	banded	*Recommended =	70	22	15	5
	5-26-30	55.7	banded	Actually applied =	67.4	24.5	14.9	20
	11-52-0	25	in-furrow					
Oat	34-0-0-11	205.1	banded	*Recommended =	70	22	15	15
	5-26-30	55.7	banded	Actually applied =	67.4	24.5	14.9	20
	11-52-0	25	in-furrow					
Malt Barley	46-0-0	150	banded	*Recommended =	70	22	15	12
	6-26-30	76	banded	Actually applied =	67.4	24.5	14.9	20
	11-52-0	25	in-furrow					

*Recommended = recommendations given by ALS Laboratory Group of Saskatoon, SK., calculated from soil samples pulled earlier in the spring of the same calendar year as planted.

Pesticide Applications

Fort St. John, B.C.	Legal Description:	SW19 Tp84 R18 W6	
Crop	**Date Applied**	**Product Used**	**Product Rate**
Canola (napus & rapa)	12-Jun-14 to 23-Jun-14	Muster (ethametsulfuron methyl) Lontrel 360 (clopyralid) Poast Ultra (sethoxydim) Merge	 227 ml/ac 200 ml/ac 400 ml/ac
Canola (Systems: CPT)			
Canola (Liberty blocks)	12-Jun-14	Liberty	1.35 L/ac
Canola (CL blocks)	12-Jun-14	Solo + Merge	11.7 g/ac + 0.5%
Canola (RR blocks)	12-Jun-14	WeatherMax	400 ml/ac
Canola Napus Insect Work	12-Jun-14	WeatherMax	500 ml/ac
(as 2 separate system blocks)	12-Jun-14	Liberty	1.35L/ac
Field Pea	07-Jun-14	Sencor (metribuzin) 75%DF MCPA Sodium	100 g/ac 190 ml/ac
Lentil	07-Jun-14	Sencor (metribuzin) 75%DF	100 g/ac
Flax	16-Jun-14	Buctril-M (bromoynil + MCPA)	400 ml/ac
Wheat, Barley, Oat (includes AAFC Coop A, B Wheat)	16-Jun-14	Buctril-M (bromoynil + MCPA)	400 ml/ac

Dawson Creek, B.C.	Legal Description:	SW20 Tp78 R14 W6	
Crop	**Date Applied**	**Product Used**	**Product Rate**
Wheat, Barley, Trit	13-Jun-14	Buctril-M (bromoynil + MCPA)	400 ml/ac
Oat & Malt Barley (all oat except organic oat trial)	13-Jun-14	Buctril-M (bromoynil + MCPA)	400 ml/ac
Field Pea	06-Jun-14	Sencor (metribuzin) 75%DF MCPA Sodium	100 g/ac 190 ml/ac
Lentil	06-Jun-14	Sencor (metribuzin) 75%DF	100 g/ac
Flax	11-Jun-14	Buctril-M (bromoynil + MCPA)	400 ml/ac
Canola Napus Insect Work	11-Jun-14	WeatherMax	500 ml/ac
(as 2 separate system blocks)	11-Jun-14	Liberty	1.35L/ac
Canola (all napus except Insect studies / CPT / and CPS-RR system trials)	11-Jun-14	Muster (ethametsulfuron methyl) Lontrel 360 (clopyralid) Poast Ultra (sethoxydim) Merge	12 g/ac 227 ml/ac 200 ml/ac 400 ml/ac
Canola (Systems: CPT/CPS-RR)			
Canola (Liberty blocks)	11-Jun-14	Liberty	1.35 L/ac
Canola (CL blocks)	11-Jun-14	Solo + Merge	11.7 g/ac + 0.5%
Canola (RR blocks)	11-Jun-14	WeatherMax	400 ml/ac

All seed was treated with seed treatment: canola with Helix Xtra®, cereal with Raxil FL® and pea seed with Apron Maxx RTA®. Flax was untreated as per new Alberta regional testing protocol.

Planting and Harvest Information

Loc.	Crop	Seeding rate lbs/ac	Seeding rate kg/ha	Date Planted	Soil Temp (C^o) @ plant	Seeding Depth	Harvest Date	Harvesting Method
FSJ	**Napus Canola**	8	8.9	12&13-Jun-14	6	0.75 - 1 inch	19-Sep-14	desiccate/direct
	Flax	40	45	09-May-14	4	0.75 - 1 inch	6-Oct-14	desiccate/direct
	Barley	77	86	19-May-14	9	0.5 - 1 inch	30-Aug-14	direct
	Durum Wheat	90	101	19-May-14	9	0.5 - 1 inch	8-Oct-14	desiccate/direct
	CWRS Wheat	90	101	19-May-14	9	0.5 - 1 inch	11-Sep-14	desiccate/direct
	CPS/CWES	90	101	19-May-14	9	0.5 - 1 inch	17-Sep-14	desiccate/direct
	Oat	81	90	19-May-14	9	0.5 - 1 inch	13-Sep-14	desiccate/direct
	Field Pea	149	167	09-May-14	4	1 - 1.25 inch	15-Aug-14	desiccate/direct
DC	**Canola(BCGPA)**	8	8.9	16-May-14	5.5	0.5-1 inch	30-Sep-14	desiccate/direct
	Canola(CPT)	8	8.9	17-May-14	6	0.5-1 inch	23-Sep-14	desiccate/direct
	Canola(CPS)	8	8.9	17-May-14	6	0.5-1 inch	1-Oct-14	desiccate/direct
	Flax	40	45	10-May-14	4	0.5-0.75 inch	7-Oct-14	desiccate/direct
	Barley	77	86	21&22-May-14	6-7	0.75-1 inch	31-Aug-14	direct
	CWRS Wheat	90	101	21-May-14	6	0.75-1 inch	4-Sep-14	desiccate/direct
	CPS/CWES	90	101	21-May-14	6	0.75-1 inch	16-Sep-14	desiccate/direct
	Oat	81	90	22-May-14	7	0.75-1 inch	5-Sep-14	desiccate/direct
	Field Pea	149	167	08-May-14	4	1-1.5 inch	12-Aug-14	desiccate/direct

CANADA WESTERN RED SPRING WHEAT

As grain yields increase, protein content generally decreases. Some of the newer varieties have both higher protein and grain yield. To control true *loose smut* of wheat, only a systemic fungicide will work as the pathogen is found inside the seed. To control the other types of smut (*covered*, *false loose* and *bunt*), a non-systemic fungicide seed treatment will work as the disease pathogen is on the outside of the seed.

CWRS Wheat — Yield as % of Katepwa

Variety	Dawson Creek				Fort St. John				B.C. Peace		
	2014 Yield		2009 - 2014		2014 Yield		2009 - 2014		2014	2009-2014	
	bu / acre	% of Check	Avg. (%)	Station Years	bu / acre	% of Check	Avg. (%)	Station Years	Avg. (%)	Avg. (%)	Station Years
5604HR CL	70	99	97	[6]	60	92	99	[6]	95	98	[12]
5605HR CL	75	105	107	[2]	67	102	106	[2]	104	107	[4]
AAC Bailey	77	106	105	[4]	65	97	104	[4]	101	105	[8]
AAC Brandon	84	118	109	[3]	74	114	118	[3]	116	113	[6]
AAC Elie	85	119	111	[3]	71	109	117	[3]	114	114	[6]
AAC Iceberg **	76	105	106	[2]	61	93	101	[2]	99	104	[4]
AAC Prevail *	77	106	106	[1]	66	100	100	[1]	103	103	[2]
AAC Redwater	75	104	100	[3]	60	90	100	[3]	97	100	[6]
AAC W1876 *	82	113	113	[1]	71	107	107	[1]	110	110	[2]
AC Barrie	63	87	94	[6]	67	103	104	[6]	95	99	[12]
BW479 * Δ	64	88	88	[1]	52	79	79	[1]	84	84	[2]
BW487 * Δ	78	111	111	[1]	72	112	112	[1]	112	112	[2]
BW961 *, *** Δ	69	96	96	[1]	66	99	99	[1]	98	98	[2]
Cardale	77	106	104	[3]	70	106	108	[3]	106	106	[6]
CDC Abound	78	110	112	[6]	67	103	115	[6]	107	114	[12]
CDC Alsask	80	110	104	[6]	67	100	107	[6]	105	105	[12]
CDC Go	74	103	103	[6]	68	104	110	[6]	103	107	[12]
CDC Osler	75	103	102	[6]	66	100	104	[6]	102	103	[12]
CDC Plentiful	78	109	105	[3]	70	106	108	[3]	108	106	[6]
CDC Stanley	73	101	102	[6]	66	101	107	[6]	101	105	[12]
CDC Thrive	76	106	99	[6]	65	99	109	[6]	103	104	[12]
CDC Titanium	73	101	98	[2]	69	105	101	[2]	103	99	[4]
CDC Utmost	75	105	103	[6]	65	99	108	[6]	102	106	[12]
CDC Whitewood **	73	101	100	[2]	66	101	98	[2]	101	99	[4]
Coleman	67	93	94	[2]	60	90	92	[2]	91	93	[4]
HW363 *, ** Δ	85	116	116	[1]	63	94	94	[1]	105	105	[2]
Infinity	79	110	106	[6]	69	104	112	[6]	107	109	[12]
Katepwa	74	100	100	[6]	67	100	100	[6]	100	100	[12]
PT245 * Δ	79	107	107	[1]	70	105	105	[1]	106	106	[2]
PT637 * Δ	72	99	99	[1]	64	97	97	[1]	98	98	[2]
PT769 * Δ	70	95	95	[1]	66	98	98	[1]	97	97	[2]
Shaw	72	101	103	[6]	64	97	109	[6]	99	106	[12]
Stettler	73	103	111	[5]	68	105	116	[5]	104	114	[10]
Superb	77	110	112	[6]	67	104	121	[6]	107	116	[12]
Thorsby	70	96	97	[2]	70	104	102	[2]	100	100	[4]
Unity	79	112	108	[6]	65	99	111	[6]	106	109	[12]

* first year tested, very limited data available

** CWHWS Canadian Western Hard White Spring Wheat

*** semi-dwarf type

Δ denotes materials not registered

BW487 and **BW961** are GP (general purpose) wheat

AAC Bailey is a (solid-stemmed) Wheat Stem Sawfly resistant variety

CDC Thrive, **CDC Abound, 5605HR CL** and **5604HR CL** are Clearfield® tolerant varieties

CDC Titanium, CDC Utmost, **Shaw**, and **Unity** are Varietal Blends and thus Wheat Midge Resistant varieties

Data above is composed of two trials per site. Coefficient of Variance (CV) values in 2014 for original raw yield data is: DC = 6.83%, 9.09%; FSJ = 9.39%, 4.76%.

Katepwa check variety

CWRS Wheat — Variety Descriptions

	Variety	B.C. Peace Averages 2009 - 2014 Days to Maturity +/- check	Height cm	Bushel Weight lbs/bu	Kernel Protein % +/- check		Alberta Agdex 100/32 Resistance to: Lodging	Sprouting	Loose Smut	Common Bunt	Stripe Rust	Leaf Spot	FHB	Distributor
■	5604HR CL	-5.0	84	65	0	[12]	G	G	P	F	XX	P	F	Crop Production Services
■	5605HR CL	2.0	97	66	0	[4]	G	XX	VG	G	F	P	G	Crop Production Services
■	AAC Bailey	-1.5	92	65	0	[8]	G	G	P	F	F	F	F	Canterra Seeds
■	AAC Brandon	1.4	78	65	0	[6]	G	P	G	VP	G	F	G	SeCan
■	AAC Elie	1.6	78	65	0	[6]	G	F	F	F	G	F	F	Alliance Seed Corporation
■	AAC Iceberg **	1.6	86	66	-1	[4]	G	P	P	F	G	P	F	Alliance Seed Corporation
	AAC Prevail *	1.0	90	65	-1	[2]								AAFC: Lacombe
■	AAC Redwater	-2.9	85	65	1	[6]	G	VG	P	F	G	P	F	SeCan
	AAC W1876 *	5.8	80	65	0	[2]								AAFC: Lacombe
■	AC Barrie	-0.1	85	65	1	[12]	G	G	G	F	VP	P	F	SeCan
	BW479 * Δ	5.3	91	65	2	[2]								Syngenta
	BW487 * Δ	3.3	83	68	-1	[2]								AAFC: Morden
	BW961 *, *** Δ	4.3	76	65	0	[2]								AAFC: Lacombe
■	Cardale	-0.4	80	64	0	[6]	G	G	F	VP	G	P	G	Seed Depot
■	CDC Abound	0.8	78	65	0	[12]	G	F	F	F	P	P	VP	Crop Production Services
■	CDC Alsask	-0.7	87	63	0	[12]	F	G	G	G	F	VP	P	Crop Production Services
	CDC Go	-1.5	77	64	0	[12]	G	VP	P	F	G	VP	P	public variety
	CDC Osler	-2.1	82	64	0	[12]	G	F	G	G	F	F	VP	public variety
■	CDC Plentiful	-0.8	86	65	0	[6]	VG	P	VG	F	G	F	G	FP Genetics
■	CDC Stanley	-1.2	82	64	0	[12]	G	G	G	VP	F	F	P	Crop Production Services
■	CDC Thrive	-1.8	84	64	0	[12]	G	P	G	F	F	F	P	SeCan
	CDC Titanium	-1.0	92	66	1	[4]	G	P	G	F	VG	P	G	Crop Production Services
■	CDC Utmost	-0.2	84	64	0	[12]	G	G	P	VP	F	F	P	FP Genetics
■	CDC Whitewood **	0.4	85	65	-1	[4]	G	G	VP	VP	F	P	F	U of S
	Coleman	-0.4	97	66	0	[4]	F	P	VP	VP	G	F	G	SeCan
	HW363 *, ** Δ	0.3	77	65	0	[2]								AAFC: Lacombe
■	Infinity	0.0	84	64	0	[12]	G	G	G	G	P	P	VP	Canterra Seeds
	Katepwa	0.0	89	64	0	[12]	F	F	G	G	P	P	F	SeCan
■	*PT245* * Δ	2.3	76	64	0	[2]								AAFC: Lacombe
	PT637 * Δ	2.5	91	66	1	[2]								Syngenta
	PT769 * Δ	-1.4	88	64	0	[2]								U of A
■	Shaw	-0.9	87	65	1	[12]	G	G	VP	G	F	P	P	SeCan
■	Stettler	0.9	80	65	1	[10]	G	G	VG	F	F	VP	P	AAFC: Lacombe
■	Superb	1.0	82	65	0	[12]	G	F	F	G	VP	VP	P	SeCan
■	Thorsby	1.1	93	65	0	[4]	G	F	F	VP	VG	P	F	U of A
■	Unity	0.1	86	65	0	[12]	G	G	P	VG	P	P	P	Crop Production Services

* first year tested, very limited data available

** CWHWS = Canadian Western Hard White Spring Wheat

*** semi-dwarf type

BW487 and **BW961** are GP (general purpose) wheat

CDC Thrive, CDC Abound, 5605HR CL and 5604HR CL are Clearfield® tolerant varieties

CDC Titanium, **CDC Utmost**, **Shaw**, and **Unity** are Wheat Midge Resistant varieties

AAC Bailey is a (solid-stemmed) Wheat Stem Sawfly resistant variety

■ Protected by Plant Breeders' Rights

VG = very good, G = good, F = fair, P = Poor, VP = very poor

XX = insufficient data

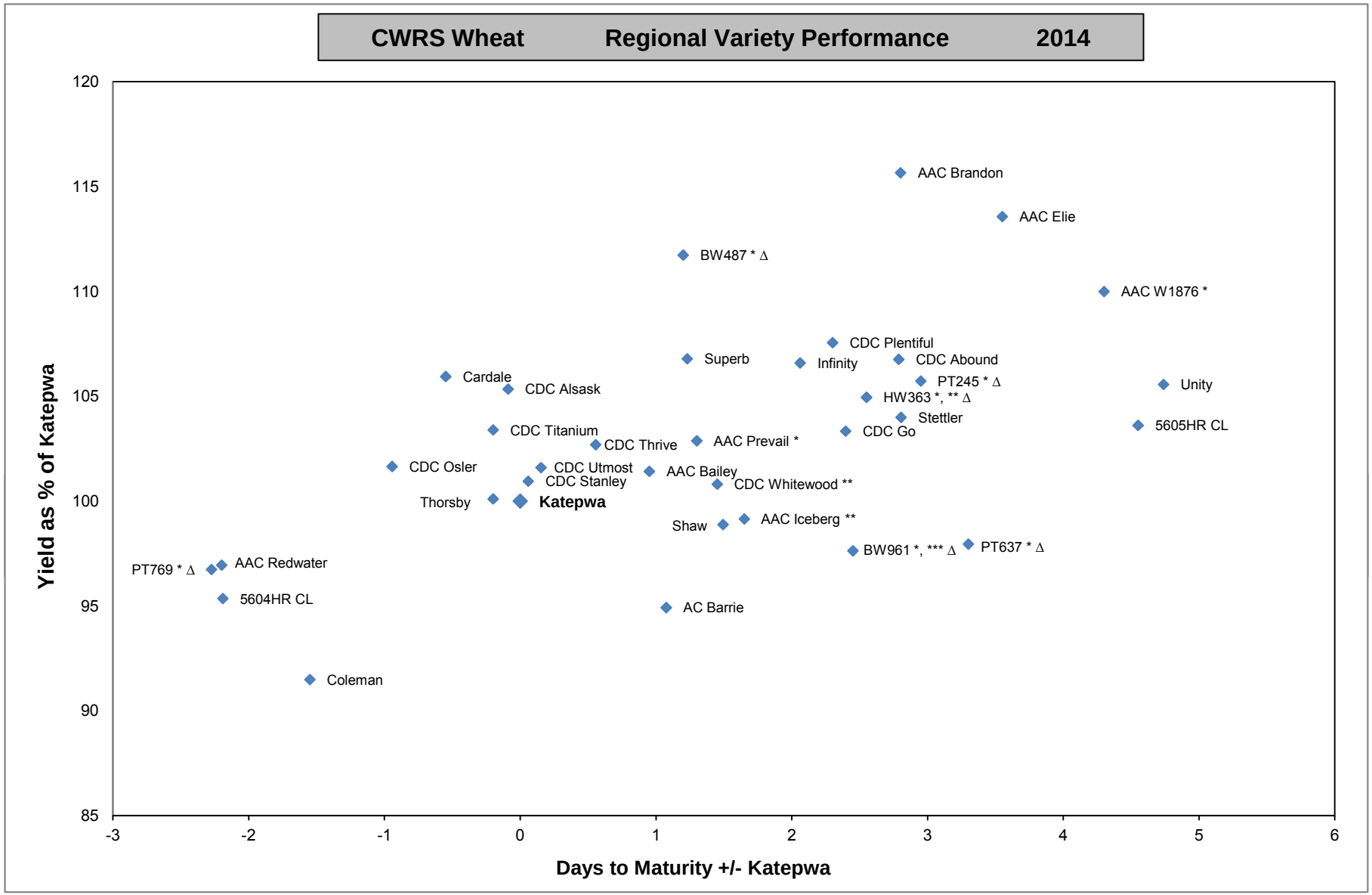
Δ denotes materials not registered

FHB = Fusarium Head Blight

Average protein for **Katepwa** is **13.6%**

Overall average maturity for **Katepwa** is **105 days**

Katepwa check variety



Note: Graph above does not include outliers (very low yield, very long maturity). Page 7 & 8 has all data.

Average maturity for **Katepwa** is **97 days** for **2014**

AAC Bailey is a (solid-stemmed) Wheat Stem Sawfly resistant variety

CDC Thrive, **CDC Abound**, **5605HR CL** and **5604HR CL** are Clearfield® tolerant varieties

CDC Titanium, **CDC Utmost**, **Shaw**, and **Unity** are Varietal Blends and thus Wheat Midge Resistant varieties

BW487 and **BW961** are GP (general purpose) wheat

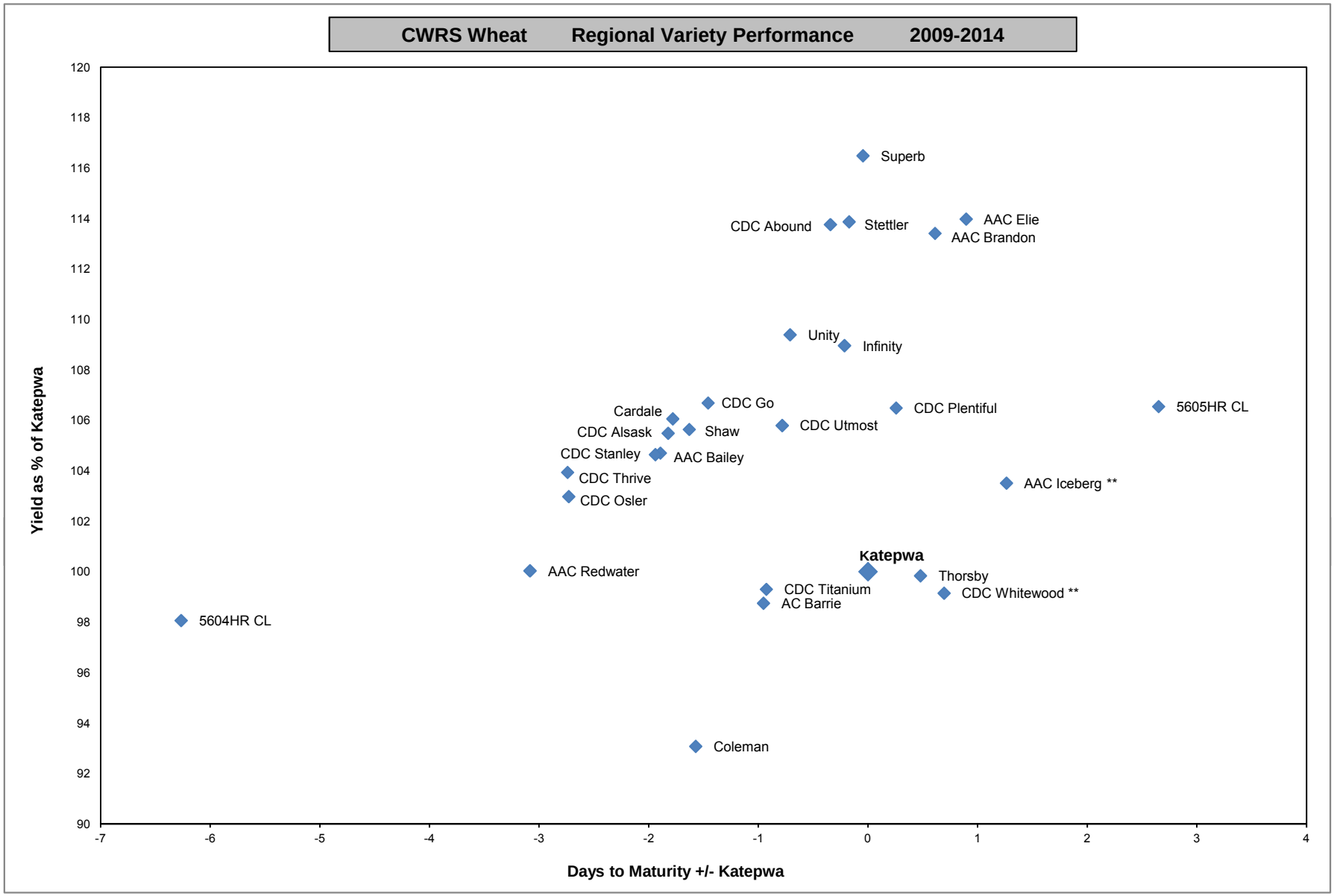
Katepwa - check variety

* first year tested, very limited data available

** CWHWS Canadian Western Hard White Spring Wheat

*** semi-dwarf type

Δ denotes materials not registered



Katepwa - check variety

Average maturity for **Katepwa** is **105 days** for **2014**

Δ denotes materials not registered

* first year tested, very limited data available

** CWHWS Canadian Western Hard White Spring Wheat

*** semi-dwarf type

CDC Thrive, **CDC Abound**, **5605HR CL** and **5604HR CL** are Clearfield® tolerant varieties

CDC Titanium, **CDC Utmost**, **Shaw**, and **Unity** are Varietal Blends and thus Wheat Midge Resistant varieties

AAC Bailey is a (solid-stemmed) Wheat Stem Sawfly resistant variety

CANADA PRAIRIE SPRING WHEAT

CANADA WESTERN SOFT WHITE SPRING WHEAT

All current Canada General Purpose Spring varieties (CPS and CWSWS are in this class) should be treated with a systemic fungicide seed treatment to control smut. Avoid deep seeding General Purpose wheats. Note the long maturity periods required for the production of currently available CWSWS wheat varieties. Very late lines, such as *Pasteur*, should not even be attempted in the Peace River region. Seeding rates for all classes of wheat covered by the new class "General Purpose" should be increased 20 to 25% due to the larger kernel size.

CPS / CWSWS Wheat — Yield as % of AC Andrew

		Dawson Creek				Fort St. John				B.C. Peace		
		2014 Yield		2009 - 2014		2014 Yield		2009 - 2014		2014	2009-2014	
Variety	Type	bu / acre	% of check	Avg. (%)	Stn. Yrs.	bu / acre	% of check	Avg. (%)	Stn. Yrs.	Avg. (%)	Avg. (%)	Stn. Yrs.
5700 PR	CPS-red	101	98	94	[5]	65	93	92	[6]	96	93	[11]
5702 PR	CPS-red	108	103	94	[5]	68	97	95	[6]	100	95	[11]
AAC Chiffon	CWSWS	114	112	107	[2]	83	117	112	[2]	115	110	[4]
AAC Crusader *	CPS-red	97	93	93	[1]	63	86	86	[1]	90	90	[2]
AAC Foray *	CWGP	96	93	93	[1]	67	94	94	[1]	94	94	[2]
AAC Innova *	CWGP	106	100	100	[1]	82	109	109	[1]	105	105	[2]
AAC NRG097 *	CWGP	97	96	96	[1]	69	100	100	[1]	98	98	[2]
AAC Penhold *	CWGP	96	95	95	[1]	62	89	89	[1]	92	92	[2]
AAC Proclaim	CWSWS	94	92	92	[2]	66	92	93	[2]	92	93	[4]
AAC Ryley	CPS-red	98	94	92	[2]	62	87	90	[2]	91	91	[4]
AAC Tenacious *	CPS	86	84	84	[1]	55	78	78	[1]	81	81	[2]
AC Andrew	CWSWS	103	100	100	[5]	71	100	100	[6]	100	100	[11]
AC Barrie	CWRS	77	75	78	[3]	55	78	79	[3]	77	79	[6]
AC Foremost *	CPS-red	102	99	99	[1]	63	88	88	[1]	94	94	[2]
CDC NRG003	CWGP	107	102	94	[4]	66	91	89	[5]	97	92	[9]
Conquer	CPS-red	91	87	89	[4]	68	93	87	[5]	90	88	[9]
Enchant	CPS-red	87	84	85	[2]	55	77	83	[3]	81	84	[5]
Minnedosa	CPS-white	93	88	88	[4]	62	87	87	[5]	88	88	[9]
NRG010	CPS-white	109	105	97	[4]	68	94	92	[5]	100	95	[9]
Pasteur	CWGP	98	96	98	[2]	72	102	103	[3]	99	101	[5]
Superb	CWRS	90	90	88	[5]	68	96	92	[6]	93	90	[11]
SY087 *	CWGP	87	86	86	[1]	60	85	85	[1]	86	86	[2]
SY985	CPS-red	88	85	80	[2]	62	87	85	[3]	86	83	[5]
SY995 *	CPS-red	86	83	83	[1]	60	82	82	[1]	83	83	[2]

* first year tested, very limited data avaliable

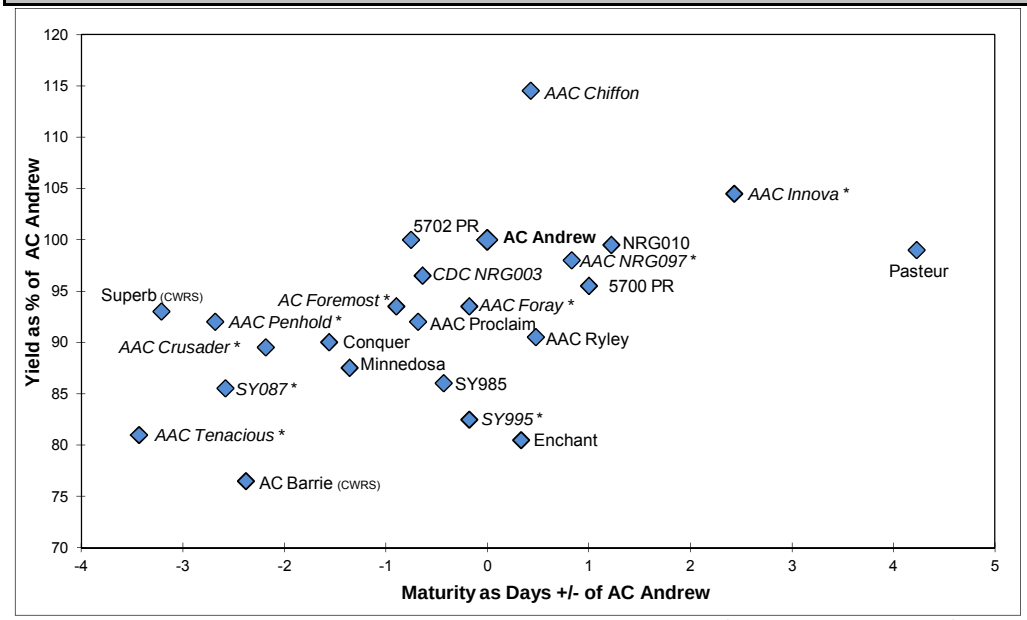
Enchant and **Conquer** are Wheat Midge tolerant Varietal Blend

AC Andrew - check variety

Δ denotes materials not registered

Data above is composed of two trials per site. Coefficient of Variance (CV) values in 2014 for original raw yield data is: DC = 4.61%, 3.87%; FSJ = 5.71%, 6.18%.

CPS / CWSWS Wheat — Regional Variety Performance 2014



Δ denotes materials not registered

Average maturity for **AC Andrew** is **98** days for **2014**

CPS / CWSWS Wheat — Variety Descriptions

Variety	Type	B.C. Peace Averages 2009-2014: Maturity in days +/- check	Height cm	Bushel Weight lbs/bu	Kernel Protein % +/- check		Alberta Agdex 100/32 Resistance to: Lodging	Sprouting	Loose Smut	Common Bunt	Stripe Rust	Leaf Spot	FHB	Distributor
■ 5700 PR	CPS-red	0.1	75	64	1	[11]	VG	F	P	VG	P	P	P	Crop Production Services
■ 5702 PR	CPS-red	-0.6	81	63	1	[11]	G	P	P	F	P	F	P	Crop Production Services
■ AAC Chiffon	CWSWS	0.9	103	64	0	[4]	G	P	VP	VP	G	F	VP	AAFC Lacombe
■ *AAC Crusader* *	CPS-red	-2.2	75	63	2	[2]								AAFC Lacombe
■ *AAC Foray* *	CWGP	-0.2	83	64	2	[2]	G	G	P	F	G	P	F	AAFC Winnipeg
■ *AAC Innova* *	CWGP	2.4	82	62	0	[2]								AAFC Lacombe
■ *AAC NRG097* *	CWGP	0.8	76	65	0	[2]	G	F	F	VG	VP	F	F	AAFC Lacombe
■ *AAC Penhold* *	CWGP	-2.7	67	65	2	[2]	VG	G	F	VG	G	F	G	AAFC Lacombe
■ AAC Proclaim	CWSWS	-0.5	95	64	1	[4]	F	G	G	VP	P	F	G	FP Genetics
■ AAC Ryley	CPS-red	-0.4	85	63	2	[4]	G	G	F	VG	VP	P	P	SeCan
AAC Tenacious *	CPS	-3.4	87	64	2	[2]								AAFC Lacombe
AC Andrew	CWSWS	0.0	78	64	0	[11]	VG	P	VP	VP	F	P	F	SeCan
■ AC Barrie	CWRS	-3.1	82	64	3	[6]	G	G	G	F	VP	P	F	SeCan
AC Foremost *	CPS-red	-0.9	68	63	2	[2]	VG	F	F	VG	VP	P	VP	SeCan
■ CDC NRG003	CWGP	-2.7	84	63	1	[9]	G	F	F	VG	VP	F	F	Canterra Seeds
■ Conquer	CPS-red	-0.2	91	64	2	[9]	G	P	P	VG	G	F	P	Canterra Seeds
■ Enchant	CPS-red	0.1	93	64	2	[5]	F	G	P	VG	XX	P	VP	FP Genetics
■ Minnedosa	CPS-white	-3.2	87	63	1	[9]	G	G	F	G	G	P	P	SeCan
■ NRG010	CPS-white	1.4	89	63	1	[9]	G	P	P	VG	VG	F	P	Canterra Seeds
Pasteur	CWGP	3.7	81	65	1	[5]	VG	G	P	VP	G	F	F	SeCan
■ Superb	CWRS	-2.8	83	65	2	[11]	G	F	F	G	VP	VP	P	SeCan
■ *SY087* *	CWGP	-2.6	80	65	3	[2]	G	F	P	G	G	F	G	Syngenta Canada Inc.
■ SY985	CPS-red	-1.2	86	65	2	[5]	G	P	VG	G	XX	F	F	Crop Production Services
■ *SY995* *	CPS-red	-0.2	77	63	2	[2]	G	P	VP	G	G	P	P	Syngenta Canada Inc.

* first year tested, very limited data available

VG = very good, G = good, F = fair, P = Poor, VP = very poor

XX = insufficient data

AC Andrew - check variety

■ Protected by Plant Breeders' Rights

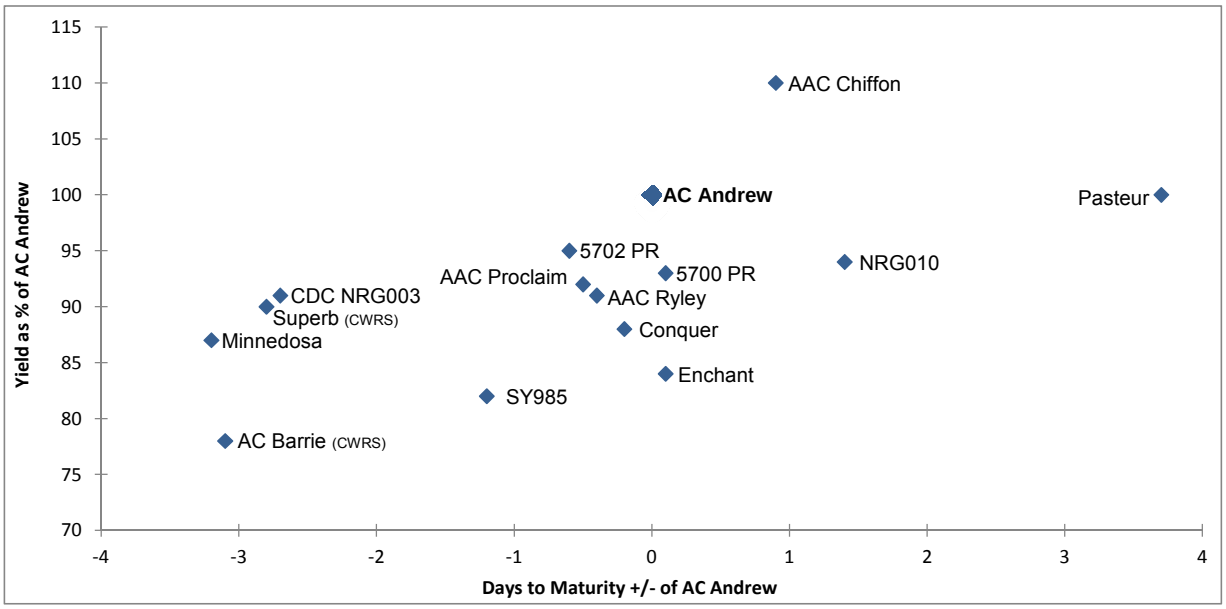
Overall average maturity for **AC Andrew** is **107** days.

Overall average protein for **AC Andrew** is **10.9 %**

Δ denotes materials not registered

Numbers in square brackets [ ] is number of station years collected for protein

CPS / CWSWS Wheat — Regional Variety Performance — 2009-2014



DURUM WHEAT

Durum is a type of wheat which is used to make pasta products (macaroni, spaghetti, etc.), and Canada has become a world leader in quality durum. Durum plant breeding within Canada is also moving toward even higher protein content and is developing a brand new category of high gluten strength durum for a specialty pasta market. However, durum requires a long growing season and high heat, two things the Peace River region has not traditionally been known for having. In the past, durum production has been concentrated in the southern parts of the Canadian prairies.

A few producers in northwestern Alberta have had success growing the crop and for this reason it has been tested in the B.C. Peace since 2009. Often surprises arise in our northern long-daylight region so it was worth investigating durum. Most currently available durum varieties are referenced within literature to be approximately 10 days later in maturity than CWRS wheat. This has not proven to be the case in the B.C. Peace except in 2011, which was a very wet & late year, however it does suggest there is a potential to be late maturing, but no worse than mid-maturity GP wheat. Therefore, durum should not be grown in large acres within the B.C. Peace River region for grain production until more is understood about its agronomics. Interest among grain buyers needs to develop as well which admittedly creates a vicious circle of acceptance by buyer and producer. Caution should be taken when attempting to grow durum in the B.C. Peace region, and *disclosure of this data is currently not a recommendation to grow durum in the Peace.*

It appears that the B.C. Peace River region has one really big advantage in growing durum, as traditionally we do not have to be concerned about Fusarium Headblight, specifically *Fusarium graminearum*. This disease is a major problem in most durum growing regions. 2013 proved to produce some evidence of fusarium species in some wheat due to an exceptionally wet and consistently wet year. Whether this was a fluke or the new norm is not known, but would be a concern for the growing of durum wheat anywhere. For interest sake then, durum data collected within the B.C. Peace region has been disclosed as it appears that durum could hold some economic promise to our region in years to come - assuming a local market develops. The test years 2009 and 2010 unfortunately were years of severe drought and poor yield potentials, but compared to other wheat yields over the same period of time at the same testing locations, durum was respectable in yield by comparison and even seemed to survive the drought better than other wheat types. 2011 and 2013 were very wet & late maturing years but did not change the crop's promising outlook as a new viable crop-type for our region. Noting however that if a normal killing frost would have occurred in either year it would have been bad news for anything later than a CWRS wheat.

Durum Wheat — Yield as % of Strongfield

Variety	Type	Dawson Creek 2014 Yield bu / acre	Dawson Creek 2014 Yield % of check	Dawson Creek 2009 - 2014 Avg. (%)	Dawson Creek 2009 - 2014 Stn. Yrs.	Fort St. John 2014 Yield bu / acre	Fort St. John 2014 Yield % of check	Fort St. John 2009 - 2014 Avg. (%)	Fort St. John 2009 - 2014 Stn. Yrs.	B.C. Peace 2014 Avg. (%)	B.C. Peace 2009 - 2014 Avg. (%)	B.C. Peace 2009 - 2014 Stn. Yrs.
AAC Cabri *	CWAD	72	101	101	[1]	33	102	102	[1]	102	102	[2]
AAC Current *	CWAD	69	96	96	[1]	36	114	114	[1]	105	105	[2]
AAC Marchwell	CWAD	72	98	96	[2]	35	108	107	[2]	103	101	[4]
AAC Raymore	CWAD	64	88	87	[2]	30	96	94	[2]	92	91	[4]
AAC Spitfire *	CWAD	73	97	97	[1]	41	130	130	[1]	114	114	[2]
CDC Carbide *	CWAD	75	104	103	[1]	36	117	117	[1]	111	110	[2]
CDC Desire	CWAD	68	94	97	[2]	37	118	111	[2]	106	104	[4]
CDC Fortitude	CWAD	68	94	98	[2]	38	121	115	[2]	108	106	[4]
CDC Vivid	CWAD	69	94	99	[3]	36	114	103	[3]	104	101	[6]
DT575 * Δ	CWAD	76	105	104	[2]	36	113	113	[2]	109	109	[4]
Enterprise	CWAD	80	112	108	[6]	34	110	104	[6]	111	106	[12]
Strongfield	CWAD	73	100	100	[6]	31	100	100	[6]	100	100	[12]

Strongfield - check variety

Δ denotes materials not registered

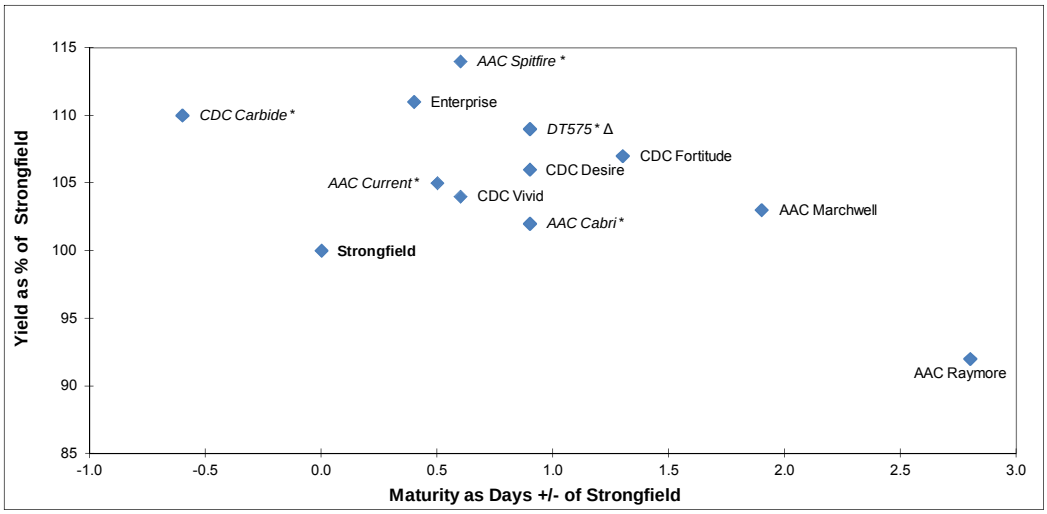
* first year tested, very limited data avaliable

AAC Marchwell is a wheat midge tolerant variety

AAC Raymore and **CDC Fortitude** are stem sawfly (solid stem) resistance varieties

Data above is composed of two trials per site. Coefficient of Variance (CV) values in 2014 for original raw yield were: DC = 3.45%, 8.74%; FSJ = 4.75%, 8.92%.

Durum Wheat — Regional Variety Performance 2014



Average maturity for **Strongfield** is **100 days** for **2014**

Durum Wheat — Variety Descriptions

Variety	Type	B.C. Peace Averages 2009 - 2014: Maturity in days +/- check	Height cm	Bushel Weight lbs/bu	Kernel Protein % +/- check	Alberta Agdex 100/32 Resistance to: Lodging	Sprouting	Loose Smut	Common Bunt	Stripe Rust	Leaf Spot	FHB	Distributor
AAC Cabri *	CWAD	0.9	83	63	0 [2]								AAFC Lacombe
■ *AAC Current* *	CWAD	0.5	80	64	0 [2]	F	F	P	G	G	F	P	Alliance Seed Corp.
■ AAC Marchwell	CWAD	1.4	89	63	0 [4]	F	F	G	VG	VG	P	P	SeCan
■ AAC Raymore	CWAD	0.8	88	63	1 [4]	F	F	P	G	G	F	VP	SeCan
AAC Spitfire *	CWAD	0.6	78	62	0 [2]								SeCan
■ *CDC Carbide* *	CWAD	-0.7	79	64	0 [2]								CPS Canada Inc.
■ CDC Desire	CWAD	0.2	87	64	0 [4]	F	G	P	VG	G	F	VP	Syngenta
■ CDC Fortitude	CWAD	1.2	88	64	0 [4]	G	F	P	VG	VG	P	P	CPS Canada Inc.
■ CDC Vivid	CWAD	1.1	84	63	0 [6]	G	F	F	VG	G	F	VP	Crop Production Serv.
DT575 * Δ	CWAD	0.9	84	63	0 [2]								U of S
■ Enterprise	CWAD	-0.5	81	64	-1 [12]	G	F	P	G	VG	F	P	Canterra Seeds
■ **Strongfield**	CWAD	0.0	78	64	0 [12]	F	F	VP	F	G	P	VP	SeCan

Strongfield - check variety

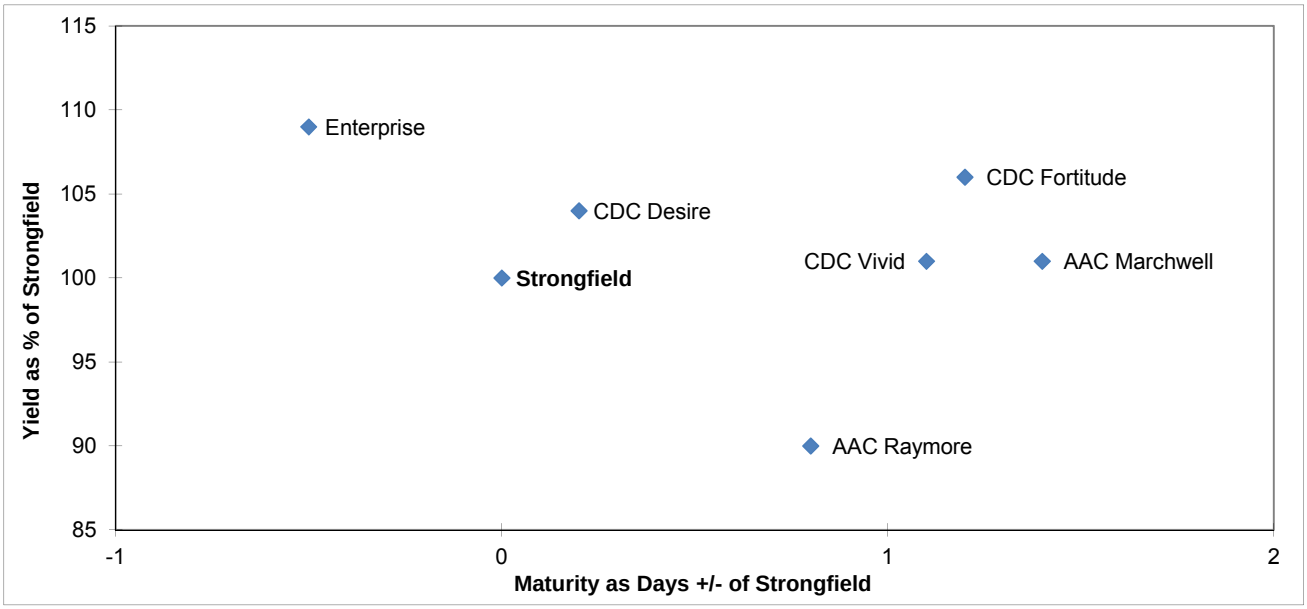
■ Protected by Plant Breeders' Rights

VG = very good, G = good, F = fair, P = poor, VP = very poor
XX = insufficient data
* first year tested, very limited data available
Δ denotes materials not registered
Numbers in square brackets [ ] is number of station years collected for protein

AAC Marchwell is a wheat midge tolerant variety
AAC Raymore, **CDC Fortitude** are stem sawfly (solid stem) resistance varieties

Overall average maturity for **Strongfield** is **107** days
Overall average protein for **Strongfield** is **14.5** %

Durum Wheat — Regional Variety Performance — 2009-2014



Barley

Six Row Barley

Yield as % of AC Metcalfe

Variety	Type	Dawson Creek 2014 Yield bus / acre	Dawson Creek 2014 Yield % of check	Dawson Creek 2009-2014 Avg. (%)	Dawson Creek 2009-2014 Stn. Yrs.	Fort St. John 2014 Yield bus / acre	Fort St. John 2014 Yield % of check	Fort St. John 2009-2014 Avg. (%)	Fort St. John 2009-2014 Stn. Yrs.	B.C. Peace 2014 Avg. (%)	B.C. Peace 2009-2014 Avg. (%)	B.C. Peace 2009-2014 Stn. Yrs.
AC Lacombe	Feed	96	103	107	[6]	72	102	107	[6]	103	107	[12]
AC Metcalfe	Malt	88	100	100	[12]	103	100	100	[12]	100	100	[24]
Amisk **	Feed	92	94	102	[2]	73	101	107	[2]	98	105	[4]
Breton ***	Feed	96	105	108	[3]	78	111	109	[3]	108	108	[6]
BT596 * Δ	Feed	96	104	104	[1]	75	112	112	[1]	108	108	[2]
CDC Anderson	Malt	83	92	100	[4]	66	95	103	[4]	94	101	[8]
CDC Mayfair	Malt	80	86	98	[6]	64	91	99	[6]	89	98	[12]
Celebration	Malt	83	91	100	[5]	65	91	98	[5]	91	99	[10]
Chigwell	Feed	87	98	103	[4]	67	98	105	[4]	98	104	[8]
Muskwa ***	Feed	87	96	110	[4]	67	99	107	[4]	98	108	[8]
Vivar **	Feed	93	102	110	[6]	65	94	109	[6]	98	110	[12]

Two Row Barley

Yield as % of AC Metcalfe

Variety	Type	Dawson Creek 2014 Yield bus / acre	Dawson Creek 2014 Yield % of check	Dawson Creek 2009-2014 Avg. (%)	Dawson Creek 2009-2014 Stn. Yrs.	Fort St. John 2014 Yield bus / acre	Fort St. John 2014 Yield % of check	Fort St. John 2009-2014 Avg. (%)	Fort St. John 2009-2014 Stn. Yrs.	B.C. Peace 2014 Avg. (%)	B.C. Peace 2009-2014 Avg. (%)	B.C. Peace 2009-2014 Stn. Yrs.
AAC Synergy	Malt	105	115	103	[3]	90	105	101	[3]	110	102	[6]
ABI Voyager Δ	Malt	103	114	102	[2]	87	101	95	[2]	108	99	[4]
AC Metcalfe	Malt	89	100	100	[12]	85	100	100	[12]	100	100	[24]
Bentley	Malt	95	105	102	[6]	91	106	101	[6]	106	101	[12]
Brahma	Feed	105	119	108	[2]	85	99	99	[2]	109	104	[4]
Canmore	Feed	99	113	103	[2]	96	113	107	[2]	113	105	[4]
CDC Kindersley	Malt	91	104	99	[4]	91	109	101	[4]	107	100	[8]
Cerveza	Malt	103	114	107	[5]	97	113	105	[5]	114	106	[10]
Champion	Feed	108	120	124	[6]	94	110	107	[6]	115	115	[12]
HB623 * ¶	Food	73	94	94	[1]	63	87	87	[1]	90	90	[2]
Major	Malt	105	117	101	[6]	92	107	101	[6]	112	101	[12]
Merit 57	Malt	110	123	116	[5]	100	117	109	[5]	120	113	[10]
TR07921 * Δ	Malt	100	110	110	[1]	89	103	103	[1]	106	106	[2]
TR10214	Malt	111	123	108	[2]	93	109	101	[2]	116	105	[4]
TR11127 * Δ	Malt	87	95	95	[1]	77	93	93	[1]	94	94	[2]
TR12733 * Δ	Feed	105	115	115	[1]	92	107	106	[1]	111	111	[2]
TR12735 * Δ	Feed	113	130	129	[1]	95	113	113	[1]	122	121	[2]
Xena	Feed	104	115	109	[6]	83	97	100	[6]	106	104	[12]

Data above is composed of two trials per site. Coefficient of Variance (CV) values in 2014 for original raw yield data is: 2-row barley DC = 4.8%, 3.9%; FSJ = 3.99%, 6.02%; 6-row barley DC = 6.45%, 3.03%; FSJ = 5.53%, 6.27%.

AC Metcalfe - check variety for 2 row
AC Metcalfe - check variety for 6 row

* first year tested, very limited data available
** semi-dwarf type
*** smooth-awned type
¶ denotes hulless seed types (bu/ac adjusted for hulless)
Δ denotes materials not registered, very limited data available

Feed Barley — Variety Descriptions

Variety	Type	B.C. Peace Averages 2009-2014: Days to Maturity +/- check	Height cm	Bushel Weight lbs/bu	Kernel Protein % +/- check	Alberta Agdex 100/32 info: Resistance to: Lodging	Loose Smut	False Smut	Root Rot	Scald	FHB	Distributor
Eligible for General Purpose Grades Only												
■ AC Lacombe	6 row	-0.4	84	51	-1 [12]	G	P	G	P	P	VP	SeCan
■ Brahma	2 row	-0.1	80	55	0 [4]	G	P	VG	G	VP	F	Crop Production Services
■ Breton ***	6 row	-1.2	85	51	-1 [6]	F	P	G	F	F	VP	Canterra Seeds
BT596 * Δ	6 row	-1.2	68	54	0 [2]							AAFRD:Lacombe
■ Canmore	2 row	0.5	85	56	-1 [4]							Canterra Seeds
■ Champion	2 row	2.4	79	56	-1 [12]	G	VP	VG	XX	VP	F	Crop Production Services
■ Chigwell	6 row	1.4	80	53	0 [8]							SeCan
■ Muskwa ***	6 row	0.1	81	53	-1 [8]	G	P	VG	P	G	VP	SeedNet
TR12733 * Δ	2 row	1.0	74	55	-1 [2]							Crop Production Sevices
TR12735 * Δ	2 row	1.0	66	57	-1 [2]							Crop Production Sevices
■ Xena	2 row	0.1	78	55	0 [12]	G	P	P	G	VP	G	Crop Production Sevices
Semi-dwarf varieties												
■ Amisk **	6 row	0.4	75	50	0 [4]							SeCan
■ Vivar **	6 row	-0.3	75	53	-1 [12]	VG	F	VG	G	F	VP	SeCan
Food and general purpose variety,hulless												
■ *HB623* * ¶	2 row	-0.3	84	65	0 [2]	VG	VP	F	F	F	F	AAFRD:Lacombe

Malt Barley — Variety Descriptions

Variety	Type	B.C. Peace Averages 2009-2014: Days to Maturity +/- check	Height cm	Bushel Weight lbs/bu	Kernel Protein % +/- check	Alberta Agdex 100/32 info: Resistance to: Lodging	Loose Smut	False Smut	Root Rot	Scald	FHB	Distributor
■ AAC Synergy	2 row	0.5	79	54	-1 [6]	F	VP	F	F	VP	P	Syngenta
■ ABI Voyager Δ	2 row	0.7	83	55	0 [4]							Busch Agric. Resources Inc.
■ **AC Metcalfe**	2 row	0	79	55	0 [24]	F	VG	F	F	VP	F	SeCan
■ Bentley	2 row	-0.3	81	54	0 [12]	G	P	G	G	VP	P	Canterra Seeds
■ CDC Anderson	6 row	-0.5	89	53	0 [8]	G	G	VG	F	P	F	SeCan
■ CDC Kindersley	2 row	-2.5	86	56	0 [8]	G	VP	VG	F	VP	F	SeCan
■ CDC Mayfair	6 row	-3.0	79	52	0 [12]	G	S	G	F	VP	P	Canterra Seeds
■ Celebration	6 row	-4.2	85	53	1 [10]	VG	VG	VG	P	VP	P	Canterra Seeds
■ Cerveza	2 row	-0.9	79	54	0 [10]	F	VG	VG	F	VP	F	Mastin Seeds
■ Major	2 row	-1.4	76	54	0 [12]	G	VG	G	F	P	F	Crop Production Services
■ Merit 57	2 row	2.4	82	55	-1 [10]	F	P	VP	F	P	G	Canterra Seeds
TR07921 * Δ	2 row	0.1	84	55	-1 [2]							U of S
TR10214	2 row	0.9	86	54	0 [4]							U of S
TR11127 * Δ	2 row	-0.2	76	56	-1 [2]							SeCan

VG= very good, G = good, F = fair, P = poor, VP = very poor

¶ denotes hulless seed types

XX = insufficient data

■ Protected by Plant Breeders' Rights

Overall average maturity for **AC Metcalfe** is **94** days

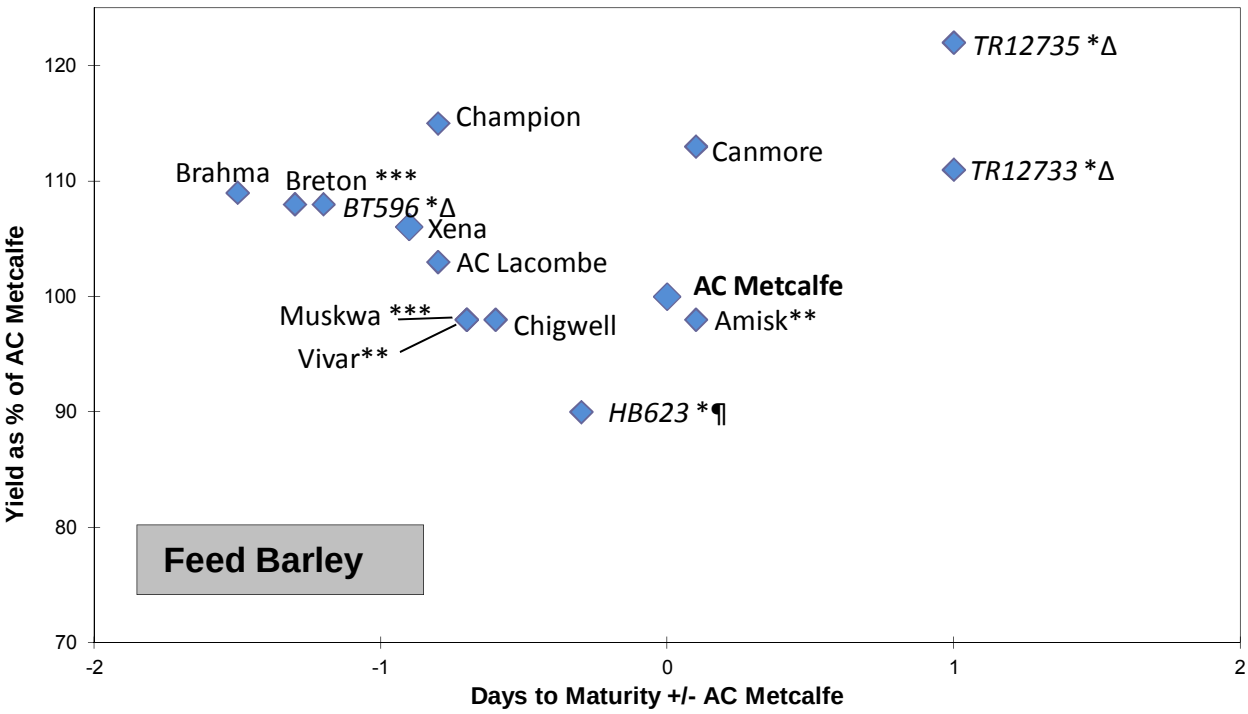
Δ denotes materials not registered

Overall average protein for **AC Metcalfe** is **13%**

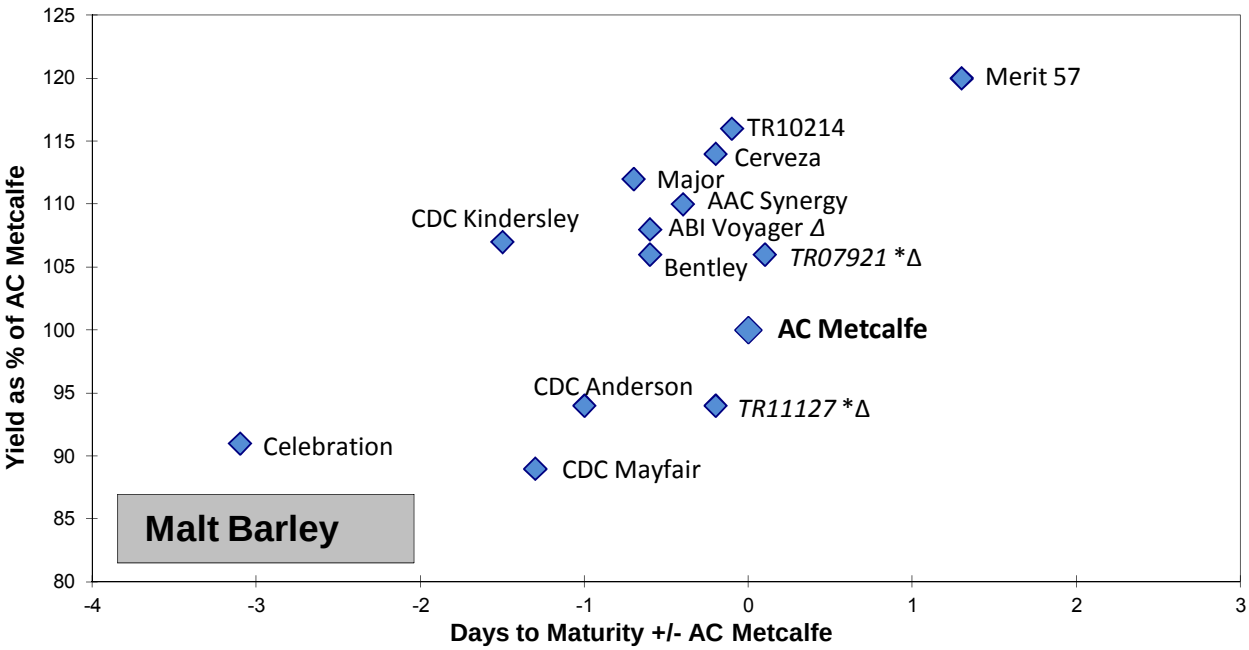
Numbers in square brackets [ ] is number of station years collected for protein

AC Metcalfe - check variety

* first year tested, very limited data available ** semi-dwarf type *** smooth-awned type



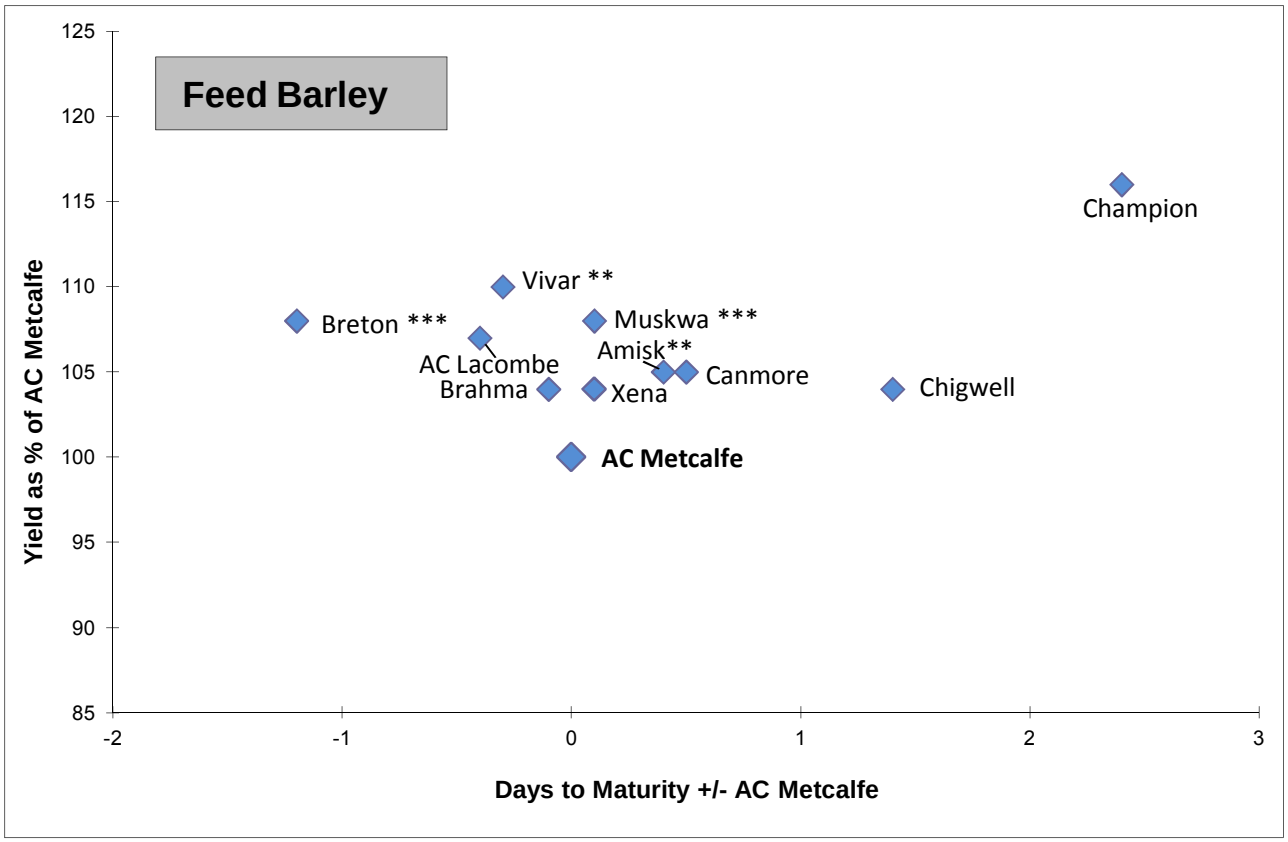
Average maturity for **AC Metcalfe** is **91** days for **2014**



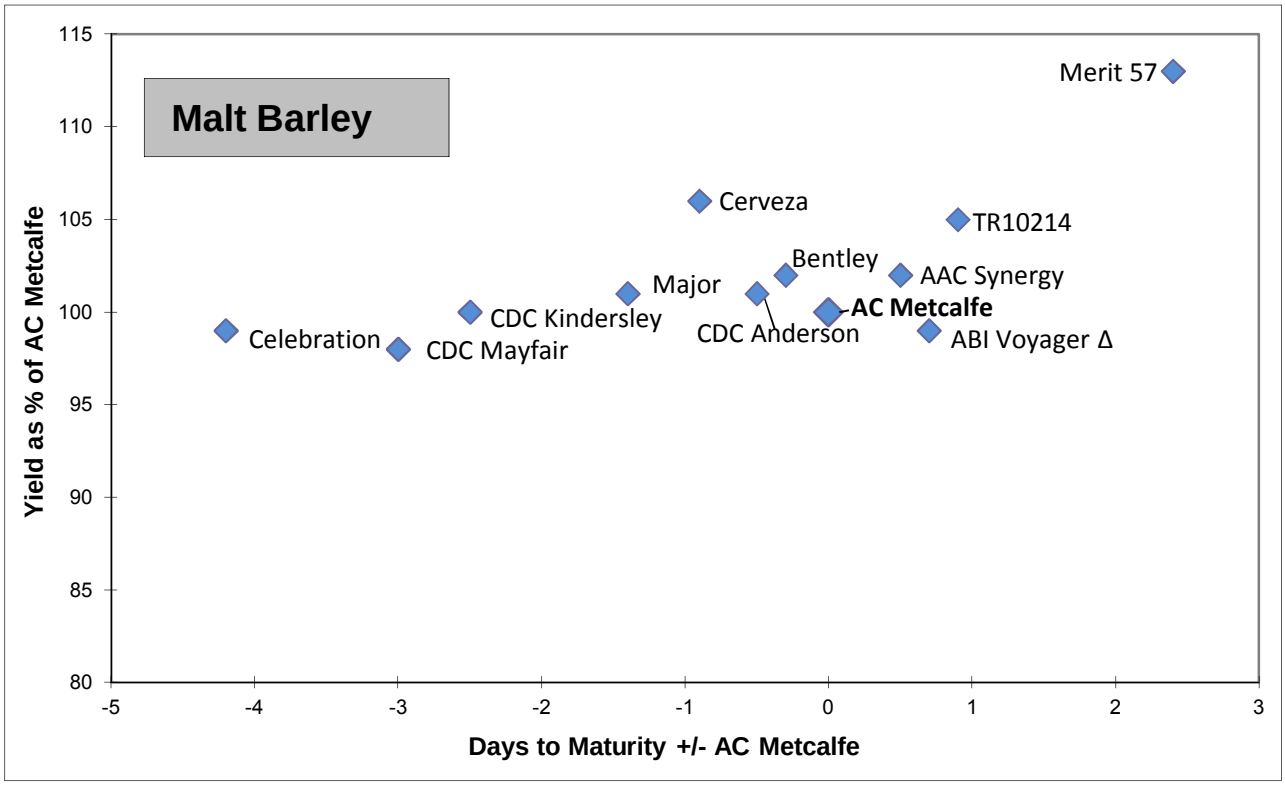
Average maturity for **AC Metcalfe** is **91** days for **2014**

* first year tested materials
** semi-dwarf type
*** smooth-awned type

Δ denotes materials not registered
¶ denotes hulless seed types



Overall average maturity for **AC Metcalfe** is **94** days (both graphs)



** semi-dwarf type
*** smooth-awned type

Δ denotes materials not registered
¶ denotes hulless seed types

OAT

Oat is usually a feed crop but some varieties are also suitable for higher value feed and food markets. The milling industry prefers higher protein varieties with plump kernels and lower hull content, while the horse industry prefers white hulled varieties. Hulless oat varieties have excellent feed and food value but need to be stored drier than normal varieties (<12% moisture) and do not flow as well in the bin due to their pubescence (hairs) which seem to "lock together". The exception to this "hairy-hulless" issue are "low pubescence" varieties like *AC Gehl*, tested in 2011-2013, which are lines aimed at finding a replacement for rice actually, hence its marketing slogan "Prairie Rice"®. A potential contracted market in the Peace River area is a real possibility if agronomics work out for other "hairless hulless" oat lines but in both 2012 and 2013 wet soils expressed poor vigor of the germinating seed due to our cool clay soils. No "hairless hulless" oat lines were tested in 2014. More vigorous "hairless hulless" lines are being sought that can handle our soils and spring conditions. Wet and cool soils during emergence are more the norm in the Peace River region which "hairless hulless" lines do not like as a general observation. Yield values for all hulless oat varieties are expressed after hull removal, which reduces the seed weight by 20-25% compared to the normal hulled oat varieties. Keep this ratio in mind while comparing hulless to hulled when such data is present.

Oat — Yield as % of CDC Dancer

Variety	Colour	Dawson Creek 2014 Yield bu / acre	Dawson Creek 2014 Yield % of check	Dawson Creek 2009-2014 Avg. (%)	Dawson Creek 2009-2014 Stn. Yrs.	Fort St. John 2014 Yield bu / acre	Fort St. John 2014 Yield % of check	Fort St. John 2009-2014 Avg. (%)	Fort St. John 2009-2014 Stn. Yrs.	B.C. Peace 2014 Avg. (%)	B.C. Peace 2009-2014 Avg. (%)	B.C. Peace 2009-2014 Stn. Yrs.
AAC Justice	Yellow	113	103	99	[2]	95	103	110	[2]	103	104	[4]
AC Mustang	White	121	113	108	[6]	102	116	114	[6]	114	111	[12]
Bia *	White	121	105	105	[1]	104	113	113	[1]	109	109	[2]
Cascade	Yellow	117	105	99	[2]	93	102	97	[2]	103	98	[4]
CDC Big Brown	Brown	121	110	99	[5]	97	111	107	[5]	110	103	[10]
CDC Dancer	White	110	100	100	[6]	89	100	100	[6]	100	100	[12]
CDC Haymaker	Yellow	129	108	97	[2]	109	106	109	[2]	107	103	[4]
CDC Ruffian	White	128	115	97	[3]	108	119	104	[3]	117	101	[6]
CDC Seabiscuit	Yellow	130	112	97	[4]	109	110	107	[4]	111	102	[8]
CS Camden *	White	123	108	108	[1]	104	110	110	[1]	109	109	[2]
Lu	Yellow	107	96	95	[6]	93	101	103	[6]	99	99	[12]
Nice *	White	119	105	105	[1]	100	108	108	[1]	106	106	[2]
OT3066 * Δ	White	119	104	104	[1]	101	105	105	[1]	104	104	[2]
Souris	Yellow	119	106	96	[3]	89	98	102	[3]	102	99	[6]
Triactor	White	141	120	109	[6]	119	122	114	[6]	121	111	[12]

Data above is composed of two trials per site. Coefficient of Variance (CV) values in 2014 for original raw yield data is: DC = 5.79%, 5.19%; FSJ = 4.68%, 4.61%.

* first year tested, very limited data available

Δ denotes materials not registered

CDC Dancer - check variety

Health Benefits Of Oat

Oat is mainly used for livestock feed especially horses and cows and only a small percentage of oat has been traditionally used for human consumption. However, oat are a great source of fibre which consists of more than half as soluble fibres. Oat is high in protein and mineral contents included calcium, iron, magnesium, zinc, copper, manganese, thiamin, folacin and vitamin E. They are higher in these components than any other whole grain, such as wheat, barley, corn or rice. Rich in Vitamin B1 they can help maintain carbohydrate metabolism. Many scientific researchers have proven that eating oatmeal, oat bran and whole oat products improves both blood pressure and cholesterol levels and furthermore, it also reduces the risk of heart disease, cancer and diabetes. Thus, oat is a significant contributor to the good health of not only livestock but also to good human health as well.

Oat — Variety Descriptions

Variety	Type	BC Peace Averages 2009 - 2014: Maturity as days +/- check	Height cm	Bushel Weight lbs/bu	Alberta Agdex 100/32 info Tolerance to: Lodging	Smuts	Distributor
■ AAC Justice	Milling	1.9	100	43	G	VG	FP Genetics
■ AC Mustang	Feed/Forage	3.5	97	43	G	F	Mastin Seeds
■ *Bia* *	Feed	0.2	78	39			SW Seed Ltd.
Cascade	Feed	1.3	80	40			SeCan
■ CDC Big Brown	Milling	3.0	91	43	G	VG	SeCan
■ **CDC Dancer**	Milling	0.0	91	42	G	VG	FP Genetics
■ CDC Haymaker	Forage	2.3	106	39	F	G	SeCan Association
■ CDC Ruffian	Milling	5.1	85	41	G	VG	FP Genetics
■ CDC Seabiscuit	Milling	6.0	95	41	G	G	Canterra Seeds
■ *CS Camden* *	Milling	-0.6	72	39			Canterra Seeds
Lu	Feed	-1.8	87	41	G	VG	SeCan
■ *Nice* *	Milling	-0.7	82	40			La Coop fédérée
OT3066 * Δ	Milling	-1.0	81	39			U of S
■ Souris	Milling	1.7	83	41	VG	VG	Seed Depot
■ Triactor	Milling	3.1	87	39	G	VG	Canterra Seeds

CDC Dancer - check variety

■ Protected by Plant Breeders' Rights

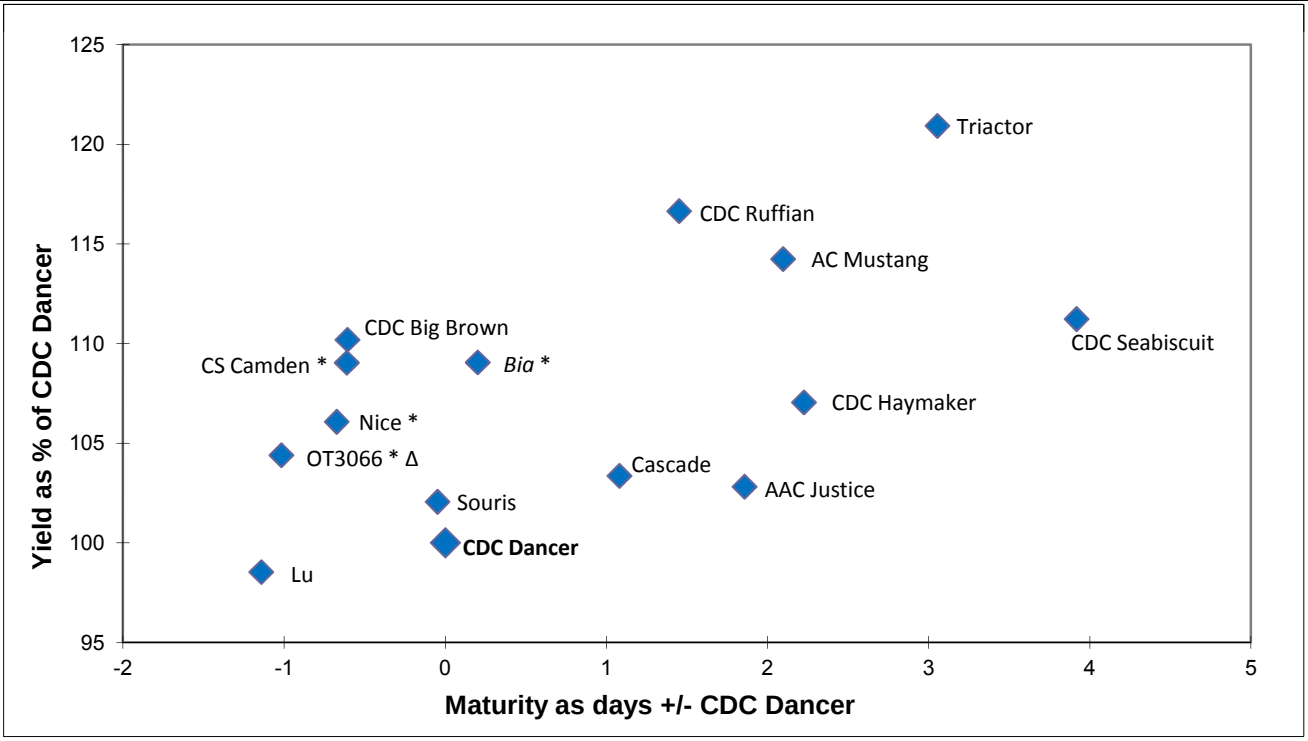
VG = very good, G = good, F = fair, P = poor, VP = very poor

XX = insufficient data

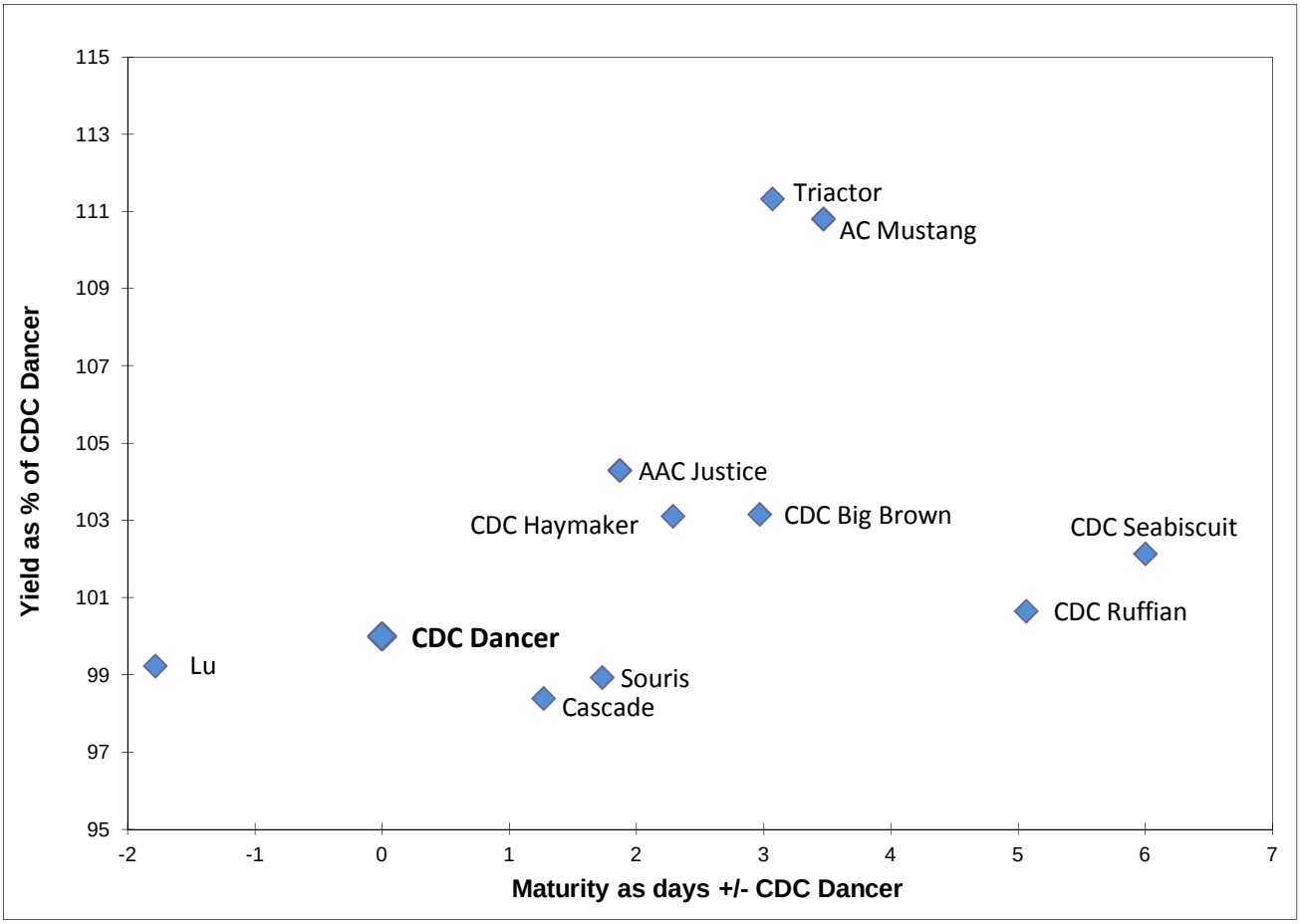
* first year tested, very limited data available

Δ denotes materials not registered

Oat — Regional Variety Performance 2014



Average maturity for **CDC Dancer** is **86** days in **2014**



Overall average maturity for **CDC Dancer** is **94** days in 2014

Oat for Feed

Oat is often sown to provide fodder in the form of silage or greenfeed. Oat will yield more silage or greenfeed per unit area than any other cereal crop. If managed properly, it can provide 3-4.5 tons of dry matter per acre, or more, of high quality feed containing up to 10 percent protein[1]. Many years of comparing yields of oat with barley have shown oat to be superior in the Black and Grey Wooded soil zones[1]. Although the percent protein level in barley is higher than in oat, the total amount of protein produced on a given area is higher with oat than with barley[1]. Oat has about 22-26 percent hull whereas barley averages about 12-14 per cent hull on a weight basis[1]. When choosing a variety, the seed yield as well as the forage yield should be considered, thereby keeping one's options open to harvest as forage or grain[1]. We do not currently evaluate oat varieties for forage yield in these tests.

Forage Oat

It is believed by some producers that one variety might be better than another because it appears "leafier"; however, tests on a number of varieties have shown very little variation in leafiness[2]. Having said that however, such work has not likely included the newer lines of forage oat that are entering the market place now. These new "forage only" lines, such as *CDC Baler* and *Murphy*, have usually been much larger plants in our tests than their traditional counterparts developed for seed quality. This should translate to more biomass being made available for forage production. Note however, that traditionally our oat tests do not lodge and so it is unclear as to whether larger plants are going to be a concern for early lodging in a large-scale forage production practice in our area[3].

Other Comments

On heavier soils and in the more moist areas, lodging resistance should be considered, but again, traditionally lodging has not been a concern in our B.C. Peace oat trials[3]. The variation in straw feed quality between oat varieties is insignificant and should not be used as a variety selection criterion[3]. The average feed values are: protein 4%, fibre 49%, calcium 0.27%, and phosphorus 0.08%[4].

Source[1,2,4]: Alberta Agriculture, Food, and Rural Development website www.agric.gov.ab.ca
Source[3]: Alberta Agdex 100/32

SPRING TRITICALE

Note: no new triticale varieties were available for testing in 2014. Triticale data displayed below is from 2013 summaries.

Triticale is a genetic cross (not a hybrid) developed by crossing wheat (*Triticum turgidum* or *Triticum aestivum*) with rye (*Secale cereal*). Most varieties of spring triticale currently available are approximately 10 days or more later maturing than CWRS wheat, and as such they should not be grown in the B.C. Peace River region for grain production. However, a few varieties are proving to be earlier than traditional spring triticale varieties, and perhaps as breeding continues earlier lines may come along that can be grown here for grain with a consistent and early enough maturity. Their high grain yields are "attention grabbers", so it has been worth watching their development. Triticale seems to hold a lot of potential for ethanol production in the Peace River region if breeding efforts could produce earlier maturing lines. Drought tolerance is the primary advantage that spring triticales have over other spring cereal crops. Spring triticales are also a valuable alternative or compliment to barley and oat as forage feed. Current triticale lines do tend to have low resistance to Ergot, likely due to late maturity, but must be overcome if triticale is to be used for feed. This may become less of a concern as earlier lines are bred. Triticale's potential use as a "high volume ethanol feedstock" to our region, thus offering a new cropping choice, is the reason data is included in this report.

Spring Triticale — Yield as % of AC Ultima

Variety	Dawson Creek 2013 Yield bu / acre		Dawson Creek 2013 Yield % of check	Dawson Creek 2008-2013 Avg. (%)	Dawson Creek 2008-2013 Stn. Yrs.	Fort St. John 2013 Yield bu / acre		Fort St. John 2013 Yield % of check	Fort St. John 2008-2013 Avg. (%)	Fort St. John 2008-2013 Stn. Yrs.	B.C. Peace 2013 Avg. (%)	B.C. Peace 2008-2013 Avg. (%)	B.C. Peace 2008-2013 Stn. Yrs.
AC Ultima	154	c	100	100	[6]	164	c	100	100	[6]	100	100	[12]
Brevis	172	a	112	110	[3]	181	a	110	108	[3]	111	109	[6]
Bumper	159	b	103	105	[5]	173	b	106	104	[5]	104	105	[10]
Sunray	152	c	98	102	[4]	161	c	98	106	[4]	98	104	[8]
Taza	153	c	99	103	[4]	162	c	99	100	[4]	99	102	[8]
LSD (P=.05) =	4.83					6.40							
CV value (%) =	1.99					2.47							

Means followed by the same letter do not significantly differ (P=.05, LSD)

* first year tested, very limited data available

Δ denotes materials not registered

AC Ultima - check variety

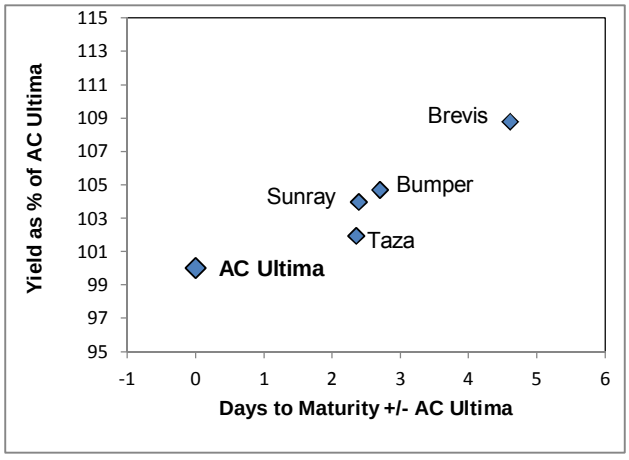
■ Protected by Plant Breeders' Rights

VG= very good, G = good, F = fair, P = poor, VP = very poor, XX = insufficient data

Spring Triticale — Variety Descriptions

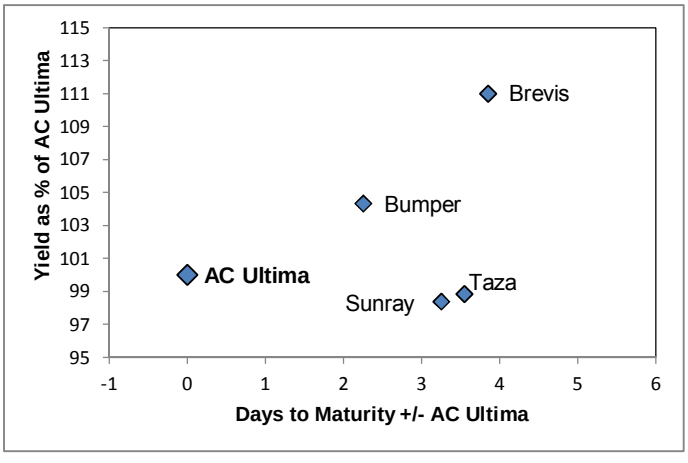
Variety	BC Peace Averages 2008-2013 Maturity as days +/- check	Height (cm)	Bushel Weight (lbs/bus)	TKW (g / 1000)	Alberta Agdex 100/32 Resistance to: Lodging	Shatter	Sprouting	Stripe Rust	Common Bunt	FHB	Ergot	Distributor
AC Ultima	0.0	92	58	44	G	G	F	G	VG	F	P	FP Genetics
Brevis	4.6	99	61	45	G	G	F	G	VG	P	P	Wagon Wheel Seed Corp.
■ Bumper	2.7	88	60	45	VG	G	F	G	VG	P	XX	SeCan
Sunray	2.4	95	58	44	VG	G	F	G	VG	P	G	SeedNet
■ Taza	2.4	104	58	46	G	G	F	G	VG	VP	F	Solick Seeds

Regional Variety Performance 2008-2013



Overall average maturity for **AC Ultima** is **107** days

Regional Variety Performance 2013

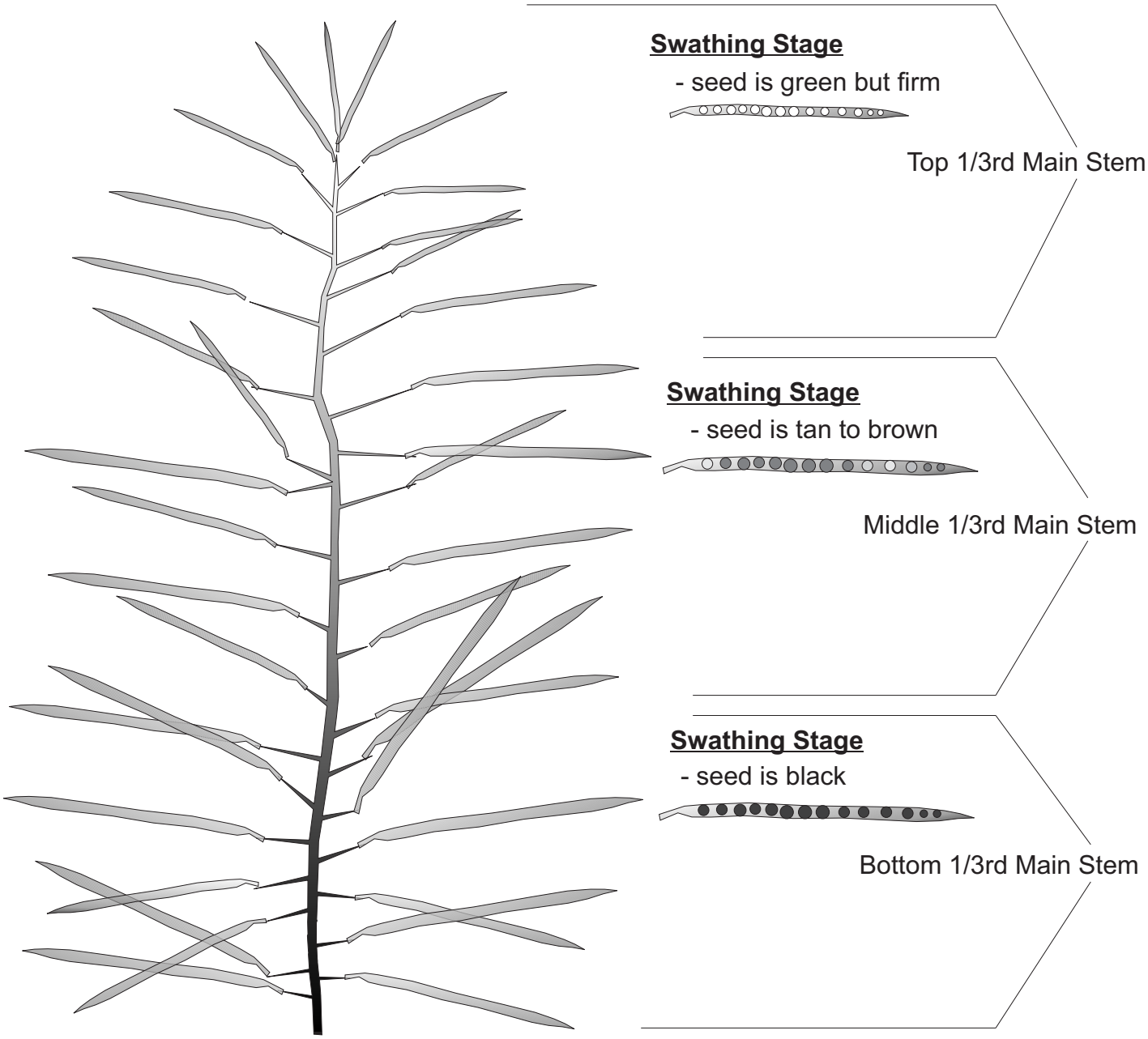


Average maturity for **AC Ultima** is **120** days for **2013**

Definition of Canola Maturity Used In This Report

Please check with the *Canola Council of Canada* for complete definition of “swathing maturity”. It is this “ready for swathing” time period that is used here to describe “maturity”.

It is very important to split pods and check the seed inside as outer pod colour does not reflect the true maturity of the plant. Often the outer pod colour can still be green while seed inside has turned to black. Other times the pod colour could be pale yellow while green seed is within. One field inspection is not enough, one must visit a particular field several times to catch a progression in maturity so as not to miss the safe swathing period. Cool wet weather periods can slow or even temporarily halt the progression of maturity, especially prior to swathing. Several portions of the same field per variety must be checked as well because often minor field variations can change maturity across a given field.

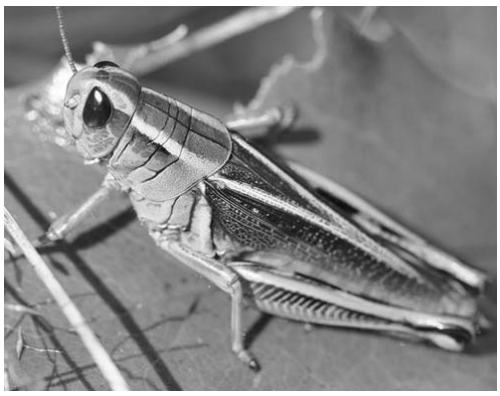


2014 Crop Pest Status in the BC Peace Region

BRITISH COLUMBIA | Ministry of Agriculture

Grasshoppers of 2014…

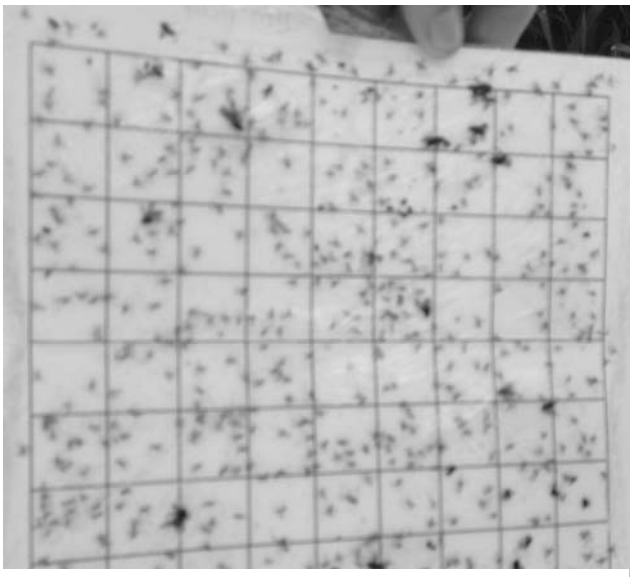
2014 saw a phenomenal population of grasshoppers that impacted both cereal and broadleaf crops significantly. This forced our producers to brush up on their insect knowledge. Some key learning points for everyone included:



1. Species identification: Which species is it? The *two striped* (on the top right photo) moves in from the edges of fields and allows for different options like a localized insecticide treatment. It is often more of an issue for canola than other species of grasshopper are for canola. Or is it a species like the *migratory grasshopper* (right bottom photo) which tends to utilize the whole field for a habitat. Then again it could be the *slant-faced* grasshopper which does not normally create a concern for producers as it does not normally cause a significant crop loss.

2. Timing for checking and spraying of pests: For grasshopper, producers need to be out in their fields in early June looking for threshold numbers of at least 10-15/m^2 - if you can get them to stand still☺. Spray them at *early nymph stage* (mid June), as by the time they reach the 3-5 instars (visible veined wing-buds to expanding wing development stages - when they are doing the most damage) insecticide control is almost impossible.

Wheat Midge: This year wheat midge specimens were collected on some pheromone traps in the Bonanza area. Producers did not see high enough levels to merit treatment this year but they need to keep an eye out in 2015, especially on fields that will be in their second consecutive year of wheat. The *B.C. Peace River Pest Monitoring Program* ran by Arlan Benn will continue to monitor this situation and keep producers up to speed for the 2015 growing season.



Above is a picture of a pheromone trap from Falher, AB that indicates high level presence of Wheat Midge. The Bonanza location had 7 midges on the whole trap over 4 days. The midge are the smaller dots (insects) on the trap.

It is worth knowing the pest players and risks. Further information is available from agriculture service suppliers (id. booklets), and on websites such as Canola Council's "**canola watch**" http://www.canolawatch.org/#sign-up-inner.

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julie.p.robinson@gov.bc.ca

Argentine Canola

Yield as % of 5525CL

Variety	Type	Dawson Creek 2014 % of check	Dawson Creek 2009-2014 Avg. (%)	Dawson Creek 2009-2014 Stn. Yrs.	Fort St. John 2014 % of check	Fort St. John 2009-2014 Avg. (%)	Fort St. John 2009-2014 Stn. Yrs.	B.C. Peace 2014 % of check	B.C. Peace 2009-2014 Avg. (%)	B.C. Peace 2009-2014 Stn. Yrs.
1918	Roundup Ready®	95	93	[3]	90	95	[3]	93	94	[6]
1990	Roundup Ready®	100	102	[2]	97	108	[2]	99	105	[4]
43E02	Roundup Ready®	90	94	[3]	70	90	[3]	80	92	[6]
5440	LibertyLink®	111	114	[6]	110	112	[6]	110	113	[12]
*43E03 **	Roundup Ready®	96	96	[1]	94	94	[1]	95	95	[2]
45H21	Roundup Ready®	99	98	[5]	90	101	[5]	95	100	[10]
45H29 ***	Roundup Ready®	102	110	[6]	96	110	[6]	99	110	[12]
45H31	Roundup Ready®	102	103	[4]	97	111	[4]	99	107	[8]
*45H33 **	Roundup Ready®	105	105	[1]	94	94	[1]	99	99	[2]
45S52 ****	Roundup Ready®	96	102	[4]	79	106	[4]	88	104	[8]
*45S56 **, ****	Roundup Ready®	98	98	[1]	93	93	[1]	96	96	[2]
5525 CL	Clearfield®	100	100	[5]	100	100	[5]	100	100	[10]
5535 CL	Clearfield®	96	99	[4]	106	106	[4]	101	102	[8]
*6044 RR **	Roundup Ready®	104	104	[1]	98	98	[1]	101	101	[2]
6050 RR	Roundup Ready®	114	112	[3]	102	107	[3]	108	109	[6]
*73-15 RR **	Roundup Ready®	105	105	[1]	90	90	[1]	97	97	[2]
73-45 RR	Roundup Ready®	120	115	[2]	95	105	[2]	107	110	[4]
74-44 BL	Roundup Ready®	111	114	[2]	103	109	[2]	107	111	[4]
74-54 RR ***	Roundup Ready®	103	109	[2]	107	107	[2]	105	108	[4]
Café	Roundup Ready®	94	85	[4]	66	81	[4]	80	83	[8]
*CS2000 * Δ*	Roundup Ready®	106	106	[1]	103	103	[1]	104	104	[2]
Fusion	Roundup Ready®	92	95	[4]	92	102	[4]	92	99	[8]
L120	LibertyLink®	109	111	[3]	102	111	[3]	105	111	[6]
L130	LibertyLink®	115	117	[4]	109	112	[4]	112	114	[8]
*L140P **	LibertyLink®	112	112	[1]	103	103	[1]	108	108	[2]
*L252 **	LibertyLink®	118	118	[1]	126	126	[1]	122	122	[2]
*PV 530G **	Roundup Ready®	111	111	[1]	109	109	[1]	110	110	[2]
*PV 531 G **	Roundup Ready®	105	105	[1]	91	91	[1]	98	98	[2]
Rugby	Roundup Ready®	86	89	[4]	64	85	[4]	75	87	[8]
VR 9350 G	Roundup Ready®	93	93	[3]	76	94	[3]	85	94	[6]
VR 9559 G	Roundup Ready®	108	109	[2]	84	99	[2]	96	104	[4]
VT 500G	Roundup Ready®	99	98	[3]	96	104	[3]	97	101	[6]

5525 CL - check variety

* caution, first year tested and/or very limited data available
Δ = not currently registered
** specialty oil
*** Club-root Resistance, **** Sclerotinia Resistance

Note: "System Varieties" (Clearfield®, Roundup Ready®, or LibertyLink®) are grown together with all other napus varieties. Data is compiled from two or three separate napus trials (depending on the year) per site per year with a common check, and as such, conventional herbicides are used for weed control. (See page 6 for herbicides used). However, by combining trials to produce the chart above, it is improper to disclose any LSD values from the newly combined set of yield results per site. This is simply because the individual trials were first analyzed as separate trials per site.

Coefficient of Variance (CV) values of the napus trials for original raw yield data in 2014 is as follows:
DC = 10.39%, 8.86%; FSJ = 7.72%, 8.87% respectively.

Argentine Canola

	Variety	Type	Herbicide Tolerance	B.C. Peace Avg. Days to Swathing[1] as +/- check 2014	B.C. Peace Avg. Days to Swathing[1] as +/- check 2009-2014	Blackleg Rating (Data from Canola Council of Canada)	Distributor
■	1918	OP	Roundup Ready®	0.0	-0.5	MR	Canterra Seeds
	1990	HYB	Roundup Ready®	-0.9	-1.0	R	Canterra Seeds
	43E02	HYB	Roundup Ready®	-0.1	-4.0	MR	Pioneer Hi-Bred
	5440	HYB	LibertyLink®	-1.7	-1.8	R	Bayer CropScience
	43E03 *	HYB	Roundup Ready®	-1.5	-1.5	MR	Pioneer Hi-Bred
	45H21	HYB	Roundup Ready®	-0.8	-2.2	MR	Pioneer Hi-Bred
	45H29 ***	HYB	Roundup Ready®	-1.3	-2.0	R	Pioneer Hi-Bred
	45H31	HYB	Roundup Ready®	-1.0	-0.6	R	Pioneer Hi-Bred
	45H33 *	HYB	Roundup Ready®	-2.0	-2.0	R	Pioneer Hi-Bred
	45S52 ****	HYB	Roundup Ready®	-0.9	-1.3	MR	Pioneer Hi-Bred
	45S56 *, ****	HYB	Roundup Ready®	-4.9	-4.9	MR	Pioneer Hi-Bred
	5525 CL	HYB	Clearfield®	0.0	0.0	R	Brett Young Seeds Ltd.
	5535 CL	HYB	Clearfield®	-0.8	-1.1	R	Brett Young Seeds Ltd.
	6044 RR *	HYB	Roundup Ready®	-0.3	-0.3	R	Brett Young Seeds Ltd.
	6050 RR	HYB	Roundup Ready®	-1.2	-1.2	R	Brett-Young Seeds Ltd.
	73-15 RR *	HYB	Roundup Ready®	-1.0	-1.0	MR	Dekalb
	73-45 RR	HYB	Roundup Ready®	-1.0	-2.4	R	Dekalb
	74-44 BL	HYB	Roundup Ready®	0.0	-1.3	R	Dekalb
	74-54 RR ***	HYB	Roundup Ready®	-0.3	-1.6	R	Dekalb
■	Café	OP	Roundup Ready®	-1.3	-3.1	R	SeCan
	CS2000 * Δ	HYB	Roundup Ready®	0.2	0.2		Canterra Seeds
	Fusion	HYB	Roundup Ready®	-1.5	-1.4	R	SeCan
	L120	HYB	LibertyLink®	-0.8	-1.8	R	Bayer CropScience
	L130	HYB	LibertyLink®	0.5	-0.8	R	Bayer CropScience
	L140P *	HYB	LibertyLink®	0.3	0.3	R	Bayer CropScience
	L252 *	HYB	LibertyLink®	0.5	0.5	R	Bayer CropScience
	PV 530G *	HYB	Roundup Ready®	0.3	0.3	MR	Crop Production Services
	PV 531 G *	HYB	Roundup Ready®	1.8	1.8	R	Crop Production Services
■	Rugby	OP	Roundup Ready®	-0.8	-1.8	R	SeCan
	VR 9350 G	HYB	Roundup Ready®	-3.0	-3.3	MR	Crop Production Services
	VR 9559 G	HYB	Roundup Ready®	2.0	0.4	R	Crop Production Services
	VT 500G	HYB	Roundup Ready®	-0.5	-0.8	R	Crop Production Services

■ Protection by Plant Breeders' Rights

* caution, first year tested and/or very limited data.

R = Resistant, **MR** = Moderately Resistant, **MS** = Moderately Susceptible

OP = open pollinated, **SYN** = synthetic, **HYB** = hybrid

[1]For full description of "*Days to swathing*" see page 23

Δ = not currently registered

** specialty oil

*** Club-root Resistance

**** Sclerotinia Resistance

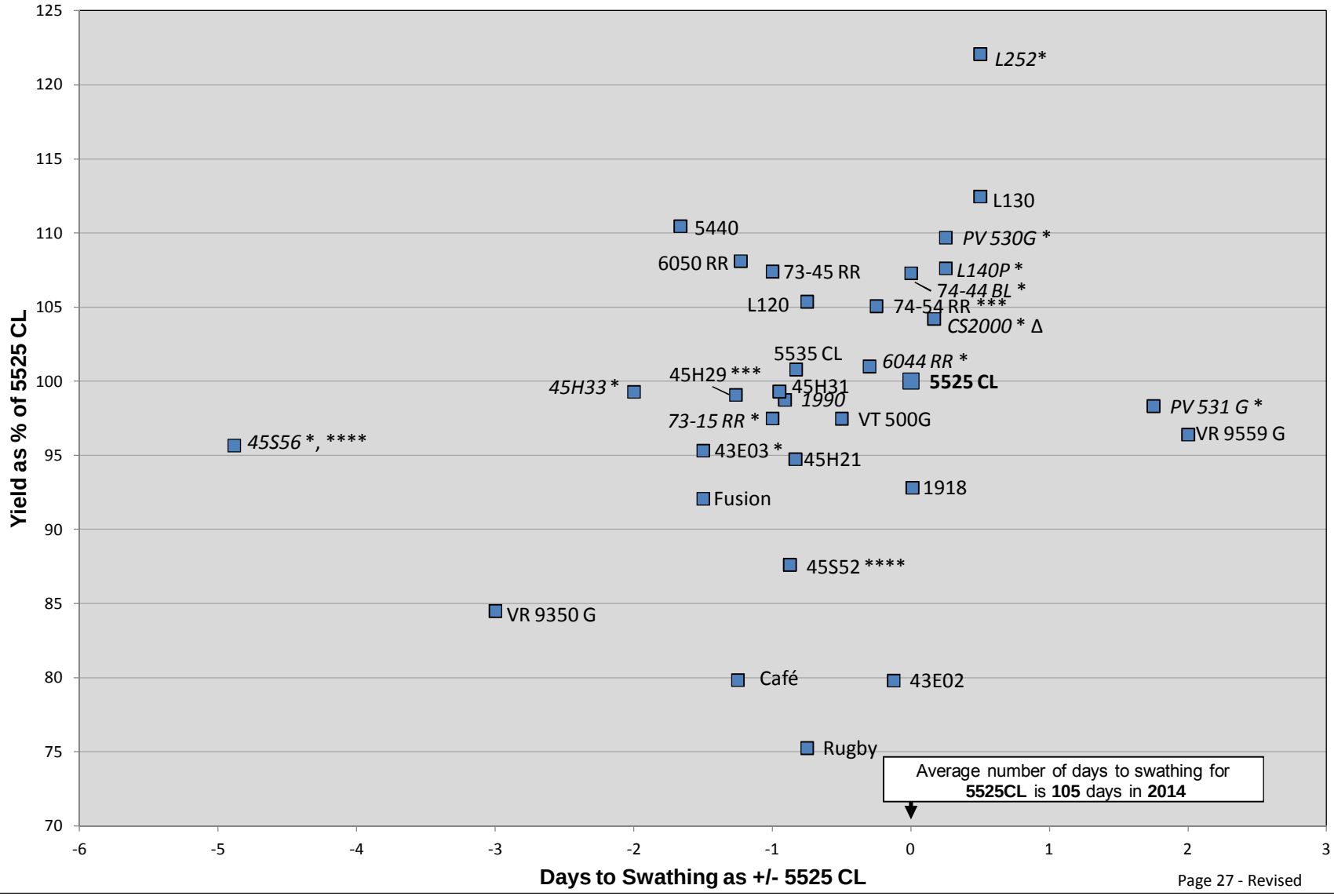
Average 'days to swathing' for **5525CL** is **105** days for **2014**

Overall average 'days to swathing' for **5525CL** is **109** days for **2009-2014**

For reference only, the average 'days to swathing' for old check **45H21** is **107** days for **2014**

For reference only, overall average 'days to swathing' for old check **45H21** is **107** days for **2009-2014**

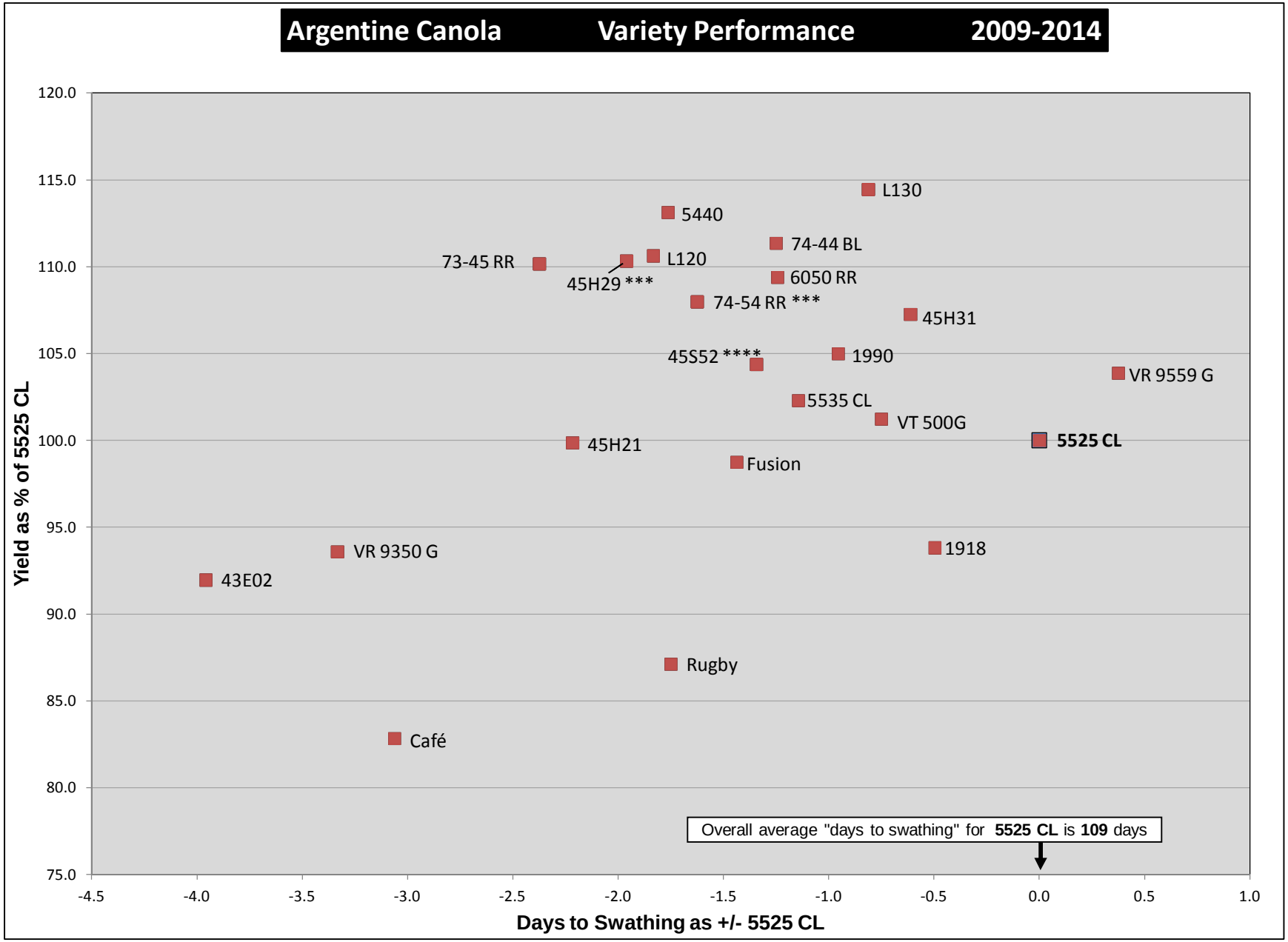
Argentine Canola Variety Performance 2014



*** Club-root Resistance, **** Sclerolinia Resistance

Δ = not currently registered

* first year tested materials



*** Club-root Resistance, **** Sclerolinia Resistance

CANOLA

Warning: data presented below is composed from two sites and one year only. For longer term results see data on page 25, 26 & 28.

Please refer to *www.CanolaPerformanceTrials.ca* for further short-season information involving other CPT site results.

Canola Performance Trial (CPT) — B.C. Peace Sites — 2014

Variety	Type	Herbicide Tolerance	Dawson Creek 2014 YIELD bu/ac	Dawson Creek 2014 Maturity Days to	Fort St. John 2014 YIELD bu/ac	Fort St. John 2014 Maturity Days to	B.C. Peace 2014 Avg. YIELD bu/ac	B.C. Peace 2014 Avg. Maturity Days to	Distributor
Clearfield® herbicide tolerant system									
5525CL	HYB	Clearfield®	71.5 abc	106.7	52.9 b-e	101.5	62.2	104.1	Growers group
VR 9560 CL	HYB	Clearfield®	74.3 abc	107.8	49.3 c-g	101.8	61.8	104.8	CPS
LibertyLink® herbicide tolerant system									
5440	HYB	LibertyLink®	74.8 abc	106.3	56.2 abc	100.5	65.5	103.4	Growers group
L130	HYB	LibertyLink®	74.2 abc	105.5	47.4 d-h	100.0	60.8	102.8	Bayer
L252	HYB	LibertyLink®	82.0 ab	107.0	58.1 ab	101.0	70.0	104.0	Bayer
L261	HYB	LibertyLink®	78.1 abc	106.7	57.7 ab	101.8	67.9	104.3	Bayer
Roundup Ready® herbicide tolerant system									
6044 RR	HYB	Roundup Ready®	73.0 abc	107.2	46.8 d-h	101.3	59.9	104.3	BrettYoung
6060 RR	HYB	Roundup Ready®	69.0 bc	109.0	46.4 d-h	103.0	57.7	106.0	BrettYoung
10DL30509	HYB	Roundup Ready®	72.7 abc	108.7	48.2 d-g	103.0	60.4	105.8	BrettYoung
Canterra 1990Δ	HYB	Roundup Ready®	76.3 abc	108.0	52.1 b-f	101.7	64.2	104.8	Canterra
CS2000Δ	HYB	Roundup Ready®	77.1 abc	107.3	50.4 c-g	102.3	63.7	104.8	Canterra
V12-1**	HYB	Roundup Ready®	76.7 abc	107.8	50.5 c-g	101.5	63.6	104.7	Cargill
V12-2**	HYB	Roundup Ready®	74.2 abc	108.5	48.3 d-g	102.2	61.2	105.3	Cargill
09H7757Δ	HYB	Roundup Ready®	77.8 abc	108.8	53.9 bcd	102.5	65.8	105.7	Cargill
09H7763Δ	HYB	Roundup Ready®	77.0 abc	108.2	49.9 c-g	102.2	63.5	105.2	Cargill
08H0004Δ	HYB	Roundup Ready®	66.5 c	109.8	49.4 c-g	104.5	57.9	107.2	Cargill
11DL30318	HYB	Roundup Ready®	68.4 bc	108.0	41.4 h	101.2	54.9	104.6	DL Seeds
13DL30323Δ	HYB	Roundup Ready®	83.6 a	108.5	60.0 a	103.0	71.8	105.8	DL Seeds
SY4114	HYB	Roundup Ready®	76.3 abc	107.0	44.8 fgh	100.3	60.5	103.7	Syngenta
SY4135	HYB	Roundup Ready®	78.3 abc	107.3	48.7 d-g	99.8	63.5	103.6	Syngenta
VR 9562 GC	HYB	Roundup Ready®	74.5 abc	107.5	49.1 c-g	100.2	61.8	103.8	CPS
VT-SN 11-2786Δ	HYB	Roundup Ready®	74.9 abc	107.2	49.7 c-g	100.5	62.3	103.8	CPS
73-75 RR	HYB	Roundup Ready®	79.6 abc	107.2	50.3 c-g	100.8	65.0	104.0	Growers group
74-44 BL	HYB	Roundup Ready®	74.4 abc	108.2	45.6 e-h	101.2	60.0	104.7	Monsanto
74-54 RR***	HYB	Roundup Ready®	79.1 abc	107.5	49.6 c-g	100.2	64.3	103.8	Monsanto
73-15 RR	HYB	Roundup Ready®	69.8 abc	106.7	43.6 gh	100.0	56.7	103.3	Monsanto
LSD (P=.05)			7.52		4.15				
Standard Deviation			5.32		2.93				
CV			7.08		5.86				

■ Protection by Plant Breeders' Rights

Δ not currently registered

OP = open pollinated, **SYN** = synthetic, **HYB** = hybrid

Caution, one year data

** specialty oil

*** Club-root Resistance

Means followed by the same letter do not significantly differ (P=.05, LSD)

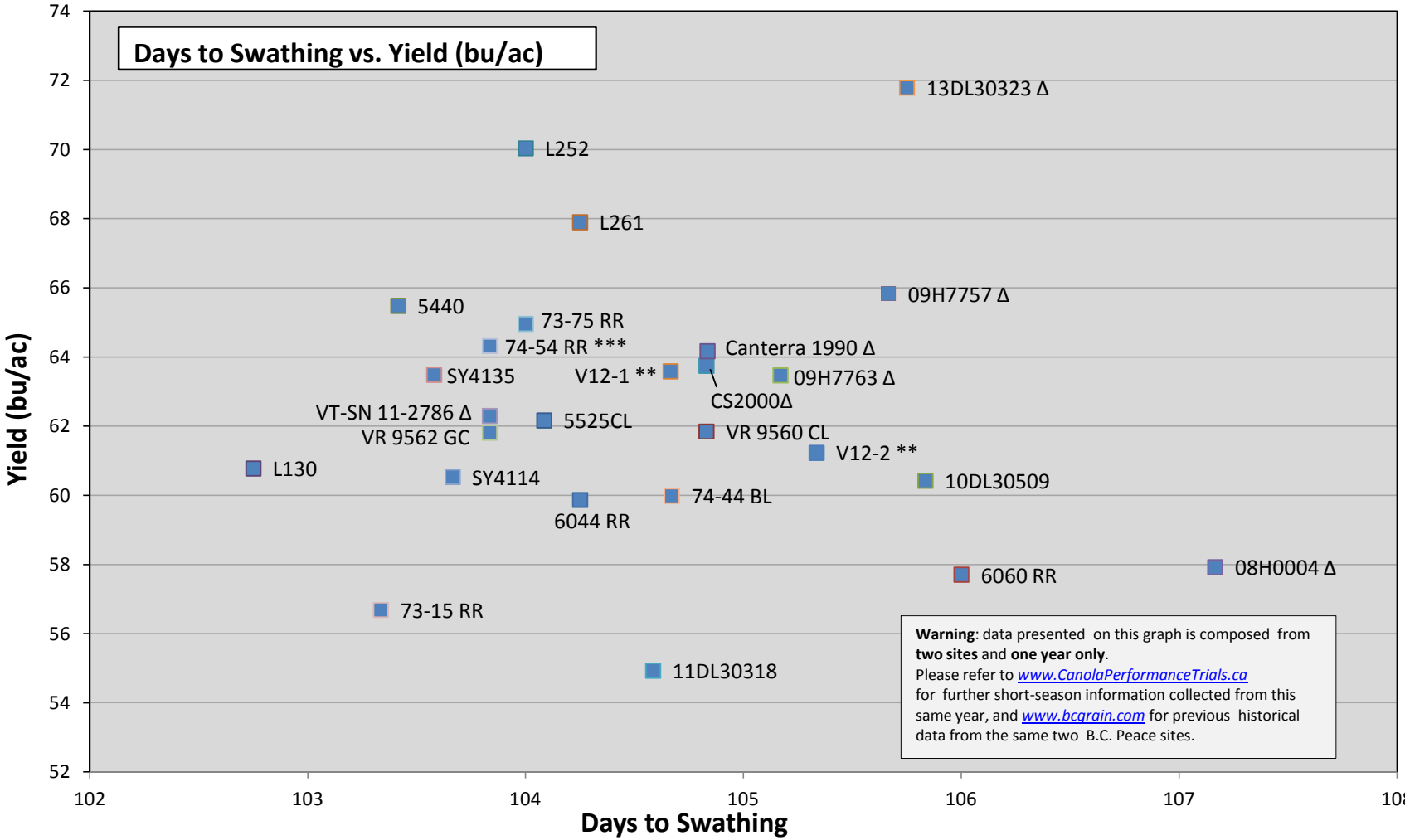
The following description of the CPT trials was provided by: **seed.ab.ca** publication. Italics are minor changes by BCGPA to reflect current situation.

Canola Performance Trials are coordinated by the Canola Council of Canada
Note: The CPT system is not affiliated with provincial regional variety testing.

This canola variety table summarizes the performance of selected registered canola varieties available for planting in spring *2014, plus in 2014 a few unregistered lines that were supported for registration that may be registered by spring 2015*. The post-registration Canola Performance Trial (CPT) testing *which startedback in 2012,* was designed to be more reflective of field practices. The appropriate herbicide products have been applied to the matching herbicide tolerant (HT) varieties in small plots, with no 'check' variety assigned. Individual location data for the small plot trials are available at *www.Canola PerformanceTrials.ca*, but the best performance indicator is to compare varieties over multiple sites *and multiple years (see older reports)*. This also includes comparing performance of small plot trials with field scale trial results. The CPT information on-line provides both data sources which have been reviewed through a protocol and data audit process. This process assures that data was collected and trials conducted in a scientific manner and that comparisons are unbiased. With the changes in trial management and data source collection, data from *2014, 2013, 2012, and* 2011 are not considered comparable to previous trials.

Detailed notes on other agronomic attributes of varieties and trials management are at *www.CanolaPerformanceTrials.ca*

Canola Performance Trial (CPT) B.C. Peace Sites 2014



Δ not currently registered ** specialty oil *** Club-root Resistance

FIELD PEA

Field Pea (Green Seed) — Yield as % of CDC Patrick

Variety	**Designated Powdery Mildew Resistant	Dawson Creek 2014 Yield bu / acre	Dawson Creek 2014 Yield % of check	Dawson Creek 2009-2014 Avg. (%)	Dawson Creek 2009-2014 Stn. Yrs.	Fort St. John 2014 Yield bu / acre	Fort St. John 2014 Yield % of check	Fort St. John 2009-2014 Avg. (%)	Fort St. John 2009-2014 Stn. Yrs.	B.C. Peace 2014 Avg. (%)	B.C. Peace 2009-2014 Avg. (%)	B.C. Peace 2009-2014 Stn. Yrs.
*CDC Greenwater **		56	97	97	[1]	62	92	92	[1]	95	95	[2]
CDC Limerick	VG	49	84	90	[3]	58	86	96	[3]	85	93	[6]
CDC Patrick	VG	58	100	100	[6]	67	100	100	[6]	100	100	[12]
CDC Pluto	VG	52	90	103	[4]	44	66	91	[4]	78	97	[8]
CDC Raezer	VG	51	89	102	[4]	45	67	89	[4]	78	95	[8]
Cooper	VG	54	93	101	[6]	52	77	98	[6]	85	99	[12]
Cutlass	VG	59	102	104	[6]	51	76	101	[6]	89	103	[12]
MP1867 Δ	VG	51	88	92	[4]	49	73	84	[4]	81	88	[8]
MP1880 Δ	VG	60	103	105	[3]	47	70	92	[3]	86	98	[6]

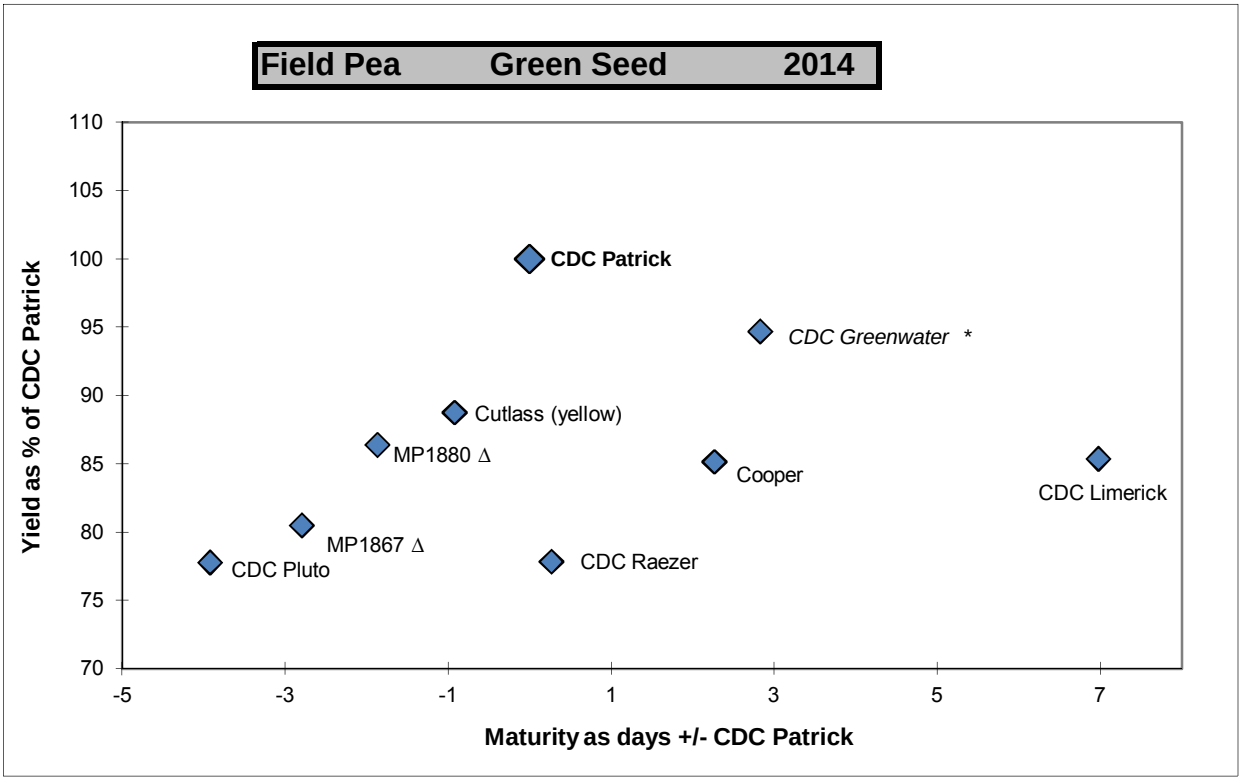
Δ denotes materials not registered

CDC Patrick - check variety

* first year tested, very limited data available

**Powdery Mildew resistance VG=Very Good, F=Fair, P=Poor (data: Alberta Agdex 100/32)

Data above is composed of two trials per site. Coefficient of Variance (CV) values in 2014 for original raw yield data is: DC = 6.5%, 9.1%; FSJ = 3.6%, 10.6%.



Average maturity for **CDC Patrick** is **101** days for **2014**

Field Pea (Yellow Seed) — Yield as % of CDC Meadow

Variety	**Designated Powdery Mildew Resistant	Dawson Creek 2014 Yield bu / acre	Dawson Creek 2014 Yield % of check	Dawson Creek 2009-2014 Avg. (%)	Dawson Creek 2009-2014 Stn. Yrs.	Fort St. John 2014 Yield bu / acre	Fort St. John 2014 Yield % of check	Fort St. John 2009-2014 Avg. (%)	Fort St. John 2009-2014 Stn. Yrs.	B.C. Peace 2014 Avg. (%)	B.C. Peace 2009-2014 Avg. (%)	B.C. Peace 2009-2014 Stn. Yrs.
AAC Lacombe	VG	62	109	117	[2]	69	116	115	[2]	112	116	[4]
AAC Peace River	VG	57	100	97	[5]	60	101	103	[5]	101	100	[10]
Abarth	VG	54	95	103	[3]	58	98	102	[3]	97	103	[6]
Agassiz	VG	52	92	100	[6]	59	100	101	[6]	96	100	[12]
Argus	VG	52	91	95	[5]	56	94	100	[5]	93	97	[10]
CDC Amarillo	VG	58	102	104	[3]	65	110	109	[3]	106	107	[6]
CDC Meadow	VG	57	100	100	[6]	59	100	100	[6]	100	100	[12]
CDC Treasure	VG	53	93	96	[6]	60	102	99	[6]	97	97	[12]
CM3404 * Δ		61	106	106	[1]	64	109	109	[1]	107	107	[2]
Cutlass	VG	56	99	98	[6]	62	105	98	[6]	102	98	[12]
Earlystar	VG	59	103	103	[3]	62	104	105	[3]	104	104	[6]
LN4228 *		52	91	91	[1]	52	87	87	[1]	89	89	[2]
MP1920 Δ	VG	54	95	105	[2]	67	113	117	[2]	104	111	[4]

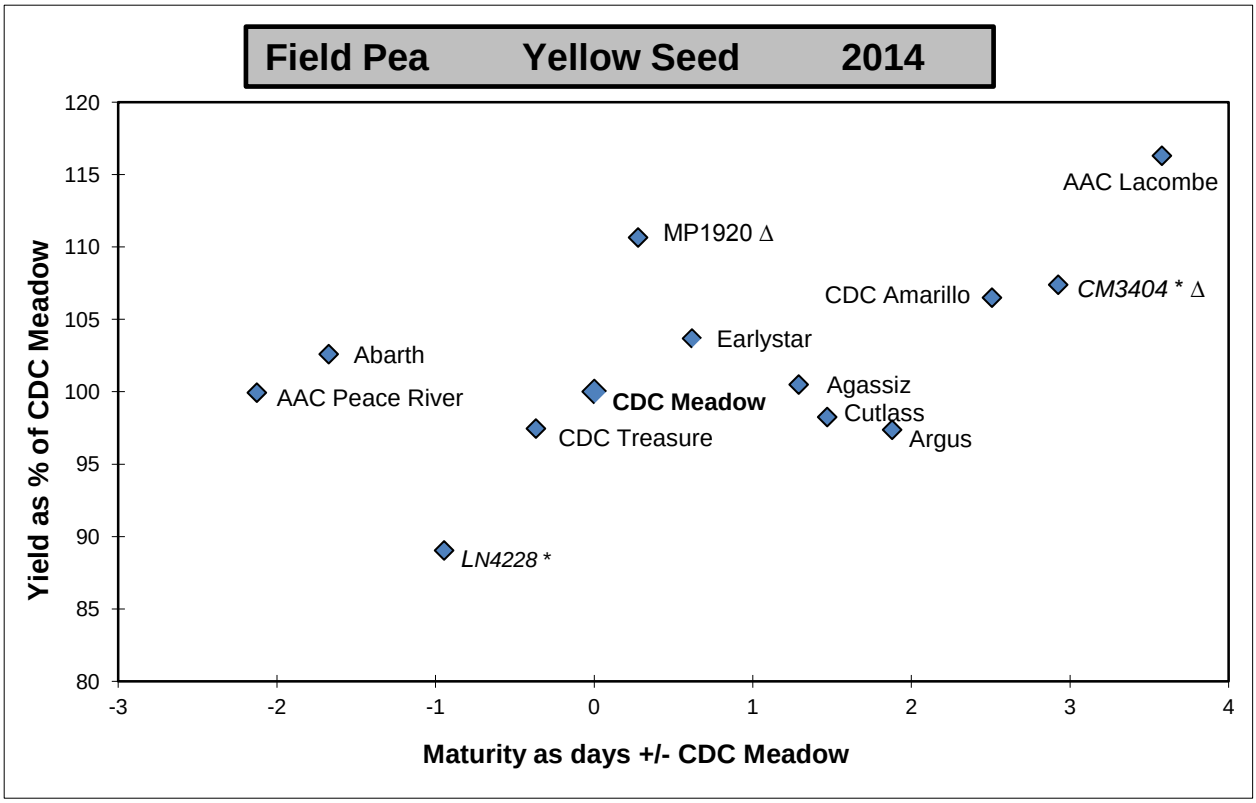
Δ denotes materials not registered

CDC Meadow - check variety

* first year tested, very limited data available

**Powdery Mildew resistance: VG=Very Good, F=Fair, P=Poor (data: Alberta Agdex 100/32)

Data above is composed of two trials per site. Coefficient of Variance (CV) values in 2014 for original raw yield data is: DC = 4.56%, 11.37%; FSJ = 5.52%, 4.28%.



Average maturity for **CDC Meadow** is **98** days for **2014**

Field Pea — Variety Descriptions

BC Peace Averages 2009-2014

Variety	Maturity as days +/- check	Vine Length cm	Lodging 1-9**	TKW g/1000	Distributor
			Yellow Seed		
■ AAC Lacombe	3.6	82	1	263	Seednet Inc.
AAC Peace River	-2.1	76	1	227	Hadland Seed Farms
■ Abarth	-1.7	72	1	266	FP Genetics
■ Agassiz	1.3	90	3	238	Canterra Seeds
■ Argus	1.9	73	1	238	SeCan
CDC Amarillo	2.5	76	1	232	Sask Pulse Growers
CDC Meadow	0.0	75	3	219	Sask Pulse Growers
CDC Treasure	-0.4	77	2	219	Sask Pulse Growers
*CM3404 * Δ*	2.9	64		300	Limagrain, UK
Cutlass	1.5	66	3	232	Sask Pulse Growers
■ Earlystar	0.6	81	1	241	Canterra Seeds
*LN4228 **	-0.9	56		275	Lindholm Seed Farm
MP1920 Δ	0.3	81	1	239	AAFC Lacombe
			Green Seed		
*CDC Greenwater **	2.8	53		258	Sask Pulse Growers
CDC Limerick	3.1	73	1	220	Sask Pulse Growers
CDC Patrick	0.0	72	2	199	Sask Pulse Growers
CDC Pluto	-5.7	76	1	180	Sask Pulse Growers
CDC Raezer	-2.6	84	1	239	Sask Pulse Growers
■ Cooper	3.0	64	2	291	Canterra Seeds
Cutlass	-1.4	64	3	232	Sask Pulse Growers
MP1867 Δ	-4.6	79	1	225	AAFC-Lacombe
MP1880 Δ	0.5	66	1	271	AAFC-Lacombe

Some varieties may not be suitable for the human consumption market. Producers should contact their intended buyer/processor before seeding to ensure the marketability of specific varieties. Many green seeded varieties will bleach if exposed to periods of wetting and drying in the field near harvest. Uncleaned and damaged seed is considered to be low quality and is only suitable for the feed market. The amount of seed coat damage suffered during harvest varies with variety. Splitting may be reduced if peas are harvested tough (20% moisture) & dried slowly in an aeration bin.

Lodging data is becoming important criteria when selecting peas for our area, as peas still standing at harvest stand a better chance of escaping excretia contamination from large wildlife, especially if harvested as direct-cut. Note that due to variability of lodging, numbers averaged tend to be lower than can occur in a given year.

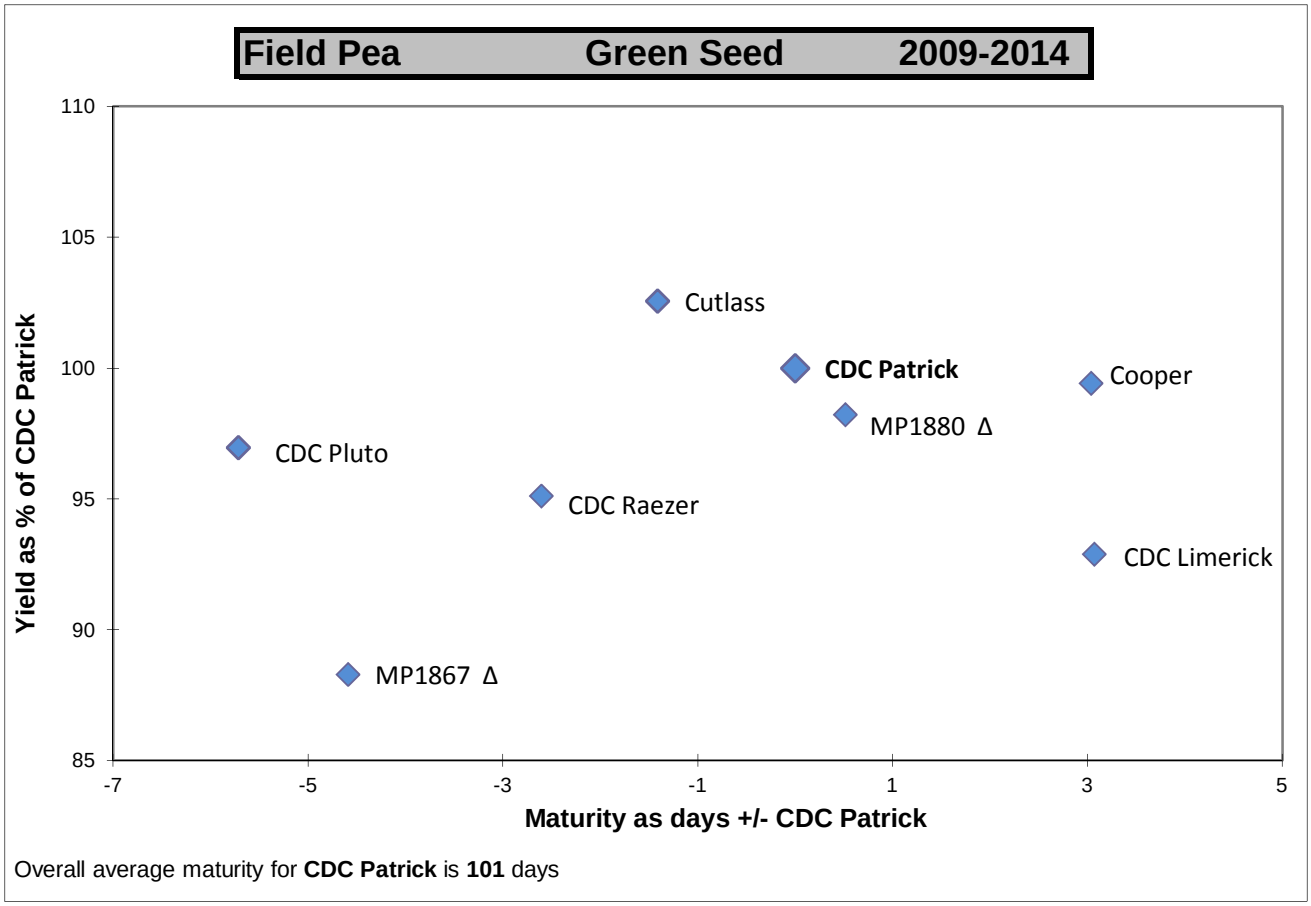
Overall average maturity for **CDC Meadow** is **98** days, and **101** days for **CDC Patrick.**

■ Protected by Plant Breeders' Rights

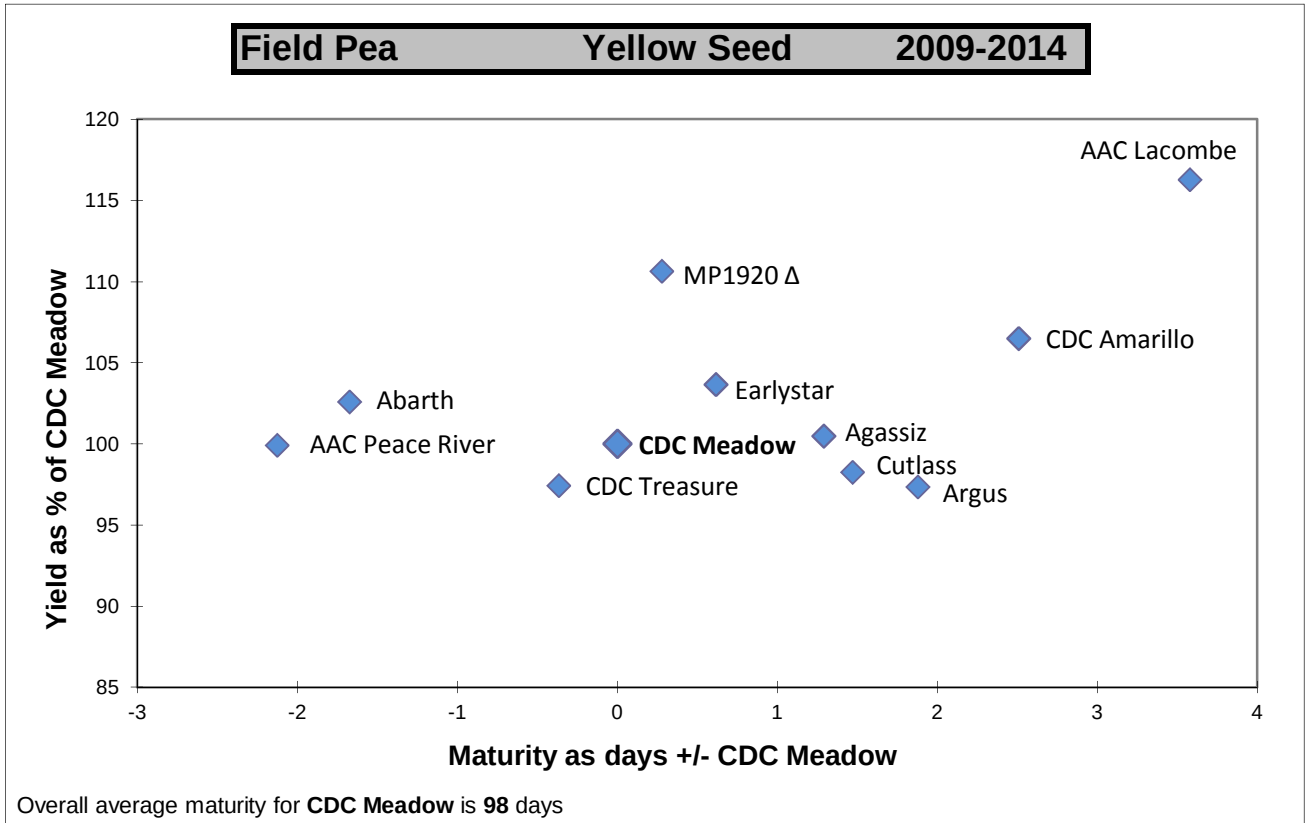
Δ denotes materials not registered

* first year tested, very limited data available

** 1 - 9 scale; 1 = none, 9 = 100% affected



Overall average maturity for **CDC Patrick** is **101** days



Overall average maturity for **CDC Meadow** is **98** days

FLAX

Fields of flax have been successfully grown in our region for many years. However, growing flax in the B.C. Peace River region can still be a risky venture if you do not select an early line and seed "very early". "Very early" refers to when one might consider planting a pulse crop, as it has become apparent that it is **very important to plant flax as early as possible** (as first advised by Dr. Paul Dribnenki, flax breeder). Early planting seems to prevent flower abortion in heat and reduces reflowering in August. In the end this helps to deliver a more consistent and earlier maturation of the seed. Large acreage should therefore be discouraged until further grower experience is achieved and earlier maturing flax varieties become available. The B.C. Grain Producers Association is looking into the development of earlier maturing varieties as well as frost-tolerant lines that can be planted earlier than is traditional for flax. It is for this reason flax information is being provided.

Flax — Yield as % of CDC Bethune

Variety	Dawson Creek 2014 Yield bu / acre	Dawson Creek 2014 Yield % of Check	Dawson Creek 2009-2014 Avg. (%)	Dawson Creek 2009-2014 stn yrs	Fort St. John 2014 Yield bu / acre	Fort St. John 2014 Yield % of Check	Fort St. John 2009-2014 Avg. (%)	Fort St. John 2009-2014 stn yrs	B.C. Peace 2014 Avg. (%)	B.C. Peace 2009-2014 Avg. (%)	B.C. Peace 2009-2014 stn yrs	Variety Descriptions Maturity ǂ days +/- check	Variety Descriptions Height ǂ (cm)	Variety Descriptions Distributor
■ CDC Bethune	28	100	100	[6]	31	100	100	[5]	100	100	[11]	0.0	56	SeCan
■ CDC Glas	32	114	105	[3]	33	108	101	[3]	111	103	[6]	1.8	57	SeCan
CDC Neela *	34	122	121	[1]	28	91	91	[1]	106	106	[2]	-3.8	43	Canterra Seeds
■ CDC Sanctuary	37	133	111	[5]	30	97	111	[4]	115	111	[9]	1.2	60	SeCan
FC13NLB0033 * Δ	29	105	105	[1]	28	90	90	[1]	97	97	[2]	-6.8	43	Crop Production Services
FC13NLB0099 * Δ	31	111	111	[1]	26	84	84	[1]	98	98	[2]	-7.7	41	Crop Production Services
Flanders	30	109	101	[6]	28	93	96	[5]	101	98	[11]	1.4	53	SeCan
FP2385 * Δ	29	104	104	[1]	25	80	80	[1]	92	92	[2]	-5.4	41	SeCan
FP2388 * Δ	28	99	99	[1]	28	90	90	[1]	94	94	[2]	-5.9	38	Crop Production Services
NorLin	28	100	98	[4]	28	92	93	[3]	96	95	[7]	-4.3	53	SeCan
■ Prairie Grande	28	100	99	[6]	30	99	98	[5]	99	99	[11]	-2.4	53	SeCan
■ Prairie Thunder	31	110	103	[6]	31	100	101	[5]	105	102	[11]	-3.0	54	Canterra Seeds
■ *VT50* *	29	104	104	[1]	28	90	90	[1]	97	97	[2]	0.2	41	CPS/ Proven seed
■ Westlin 71	29	104	95	[2]	27	88	104	[2]	96	99	[4]	-0.8	55	Crop Production Services

Data above is composed of two trials per site. Coefficient of Variance (CV) values in 2014 for original raw yield data is: DC = 8.17%, 4.42%; FSJ = 4.3%, 3.68%.

■ Protected by Plant Breeders' Rights

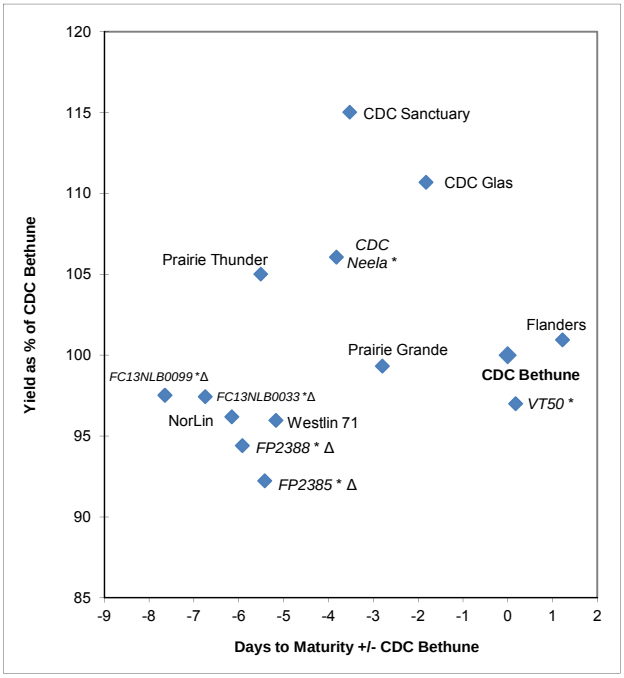
Δ denotes materials not registered

CDC Bethune - check variety

ǂ overall averages 2009-2014

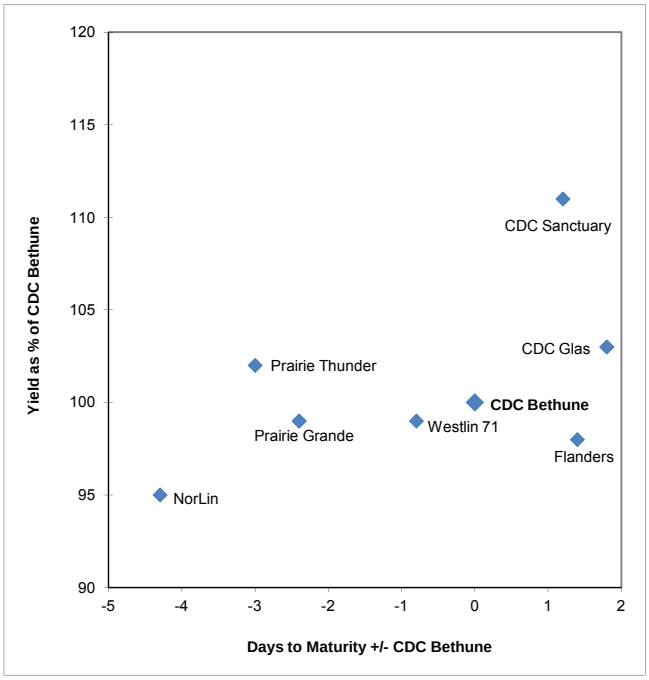
* first year tested, very limited data available

Flax Regional Variety Performance 2014



Average maturity for **CDC Bethune** is **120** days for **2014**

Flax Regional Variety Performance 2009-2014



Overall average maturity for **CDC Bethune** is **114** days.

Summary of all 2014 Research Trials

Data used directly for the production of this report…

Regional Variety Trials	Site	Varieties	Replicates	Plots	Source
Regional 2 Row Barley	DC	13	4	52	Alex Fedko - AAFRD-CDC North, Edmonton
Regional 2 Row Barley BC ***	DC	6	4	24	BCGPA - Clair Langlois
Regional 6 Row Barley (& hulless)	DC	5	4	20	Alex Fedko - AAFRD-CDC North, Edmonton
Regional 6 Row Barley (& hulless) BC***	DC	7	4	28	BCGPA - Clair Langlois
Regional Oats	DC	9	4	36	Alex Fedko - AAFRD-CDC North, Edmonton
Regional Oats BC***	DC	7	4	28	BCGPA - Clair Langlois
Regional CWRS Wheat (HRSW)	DC	23	4	92	Alex Fedko - AAFRD-CDC North, Edmonton
Regional CWRS Wheat (HRSW) BC***	DC	16	4	64	BCGPA - Clair Langlois
Regional GP Wheat(General Purp./CPS/SWS)	DC	16	4	64	Alex Fedko - AAFRD-CDC North, Edmonton
Regional GP Wheat(General Purp./CPS/SWS) BC***	DC	10	4	40	BCGPA - Clair Langlois
Regional Durum Wheat	DC	12	4	48	Alex Fedko - AAFRD-CDC North, Edmonton
Regional Durum Wheat BC ***	DC	3	4	12	BCGPA - Clair Langlois
Prairie Wide Napus CPT (Herbicide Systems)	DC	26	4	104	Rale Gjuric - Haplotech Inc. - Winnipeg
BCGPA Napus NS1 comparison trial ***	DC	16	4	64	BCGPA - Clair Langlois
BCGPA Napus NS2 comparison trial ***	DC	19	4	76	BCGPA - Clair Langlois
Regional Flax	DC	8	4	32	Alex Fedko - AAFRD-CDC North, Edmonton
Regional Flax BC***	DC	8	4	32	BCGPA - Clair Langlois
Regional Green Field Pea	DC	4	4	16	Alex Fedko - AAFRD-CDC North, Edmonton
Regional Green Field Pea BC***	DC	6	4	24	BCGPA - Clair Langlois
Regional Yellow Field Pea	DC	7	4	28	Alex Fedko - AAFRD-CDC North, Edmonton
Regional Yellow Field Pea BC***	DC	7	4	28	BCGPA - Clair Langlois
Collaborative Lentil Trial (AB/BC Peace Initiative)*	DC	8	4	32	SARDA, MARA, BRRG, BCGPA collaboration
Regional 2 Row Barley	FSJ	13	4	52	Alex Fedko - AAFRD-CDC North, Edmonton
Regional 2 Row Barley BC ***	FSJ	6	4	24	BCGPA - Clair Langlois
Regional 6 Row Barley (& hulless)	FSJ	5	4	20	Alex Fedko - AAFRD-CDC North, Edmonton
Regional 6 Row Barley (& hulless) BC***	FSJ	7	4	28	BCGPA - Clair Langlois
Regional Oats	FSJ	9	4	36	Alex Fedko - AAFRD-CDC North, Edmonton
Regional Oats BC***	FSJ	7	4	28	BCGPA - Clair Langlois
Regional CWRS Wheat (HRSW)	FSJ	23	4	92	Alex Fedko - AAFRD-CDC North, Edmonton
Regional CWRS Wheat (HRSW) BC***	FSJ	16	4	64	BCGPA - Clair Langlois
Regional GP Wheat(General Purp./CPS/SWS)	FSJ	16	4	64	Alex Fedko - AAFRD-CDC North, Edmonton
Regional GP Wheat(General Purp./CPS/SWS) BC***	FSJ	10	4	40	BCGPA - Clair Langlois
Regional Durum Wheat	FSJ	12	4	48	Alex Fedko - AAFRD-CDC North, Edmonton
Regional Durum Wheat BC ***	FSJ	3	4	12	BCGPA - Clair Langlois
Prairie Wide Napus CPT (Herbicide Systems)	FSJ	26	4	104	Rale Gjuric - Haplotech Inc. - Winnipeg
BCGPA Napus NS1 comparison trial ***	FSJ	16	4	64	BCGPA - Clair Langlois
BCGPA Napus NS2 comparison trial ***	FSJ	19	4	76	BCGPA - Clair Langlois
Regional Flax	FSJ	8	4	32	Alex Fedko - AAFRD-CDC North, Edmonton
Regional Flax BC***	FSJ	8	4	32	BCGPA - Clair Langlois
Regional Green Field Pea	FSJ	4	4	16	Alex Fedko - AAFRD-CDC North, Edmonton
Regional Green Field Pea BC***	FSJ	6	4	24	BCGPA - Clair Langlois
Regional Yellow Field Pea	FSJ	7	4	28	Alex Fedko - AAFRD-CDC North, Edmonton
Regional Yellow Field Pea BC***	FSJ	7	4	28	BCGPA - Clair Langlois
Collaborative Lentil Trial (AB/BC Peace Initiative)*	FSJ	8	4	32	SARDA, MARA, BRRG, BCGPA collaboration

Data used for *plant breeding* and *variety registration* support, thus support for future new materials for future reports…

Varietal Development	Site	Varieties	Replicates	Plots	Source
Barley					
Western 2-Row Co-op Barley	DC	32	3	96	Dr. Tom Zatorski - U of S Malt B Prgm
Western 2-Row Co-op Barley	FSJ	32	3	96	Dr. Tom Zatorski - U of S Malt B Prgm
Western 6-row Co-op Barley	DC	21	3	63	Dr. Ana Badea - Ag Canada - Brandon
Western 6-row Co-op Barley	FSJ	21	3	63	Dr. Ana Badea - Ag Canada - Brandon
CPS-2 row Barley **	DC	18	3	54	Jim Anderson - CPS - Calgary
B-Y51 Barley Co-op - Grain Yields **	DC	25	3	75	Pat Juskiw/J. Nyachiro - AAFCDC Lacombe
Camelina					
Camelina - 501 Priv. Co-op**	FSJ	26	3	78	Dr. Christina Eynck, AAFC-Saskatoon
Canola					
CPS Napus Herbicide Systems CPC CL/LL **	DC	14	3	42	Tim Ferguson / Daryl Rex - CPS, Saskatoon
CPS Napus Herbicide Systems CPC RR **	DC	25	3	75	Tim Ferguson / Daryl Rex - CPS, Saskatoon
Rapa - 505 Priv. Co-op **	FSJ	19	4	76	Dr. Kevin Falk, Ag Canada, Saskatoon, SK
DL-Seed Napus Trial 301 **	DC	25	3	75	Dr. Kevin McCallum - DL Seeds, MB
DL-Seed Napus Trial 900 **	DC	25	3	75	Dr. Kevin McCallum - DL Seeds, MB
PIONEER - Napus CCNSR-351(early season) **	DC	24	3	72	Jason Nordstrom, Pioneer Hi-Bred, Edmonton

* some entries sourced & entered by BCGPA

** fee-for-service research

*** all entries sourced by BCGPA or their inclusion requested by local agri-business

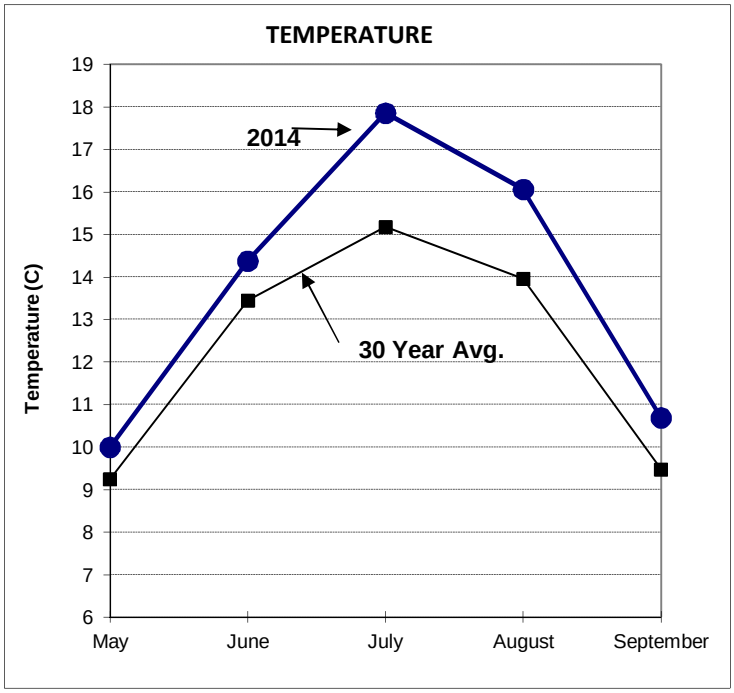
Varietal Development *continued …*	Site	Varieties	Replicates	Plots	Source
Canola					
Syngenta-Peace-Learning Center **	DC	2	2	4	Justin Bouvier - Syngenta Canada Inc.
Monsanto/Dekalb Napus - Priv Co-op **	DC	25	4	100	Kelly Boddy - Monsanto - Carman, MB
Monsanto/Dekalb Napus - Priv Co-op **	FSJ	25	4	100	Kelly Boddy - Monsanto - Carman, MB
WCC/RRC Napus NS1 Co-op **	DC	21	3	63	Raymond Gadoua - Canola Council
WCC/RRC Napus NS2 Co-op **	DC	21	3	63	Raymond Gadoua - Canola Council
WCC/RRC Napus NS3 Co-op **	DC	21	3	63	Raymond Gadoua - Canola Council
Flax					
Northern Flax Co-op	DC	32	3	96	Michelle Beaith, CPS, Saskatoon, SK
Northern Flax Co-op	FSJ	32	3	96	Michelle Beaith, CPS, Saskatoon, SK
Flax - Northern Advanced - CCF14O04Y	DC	25	3	75	Michelle Beaith, CPS, Saskatoon, SK
Flax - Northern Advanced - CCF14O05Y	DC	25	3	75	Michelle Beaith, CPS, Saskatoon, SK
Flax - U of S Tertiary - A **	DC	42	2	84	Helen Booker - U of S - Saskatoon, SK
Oat					
Oat Private Co-op (Prelim-P) **	DC	485	1	485	Dr. Jennifer Mitchell-Fetch - AAFC Winnipeg
Oat Co-op (BOAT) **	DC	49	3	147	Dr. Jennifer Mitchell-Fetch - AAFC Winnipeg
Western Oat Co-op (WCORT)	DC	36	3	108	Dr. Jennifer Mitchell-Fetch - AAFC Winnipeg
Oat Organic Co-op (BORG) - hand weeded **	DC	25	3	75	Dr. Jennifer Mitchell-Fetch - AAFC Winnipeg
Pea					
"Peace Field Pea Project" PYT05	FSJ	36	2	72	Dr. Dengjin Bing - AAFC Lacombe
"Peace Field Pea Project" PYT06	FSJ	36	2	72	Dr. Dengjin Bing - AAFC Lacombe
Field Pea - Short-Season - Co-op	FSJ	12	3	36	Don Beauchesne - AAFC Lacombe
Triticale					
TY4 Triticale Grain Pre-Co-op **	DC	20	3	60	Dr. Mazen Aljarrah - AAFC Lacombe
Wheat					
CPS Wheat GP **	DC	18	3	54	Jim Anderson - CPS, Calgary
CPS Wheat CWRS **	DC	22	3	66	Jim Anderson - CPS, Calgary
Early Wheat Parkland A1 (3m plots) **	FSJ	49	2	98	Dr. Gavin Humphreys - AAFC Winnipeg
Early Wheat Parkland A2 (3m plots) **	FSJ	64	2	128	Dr. Gavin Humphreys - AAFC Winnipeg
Early Wheat Parkland A3 (3m plots) **	FSJ	30	2	60	Dr. Gavin Humphreys - AAFC Winnipeg
Early Wheat PR4F8 (3m plots) **	FSJ	200	1	200	Dr. Gavin Humphreys - AAFC Winnipeg
Parkland 'C' Wheat Co-op	DC	25	3	75	Alanna Olson - AAFC Beaverlodge
Parkland 'C' Wheat Co-op	FSJ	25	3	75	Alanna Olson - AAFC Beaverlodge
Syngenta-Peace-Learning Center **	DC	7	1	7	Justin Bouvier - Syngenta Canada Inc.
Canterra Seeds - Co-op 11 **	DC	36	3	108	Edwin Pensaert - Winnipeg, MB
Canterra Seeds - Co-op 12 **	DC	36	3	108	Edwin Pensaert - Winnipeg, MB
Wheat - U of A - 'ORGAYT' Co-op **	FSJ	28	3	84	Dr. Dean Spaner - U of A, Edmonton, AB
Wheat - U of A - 'ORGAYT' Co-op **	DC	28	3	84	Dr. Dean Spaner - U of A, Edmonton, AB
Wheat - U of A - Parkland 'B' Private Co-op **	FSJ	25	3	75	Dr. Dean Spaner - U of A, Edmonton, AB
Agronomic Trials					
Bayer - Flea Beetle Control - Seed-Trt **	DC	7	4	28	Scott Henry - Bayer CropScience, Calgary
Bayer - Flea Beetle Control - Seed-Trt **	FSJ	7	4	28	Scott Henry - Bayer CropScience, Calgary
BASF - Flea Beetle Study **	DC	8	4	32	Ryan Nielson - BASF, Edmonton
BASF - Flea Beetle Study **	FSJ	8	4	32	Ryan Nielson - BASF, Edmonton
Cereal Rust Plots (individual plots)	DC	6	1	6	Tom Fetch - AAFC Winnipeg
Foliar Fertilizer on Napus **	DC	8	4	32	Stan Mracek - AgrowGuard - Dawson Creek, BC
Foliar Fertilizer on Napus **	FSJ	8	4	32	Stan Mracek - AgrowGuard - Dawson Creek, BC
Quinoa Adaptation & Seeding Rate	DC	12	4	48	BCGPA - Clair Langlois
Quinoa Adaptation & Seeding Rate	FSJ	12	4	48	BCGPA - Clair Langlois
Napus Seeding Rate Study	DC	15	4	60	BCGPA - Clair Langlois
Napus Seeding Rate Study	FSJ	15	4	60	BCGPA - Clair Langlois
Spring Wheat Seeding Rate Study	DC	25	4	100	BCGPA (Dr. O'Donovan input-AAFC Lacombe)
Spring Wheat Seeding Rate Study	FSJ	25	4	100	BCGPA (Dr. O'Donovan input-AAFC Lacombe)

**fee-for-service research

Site: **FSJ = Vic Blanchette, Fort St. John, BC**
DC = School District #59, (Hudson School Farm property), Dawson Creek, BC

Sources:
AAFRD = Alberta Agriculture, Food and Rural Development
AAFC = Agriculture and Agri-Food Canada
ARECA = Agricultural Research and Extension Council of Alberta
MRC = Morden Research Centre, Agriculture & Agrifood Canada, Morden, Manitoba
UofS = University of Saskatchewan, Saskatoon, Saskatchewan
BCGPA = British Columbia Grain Producers Association

Dawson Creek Weather Information 2014



TEMPERATURE

Month	Monthly Avg. Temp. (C)	Temp.* 30 year Avg. (C)
May	10	9
June	14	13
July	18	15
August	16	14
September	11	9

Frost Events: **May 11 -4.5** August 23 -1.2
May 17 -1.4 **September 10 -4.2**

Killing Frost (-2.2 C) Free Period: 122 days
May 11 - September 10

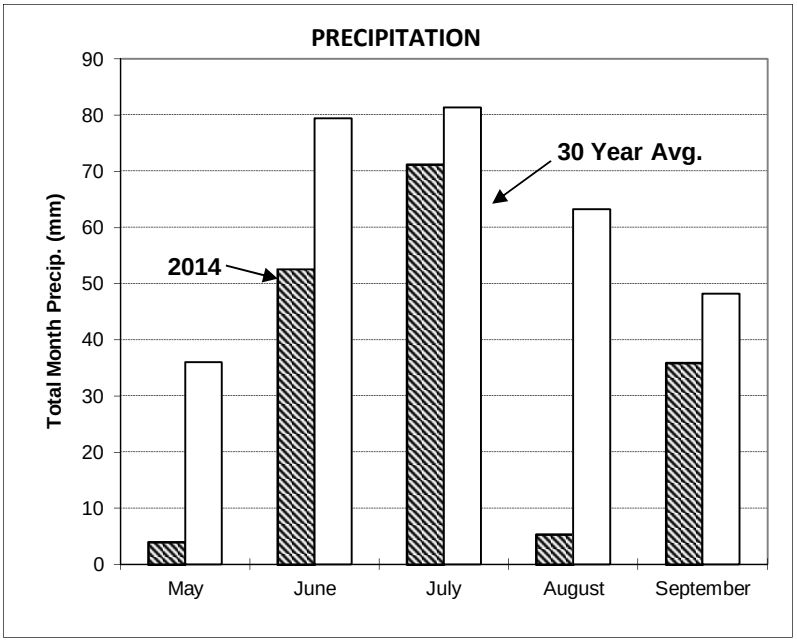
Accumulated Growing Degree Days:
2014: 1266
1994-2014 Average: 1181

* 30 year average DC from 1968-1997
Source: Environment CANADA

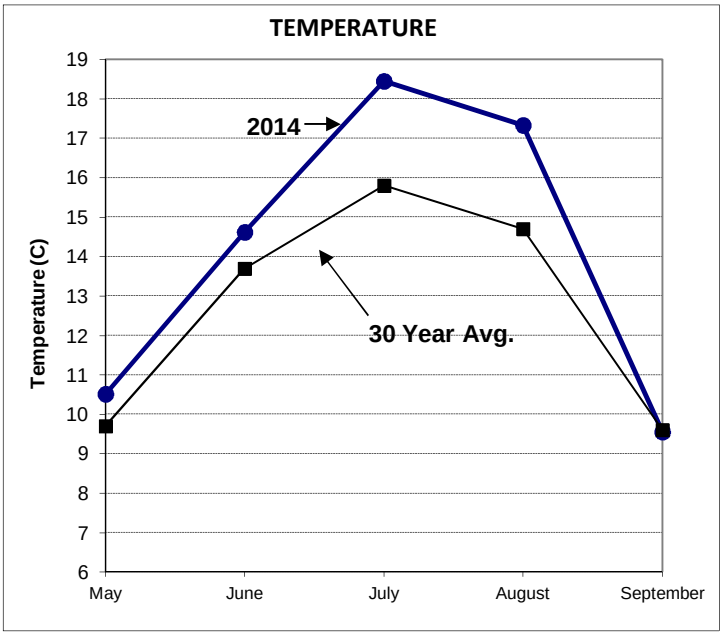
PRECIPITATION

Month	Monthly Precipitation (mm)	Precipitation * 30 year Avg. (mm)
May	4	36
June	53	79
July	71	81
August	5	63
September	36	48

Data is provided by an on site weather station maintained by the Canadian Wheat Board and the BC Grain Producers Association.



Fort St. John Weather Information 2014



TEMPERATURE

Month	Monthly Avg. Temp. (C)	Temp.* 30 year Avg. (C)
May	11	10
June	15	14
July	18	16
August	17	15
September	10	10

****Frost Events:** No frost events were recorded between May 1st and Sep 15th. This is contrary to evidence witnessed at the site but periodically some raw data had to be supplied from FSJ city stations due to loss of data.
Killing Frost (-2.2 C) Free Period: <168 days **

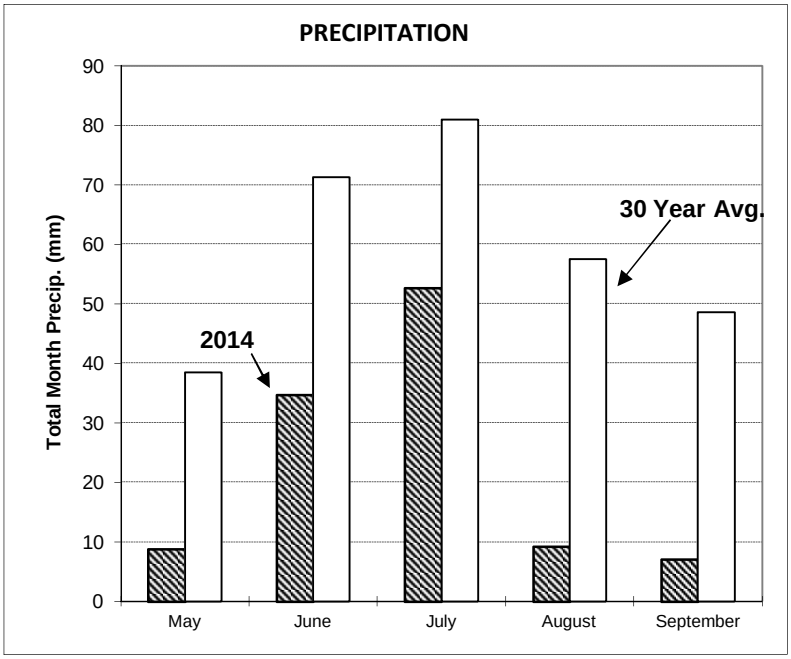
Accumulated Growing Degree Days:
2014: 1354
1994-2014 Average: 1182

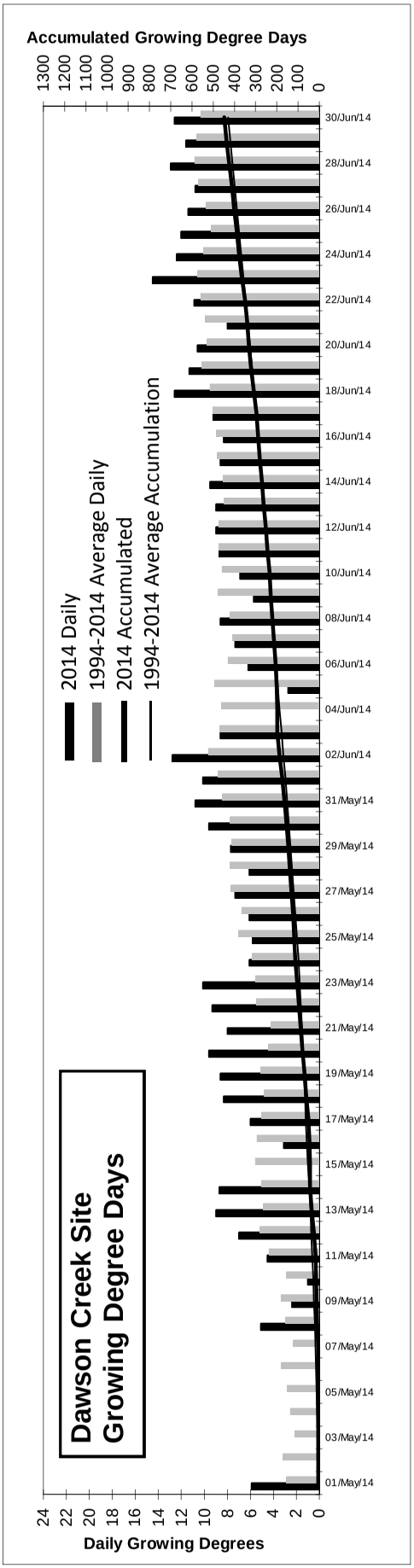
* 30 year average FSJ from 1968-1997
source: Environment CANADA

PRECIPITATION

Month	Monthly Precipitation (mm)	Precipitation * 30 year Avg. (mm)
May	9	39
June	35	71
July	53	81
August	9	58
September	7	49

Data is provided by an on site weather station maintained by the Canadian Wheat Board and the BC Grain Producers Association.

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30/Jun/14
28/Jun/14
26/Jun/14
24/Jun/14
22/Jun/14
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18/Jun/14
16/Jun/14
14/Jun/14
12/Jun/14
10/Jun/14
08/Jun/14
06/Jun/14
04/Jun/14
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31/May/14
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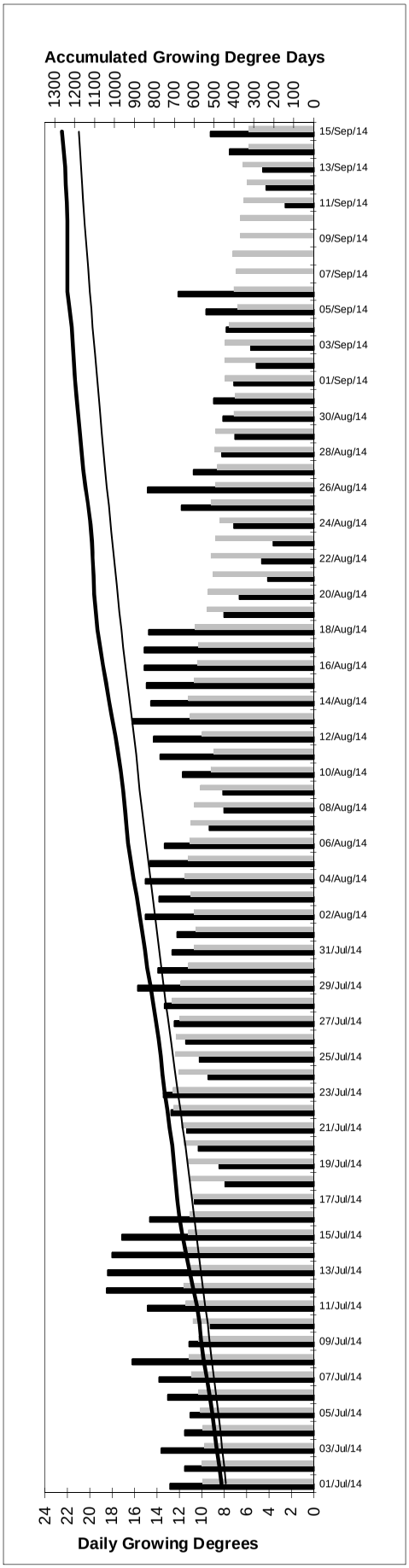
17/May/14
15/May/14
13/May/14
11/May/14
09/May/14
07/May/14
05/May/14
03/May/14
01/May/14
2014 Daily
1994-2014 Average Daily
2014 Accumulated
1994-2014 Average Accumulation
Dawson Creek Site
Growing Degree Days
24 22 20 18 16 14 12 10 8 6 4 2 0
Daily Growing Degrees


Accumulated Growing Degree Days
1300 1200 1100 1000 900 800 700 600 500 400 300 200 100 0
15/Sep/14
13/Sep/14
11/Sep/14
09/Sep/14
07/Sep/14
05/Sep/14
03/Sep/14
01/Sep/14
30/Aug/14
28/Aug/14
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07/Jul/14
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03/Jul/14
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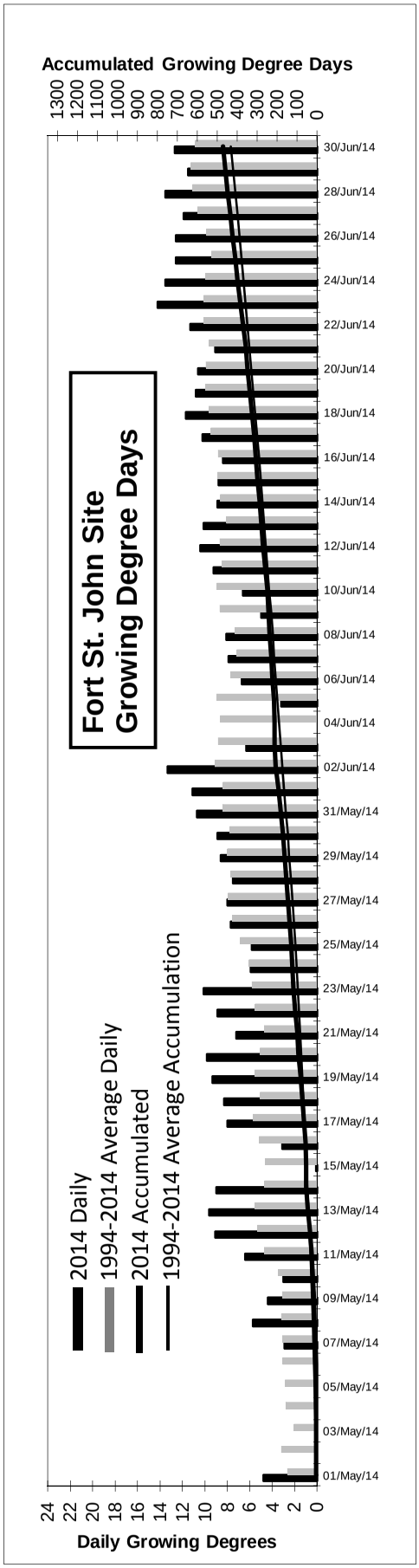
Daily Growing Degrees


Accumulated Growing Degree Days
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30/Jun/14
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31/May/14
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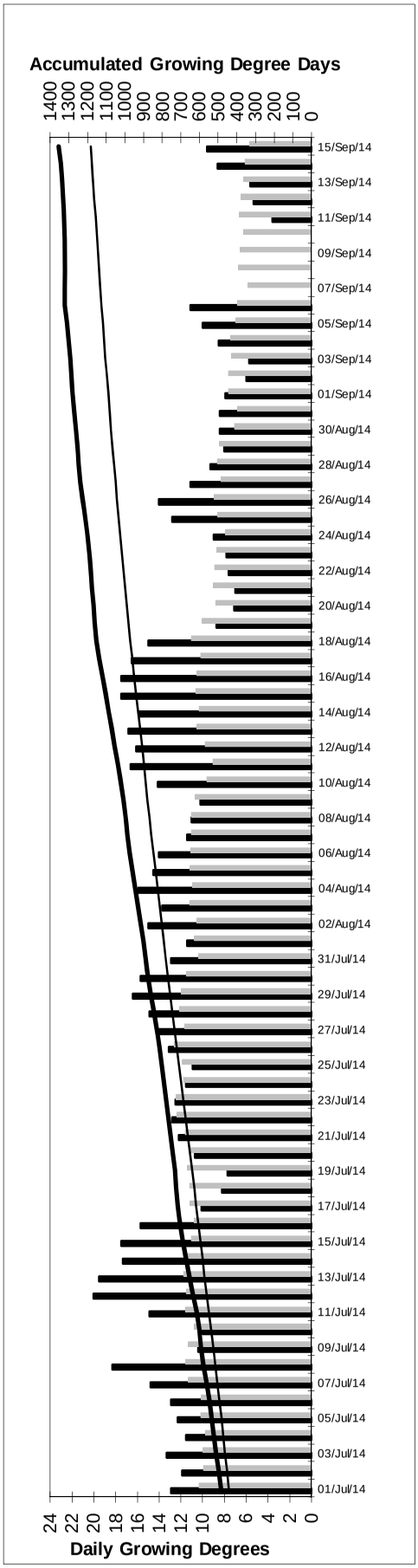
11/May/14
09/May/14
07/May/14
05/May/14
03/May/14
01/May/14
Fort St. John Site
Growing Degree Days
2014 Daily
1994-2014 Average Daily
2014 Accumulated
1994-2014 Average Accumulation
24
22
20
18
16
14
12
10
8
6
4
2
0
Daily Growing Degrees


Accumulated Growing Degree Days
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Daily Growing Degrees

List of Certified Seed Distributors

Alliance Seed Corp.
www.allianceseed.com

Bayer CropScience Inc. Canada
#100, 3131-114 Ave. SE Calgary, AB T2Z 3X2
Toll-Free :1(888) 283-6847 Phone:(403)-723-7400
www.bayercropscience.ca

Brett - Young Seeds Ltd.
P.O. Box 99, St. Norbert Postal Station,
Winnipeg, MB R3V 1L5
Toll-Free: 1(800) 665-5015
www.brettyoung.ca

Busch Agricultural Resources Inc. Canada
360 Main Street, Suite 2080
Winnipeg, Manitoba R3C 3Z3
Phone:(204)-927-3603

Canseed Ltd.
R.R. #1, Box 1155 Stettler, AB T0C 2L0
Phone: (403)-742-4091 Fax: (403)-742-0621

Canterra Seeds Ltd.
201-1475 Chevier Blvd. Winnipeg, MB R3T 1Y7
Phone: (204)-988-9750 Fax:(204) 487-7682
www.canterra.com

Cargill Ltd.
P.O. Box 5900 300-240 Graham Avenue Winnipeg, MB R3C 4C5 Phone:(204)-947-0141 Fax:(204)-947-6444
www.cargill.ca

Crop Production Services Canada Inc.
PO Box 770 Stn Main
Regina, Saskatchewan S4P 3A8
Toll-Free:1(855)-569-9444
Dawson Creek Phone:(250)-782-9264
Fort St.John Phone:(250)-785-3445
www.cpsagu.ca

DL Seeds
P.O. Box 2499 Morden, MB R6M 1C2
Phone: (204)-331-2361 Fax:(204)-325-8052
www.dlseeds.ca

FP Genetics
426 McDonald Street Regina, SK S4N 6E1
Toll Free: 1(877) 791-1045 Fax: 1(877) 791-1046
www.fpgenetics.ca

Hadland Seed Farm Ltd.
8161 253 Rd, Baldonnel BC,V0C 1C0
Phone: (250)-789-3646

Mastin Seeds
RR #1 Sundre, AB T0M 1X0
Phone:(403)-556-2609 Fax: (403)-507-2609
www.mastinseeds.com

Monsanto Canada Inc (DEKALB)
900 - 1 Research Road Winnipeg, MB R3T 6E3
Toll-Free:1(800) 667-4944 Phone: (204)-985-1000
www.monsanto.ca

Pioneer Hi-Bred Ltd. (DuPont)
P.O. Box 730, 7398 Queen's Line Chatham, ON N7M 5L1 Phone: (519)-352-6350
www.pioneer.com/canada

Richardson International
2800 One Lombard Place, Winnipeg, MB R3B 0X8
Toll Free:1-866-217-6211
Phone: (204)-934-5961
http://www.richardson.ca

Saskatchewan Pulse Growers
104 - 411 Downey Road Saskatoon, SK S7N 4L8
Phone: (306)-668-5556 Fax: (306)-668-5557
www.saskpulse.com

SeCan Association
400 - 300 Terry Fox drive Kanata, ON K2K 2E2
Toll-Free:1(800)-665-7333(Western Canada)
www.secan.com

Seed Depot Corp.
P.O. Box 208 Pilot Mound, MB R0G 1P0
Phone: (204)-825-2000
www.seeddepot.ca

SeedNet Inc.
John Huvenaars Phone: (403) 725-2126
http://www.seednet.ca

Solick Seeds Ltd.
Po Box 97 Halkirk, AB T0C 1M0
Phone: (403)-884-2358 Fax: (403)-884-2360

Syngenta Seeds Canada Inc.
140 Research Lane Research Park
Guelph, Ontario N1G 4Z3
Toll-Free:1(888)-368-4211 Phone:(519)-836-5665
www.syngenta.ca

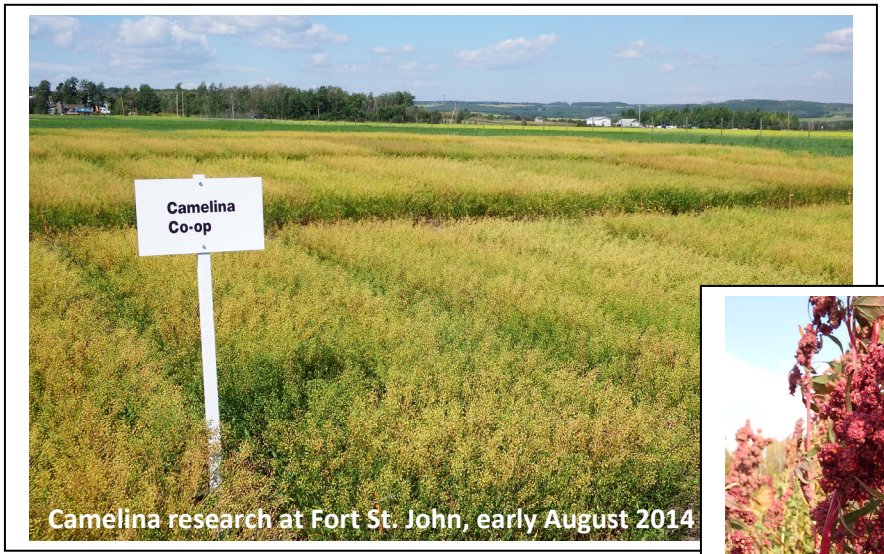
T & L Seeds
P.O. Box 216 North Battleford, SK S9A 2Y1

Wagon Wheel Seed Corp.
Box 229 Churchbridge, SK S0A 0M0
Phone: (306)-896-2236 Fax: (306)-896-2696
http://www.wagonwheelseeds.sk.ca

Western Ag Labs
#104 - 110 Research Drive Innovation Place
Saskatoon, SK S7N 3R3
Toll Free: 1(877)-978-1777
Phone:1(360)-978-1777 Fax:1(360)-978-4140
http://www.westernag.ca

(Above) field pea research plots at Dawson Creek, August 2014. Other pulse studies were at Fort St. John, 2014.

(Below) other potentially new crops under investigations with the B.C. Grain Producers Association in 2014



Camelina research at Fort St. John, early August 2014

Quinoa research at Dawson Creek, mid-August, 2014

Quinoa research at Dawson Creek, mid-August, 2014

Other areas of research involving everything from foliar nutrient application to seeding rate studies in wheat and canola were also underway with the B. C. Grain Producers Association in 2014. All is available for viewing in-season at either site.