B.C. GRAIN PRODUCERS ASSOCIATION

2013 FIELD CROP VARIETY PERFORMANCE

Funding provided by …

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Agriculture et Agroalimentaire Canada

B.C. PEACE RIVER GRAIN INDUSTRY DEVELOPMENT COUNCIL

Investment Agriculture Foundation of British Columbia

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BC Grain Producers Association

2013 Field Crop Variety Performance

BC Peace River Region

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Front cover photo

Cereal plots at the Dawson Creek (South Peace) research station, taken around mid-July 2013. Wheat research plots can be seen in the foreground but some triticale (light bluish-green at back left) and oat research work (light green back right) can be seen as well. Well over 8,000 plots were grown at both research stations in 2013 involving cereals, canola, flax, pulses, and new crops like various dry-bean types, camelina and soybean.

Front cover photo credit: Clair Langlois

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BC Grain Producers Association
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Introduction and Acknowledgements:

Funding for this report has been provided by **AGRICULTURE AND AGRI-FOOD CANADA** through the **CANADIAN AGRICULTURAL ADAPTATION PROGRAM (CAAP).** In British Columbia, this program is delivered by the **INVESTMENT AGRICULTURE FOUNDATION OF BC (IAF).** The **YUKON AGRICULTURAL ASSOCIATION** is also providing support through **CAAP** and matching funds are provided by the **BC PEACE RIVER GRAIN INDUSTRY DEVELOPMENT COUNCIL (BCPRGIDC)** and **BC GRAIN PRODUCERS ASSOCIATION (BCGPA)**.

LOUIS DREYFUS (Dawson Creek office) should be recognized for their contribution via kernel protein analysis, **HADLAND SEED FARM LTD.** and **HILL FARMS LTD.** for bulk certified seed contributions, as well as several other anonymous local producers who similarly offered contributions of their own certified cereal seed. We thank all these individuals/organizations plus head-offices of various seed development/distribution companies for their "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. Further thanks is extended to the site cooperators who continue to generously give their support to the program via use of the land, ***Vic Blanchette*** for the Fort St. John site, and ***School District #59*** for the use of the ***Hudson School Farm*** near Dawson Creek, B.C**.** Yet a further word of thanks goes out to ***Dennis Meier*** of Dawson Creek who continuously and generously offers us space on his farm for 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***, ***Brandi Smith***, and ***Cindy Locken*** who all worked very hard and well together. Further thanks to ***Colleen Anderson*** for her help with weather data extrapolation and review, and to all our part-time workers who were invaluable.

This document reports all tested materials grown during the 2013 growing season from performance trials placed at both the Dawson Creek and Fort St. John research farms. Materials not included in 2013 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.** This is due to the fact that a variety may change position regarding both yield and maturity as additional results are obtained – the simple effect of compiling data from variable weather patterns over time. 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 available or supplied with your product, be it seed or other product, always follow label directions and or agreements.

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BC 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 brackets [ ]. 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 in total*, or less than two years at both locations. This, of course, is a concern for canola where often a variety does not even stay in the seed market for more than two years.

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*. "Edge effect" is caused by the spaces around the individual plots allowing extra sunlight to penetrate, boosting 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 these effects are *equal* for *all* small plots in a given trial, and we can therefore compare varieties in each trial, and look at resulting yields *relative to one another*.** Yields here are thus the result of *small plot production* and the same *level* of production is unlikely to be achieved on a large-scale basis. Unfortunately statistics, which are vital, cannot be used on "*percent of check variety*" data. Thus, we elected to show *bushels per acre* for the current year for the sole purpose of displaying statistical results for the current year. Treat *all* yields (*percent of check* and *bushels per acre*) as relative results. In all agronomic information the check variety name has been bolded to identify it.

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. Many new transgenic herbicide-tolerant varieties have additional restrictions through '*technical use agreements*', so be aware of these also, as they often 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, ultimately 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 is 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 in these trials, experience has shown that the top end of the range provides even 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 and more uniform maturity**, and reduce the amount of green kernels at harvest.

Tests conducted by the Beaverlodge Research Station several years ago 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, results became less significant. Wheat is currently being tested by the BCGPA but no conclusions have been drawn as of 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 weights, adjusting for percent germination and allowing for seed decay (3%), calculate the number of pounds of seed required per acre.

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 peas):

Target **8** pea plants per square foot, the variety has a 1000 K wt. of **250** grams, and you estimate that between seed decay and percent germination of the seed lot that you will have, **90**% of the seeds will grow into healthy plants. Therefore…

$$\frac{\textbf{8}\ \text{plants/sq.ft}\ \textbf{x 250}\ (\text{g/1000 K})}{\textbf{90}\ (\%)}\ \textbf{x 10 = 222}\ \text{lb/acre}$$

Answer: You would plant 222 lbs. of pea seed/acre.

BC Grain Producers Association - 2013 Growing Conditions -

Heavy late snowfalls had everyone thinking we would all be planting a month behind schedule but an unusually warm period started in early May so planting was only delayed by about a week. An advanced forecast calling for heavy rains in late May had everyone pushing their planting hours and for good reason as on the evening of May 22nd when our planting was completed, forecasters were proved correct. Never heavy enough to cause flooding, but enough and often enough that planting after May 22nd would prove difficult; even timely post-emergent spraying in June was a struggle due to saturated soils. Filling in "non-research" areas with bulk rotational crops on both farms was challenging in 2013. The frequent rains continued right on through the summer and into the harvest period. Field operations were more or less scheduled around the rains rather than time of year, and much of the research assessments in the field were accomplished via umbrellas, mud-boots, and water-resistant paper!

The frequent well-spaced rains meant the crops just did not want to stop growing nor stop producing flowers and thus seed (canola averaged significantly over 30 days of continuous blooming). Consequently yields in all crops were excellent to exceptional, perhaps record breaking in the cereals. The downside was a delayed harvest for all crops and an increase in disease pressures from ascochyta and mycosphaerella blights in peas to schelortinia in canola, increase of ergot in triticale and wheat, and even some other diseases lowering seed quality in wheat by harvest. Rains were so frequent that multiple applications of fungicides were likely the only disease protection regimes that would have large economic returns in a year of such constant dampness.

A delay in a killing frost to nearer the end of September and lack of early snowfall (a bonus for sure) allowed all harvest to wrap up by late October but only with the help of desiccants. The second bonus this year was despite the disease pressures, most crops had good quality, lodging was much lower than anticipated, and statistical values in all trials were some of the best on record. LSD values (see page 4 for explanation thereof) offered large spreads between the means of lines, so all in all it was a fantastic year for research results.

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
			Dawson Creek			Fort St.John			B.C. Peace				
			2013	2008-2013		2013	2008-2013		2013	2008-2013			
Variety		Type	Yield	Avg.	Stn.Yrs.	Yield	Avg.	Stn.Yrs.	Yield	Avg.	Stn.Yrs.		
XENA	2-row	feed	115	113	[3]	125	105	[5]	120	109	[8]		

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

Number of **times** in total the variety was tested in the **BC 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, but we do not like to see yield data from a single trial with a high CV value. Anything less than 10% is considered excellent.

Least Significant Difference test (LSD value) , are those little letters behind the *data means* (or averages). Basically, 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			
	2013	2008-2013		
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 this report, we only have LSD values for this current year's data, and thus you should still take notice of the long term averages. Note that preferably data should have six station years, (usually meaning

Fertilizer Rates Used In 2013

Fort St. John, B.C. Legal Description: SW19 Tp84 R18 W6

Crop	Fertilizer Applied	Pro. kg/ha	Placement	lbs actual/ac Recom. vs. Applied	Enviro-Test Labs N	P_20_5	K_2O	S
Canola	27-0-0-12	253	banded	*Recommended =	70	32	15	27
	6-26-30	76	banded	Actually applied =	67.7	29.2	20.3	27.1
	11-52-0	25	in-furrow					
Flax	27-0-0-12	253	banded	*Recommended =	65	32	15	15
	6-26-30	76	banded	Actually applied =	67.7	29.2	20.3	27.1
	11-52-0	25	in-furrow					
Cereals	46-0-0	167	banded	*Recommended =	75	22	15	12
	6-26-30	76	banded	Actually applied =	75.3	29.2	20.3	0.0
	11-52-0	25	in-furrow					
Field Pea	20.5-0-0-24	41	banded	*Recommended =	0	25	15	5
	6-26-30	76	banded	Actually applied =	14.1	29.2	20.3	8.8
	11-52-0	25	in-furrow					

Dawson Creek, B.C. Legal Description: SW20 Tp78 R14 W6

Crop	Fertilizer Applied	Pro. kg/ha	Placement	lbs actual/ac Recom. vs. Applied	Enviro-Test Labs N	P_20_5	K_2O	S
Canola	27-0-0-12	278	banded	*Recommended =	80	25	20	27
	6-26-30	76	banded	Actually applied =	73.7	29.2	20.3	29.8
	11-52-0	25	in-furrow					
Flax	27-0-0-12	157	banded	*Recommended =	40	22	20	12
	6-26-30	76	banded	Actually applied =	44.6	29.2	20.3	16.8
	11-52-0	25	in-furrow					
Wheat & Barley	46-0-0	167	banded	*Recommended =	75	22	15	12
	6-26-30	76	banded	Actually applied =	75.3	29.2	20.3	0.0
	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 =	68.3	29.2	20.3	0.0
	11-52-0	25	in-furrow					
Oat	46-0-0	101	banded	*Recommended =	45	22	15	12
	6-26-30	76	banded	Actually applied =	48.2	29.2	20.3	0.0
	11-52-0	25	in-furrow					
Field Pea	20.5-0-0-24	41	banded	*Recommended =	0	25	15	5
	6-26-30	58	banded	Actually applied =	13.1	25.1	15.5	8.8
	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	07-Jun-13	Muster (ethametsulfuron methyl)	12 g/ac
		Lontrel 360 (clopyralid)	227 ml/ac
		Poast Ultra (sethoxydim)	200 ml/ac
		Merge	400 ml/ac
Canola CPT (Herb. Systems)	07-Jun-13	WeatherMax (glyphosate) = RR blocks only	400 ml/ac
		Liberty150SN (glufosinate-ammonium)=LL only	1.35 L/ac
		Solo (imazamox) = CL blocks only	11.7 g/ac
Field Pea	04-Jun-13	Sencor (metribuzin) 75%DF	77g/ac
		MCPA Sodium	190ml/ac
Flax	07-Jun-13	Buctril - M (bromoynil + MCPA)	400 ml/ac
Wheat, Barley, Oat	07-Jun-13	Buctril - M (bromoynil + MCPA)	400 ml/ac

Dawson Creek, B.C.	Legal Description: SW20 Tp78 R14 W6		
Crop	**Date Applied**	**Product Used**	**Product Rate**
Canola (napus & rapa)	12-Jun-13	Muster (ethametsulfuron methyl)	12 g/ac
		Lontrel 360 (clopyralid)	227 ml/ac
		Poast Ultra (sethoxydim)	200 ml/ac
		Merge	400 ml/ac
Canola CPT (Herb. Systems)	21-Jun-13	WeatherMax (glyphosate) = RR blocks only	400 ml/ac
		Liberty150SN (glufosinate-ammonium)=LL only	1.35 L/ac
		Solo (imazamox) = CL blocks only	11.7 g/ac
Field Pea	16-Jun-13	Sencor (metribuzin) 75%DF	77 g/ac
		MCPA Sodium	190 ml/ac
Flax	16-Jun-13	Buctril-M (bromoynil + MCPA)	400 ml/ac
Malt Barley	16-Jun-13	Buctril-M (bromoynil + MCPA)	400 ml/ac
Oat			
Wheat, Barley, Trit	16-Jun-13	Buctril-M (bromoynil + MCPA)	400 ml/ac

All seed was treated with seed treatment: canola with Helix Xtra®; cereal & flax with Raxil FL®; and pea seed with Apron Maxx RTA.

Planting and Harvest Information

Loc.	Crop	Seeding rate lbs/ac	Seeding rate kg/ha	Date Planted	Soil Temp (C°) @ plant	Seeding Depth	Harvest Date	Harvesting Method
FSJ	**Napus Canola**	8	8.9	13-May-13	10	0.75 - 1 inch	05-Oct-13	desiccate/direct
	Flax	40	45	13-May-13	10	0.75 - 1 inch	11-Oct-13	desiccate/direct
	Barley	77	86	16-May-13	8	0.75 - 1 inch	07-Sep-13	direct
	CWRS Wheat	90	101	16-May-13	8	0.75 - 1 inch	12-Sep-13	desiccate/direct
	CPS/CWES	90	101	16-May-13	8	0.75 - 1 inch	23-Sep-13	desiccate/direct
	Oat	81	90	16-May-13	8	0.75 - 1 inch	12-Sep-13	desiccate/direct
	Triticale	117	131	16-May-13	8	0.75 - 1 inch	26-Sep-13	direct
	Field Pea	149	167	11-May-13	7.5	0.75 - 1.25 inch	04-Sep-13	desiccate/direct
DC	**Napus Canola**	8	8.9	14-May-13	10	1-1.25 inch	29-Sep-13	desiccate/direct
	Flax	40	45	11-May-13	8	0.75-1 inch	12-Oct-13	desiccate/direct
	Barley	77	86	17-May-13	10	0.75-1 inch	06-Sep-13	direct
	CWRS Wheat	90	101	17-May-13	10	0.75-1 inch	09-Sep-13	desiccate/direct
	CPS/CWES	90	101	17-May-13	10	0.75-1 inch	20-Sep-13	desiccate/direct
	Oat	81	90	18-May-13	10	0.75-1 inch	13-Sep-13	desiccate/direct
	Triticale	117	131	17-May-13	10	0.75-1 inch	27-Sep-13	direct
	Field Pea	149	167	10-May-13	9	0.75 -1 inch	06-Sep-13	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 2013 Yield bu / acre		Dawson Creek 2013 Yield % of Check	Dawson Creek 2008 - 2013 Avg. (%)	Dawson Creek 2008 - 2013 Station Years	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 Station Years	B.C. Peace 2013 Avg. (%)	B.C. Peace 2008-2013 Avg. (%)	B.C. Peace 2008-2013 Station Years
5604HR CL	110	a-f	102	97	[5]	95	efg	96	100	[5]	99	99	[10]
5605HR CL *	117	a	109	109	[1]	109	abc	110	110	[1]	109	109	[2]
AAC Bailey	105	fg	98	105	[3]	89	g	91	107	[3]	94	106	[6]
AAC Brandon	112	a-f	105	105	[2]	105	a-e	107	120	[2]	106	112	[4]
AAC Elie	109	a-g	101	107	[2]	106	a-d	108	122	[2]	105	114	[4]
AAC Iceberg * **	114	a-e	107	107	[1]	108	abc	109	109	[1]	108	108	[2]
AAC Redwater	107	c-g	100	98	[2]	94	efg	96	105	[2]	98	102	[4]
AC Barrie	106	d-g	99	94	[6]	101	b-f	102	103	[6]	100	99	[12]
BW947 * Δ	106	d-g	99	99	[1]	99	c-g	100	100	[1]	100	100	[2]
Carberry	105	fg	98	109	[5]	93	fg	94	112	[5]	96	110	[10]
Cardale	113	a-f	105	104	[2]	105	a-e	106	108	[2]	106	106	[4]
CDC Abound	112	a-f	105	111	[6]	102	a-f	104	114	[6]	104	113	[12]
CDC Alsask	112	a-f	104	105	[6]	107	abc	109	107	[6]	107	106	[12]
CDC Go	116	ab	108	105	[6]	104	a-f	105	109	[6]	107	107	[12]
CDC Osler	105	efg	98	101	[6]	95	efg	96	104	[6]	97	103	[12]
CDC Plentiful	108	b-g	101	103	[2]	103	a-f	105	109	[2]	103	106	[4]
CDC Stanley	115	abc	108	103	[5]	111	ab	113	108	[5]	110	105	[10]
CDC Thrive	111	a-f	104	97	[5]	102	a-f	103	111	[5]	103	104	[10]
CDC Utmost	110	a-f	103	103	[5]	107	abc	109	110	[5]	106	107	[10]
CDC VR Morris	109	a-g	101	98	[2]	103	a-f	104	105	[2]	103	102	[4]
CDC Whitewood * ** Δ	107	c-g	100	100	[1]	94	efg	95	95	[1]	98	98	[2]
Infinity	113	a-f	105	106	[6]	113	a	114	112	[6]	110	109	[12]
Katepwa	107	c-g	100	100	[6]	99	c-g	100	100	[6]	100	100	[12]
Muchmore ***	105	fg	98	104	[5]	102	a-f	104	116	[5]	101	110	[10]
PT584 * Δ	100	g	94	94	[1]	96	d-g	97	97	[1]	95	95	[2]
PT765 * Δ	101	g	94	94	[1]	94	efg	95	95	[1]	95	95	[2]
Shaw	115	a-d	107	103	[5]	105	a-e	107	111	[5]	107	107	[10]
Superb	116	ab	108	113	[6]	110	abc	112	122	[6]	110	118	[12]
SY433	106	c-g	99	103	[3]	99	c-g	101	106	[3]	100	104	[6]
Unity	117	a	109	107	[6]	108	abc	109	111	[6]	109	109	[12]
Whitehawk **	108	b-g	101	94	[2]	96	d-g	97	103	[2]	99	98	[4]
LSD (P=.05) =	4.96					6.46							
CV value (%) =	3.2					4.49							

* first year tested, very limited data available

Katepwa check variety

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

** CWHWS Canadian Western Hard White Spring Wheat

*** semi-dwarf type

Δ denotes materials not registered

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

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

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

CWRS Wheat — Variety Descriptions

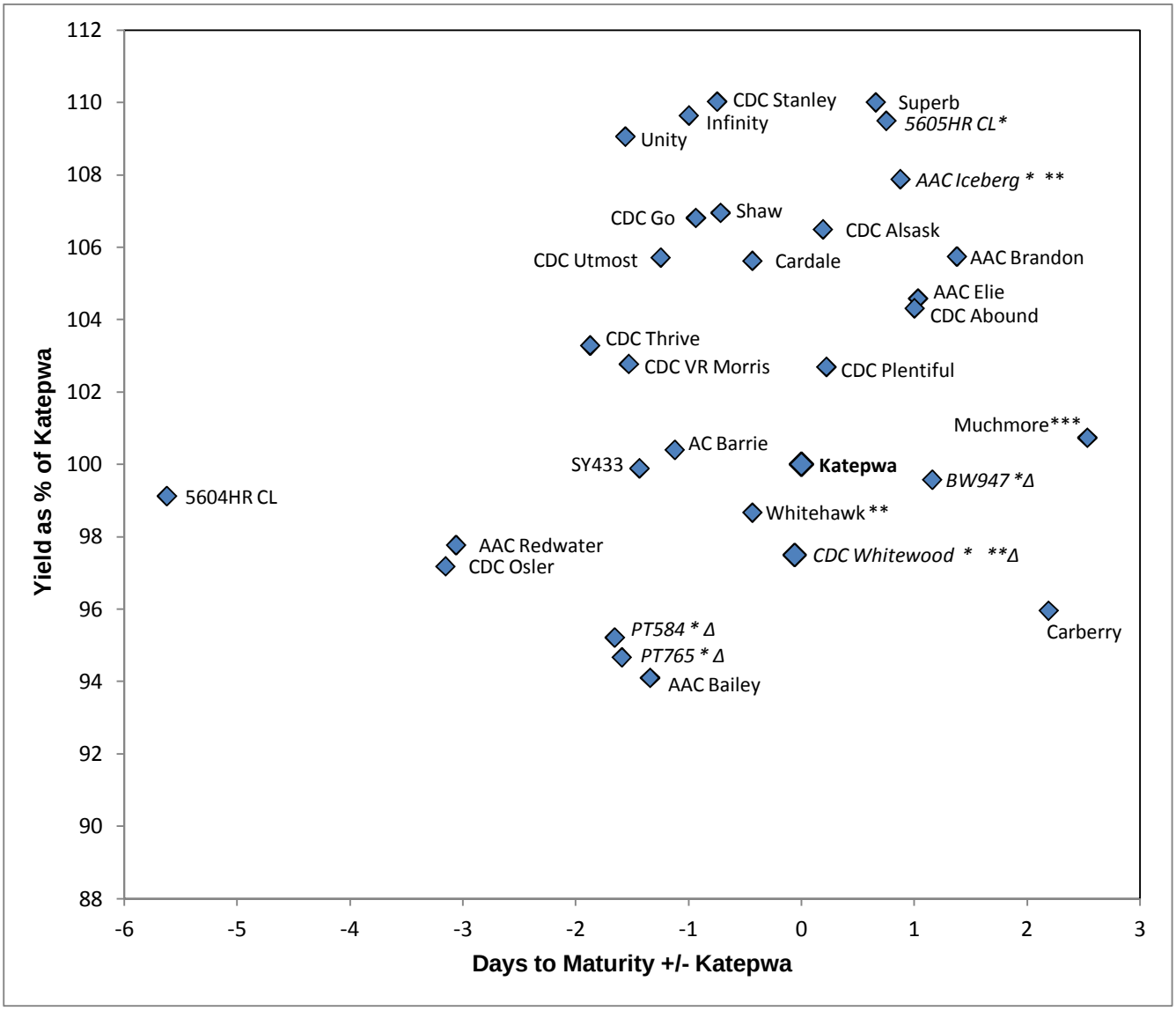
Variety	B.C. Peace Averages 2008 - 2013: Days to Maturity +/- check	Height cm	Bushel Weight lbs/bu	Kernel Protein % +/- check		Alberta Agdex 100/32 Resistance to: Lodging	Sprouting	Loose Smut	Common Bunt	Stripe Rust	Leaf Spot	FHB	Distributor
■ 5604HR CL	-7.1	83	65	0	[10]	G	G	P	F	XX	P	F	Crop Production Services
■ *5605HR CL* *	0.8	105	65	1	[2]								Crop Production Services
■ AAC Bailey	-2.8	95	64	0	[6]	G	G	P	F	XX	F	F	Canterra Seeds
■ AAC Brandon	-0.5	77	65	0	[4]	G	P	G	VP	G	F	G	SeCan
■ AAC Elie	-0.4	78	65	1	[4]	G	F	F	F	G	F	F	Alliance Seed Corporation
■ *AAC Iceberg* * **	0.9	92	65	0	[2]	G	P	P	F	G	P	F	Alliance Seed Corporation
■ AAC Redwater	-3.5	86	65	1	[4]	G	VG	P	F	G	P	F	SeCan
■ AC Barrie	-1.6	81	64	1	[12]	G	G	G	F	VP	P	F	SeCan
BW947 * Δ	1.2	103	65	0	[2]								U of A
■ Carberry	-0.5	77	65	0	[10]	VG	F	G	VG	G	P	G	SeCan
■ Cardale	-2.4	81	63	0	[4]	G	G	F	VP	G	P	G	Seed Depot
■ CDC Abound	-0.6	75	65	0	[12]	G	F	F	F	P	P	VP	Crop Production Services
■ CDC Alsask	-2.3	83	63	0	[12]	F	G	G	G	F	VP	P	Crop Production Services
CDC Go	-2.6	74	64	0	[12]	G	VP	P	F	G	VP	P	Public Variety
CDC Osler	-3.3	79	63	0	[12]	G	F	G	G	F	F	VP	Public Variety
■ CDC Plentiful	-0.8	86	64	1	[4]	VG	P	VG	F	G	F	G	FP Genetics
■ CDC Stanley	-2.3	83	63	0	[10]	G	G	G	VP	F	F	P	Crop Production Services
■ CDC Thrive	-3.4	85	64	0	[10]	G	P	G	F	F	F	P	SeCan
■ CDC Utmost	-1.0	84	64	0	[10]	G	G	P	VP	F	F	P	FP Genetics
■ CDC VR Morris	-1.3	86	65	1	[4]	G	P	F	F	XX	F	G	Crop Production Services
■ *CDC Whitewood* * ** Δ	-0.1	92	65	0	[2]								U of S
■ Infinity	-0.4	80	63	0	[12]	G	G	G	G	P	P	VP	Canterra Seeds
Katepwa	0.0	85	63	0	[12]	F	F	G	G	P	P	F	SeCan
■ Muchmore***	-0.3	74	65	0	[10]	VG	G	G	VG	G	P	P	FP Genetics
PT584 * Δ	-1.7	98	65	1	[2]								U of S
PT765 * Δ	-1.6	103	66	1	[2]								U of A
■ Shaw	-2.3	88	65	0	[10]	G	G	VP	G	F	P	P	SeCan
■ Superb	-0.3	78	65	0	[12]	G	F	F	G	VP	VP	P	SeCan
■ SY433	-1.9	100	65	0	[6]	G	G	F	VP	XX	F	G	Syngenta
■ Unity	-1.6	81	65	0	[12]	G	G	P	VG	P	P	P	SeCan
■ Whitehawk **	-1.7	86	64	0	[4]	G	G	F	P	P	P	F	SeCan

* first year tested, very limited data available
** CWHWS = Canadian Western Hard White Spring Wheat
Δ denotes materials not registered
CDC Abound, **5605HR CL** and **5604HR CL** are Clearfield® tolerant varieties
CDC Utmost, **Shaw**, and **Unity** are Wheat Midge Resistant varieties
AAC Bailey is a (solid-stemmed) Wheat Stem Sawfly resistant variety

VG = very good, G = good, F = fair, P = Poor, VP = very poor
*** semi-dwarf type
XX = insufficient data
Average protein for **Katepwa** is **13.3 %**
Overall average maturity for **Katepwa** is **106 days**
FHB = Fusarium Head Blight

■ Protected by Plant Breeders' Rights
Katepwa check variety

CWRS Wheat — Regional Variety Performance — 2013



Average maturity for **Katepwa** is **110 days** for **2013**

Δ denotes materials not registered

* first year tested, very limited data available

** CWHWS Canadian Western Hard White Spring Wheat

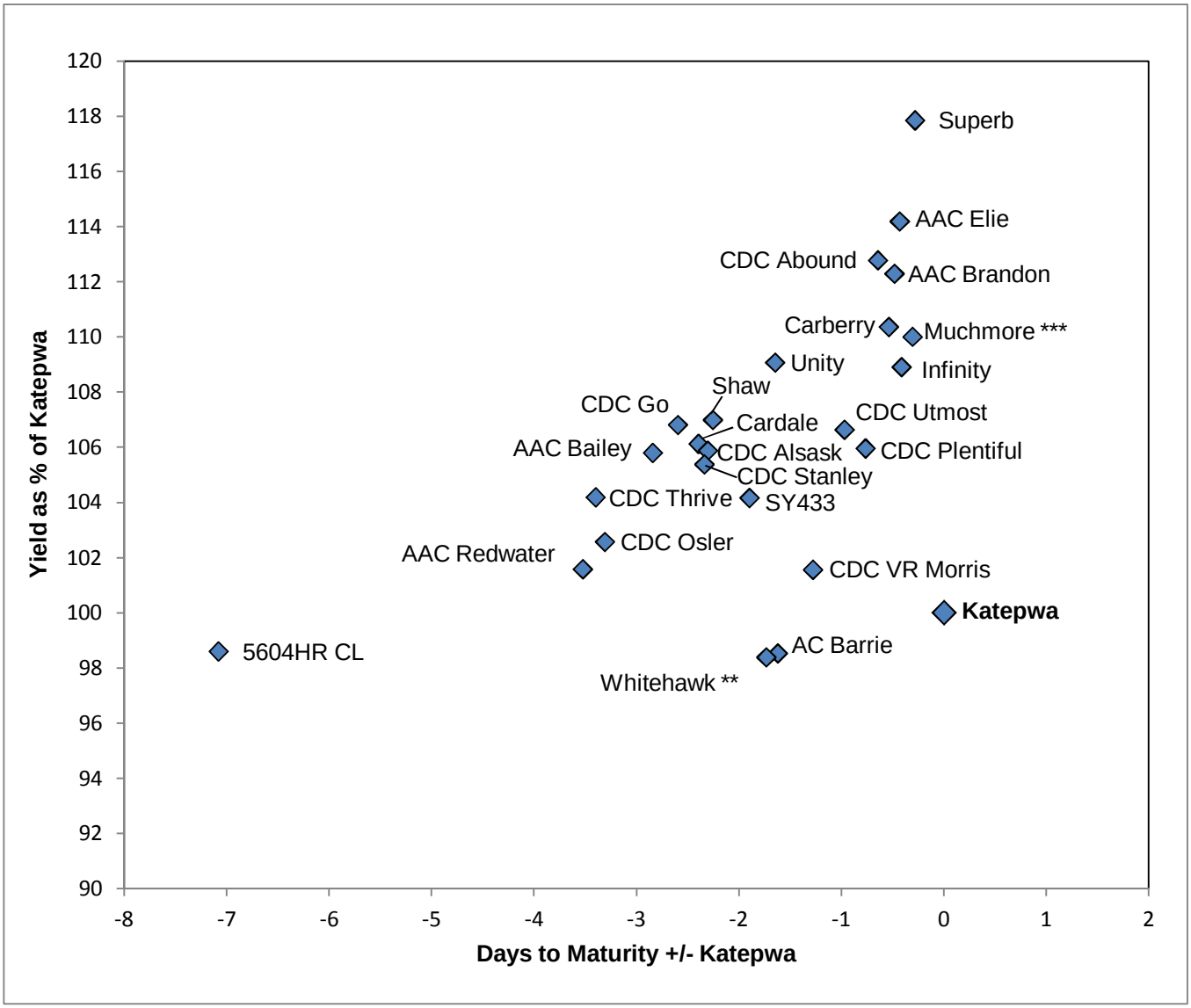
*** semi-dwarf type

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

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

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

CWRS Wheat — Regional Variety Performance — 2008-2013



Overall average maturity for **Katepwa** is **106** days

*** semi-dwarf type

** CWHWS Canadian Western Hard White Spring Wheat

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

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

CDC Aboundand **5604HR CL** are Clearfield® tolerant varieties

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. 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 5700PR

		Dawson Creek					Fort St. John					B.C. Peace		
		2013 Yield			2008 - 2013		2013 Yield			2008 - 2013		2013	2008-2013	
Variety	Type	bu / acre		% of check	Avg. (%)	Stn. Yrs.	bu / acre		% of check	Avg. (%)	Stn. Yrs.	Avg. (%)	Avg. (%)	Stn. Yrs.
5700PR	CPS-red	116	de	100	100	[5]	119	c-g	100	100	[6]	100	100	[11]
5702PR	CPS-red	123	a-e	106	99	[5]	118	c-g	99	103	[6]	102	101	[11]
AAC Chiffon *	CWSWS	134	a	116	116	[1]	136	a	114	114	[1]	115	115	[2]
AAC Proclaim *	CWSWS	119	b-e	103	103	[1]	121	b-e	101	101	[1]	102	102	[2]
AAC Ryley	CPS-red	117	b-e	101	101	[1]	118	c-g	99	101	[2]	100	101	[3]
AC Andrew	CWSWS	131	abc	113	107	[5]	128	b	107	111	[6]	110	109	[11]
AC Barrie	CWRS	101	f	87	82	[2]	102	h	85	86	[2]	86	84	[4]
CDC NRG003	CWGP	122	a-e	105	98	[3]	120	b-f	101	97	[4]	103	97	[7]
Conquer	CPS-red	118	b-e	102	95	[3]	122	bcd	102	92	[4]	102	94	[7]
Enchant	CPS-red	113	def	97	97	[1]	113	efg	94	93	[2]	96	95	[3]
GP087 * Δ	CWGP	111	def	96	96	[1]	112	efg	94	94	[1]	95	95	[2]
GP097 *Δ	CWGP	125	a-d	108	108	[1]	111	g	93	93	[1]	101	101	[2]
HY1319 *Δ	CWGP	115	de	100	100	[1]	113	d-g	95	95	[1]	97	97	[2]
HY1610 *Δ	CWGP	120	a-e	104	104	[1]	123	bc	103	103	[1]	104	104	[2]
HY995 *Δ	CWGP	116	cde	100	100	[1]	114	c-g	96	96	[1]	98	98	[2]
Minnedosa	CPS-white	114	de	99	94	[3]	115	c-g	96	94	[4]	98	94	[7]
NRG010	CPS-white	124	a-e	107	101	[4]	120	b-e	101	100	[5]	104	100	[9]
Pasteur	CWGP	132	ab	114	114	[1]	137	a	115	111	[2]	114	113	[3]
Superb	CWRS	109	ef	94	98	[5]	111	fg	93	99	[6]	94	98	[11]
LSD (P=.05) =		9.13					5.29							
CV value (%) =		5.42					3.15							

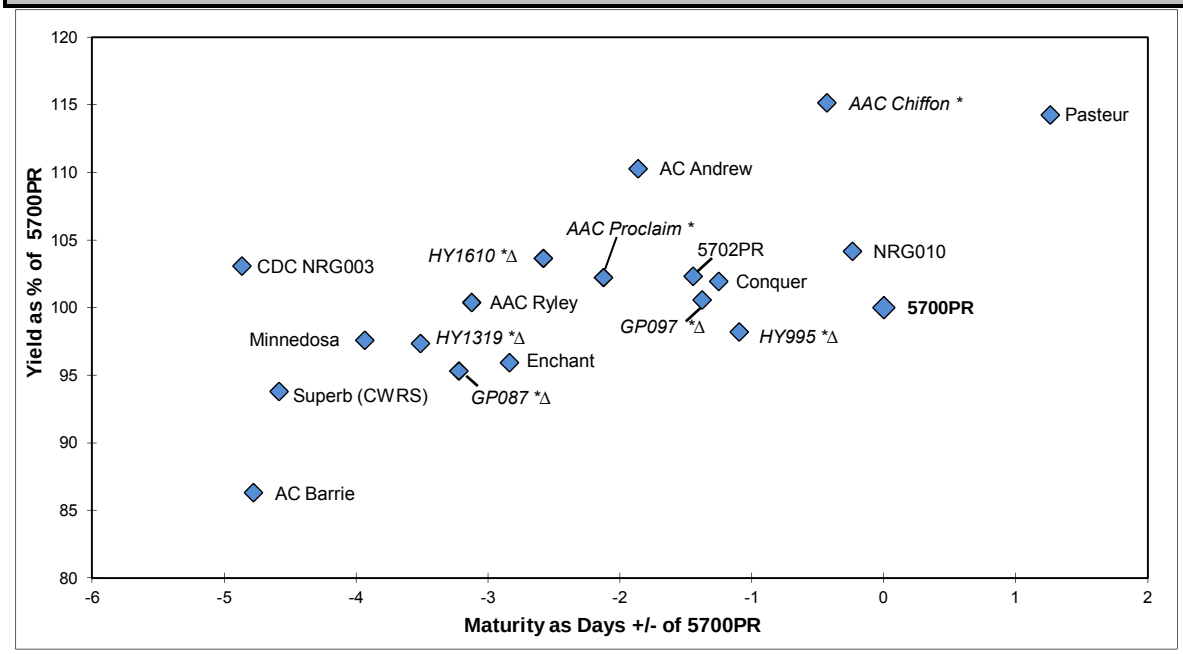
* first year tested, very limited data avaliable

5700PR - check variety

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

Δ denotes materials not registered

CPS / CWSWS Wheat — Regional Variety Performance 2013



Δ denotes materials not registered

Average maturity for **5700PR** is **116** days for **2013**

CPS / CWSWS Wheat — Variety Descriptions

Variety	Type	B.C. Peace Averages 2008-2013: 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
■ **5700PR**	CPS-red	0.0	71	64	0	[11]	VG	F	P	VG	P	P	P	Crop Production Services
■ 5702PR	CPS-red	-0.2	76	63	0	[11]	G	P	P	F	P	F	P	Crop Production Services
■ *AAC Chiffon* *	CWSWS	-0.4	115	63	-1	[2]								AAFC Lacombe
■ *AAC Proclaim* *	CWSWS	-2.1	106	64	0	[2]								FP Genetics
■ AAC Ryley	CPS-red	-1.2	86	64	1	[3]	G	G	F	VG	VP	P	P	SeCan
AC Andrew	CWSWS	0.9	75	64	-1	[11]	VG	P	VP	P	F	P	VP	SeCan
■ AC Barrie	CWRS	-3.8	84	64	2	[4]	G	G	G	F	VP	P	F	SeCan
■ CDC NRG003	CWGP	-3.2	84	63	0	[7]	G	F	P	VG	XX	P	VP	Canterra Seeds
■ Conquer	CPS-red	0.4	91	64	2	[7]	G	P	P	VG	G	F	P	Canterra Seeds
■ Enchant	CPS-red	-0.7	95	65	1	[3]	F	G	P	VG	XX	P	VP	FP Genetics
■ *GP087* * Δ	CWGP	-3.2	95	65	1	[2]								Syngenta Canada Inc.
■ *GP097* * Δ	CWGP	-1.4	91	64	0	[2]								AAFC Lacombe
■ *HY1319* * Δ	CWGP	-3.5	80	65	1	[2]								AAFC Lacombe
■ *HY1610* * Δ	CWGP	-2.6	98	65	1	[2]								AAFC Winnipeg
■ *HY995* *Δ	CWGP	-1.1	91	64	1	[2]								Syngenta Canada Inc.
■ Minnedosa	CPS-white	-3.6	87	64	1	[7]	G	G	F	G	G	P	P	SeCan
■ NRG010	CPS-white	1.1	84	63	0	[9]	G	P	P	VG	VG	F	P	Canterra Seeds
Pasteur	CWGP	2.3	85	65	0	[3]	VG	G	P	VP	G	F	F	SeCan
■ Superb	CWRS	-2.7	78	65	1	[11]	G	F	F	G	VP	VP	P	SeCan

* first year tested, very limited data available

5700PR - check variety

■ Protected by Plant Breeders' Rights

Overall average maturity for **5700PR** is **106** days.

Overall average protein for **5700PR** is **11.7 %**

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

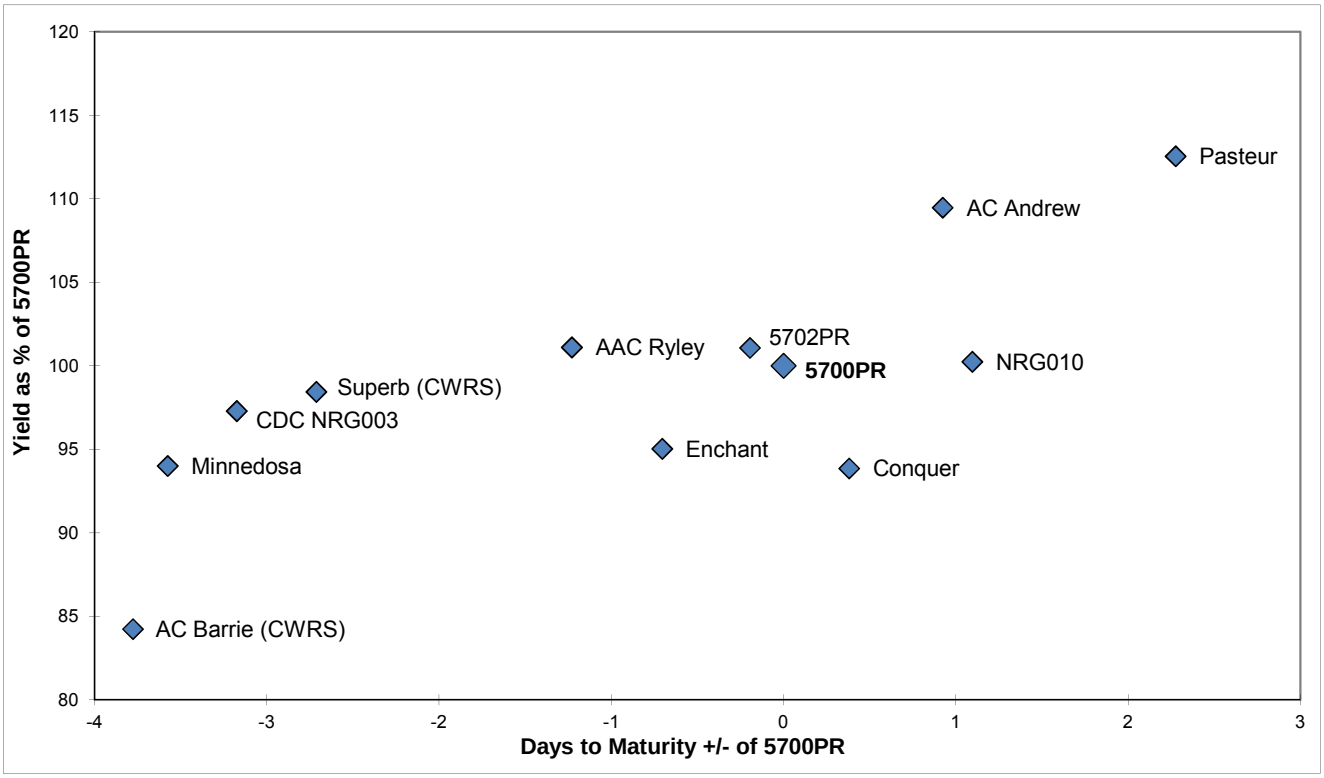
XX = insufficient data

"blanked *Tolerance* data" = no data available yet (too new)

Δ denotes materials not registered

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

CPS / CWSWS Wheat — Regional Variety Performance — 2008-2013



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 is not known for having. In the past, durum production has been concentrated in the southern parts of the Canadian prairies.

However, a few producers in northwestern Alberta have had success growing the crop and for this reason it has been tested here in the B.C. Peace. Often surprises arise in our northern long-daylight region and so it was worth investigating durum in a limited fashion. Most varieties of durum wheat currently available are suggested by literature to have approximately 10 days later maturity than CWRS wheat. This is not always the case locally but held true in 2011 (a very wet & late year). Durum should thus not be grown in large acreage within the B.C. Peace River region for grain production until more is understood about its agronomics and interest develops among the grain buyers to purchase the end product from the region - admittedly a vicious circle of acceptance and trial and error. Therefore, *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, however, 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, a major problem in most durum growing regions. 2013 proved to produce some evidence of fusarium in some wheat due to an exceptionally consistent year for moisture. Whether this is 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, 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 buyer/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. 2013 and 2011 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 it would have been bad news in both 2013 or 2011 for anything later than a CWRS wheat even if just a few days later.

Durum Wheat — Yield as % of Strongfield

		Dawson Creek					Fort St. John					B.C. Peace		
		2013 Yield			2009 - 2013		2013 Yield			2009 - 2013		2013	2009 - 2013	
Variety	Type	bu / acre		% of check	Avg. (%)	Stn. Yrs.	bu / acre		% of check	Avg. (%)	Stn. Yrs.	Avg. (%)	Avg. (%)	Stn. Yrs.
*AAC Marchwell **	CWAD	118	a	94	94	[1]	108	bc	105	105	[1]	100	100	[2]
AAC Raymore	CWAD	108	b	86	104	[2]	94	d	92	95	[2]	89	100	[4]
Brigade	CWAD	122	a	98	108	[5]	113	ab	110	104	[5]	104	106	[10]
CDC Desire	CWAD	125	a	100	111	[2]	107	bc	104	107	[2]	102	109	[4]
*CDC Fortitude **	CWAD	127	a	101	101	[1]	111	ab	109	109	[1]	105	105	[2]
CDC Vivid	CWAD	120	a	96	101	[2]	95	d	93	98	[2]	95	99	[4]
*DT832 *Δ*	CWAD	123	a	98	98	[1]	115	a	112	112	[1]	105	105	[2]
Enterprise	CWAD	127	a	101	107	[5]	107	bc	105	103	[5]	103	105	[10]
Strongfield	CWAD	125	a	100	100	[5]	102	c	100	100	[5]	100	100	[10]
LSD (P=.05) =		5.45					5.26							
CV value (%) =		3.07					3.40							

Strongfield - check variety

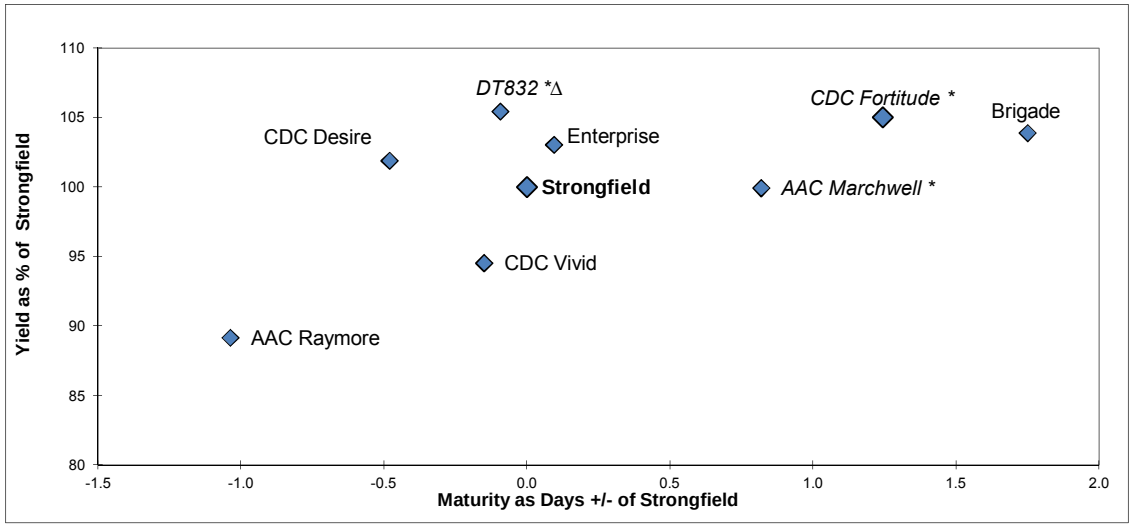
AAC Marchwell is a wheat midge tolerant variety

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

Δ denotes materials not registered

* first year tested, very limited data avaliable

Durum Wheat — Regional Variety Performance 2013



Average maturity for **Strongfield** is **115 days** for **2013**

Durum Wheat — Variety Descriptions

Variety	Type	B.C. Peace Averages 2009 - 2013: 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 Marchwell* *	CWAD	0.8	98	65	0	[2]								SeCan
■ AAC Raymore	CWAD	0.2	87	63	1	[4]	F	F	P	G	G	F	VP	SeCan
■ Brigade	CWAD	1.7	87	64	-1	[10]	G	F	P	VG	G	F	P	Crop Production Services
■ CDC Desire	CWAD	0.8	86	64	0	[4]	F	G	P	VG	G	F	VP	Syngenta
CDC Fortitude *	CWAD	1.2	98	65	0	[2]								Crop Production Services
■ CDC Vivid	CWAD	1.3	86	63	0	[4]	G	F	F	VG	XX	F	VP	Crop Production Services
DT832 *Δ	CWAD	-0.1	98	65	-1	[2]								U of S
■ Enterprise	CWAD	-0.7	82	64	-1	[10]	G	F	P	G	VG	F	P	Canterra Seeds
■ **Strongfield**	CWAD	0.0	78	64	0	[10]	F	F	VP	F	G	P	VP	SeCan

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

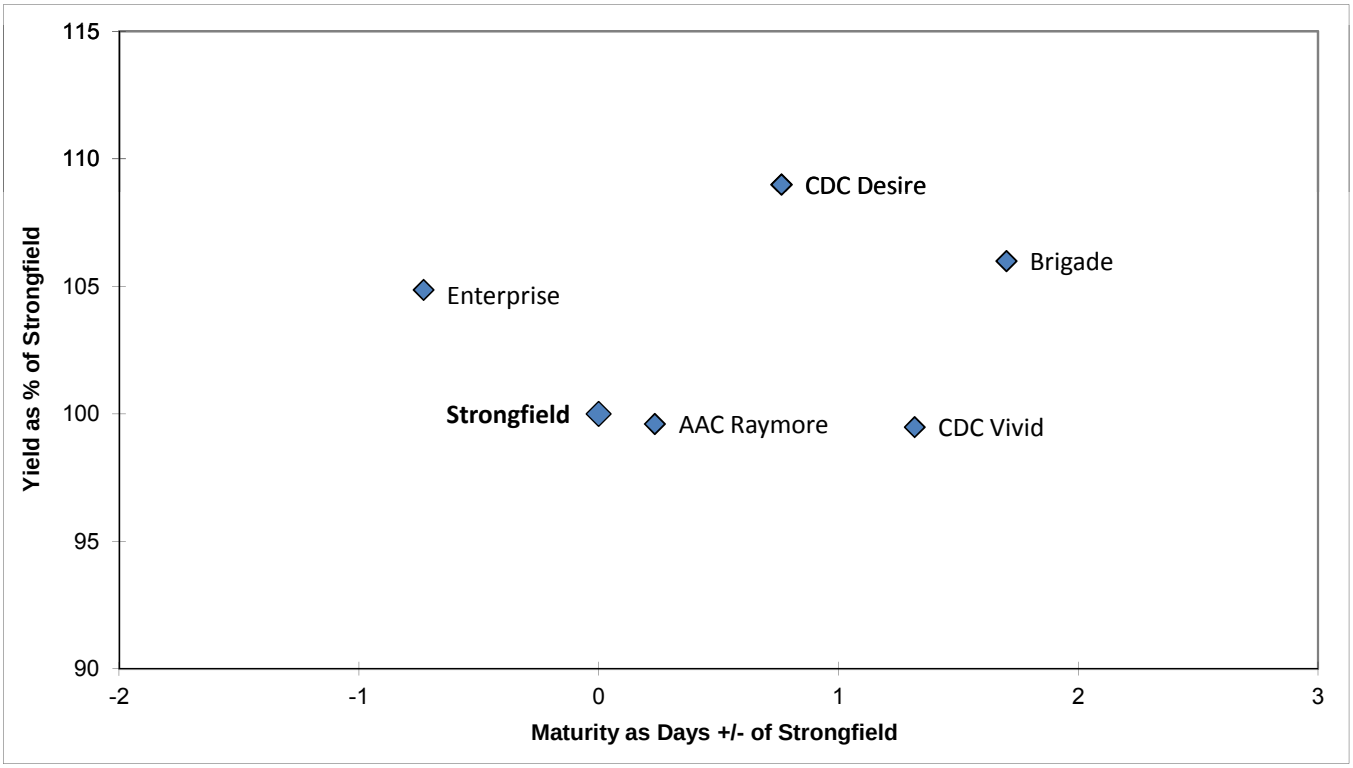
Strongfield - check variety

■ Protected by Plant Breeders' Rights

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 **109** days
Overall average protein for **Strongfield** is **14.5** %

Durum Wheat — Regional Variety Performance 2009-2013



Barley

Six Row Barley

Yield as % of AC Metcalfe

Variety	Type	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 Lacombe	Feed	137	abc	107	105	[6]	148	bc	105	105	[6]	106	105	[12]
AC Metcalfe	Malt	128	cd	100	100	[6]	141	c	100	100	[6]	100	100	[12]
Amisk *	Feed	142	abc	110	110	[1]	160	a	114	114	[1]	112	112	[2]
Breton ***	Feed	136	abc	106	109	[2]	151	b	108	108	[2]	107	108	[4]
CDC Anderson	Malt	134	bc	105	102	[3]	145	bc	103	105	[3]	104	104	[6]
CDC Mayfair	Malt	129	cd	101	102	[6]	147	bc	105	98	[6]	103	100	[12]
Celebration	Malt	119	d	93	102	[4]	141	c	100	100	[4]	97	101	[8]
Muskwa ***	Feed	147	ab	115	114	[3]	148	bc	105	109	[3]	110	112	[6]
Sundre***	Feed	150	ab	116	104	[6]	165	a	117	113	[6]	117	108	[12]
Vivar **	Feed	152	a	118	109	[6]	159	a	113	109	[6]	116	109	[12]
LSD (P=.05) =		11.06					6.76							
CV value (%) =		5.55					3.10							

Two Row Barley

Yield as % of AC Metcalfe

Variety	Type	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.
AAC Synergy	Malt	145	b-e	95	98	[2]	153	b-e	93	98	[2]	94	98	[4]
ABI Voyager *	Malt	137	b-f	90	90	[1]	147	de	89	89	[1]	90	90	[2]
AC Metcalfe	Malt	153	ab	100	100	[6]	164	abc	100	100	[6]	100	100	[12]
Bentley	Malt	147	a-d	96	103	[6]	161	a-d	98	100	[6]	97	102	[12]
Brahma	Feed	150	abc	98	111	[5]	163	abc	99	105	[5]	99	108	[10]
Canmore *	Feed	142	b-f	93	93	[1]	166	ab	101	101	[1]	97	97	[2]
CDC Clear ¶	Malt	111	g	91	92	[3]	112	f	85	96	[3]	88	94	[6]
CDC Kindersley	Malt	141	b-f	92	102	[4]	148	de	90	98	[4]	91	100	[8]
CDC Maverick ***	Feed	130	ef	85	93	[3]	147	de	90	95	[3]	87	94	[6]
CDC Meredith	Malt	136	c-f	89	106	[6]	156	b-e	95	106	[6]	92	106	[12]
CDC PolarStar	Malt	128	f	84	93	[3]	149	de	90	93	[3]	87	93	[6]
Cerveza	Malt	142	b-f	93	107	[5]	153	b-e	93	103	[5]	93	105	[10]
Champion	Feed	145	b-e	95	129	[6]	153	b-e	93	105	[6]	94	117	[12]
Major	Malt	137	c-f	89	98	[5]	151	cde	92	100	[5]	91	99	[10]
Merit 57	malt	160	a	104	113	[5]	173	a	105	108	[5]	105	111	[10]
Newdale	Malt	133	def	87	106	[6]	147	de	89	101	[6]	88	104	[12]
TR10214 *Δ	Malt	141	b-f	92	92	[1]	154	b-e	93	93	[1]	93	93	[2]
TR11698 *Δ	Feed	147	a-d	96	96	[1]	172	a	105	105	[1]	100	100	[2]
XENA	feed	134	def	87	107	[6]	145	e	88	99	[6]	88	103	[12]
LSD (P=.05) =		9.39					8.76							
CV value (%) =		4.75					4.04							

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

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

Feed Barley — Variety Descriptions

Variety	Type	B.C. Peace Averages 2008-2013: 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	-0.7	75	50	-1	[11]	G	P	G	P	P	VP	SeCan
■ Breton ***	6 row	-1.2	91	51	-1	[4]	F	P	G	F	F	VP	Canterra Seeds
■ Brahma	2 row	1.8	78	56	0	[10]	G	P	VG	G	VP	F	Crop Production Services
■ *Canmore**	2 row	0.9	94	55	0	[2]							Canterra Seeds
■ Champion	2 row	2.6	73	55	-1	[12]	G	VP	VG	XX	VP	F	Crop Production Services
■ Muskwa ***	6 row	0.4	88	54	-1	[4]	G	P	VG	P	G	VP	SeedNet
■ Sundre ***	6 row	5.7	80	53	-1	[11]	G	P	VG	P	VG	VP	Mastin Seeds
*TR11698*Δ*	2 row	0.8	96	54	-1	[2]							AAFC Lacombe
■ XENA	2 row	0.8	73	54	0	[12]	G	P	P	G	VP	G	Crop Production Services
Semi-dwarf varieties													
■ *Amisk * , **	6 row	0.7	88	48	0	[2]							SeCan
■ Vivar **	6 row	-0.6	70	51	-1	[11]	VG	F	VG	G	F	VP	SeCan
Forage varieties													
■ CDC Maverick ***	2 row	3.2	111	57	1	[6]	F	VP	VG	F	P	F	SeCan

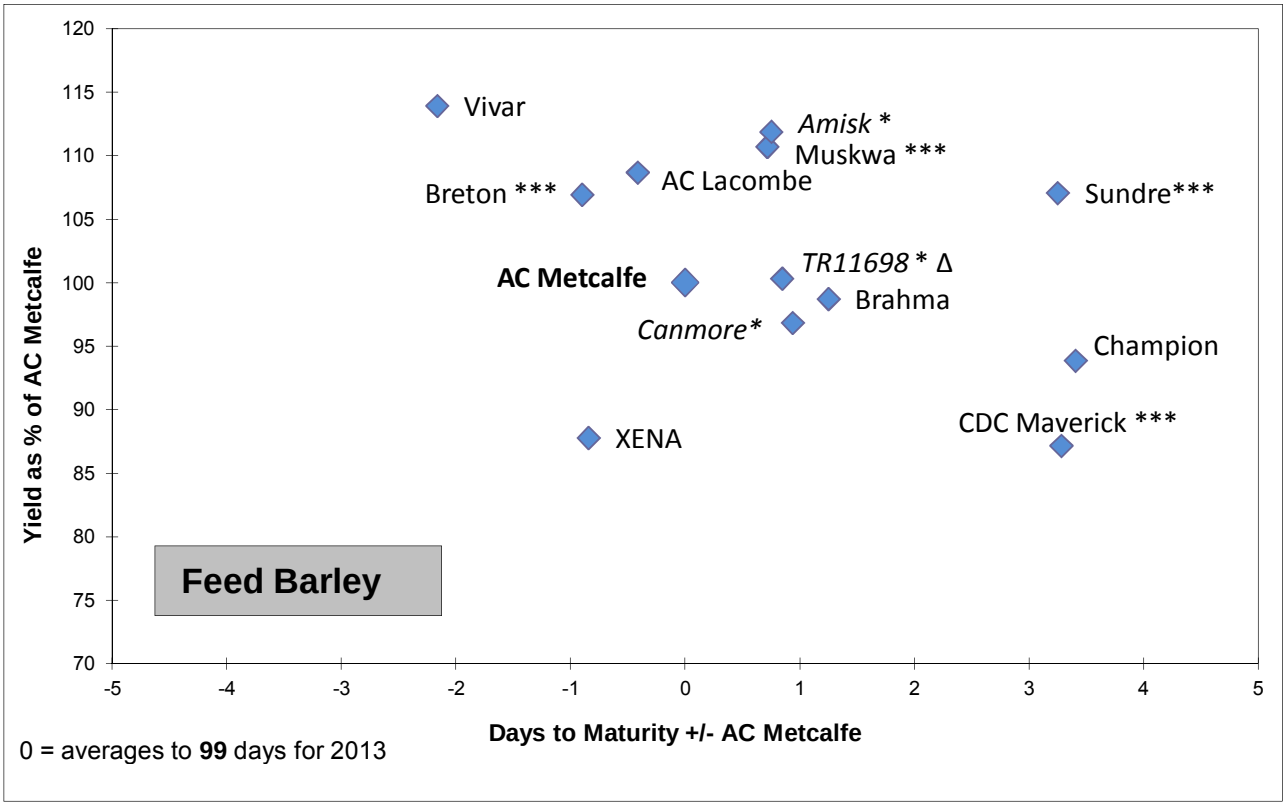
Malt Barley — Variety Descriptions

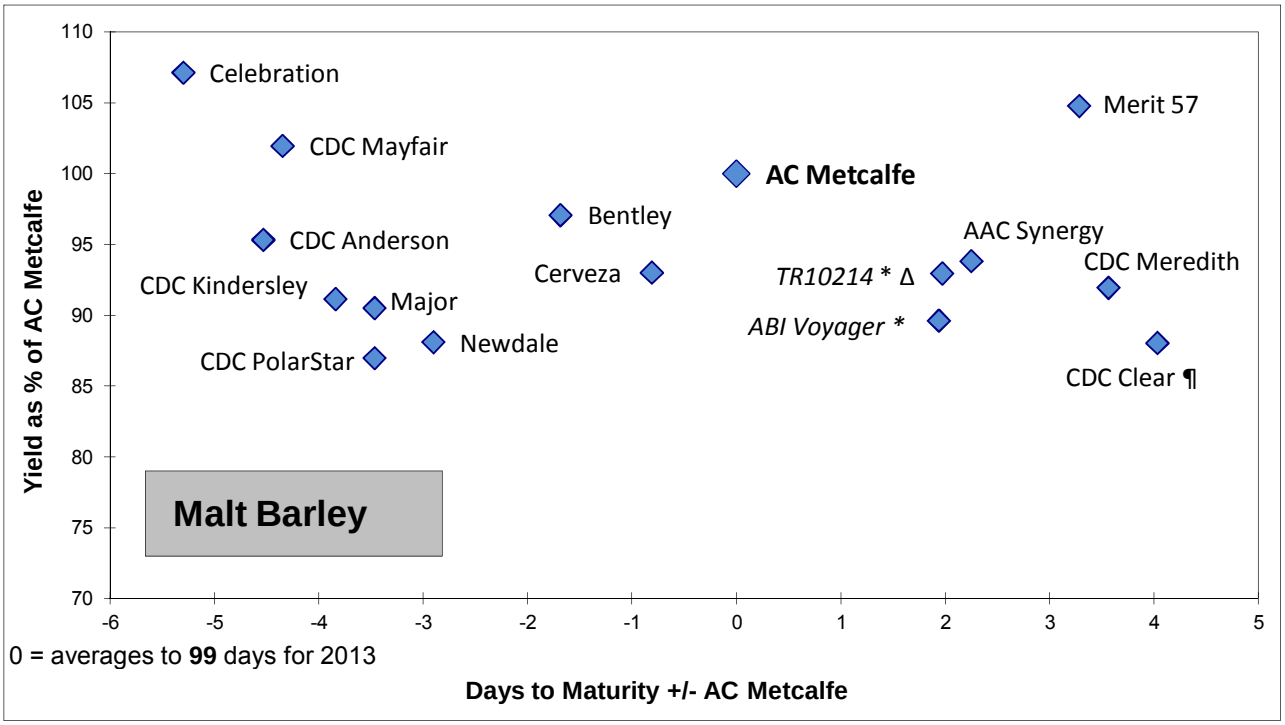
Variety	Type	B.C. Peace Averages 2008-2013: Days to Maturity +/- check	Height cm	Bushel Weight lbs/bu	Kernel Protein % +/- check		Alberta Agdex 100/32 info, Resistance to: Lodging	Loose Smut	False Smut	Root Rot	Scald	FHB	Distributor
■ AAC Synergy	2 row	0.9	81	54	0	[4]	F	VP	F	F	VP	P	Syngenta
■ *ABI Voyager **	2 row	1.9	93	54	0	[2]							Busch Agricultural Resources Inc.
■ **AC Metcalfe**	2 row	0.0	73	55	0	[23]	F	VG	F	F	VP	F	SeCan
■ Bentley	2 row	0.0	75	53	0	[12]	G	P	G	G	VP	P	Canterra Seeds
■ CDC Anderson	6 row	-1.6	94	53	0	[4]	G	G	VG	F	P	F	SeCan
■ CDC Kindersley	2 row	-3.5	83	55	0	[8]	G	VP	VG	F	VP	F	SeCan
■ CDC Mayfair	6 row	-5.6	71	51	0	[10]	G	VP	G	F	VP	P	Canterra Seeds
■ CDC Meredith	2 row	3.2	73	54	-1	[12]	F	VG	G	G	VP	F	SeCan
■ CDC PolarStar	2 row	-2.8	97	55	1	[6]	G	VP	VG	P	VP	G	Canterra Seeds
■ Celebration	6 row	-5.9	86	53	1	[6]	VG	VG	VG	P	VP	P	Canterra Seeds
■ Cerveza	2 row	0.6	78	54	0	[10]	F	VG	VG	F	VP	F	Mastin Seeds
■ Major	2 row	-0.7	76	53	0	[10]	G	VG	G	F	P	F	Crop Production Services
■ Merit 57	2 row	3.2	75	54	-1	[10]	F	P	VP	F	P	G	Canterra Seeds
■ Newdale	2 row	-0.3	72	54	0	[12]	F	VP	G	G	P	F	FP Genetics
*TR10214 *Δ*	2 row	2.0	98	53	1	[2]							U of S
Hulless varieties													
■ CDC Clear ¶	2 row	0.9	100	64	0	[6]	G	VG	VG	F	VP	G	U of S

* first year tested, very limited data available
¶ denotes hulless seed types
■ Protected by Plant Breeders' Rights
Δ denotes materials not registered

VG= very good, G = good, F = fair, P = poor, VP = very poor
XX = insufficient data
Overall average maturity for **AC Metcalfe** is **93** days
Overall average protein for **AC Metcalfe** is **13.8%**
Numbers in square brackets [ ] is number of station years collected for protein
** semi-dwarf type *** smooth-awned type

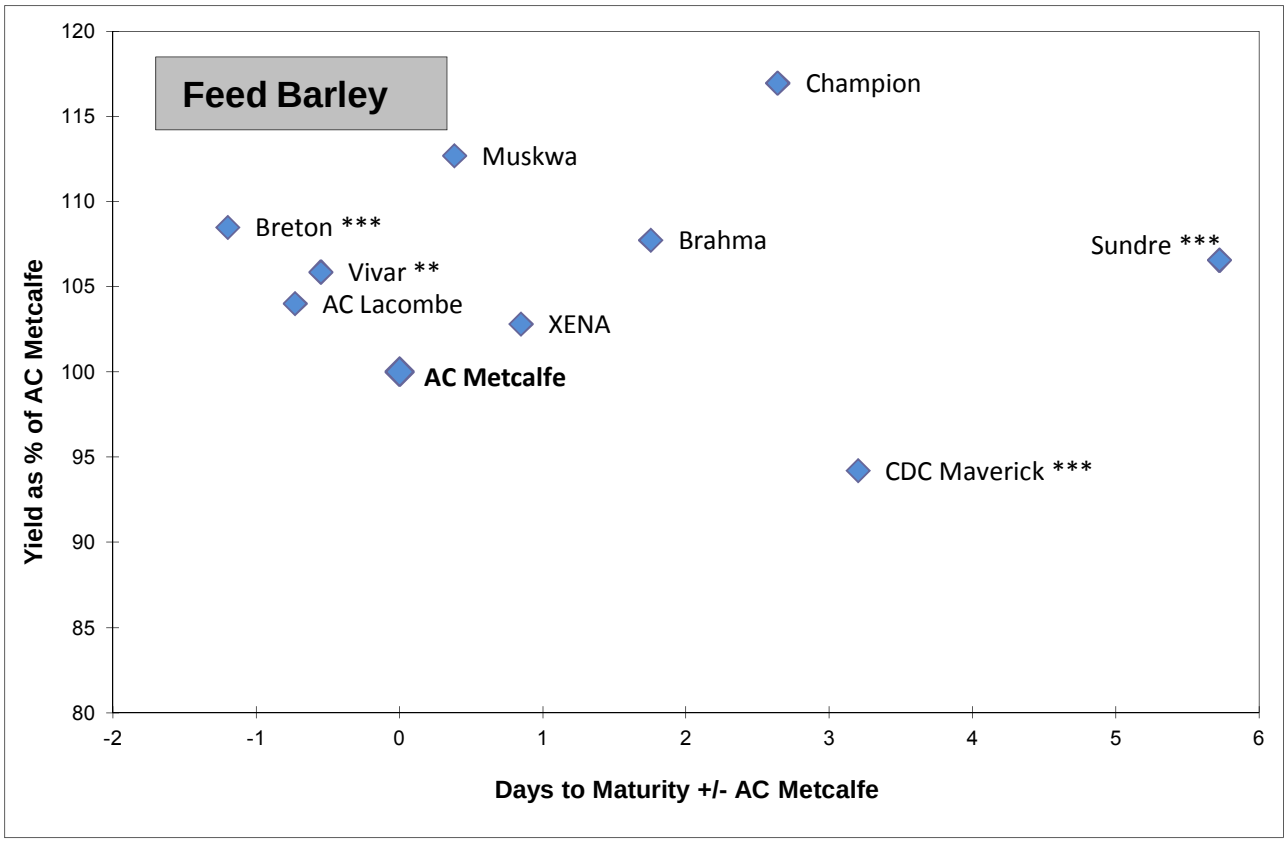
AC Metcalfe - check variety



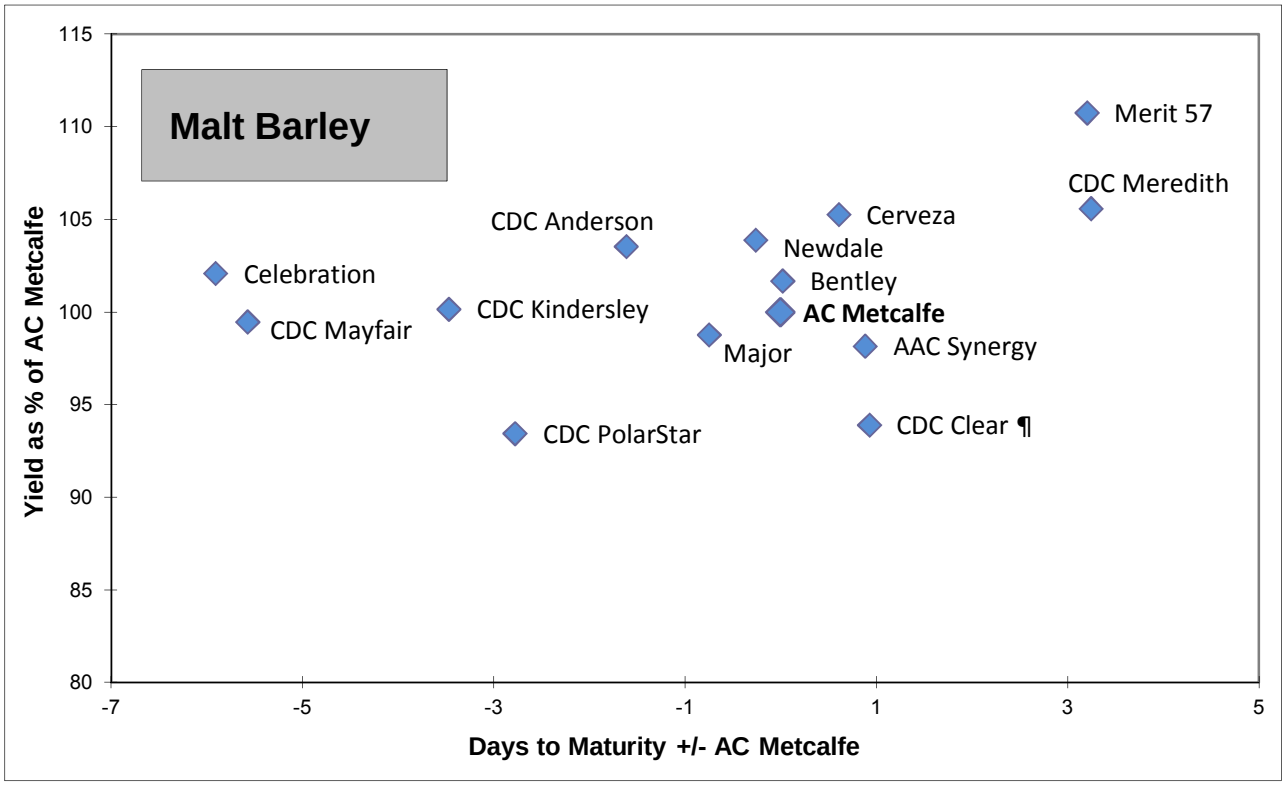


* first year tested materials

Δ denotes materials not registered
¶ denotes hulless seed types
** semi-dwarf type *** smooth-awned type



Overall average maturity for **AC Metcalfe** is **93** 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 is the variety *Gehl* - included for the first time in the 2011 season - which is a "*low pubescence* hulless" oat aimed at 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 *Gehl* but in both 2012 and 2013 wet soils expressed poor vigor of the germinating seed due to our cool clay soils and so 2012-2013 data was removed from the full dataset. This will set back any development of this market until more vigorous "hairless hulless" lines come along that can handle our soils and spring conditions as wet and cool soils during emergence are more the norm in the Peace River region. 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

		Dawson Creek				Fort St. John				B.C. Peace		
		2013 Yield		2008-2013		2013 Yield		2008-2013		2013	2008-2013	
Variety	Colour	bu / acre	% of check	Avg. (%)	Stn. Yrs.	bu / acre	% of check	Avg. (%)	Stn. Yrs.	Avg. (%)	Avg. (%)	Stn. Yrs.
AAC Justice *	Yellow	236 ab	94	94	[1]	266 abc	117	117	[1]	106	106	[2]
AC Mustang	White	241 ab	96	109	[6]	274 ab	121	114	[6]	109	112	[12]
CDC Big Brown	Brown	226 bc	90	97	[4]	250 bc	110	106	[4]	100	101	[8]
CDC Dancer	White	250 a	100	100	[6]	227 d	100	100	[6]	100	100	[12]
CDC Haymaker *	Yellow	216 c	86	86	[1]	254 bc	112	112	[1]	99	99	[2]
CDC Nasser	Yellow	229 bc	92	94	[3]	263 abc	116	106	[3]	104	100	[6]
CDC Ruffian	White	246 a	98	88	[2]	257 bc	113	97	[2]	106	93	[4]
CDC Seabiscuit	Yellow	224 bc	90	92	[3]	251 bc	111	106	[3]	100	99	[6]
Lu	Yellow	227 bc	91	94	[6]	252 bc	111	103	[6]	101	99	[12]
Souris	Yellow	226 bc	90	91	[2]	239 cd	105	104	[2]	98	97	[4]
Stride	White	227 bc	91	92	[3]	254 bc	112	102	[3]	101	97	[6]
Triactor	White	249 a	100	111	[6]	284 a	125	113	[6]	113	112	[12]
LSD (P=.05) =		10.88				17.26						
CV value (%) =		3.43				4.91						

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

* first year tested, very limited data available

CDC Dancer - check variety

Δ denotes materials not registered

* **Gehl** is a "low pubescence hulless" oat intended for the whole grain oat market (see comment above chart)

Health Benefits Of Oat

Oats are 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

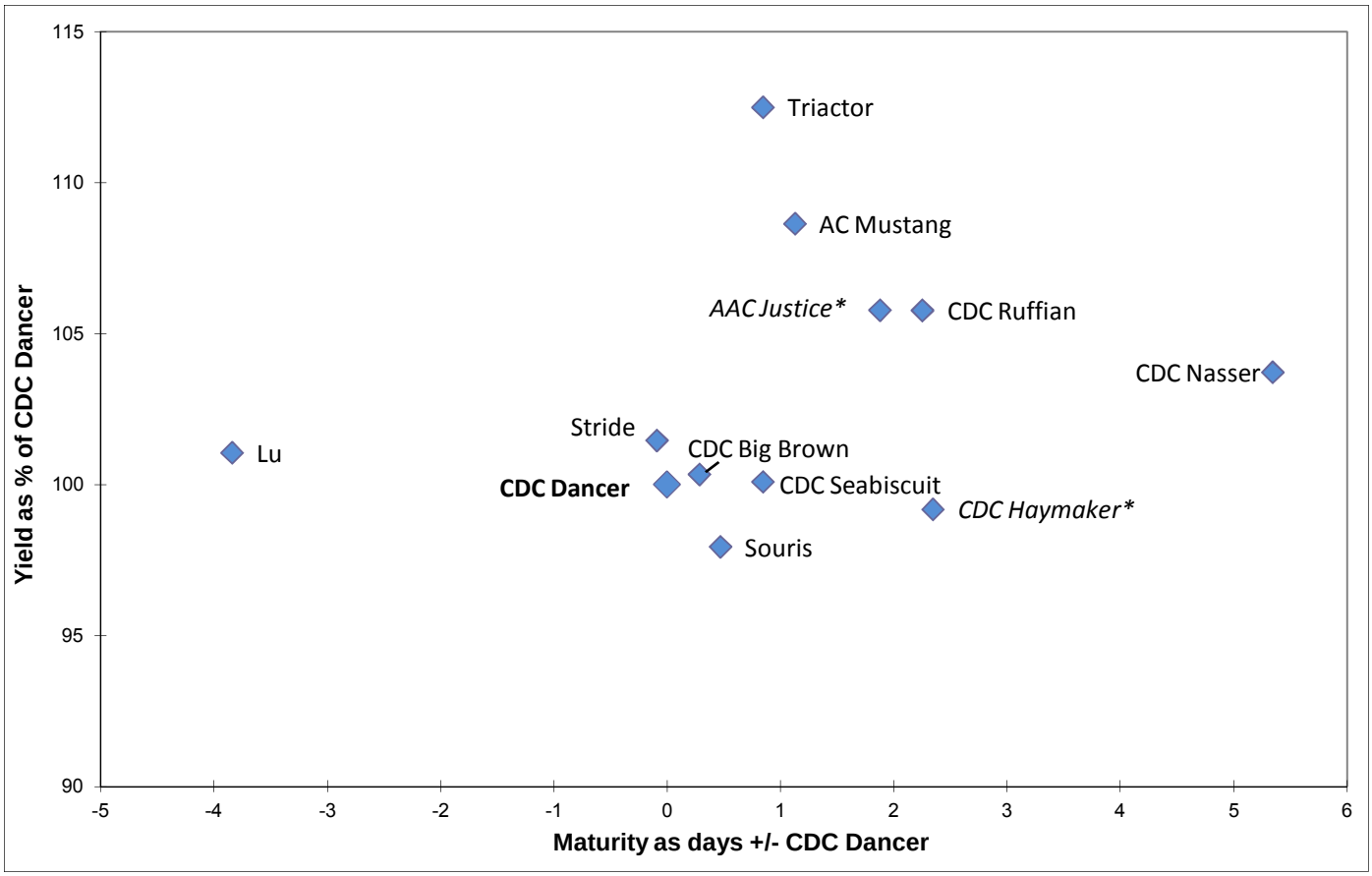
Variety	Type	BC Peace Averages 2008 - 2013: Maturity as days +/- check	Height cm	Bushel Weight lbs/bu	Alberta Agdex 100/32 info Tolerance to: Lodging	Smuts	Distributor
■ *AAC Justice* *	Milling	1.9	118	45			FP Genetics
AC Mustang	Feed/forage	4.5	96	43	G	F	Mastin Seeds
■ CDC Big Brown	Milling	3.9	94	43	G	VG	SeCan
■ **CDC Dancer**	Milling	0.0	90	42	G	VG	FP Genetics
■ *CDC Haymaker* *	Forage	2.3	126	42			SeCan
CDC Nasser	Feed	7.9	92	39	G	G	T & L Seeds
■ CDC Ruffian	Milling	6.9	91	42	G	VG	FP Genetics
■ CDC Seabiscuit	Milling	6.7	100	42	G	G	Canterra Seeds
Lu	Feed	-2.3	87	41	G	VG	SeCan
■ Souris	Milling	2.6	89	42	VG	VG	Seed Depot
■ Stride	Milling	3.2	104	44	G	VG	AAFC-Lacombe
■ Triactor	Milling/Feed	3.2	86	40	G	VG	Canterra Seeds Seeds

CDC Dancer - check variety

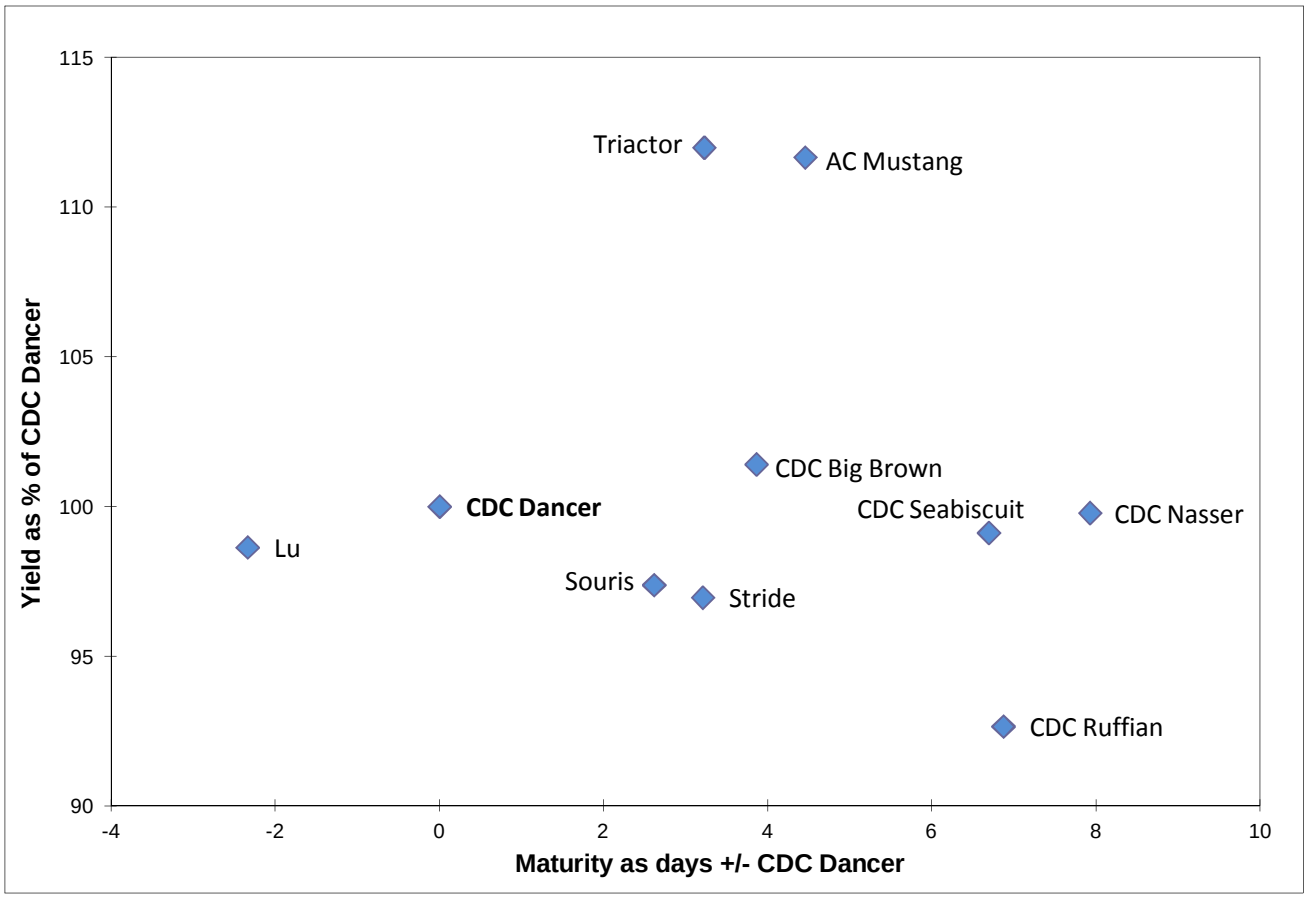
■ Protected by Plant Breeders' Rights

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 2013



Average maturity for **CDC Dancer** is **102** days in **2013**



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

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 farmers 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 BC 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

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", and so it is worth watching their development, especially as 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 & oat as forage feed, but current triticale lines do tend to have low resistance to Ergot, likely due to late maturity. This may become less of a concern as earlier lines are bred. It is for these reasons, especially its potential use as a high volume ethanol feedstock, that 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

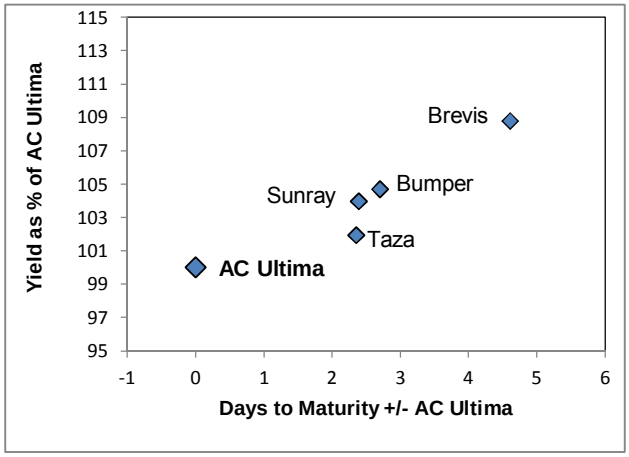
■ Protected by Plant Breeders' Rights

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

Spring Triticale — Variety Descriptions

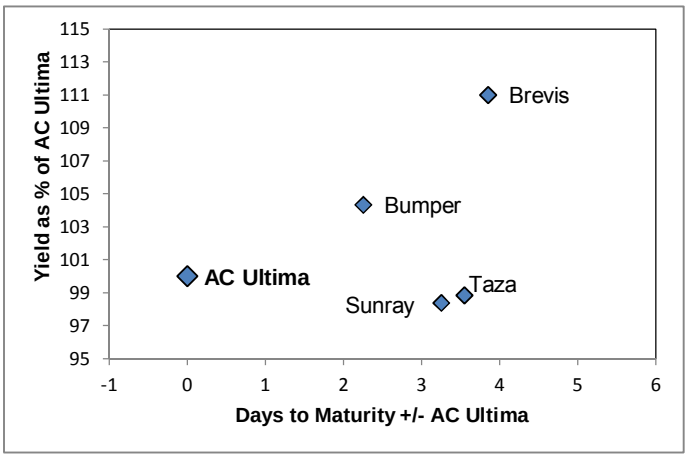
Variety	BC Peace Averages 2008-2013 Maturity as days +/- check	Height (cm)	Bushel Weight (lbs/bus)	TKW (g / 1000)	Alberta Agdex 100/32 Resistance to: Lodging	Shatter	Sprouting	Stripe Rust	Common Bunt	FHB	Ergot	Distributor
AC Ultima	0.0	92	58	44	G	G	F	G	VG	F	P	FP Genetics
Brevis	4.6	99	61	45	G	G	F	G	VG	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

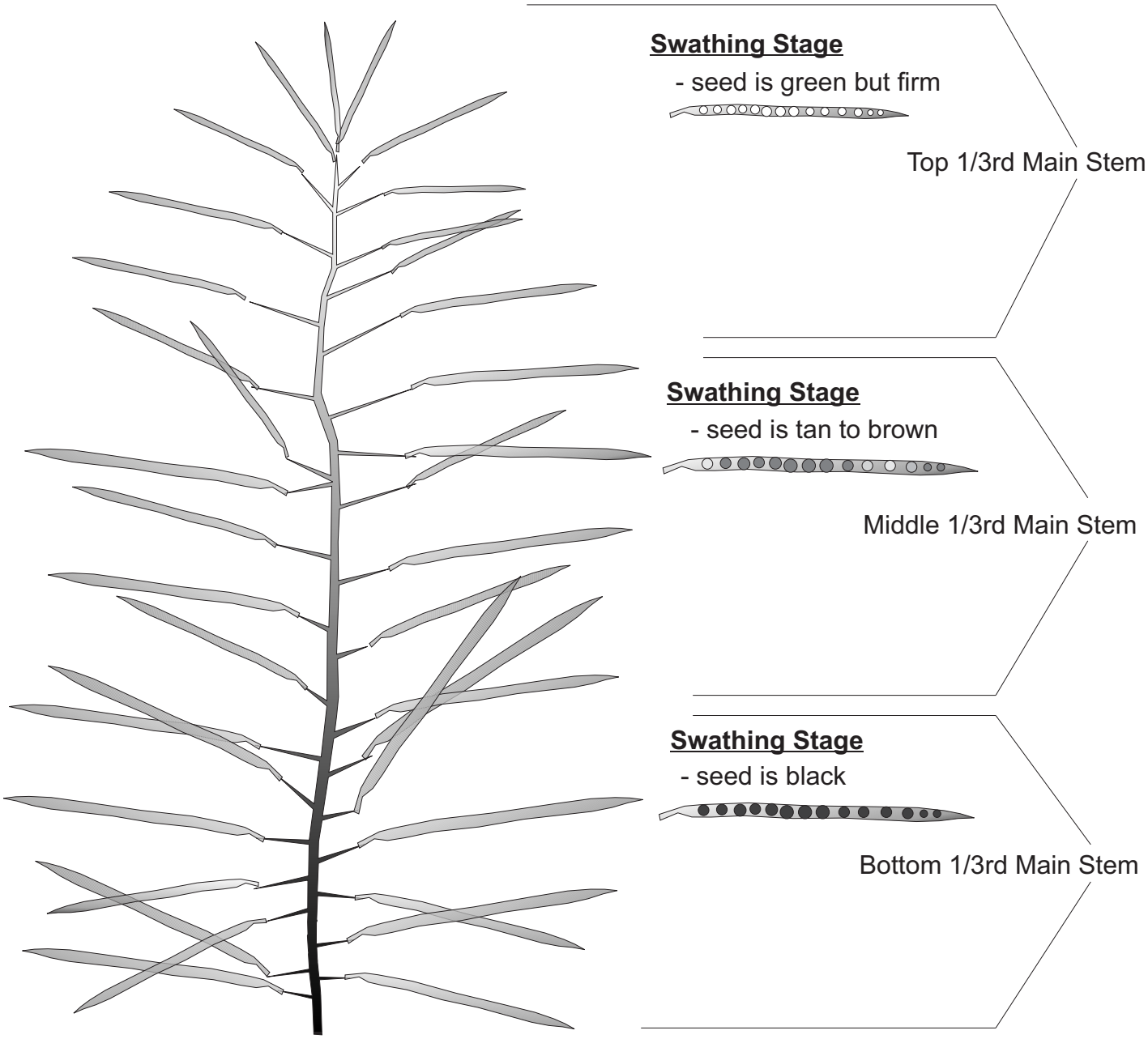


Average maturity for AC Ultima is **120** days for **2013**

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.



2013 Crop Pest Status in the BC Peace Region

Clubroot of canola: 2013 saw an expansion of the number of infected fields in Alberta and Saskatchewan. So far clubroot has NOT been found in the BC Peace. For an informative video on how the infection works watch http://archive.canola-council.org/clubroot/news_list.aspx

Although progress is being made in breeding varieties with some resistance to the disease, it is still far better to not have the organism in the soil in the region. Clubroot is a canola disease that could seriously reduce the ability of BC Peace region farms to grow the crop. The distribution of infested fields continues to expand from the Edmonton area. The map of county status as of Nov 2013 can be seen at the following link http://www1.agric.gov.ab.ca/$department/deptdocs.nsf/all/prm14661 Club root could easily be transferred from there to here with a little bit of soil. It may be a good idea for you as a landowner having energy or construction equipment visiting (perhaps for pipeline work), to get an agreement that the equipment be cleaned prior to it coming on to your property. Check out the problem on the Internet: Alberta Clubroot Management Plan http://archive.canola-council.org/clubroot/control_clubroot.aspx#prevent. Also see links at the bottom of that document to: a disease fact sheet, Best Management Practices and an equipment cleaning protocol developed to disinfect machinery and equipment to prevent the spread of clubroot.

Sclerotinia: 2013 saw an increase in sclerotinia presence in the Peace, producers growing canola on canola should be extra alert with crop monitoring in 2014 if it is another wet year.

Wheat Midge: The wheat midge forecast for 2014 indicates a large increase for midge risk in the Eastern Peace River area (http://www1.agric.gov.ab.ca/$department/deptdocs.nsf/all/prm14667); this could have some implications for the BC Peace too. Producers should pay attention to midge downgrading in their wheat samples and use this as a further indication of midge risk in their fields. Individual fields throughout Alberta may still have economic levels of midge. Each producer also needs to assess their risk based on indicators specific to their farm.

Aster yellows: Canola plants with misshapen “bladder” pods and reduced seeds, showed up in the BC Peace this year. The disease is spread by leafhoppers, which may have survived a milder winter or been blown in to the area by spring winds. This should be something to consider in future. http://www.canolawatch.org/2012/11/07/aster-yellows-qa/

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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Fort St John, BC
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julie.p.robinson@gov.bc.ca

Argentine Canola

Yield as % of 45H21

Variety	Type	Dawson Creek 2013 % of check	Dawson Creek 2008-2013 Avg. (%)	Dawson Creek 2008-2013 Stn. Yrs.	Fort St. John 2013 % 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.
11N212R * Δ	Roundup Ready®	102	102	[1]	98	98	[1]	100	100	[2]
11N214R * Δ	Roundup Ready®	100	100	[1]	93	93	[1]	96	96	[2]
1918	Roundup Ready®	97	94	[2]	90	93	[2]	94	93	[4]
1990 *	Roundup Ready®	105	105	[1]	111	111	[1]	108	108	[2]
43E02	Roundup Ready®	93	98	[2]	93	96	[2]	93	97	[4]
45H21	Roundup Ready®	100	100	[8]	100	100	[10]	100	100	[18]
45H29 ***	Roundup Ready®	115	113	[5]	105	109	[5]	110	111	[10]
45H31	Roundup Ready®	111	106	[3]	111	110	[2]	111	108	[5]
45S52 ****	Roundup Ready®	112	106	[3]	107	110	[3]	110	108	[6]
45S54 *, ****	Roundup Ready®	119	119	[1]	110	110	[1]	115	115	[2]
5440	LibertyLink®	123	119	[5]	108	113	[5]	116	115	[10]
5525 CL	Clearfield®	101	102	[5]	94	97	[5]	97	99	[10]
5535 CL	Clearfield®	107	102	[3]	98	101	[3]	102	101	[6]
6040 RR	Roundup Ready®	101	100	[3]	97	96	[3]	99	98	[6]
6050 RR	Roundup Ready®	113	113	[2]	104	105	[2]	109	109	[4]
73-45 RR *	Roundup Ready®	111	111	[1]	108	108	[1]	110	110	[2]
74-44 BL *	Roundup Ready®	118	118	[1]	107	107	[1]	112	112	[2]
74-47 CR *, ***	Roundup Ready®	106	106	[1]	112	112	[1]	109	109	[2]
74-54 RR *, ***	Roundup Ready®	114	114	[1]	101	101	[1]	108	108	[2]
Café	Roundup Ready®	80	84	[3]	86	90	[4]	83	88	[7]
Fusion	Roundup Ready®	101	98	[3]	96	100	[3]	99	99	[6]
L120	LibertyLink®	119	114	[2]	111	110	[2]	115	112	[4]
L130	LibertyLink®	124	119	[3]	106	107	[3]	115	113	[6]
L150	LibertyLink®	117	84	[3]	116	115	[3]	116	117	[6]
L154 *	LibertyLink®	114	114	[1]	108	108	[1]	111	111	[2]
Peace	conventional	77	76	[4]	74	71	[4]	76	74	[8]
Rugby	Roundup Ready®	93	93	[3]	91	92	[4]	92	92	[7]
VR 9350 G	Roundup Ready®	98	94	[2]	96	97	[2]	97	95	[4]
VR 9559 G *	Roundup Ready®	111	111	[1]	106	106	[1]	108	108	[2]
VT 500 G	Roundup Ready®	100	98	[2]	106	102	[2]	103	100	[4]

45H21 - check variety

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

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Clearfield® is a registered trademark of BASF

Note: "System Varieties" (Clearfield®, Roundup Ready®, or LibertyLink®) are grown together in with "conventional" Argentine varieties (actually as two napus trials per site with a common check) and thus conventional herbicides are used for weed control. (See page 6 for herbicides used). However, combining the two trials to produce the chart above means statistical analysis as combined LSD values cannot be shown for the entire group.

Coefficient of Variance (CV) values of the napus trials for 2013 were as follows: DC = 5.34, 4.45; FSJ = 7.51, 6.86 respectively.

Argentine Canola

Variety	Type	Herbicide Tolerance	B.C. Peace Avg. Days to Swathing[1] as +/- check 2013	2008-2013	Blackleg Rating (Data from Various info.)	Distributor
11N212R * Δ	HYB	Roundup Ready®	0.3	0.3	-	Pioneer Hi-Bred
11N214R * Δ	HYB	Roundup Ready®	0.3	0.3	-	Pioneer Hi-Bred
■ 1918	OP	Roundup Ready®	1.0	1.8	MR	Canterra Seeds
1990 *	HYB	Roundup Ready®	1.3	1.3	R	Canterra Seeds
43E02	HYB	Roundup Ready®	-2.8	-3.1	MR	Pioneer Hi-Bred
45H21	HYB	Roundup Ready®	0.0	0.0	MR	Pioneer Hi-Bred
45H29 ***	HYB	Roundup Ready®	0.0	0.6	R	Pioneer Hi-Bred
45H31	HYB	Roundup Ready®	1.8	1.5	R	Pioneer Hi-Bred
45S52 ****	HYB	Roundup Ready®	0.3	0.5	MR	Pioneer Hi-Bred
45S54 *, ****	HYB	Roundup Ready®	0.3	0.3	R	Pioneer Hi-Bred
5440	HYB	LibertyLink®	0.9	1.4	R	Bayer CropScience
5525 CL	HYB	Clearfield®	2.3	2.3	R	Brett Young
5535 CL	HYB	Clearfield®	0.0	0.4	R	Brett Young
6040 RR	HYB	Roundup Ready®	1.5	1.5	R	Brett Young
6050 RR	HYB	Roundup Ready®	0.5	1.3	R	Brett Young
73-45 RR *	HYB	Roundup Ready®	-1.5	-1.5	R	Dekalb
74-44 BL *	HYB	Roundup Ready®	-0.3	-0.3	R	Dekalb
74-47 CR *, ***	HYB	Roundup Ready®	1.0	1.0	R	Dekalb
74-54 RR *, ***	HYB	Roundup Ready®	-0.8	-0.8	R	Dekalb
■ Café	OP	Roundup Ready®	-3.8	-2.5	R	SeCan
Fusion	HYB	Roundup Ready®	-0.3	0.6	R	SeCan
L120	HYB	LibertyLink®	0.3	0.4	R	Bayer CropScience
L130	HYB	LibertyLink®	0.8	0.8	R	Bayer CropScience
L150	HYB	LibertyLink®	2.5	1.8	R	Bayer CropScience
L154 *	HYB	LibertyLink®	1.0	1.0	R	Bayer CropScience
■ Peace	OP	conventional	-4.3	-4.4	R	Crop Production Services
■ Rugby	OP	Roundup Ready®	0.5	0.5	R	SeCan
VR 9350 G	HYB	Roundup Ready®	-3.5	-2.4	MR	Crop Production Services
VR 9559 G *	HYB	Roundup Ready®	1.0	1.0	R	Crop Production Services
VT 500 G	HYB	Roundup Ready®	0.5	0.3	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

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

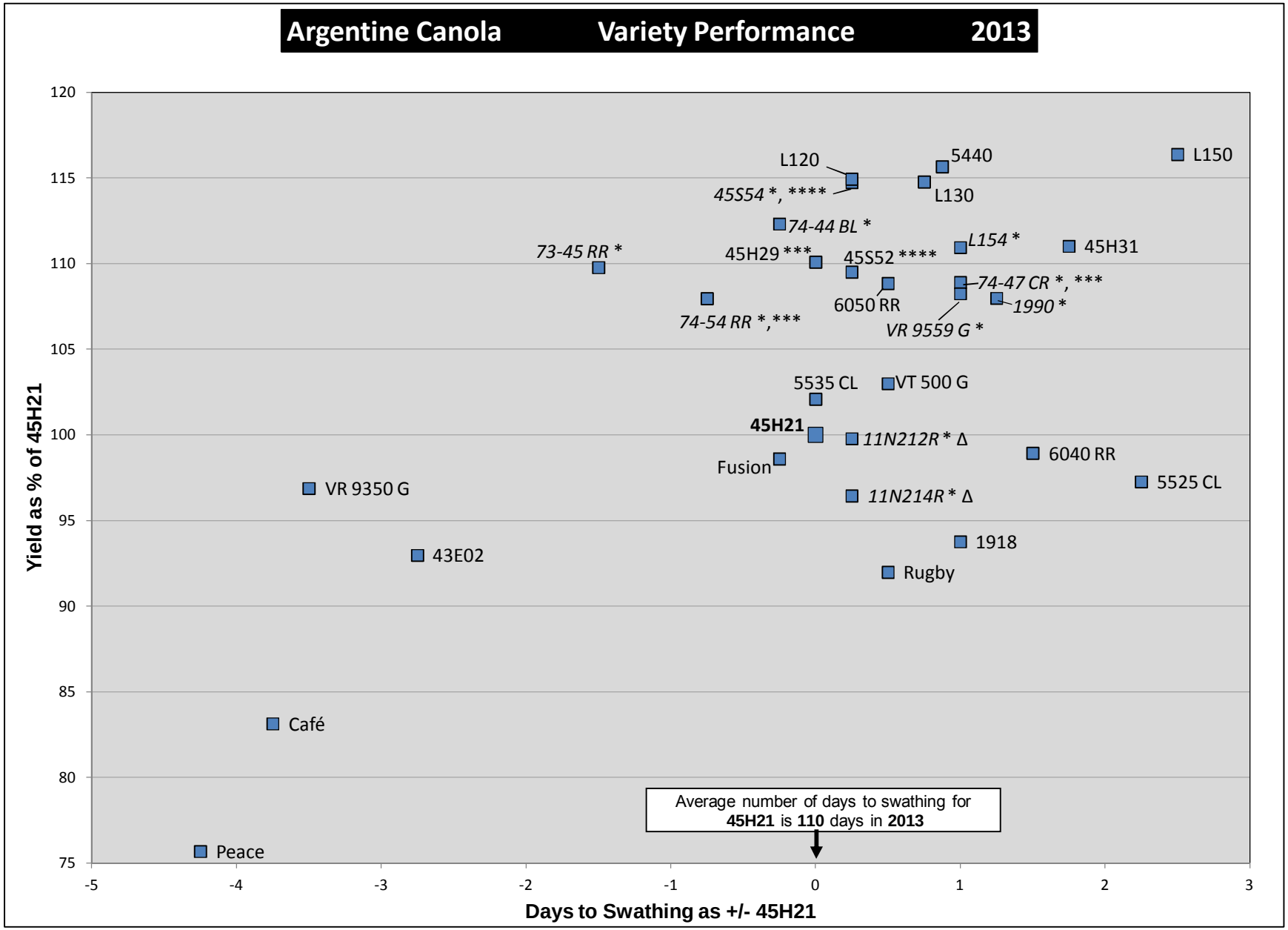
Δ = not currently registered

** specialty oil

*** Club-root Resistance

**** Sclerotinia Resistance

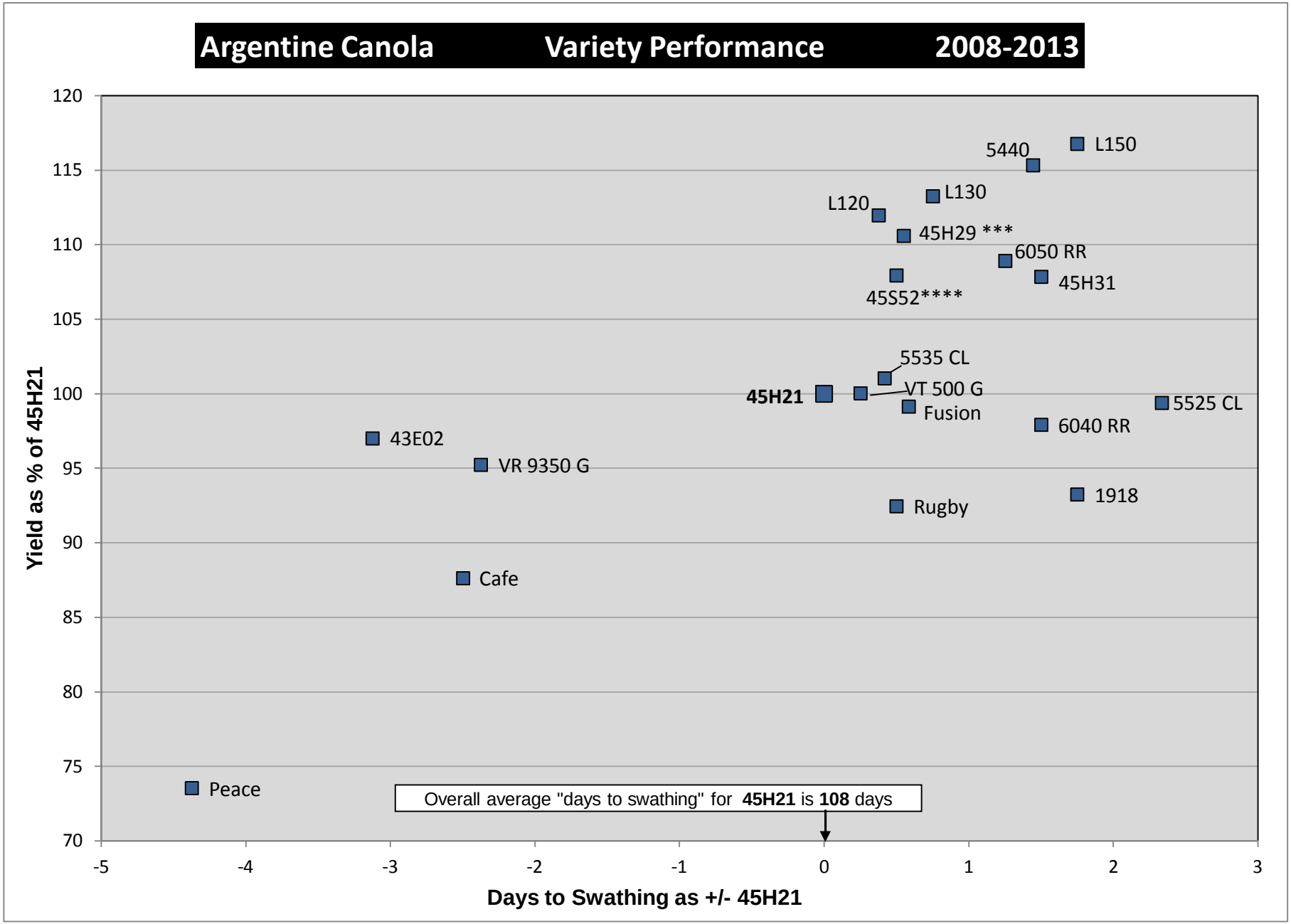
Average 'days to swathing' for **45H21** is **110** days for **2013**
Overall average 'days to swathing' for **45H21** is **108** days for **2008-2013**



*** 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, one year only.

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

Canola Performance Trial (CPT) B.C. Peace Sites 2013

Variety	Type	Herbicide Tolerance	Dawson Creek 2013 YIELD bu/ac	Dawson Creek 2013 Maturity Days to	Fort St. John 2013 YIELD bu/ac	Fort St. John 2013 Maturity Days to	B.C. Peace 2013 Avg. YIELD bu/ac	B.C. Peace 2013 Avg. Maturity Days to	Distributor
Clearfield® herbicede tolerant system									
5525 CL	HYB	Clearfield®	91 abc	115.6	78 b-f	109.0	84	112	Brett Young
VR 9560 CL	HYB	Clearfield®	93 abc	116.4	89 abc	109.4	91	113	Crop Production Service
LibertyLink® herbicede tolerant system									
5440	HYB	LibertyLink®	97 ab	114.6	91 ab	108.0	94	111	Bayer CropScience
1CN0181 Δ	HYB	LibertyLink®	98 a	115.4	96 a	109.4	97	112	Bayer CropScience
1CN0053 Δ	HYB	LibertyLink®	93 abc	115.9	80 b-f	108.9	87	112	Bayer CropScience
L130	HYB	LibertyLink®	95 ab	114.6	86 a-e	107.9	90	111	Bayer CropScience
L154	HYB	LibertyLink®	95 abc	115.6	86 a-d	108.4	90	112	Bayer CropScience
L159	HYB	LibertyLink®	90 abc	115.6	91 ab	108.4	91	112	Bayer CropScience
Roundup Ready® herbicede tolerant system									
73-45 RR	HYB	Roundup Ready®	92 abc	115.5	79 b-f	107.5	86	112	Dekalb
6060 RR	HYB	Roundup Ready®	81 abc	116.5	75 b-f	108.1	78	112	Brett Young
6050 RR	HYB	Roundup Ready®	84 abc	115.5	68 def	108.3	76	112	Brett Young
11DL30103 Δ	HYB	Roundup Ready®	92 abc	115.5	72 c-f	108.5	82	112	Brett Young
1990	HYB	Roundup Ready®	88 abc	115.5	82 a-f	108.4	85	112	Canterra Seeds
V12-1**	HYB	Roundup Ready®	94 abc	115.9	81 b-f	109.4	87	113	Cargill Specialty Oil
V12-2**	HYB	Roundup Ready®	85 abc	116.4	68 ef	109.0	76	113	Cargill Specialty Oil
09H7757 Δ	HYB	Roundup Ready®	87 abc	116.8	74 b-f	109.1	80	113	Cargill Specialty Oil
DL30109 Δ	HYB	Roundup Ready®	77 c	115.6	67 f	108.0	72	112	DL Seeds
DL30509 Δ	HYB	Roundup Ready®	84 abc	116.6	73 c-f	109.5	78	113	DL Seeds
73-75 RR	HYB	Roundup Ready®	79 bc	115.1	74 b-f	106.8	77	111	Dekalb
74-44 BL	HYB	Roundup Ready®	93 abc	114.1	75 b-f	107.4	84	111	Dekalb
74-47 CR ***	HYB	Roundup Ready®	94 abc	115.0	74 b-f	108.6	84	112	Dekalb
74-54 RR ***	HYB	Roundup Ready®	86 abc	115.4	76 b-f	108.1	81	112	Dekalb
SY4114	HYB	Roundup Ready®	81 abc	113.8	74 b-f	107.1	78	110	Syngenta
SY4135	HYB	Roundup Ready®	92 abc	115.0	77 b-f	108.4	85	112	Syngenta
VR 9562 GC	HYB	Roundup Ready®	93 abc	114.8	77 b-f	108.0	85	111	Crop Production Service
VT 530 G	HYB	Roundup Ready®	90 abc	115.6	71 c-f	107.9	80	112	Crop Production Service
73-15 RR	HYB	Roundup Ready®	87 abc	113.5	72 c-f	105.9	80	110	Dekalb
LSD (P=.05)			9.90		9.86				
Standard Deviation			7.00		6.97				
CV			7.84		8.93				

■ Protection by Plant Breeders' Rights

Δ not currently registered

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

Caution, one year data so very limited data

** specialty oil

*** Club-root Resistance

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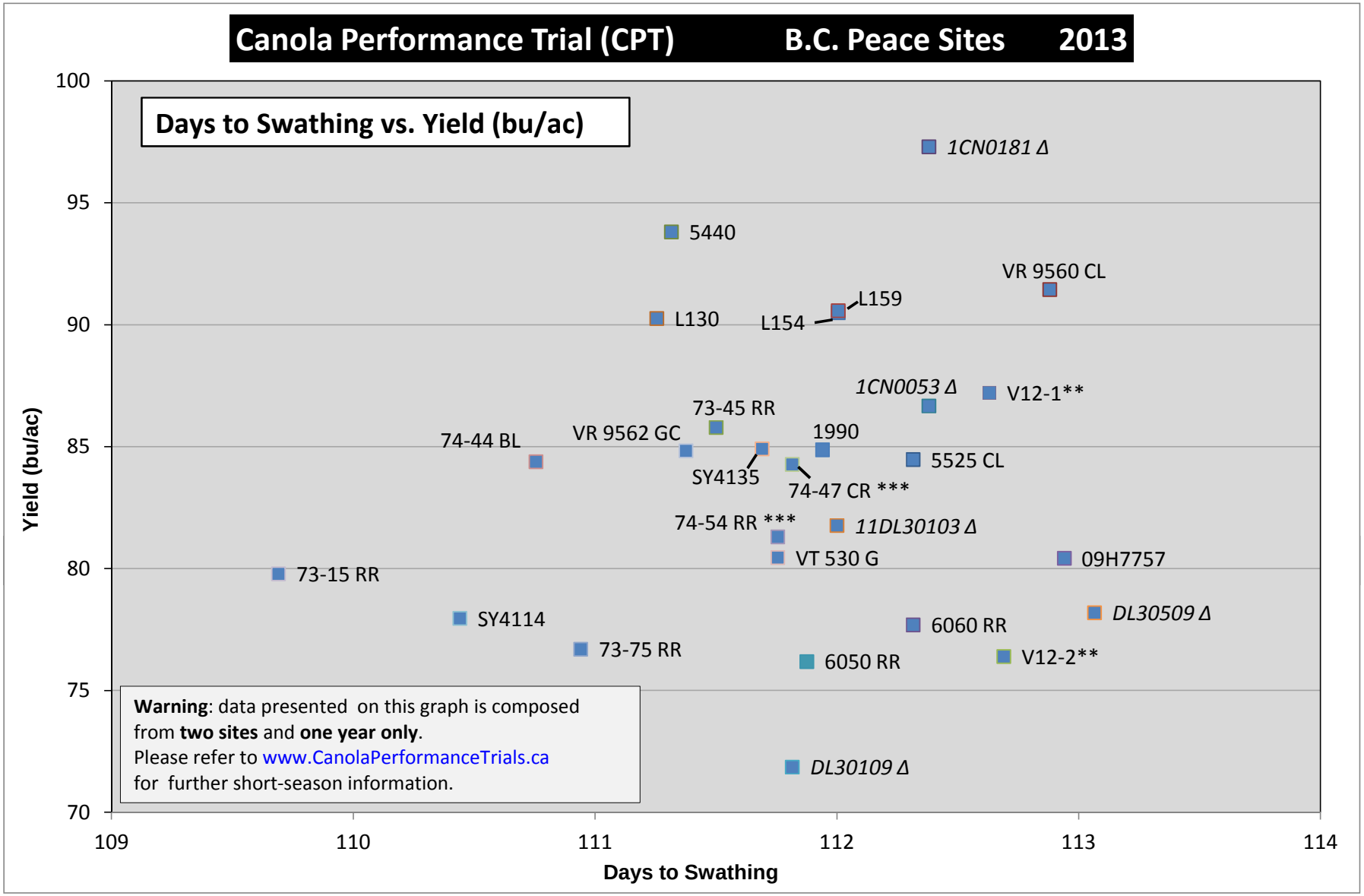
The following description of the CPT trials was provided by: **seed.ab.ca** publication. Italics are minor changes by BCGPA to reflect current situation.

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 *2013, plus in 2013 a few unregistered lines that were supported for registration*. The post-registration Canola Performance Trial (CPT) testing *starting back 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. 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 *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*



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

FIELD PEA

Field Pea (Green Seed) — Yield as % of Cooper

Variety	**Designated Powdery Mildew Resistant	Dawson Creek 2013 Yield bu / acre		% of check	Dawson Creek 2008-2013 Avg. (%)	Stn. Yrs.	Fort St. John 2013 Yield bu / acre		% of check	Fort St. John 2008-2013 Avg. (%)	Stn. Yrs.	B.C. Peace 2013 Avg. (%)	B.C. Peace 2008-2013 Avg. (%)	Stn. Yrs.
CDC Limerick	VG	92	ab	125	97	[2]	112	a	97	96	[2]	111	96	[4]
CDC Patrick	VG	83	bc	112	98	[6]	104	a	90	100	[6]	101	99	[12]
CDC Pluto	VG	88	abc	119	107	[3]	104	a	90	96	[3]	105	101	[6]
CDC Raezer	VG	89	abc	121	106	[3]	109	a	95	92	[3]	108	99	[6]
CDC Striker	P	97	a	132	94	[6]	109	a	95	90	[6]	113	92	[12]
CDC Tetris	VG	89	abc	121	106	[3]	109	a	94	97	[3]	108	101	[6]
Cooper	VG	74	d	100	100	[6]	115	a	100	100	[6]	100	100	[12]
Cutlass	VG	81	c	109	101	[6]	108	a	94	104	[6]	102	103	[12]
MP1867 Δ	VG	83	bc	112	97	[3]	89	b	77	87	[3]	95	92	[6]
MP1880 Δ	VG	84	bc	114	109	[2]	112	a	97	96	[2]	106	103	[4]
LSD (P=.05) =		6.60					7.13							
CV value (%) =		5.30					4.59							

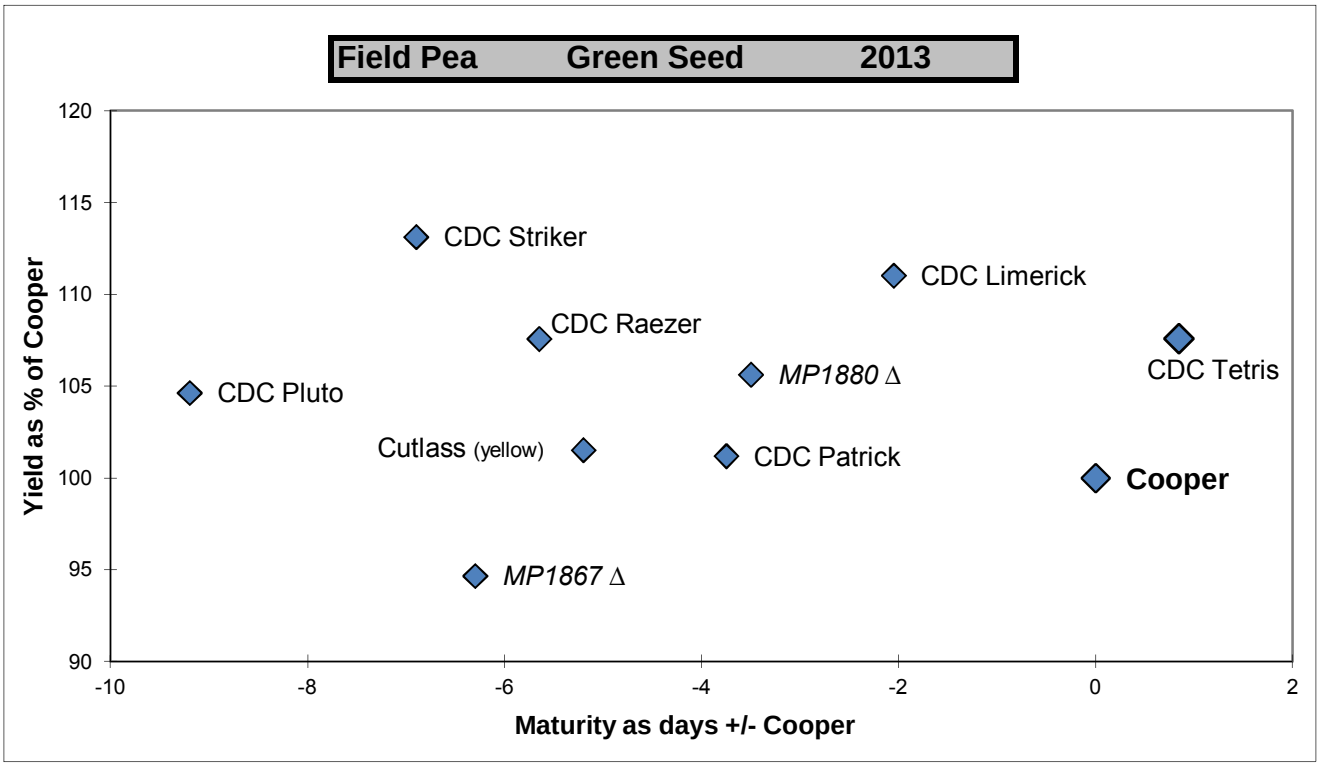
Means followed by the same letter do not significantly differ (P=.05, LSD)

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

Δ denotes materials not registered

* first year tested, very limited data available

Cooper - check variety



Average maturity for **Cooper** is **114** days for **2013**

Field Pea (Yellow Seed) — Yield as % of Cutlass

Variety	**Designated Powdery Mildew Resistant	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.
AAC Lacombe *	VG	106	a	138	138	[1]	122	ab	115	115	[1]	127	127	[2]
AAC Peace River	VG	78	gh	102	100	[4]	110	cde	104	111	[4]	103	105	[8]
Abarth	VG	88	def	115	110	[2]	120	ab	114	104	[2]	114	107	[4]
Agassiz	VG	89	de	116	104	[5]	109	cde	103	105	[6]	110	105	[11]
Argus	VG	84	efg	110	100	[4]	110	cde	104	108	[4]	107	104	[8]
Canstar	VG	82	fg	106	103	[5]	110	cde	104	106	[6]	105	105	[11]
CDC Amarillo	VG	84	efg	110	108	[2]	121	ab	115	108	[2]	112	108	[4]
CDC Golden	VG	74	h	96	95	[5]	108	de	102	96	[6]	99	95	[11]
CDC Meadow	VG	84	efg	109	102	[5]	107	e	101	102	[6]	105	102	[11]
CDC Prosper	VG	81	fg	106	100	[5]	97	f	92	96	[6]	99	98	[11]
CDC Saffron	VG	92	cd	120	103	[3]	118	bcd	111	103	[3]	116	103	[6]
CDC Treasure	VG	81	fg	106	99	[5]	113	b-e	107	101	[6]	106	100	[11]
Cutlass	VG	77	gh	100	100	[5]	106	e	100	100	[6]	100	100	[11]
Earlystar	VG	81	g	105	103	[2]	119	bc	112	107	[2]	108	105	[4]
MP1918 *Δ	VG	101	b	131	131	[1]	114	b-e	108	108	[1]	119	119	[2]
MP1920 *Δ	VG	96	bc	125	125	[1]	129	a	122	122	[1]	124	124	[2]
LSD (P=.05) =		4.73					6.71							
CV value (%) =		3.84					4.15							

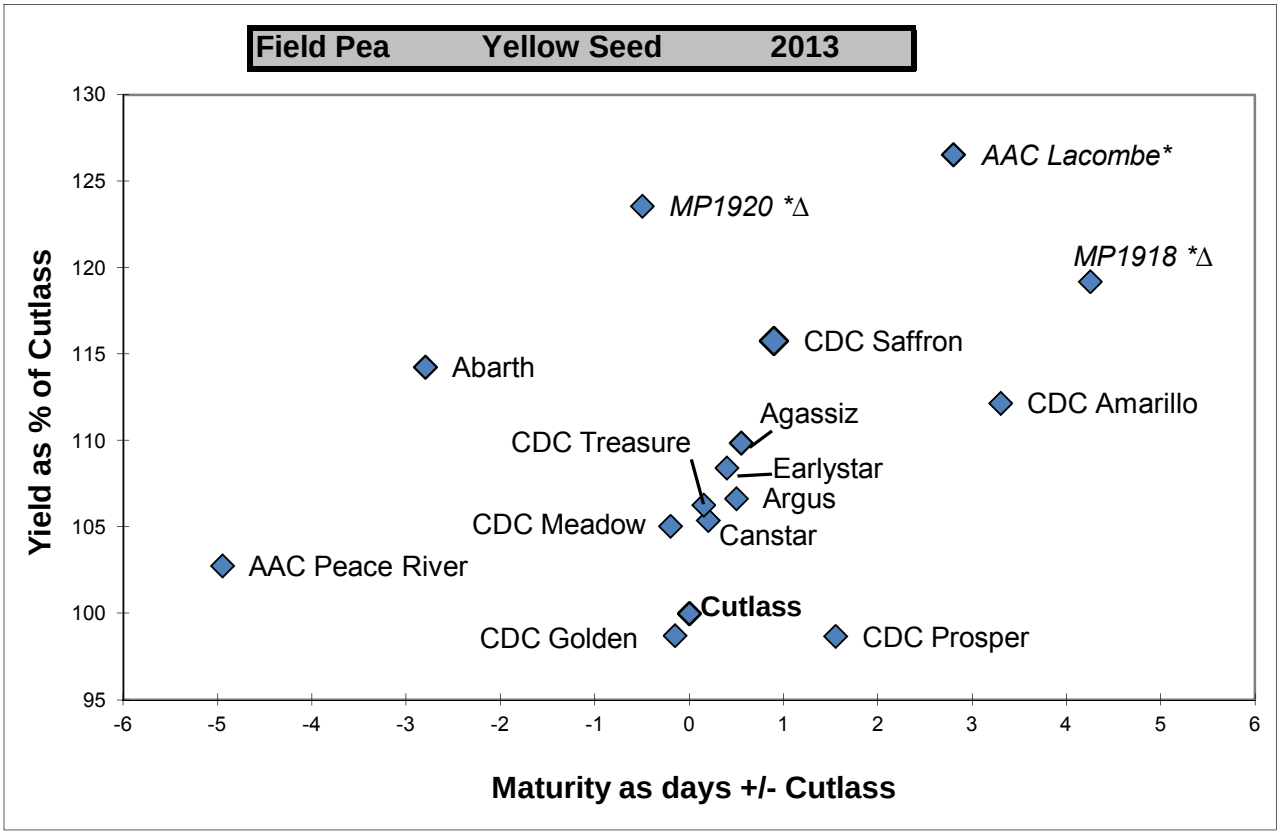
Means followed by the same letter do not significantly differ (P=.05, LSD)

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

Δ denotes materials not registered

* first year tested, very limited data available

Cutlass - check variety



Average maturity for **Cutlass** is **107** days for **2013**

Field Pea — Variety Descriptions

Variety	BC Peace Averages 2008-2013: Maturity as days +/- check	Vine Length cm	Lodging 1-9**	TKW g/1000	Distributor
Yellow Seed					
■ *AAC Lacombe* *	2.8	106	1	236	Seednet Inc.
AAC Peace River	-3.8	80	1	219	Hadland Seed Farms
■ Abarth	-1.7	81	1	252	FP Genetics
■ Agassiz	-0.4	93	3	232	Canterra Seeds
■ Argus	-0.1	77	1	229	SeCan
■ Canstar	-0.5	73	3	255	Canseed (Canada) Ltd.
CDC Amarillo	2.2	85	1	215	Sask Pulse Growers
CDC Golden	-1.5	71	2	220	Sask Pulse Growers
CDC Meadow	-1.4	77	3	214	Sask Pulse Growers
CDC Prosper	-2.1	66	2	150	Sask Pulse Growers
CDC Saffron	0.5	81	1	251	Sask Pulse Growers
CDC Treasure	-1.9	78	2	216	Sask Pulse Growers
Cutlass	0.0	68	3	228	Sask Pulse Growers
■ Earlystar	-2.3	107	1	212	Canterra Seeds
MP1918 *Δ	4.3	108	1	201	AAFC Lacombe
MP1920 *Δ	-0.5	105	1	215	AAFC Lacombe
Green Seed					
CDC Limerick	-1.5	81	1	210	Sask Pulse Growers
CDC Patrick	-3.8	74	2	193	Sask Pulse Growers
CDC Pluto	-10.6	86	1	177	Sask Pulse Growers
CDC Raezer	-7.8	92	1	235	Sask Pulse Growers
CDC Striker	-7.6	69	2	247	Sask Pulse Growers
CDC Tetris	-2.0	95	1	224	Sask Pulse Growers
■ **Cooper**	0.0	67	2	285	Canterra Seeds
Cutlass	-6.2	66	3	228	Sask Pulse Growers
MP1867 Δ	-9.1	86	1	218	AAFC-Lacombe
MP1880 Δ	-4.0	81	1	263	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 **Cutlass** is **101** days, and **106** days for **Cooper**

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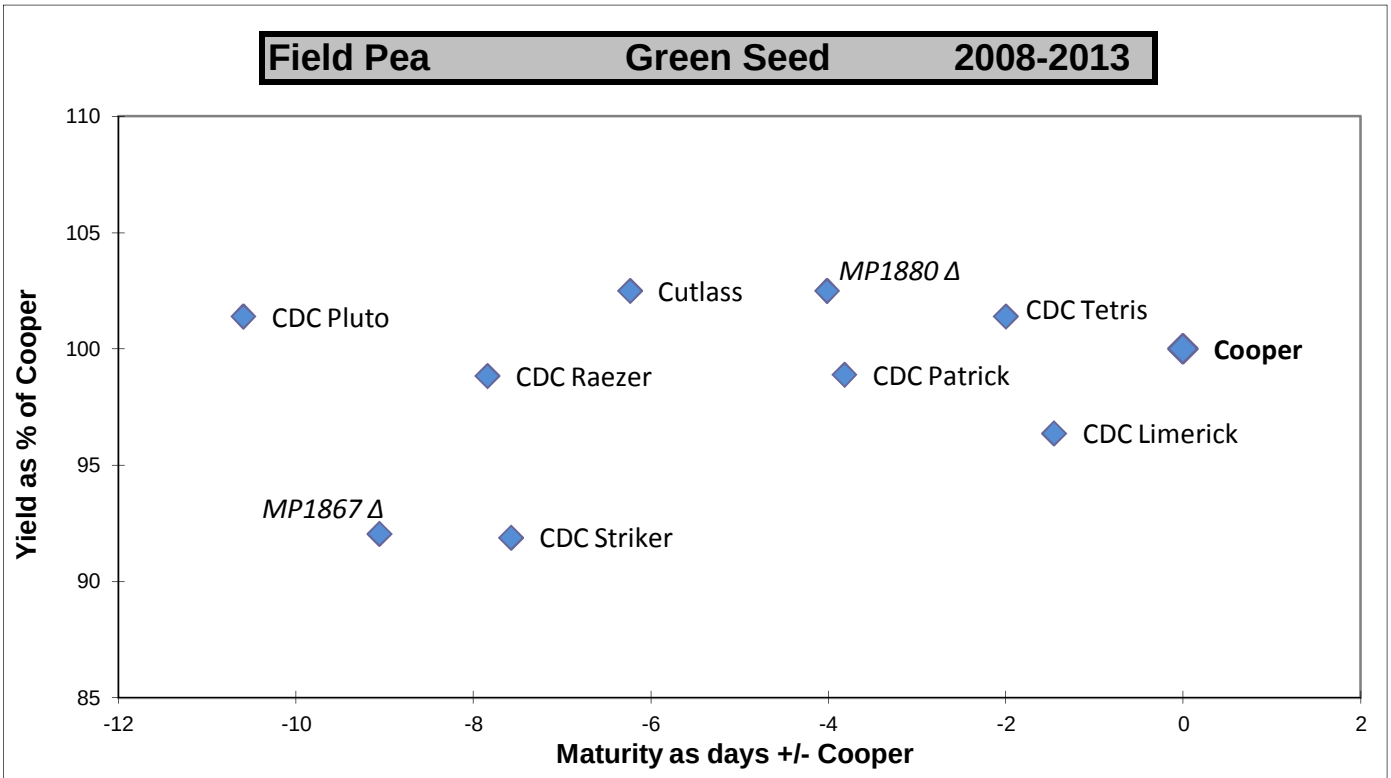
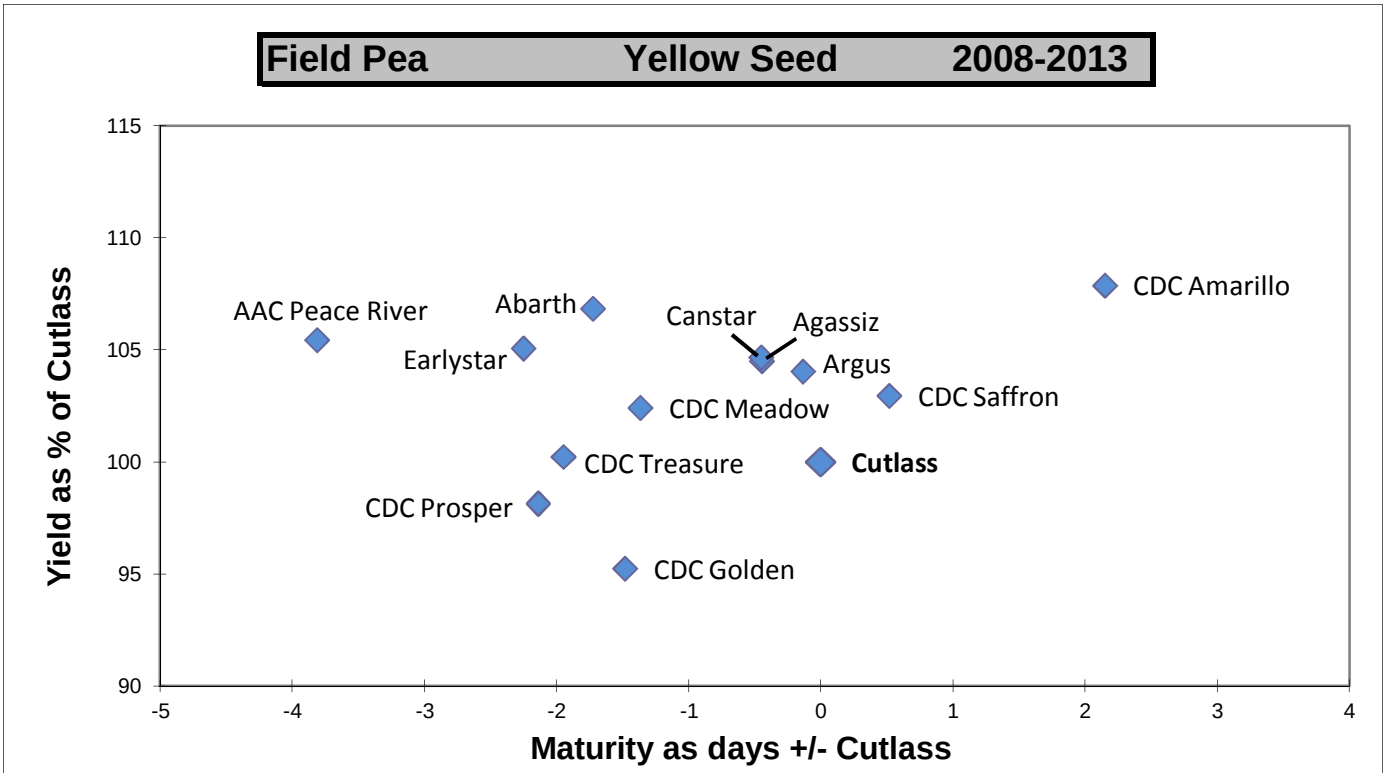
Δ denotes materials not registered
* first year tested, very limited data available

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



Overall average maturity for **Cooper** is **106** days



Overall average maturity for **Cutlass** is **101** 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 is still a risky venture. Large acreage should be discouraged until further breeding programs have resulted in earlier maturing varieties. 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 this reason this information is being provided here. It has become apparent that it is **very important to plant flax as early as possible** (as advised by Dr. Paul Dribnenki, flax breeder)**.** This 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.

Flax — Yield as % of CDC Bethune

	Dawson Creek					Fort St. John					B.C. Peace			Variety Descriptions		
	2013 Yield			2008-2013		2013 Yield			2008-2013		2013	2008-2013		Maturity	Height	
Variety	bu / acre		% of Check	Avg. (%)	stn yrs	bu / acre		% of Check	Avg. (%)	stn yrs	Avg. (%)	Avg. (%)	stn yrs	days +/- check	(cm)	Distributor
*08-31-F6-179 * Δ*	50	cd	99	99	[1]	53	ab	104	104	[1]	101	101	[2]	-1.8	59	Crop Production Services
*08-31-F6-29 * Δ*	49	d	97	97	[1]	50	b	97	97	[1]	97	97	[2]	-0.4	68	Crop Production Services
■ AAC Bravo	55	abc	108	107	[3]	55	ab	108	102	[3]	108	104	[6]	3.5	64	FP Genetics
■ **CDC Bethune**	51	bcd	100	100	[6]	51	ab	100	100	[5]	100	100	[11]	0.0	56	SeCan
■ CDC Glas	55	abc	108	100	[2]	53	ab	103	97	[2]	105	99	[4]	3.6	61	SeCan
■ CDC Sanctuary	53	a-d	104	107	[5]	58	a	113	113	[4]	109	110	[9]	2.7	62	SeCan
Flanders	55	abc	108	98	[6]	52	ab	102	97	[5]	105	98	[11]	2.0	52	SeCan
■ Prairie Grande	51	bcd	101	98	[6]	51	ab	99	102	[5]	100	100	[11]	-3.0	52	SeCan
■ Prairie Sapphire	55	ab	109	93	[4]	52	ab	101	86	[3]	105	89	[7]	2.4	63	Alliance Seed Corp.
■ Prairie Thunder	57	a	112	101	[6]	52	ab	101	104	[5]	106	103	[11]	-3.2	53	Canterra Seeds
WestLin 70	49	d	97	94	[2]	48	b	94	80	[2]	95	87	[4]	1.1	64	Crop Production Services
■ *WestLin 71 **	52	bcd	103	103	[1]	53	ab	103	103	[1]	103	103	[2]	3.5	67	Crop Production Services
LSD (P=.05) =	3.07					4.24										
CV value (%) =	4.05					5.61										

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

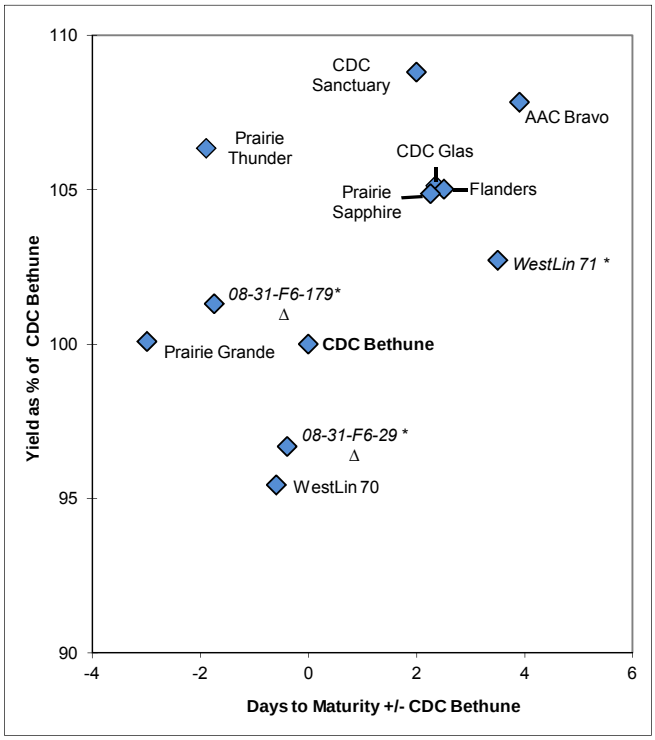
CDC Bethune - check variety

■ Protected by Plant Breeders' Rights

Δ denotes materials not registered

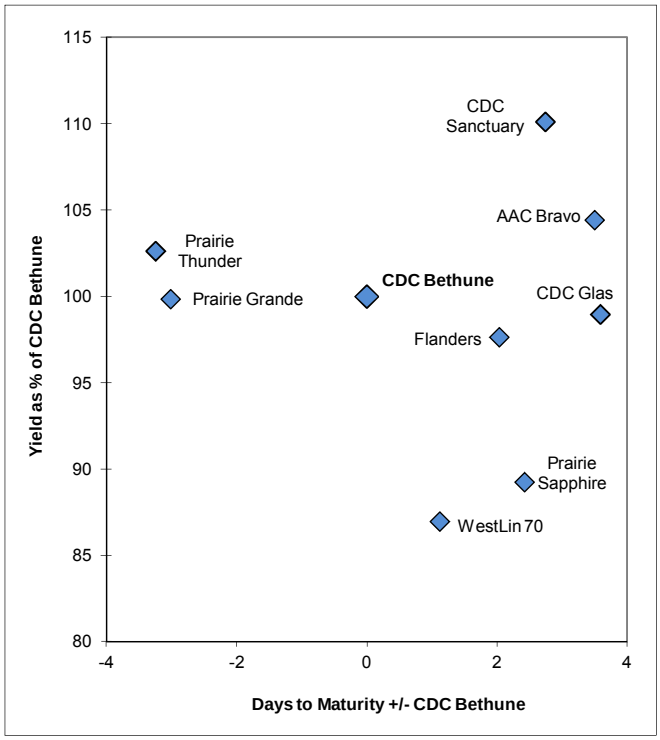
* first year tested, very limited data available

Flax Regional Variety Performance 2013



Average maturity for **CDC Bethune** is **110** days for **2013**

Flax Regional Variety Performance 2008-2013



Overall average maturity for **CDC Bethune** is **112** days.

Summary of all 2013 Research Trials

Data used directly for the production of this report…

Regional Variety Trials	Site	Varieties	Replicates	Plots	Source
Regional 2 Row Barley *	DC	19	4	76	Alex Fedko - AAFRD-CDC North, Edmonton
Regional 6 Row Barley (& hulless) *	DC	10	4	40	Alex Fedko - AAFRD-CDC North, Edmonton
Regional Oats *	DC	12	4	48	Alex Fedko - AAFRD-CDC North, Edmonton
Regional CWRS Wheat (HRSW) *	DC	31	4	124	Alex Fedko - AAFRD-CDC North, Edmonton
Regional GP Wheat(General Purp./CPS/SWS) *	DC	19	4	76	Alex Fedko - AAFRD-CDC North, Edmonton
Regional Triticale *	DC	5	4	20	Alex Fedko - AAFRD-CDC North, Edmonton
Regional Durum Wheat	DC	9	4	36	Alex Fedko - AAFRD-CDC North, Edmonton
Prairie Wide Napus CPT (Herbicide Systems)	DC	27	4	108	Rale Gjuric - Haplotech Inc. - Winnipeg
BCGPA Napus NS1 comparison trial ***	DC	17	4	68	BCGPA - Clair Langlois
BCGPA Napus NS2 comparison trial ***	DC	18	4	72	BCGPA - Clair Langlois
Regional Flax *	DC	12	4	48	Alex Fedko - AAFRD-CDC North, Edmonton
Regional Green Field Pea *	DC	10	4	40	Alex Fedko - AAFRD-CDC North, Edmonton
Regional Yellow Field Pea *	DC	16	4	64	Alex Fedko - AAFRD-CDC North, Edmonton
Collaborative Lentil Trial (AB/BC Peace Initiative)	DC	8	4	32	SARDA, MARA, BRRG, BCGPA collaboration
Regional 2 Row Barley *	FSJ	19	4	76	Alex Fedko - AAFRD-CDC North, Edmonton
Regional 6 Row Barley (& hulless) *	FSJ	10	4	40	Alex Fedko - AAFRD-CDC North, Edmonton
Regional Oats *	FSJ	12	4	48	Alex Fedko - AAFRD-CDC North, Edmonton
Regional CWRS Wheat (HRSW) *	FSJ	31	4	124	Alex Fedko - AAFRD-CDC North, Edmonton
Regional GP Wheat(General Purp./CPS/SWS) *	FSJ	19	4	76	Alex Fedko - AAFRD-CDC North, Edmonton
Regional Triticale *	FSJ	5	4	20	Alex Fedko - AAFRD-CDC North, Edmonton
Regional Durum Wheat	FSJ	9	4	36	Alex Fedko - AAFRD-CDC North, Edmonton
Prairie Wide Napus CPT (Herbicide Systems)	FSJ	27	4	108	Rale Gjuric - Haplotech Inc. - Winnipeg
BCGPA Napus NS1 comparison trial ***	FSJ	17	4	68	BCGPA - Clair Langlois
BCGPA Napus NS2 comparison trial ***	FSJ	18	4	72	BCGPA - Clair Langlois
Regional Flax *	FSJ	12	4	48	Alex Fedko - AAFRD-CDC North, Edmonton
Regional Green Field Pea *	FSJ	10	4	40	Alex Fedko - AAFRD-CDC North, Edmonton
Regional Yellow Field Pea *	FSJ	16	4	64	Alex Fedko - AAFRD-CDC North, Edmonton
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	36	3	108	Dr. Tom Zatorski - U of S Malt B Prgm
Western 6-row Co-op Barley	DC	16	3	48	Dr. Ana Badea - Ag Canada - Brandon
B-Y5 Barley Co-op - Grain Yields **	DC	25	3	75	Pat Juskiw/J. Nyachiro - AAFCDC Lacombe
Viterra - 2-Row Barley Marketing **	DC	20	3	60	Jim Anderson - CPS,Calgary
Beans					
Dry Bean Variety Adaptation Trial	DC	9	4	36	Dr. Parthiba Balasubramanian - AAFC Lethr.
Dry Bean Variety Adaptation Trial	FSJ	9	4	36	Dr. Parthiba Balasubramanian - AAFC Lethr.
Camelina					
Ag Canada - Camelina - Multi - Species **	DC	28	4	112	Dr. Christina Eynck, AAFC-Saskatoon
Ag Canada - Camelina - Multi - Species **	FSJ	28	4	112	Dr. Christina Eynck, AAFC-Saskatoon
Canola					
CPS Napus Herbicide Systems CPC CL/LL **	DC	12	3	36	Tim Ferguson / Daryl Rex - CPS, Saskatoon
CPS Napus Herbicide Systems CPC RR **	DC	25	3	75	Tim Ferguson / Daryl Rex - CPS, Saskatoon
CPS Napus Short-Season RR **	DC	5	3	15	Tim Ferguson / Daryl Rex - CPS, Saskatoon
CPS Napus Short-Season RR **	FSJ	5	3	15	Tim Ferguson / Daryl Rex - CPS, Saskatoon
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	17	4	68	Jason Nordstrom, Pioneer Hi-Bred, Edmonton
PIONEER - Napus CCNSR-351(early season) **	FSJ	17	4	68	Jason Nordstrom, Pioneer Hi-Bred, Edmonton
Syngenta-Peace-Learning Center	DC	6	1	6	Justin Bouvier - Syngenta Canada Inc.
WCC/RRC Napus NS1 Co-op **	DC	26	3	78	Raymond Gadoua - Canola Council
WCC/RRC Napus NS2 Co-op **	DC	26	3	78	Raymond Gadoua - Canola Council

* some entries sourced & entered by BCGPA
** fee-for-service research
*** all entries sourced by BCGPA or their inclusion requested by local agri-business

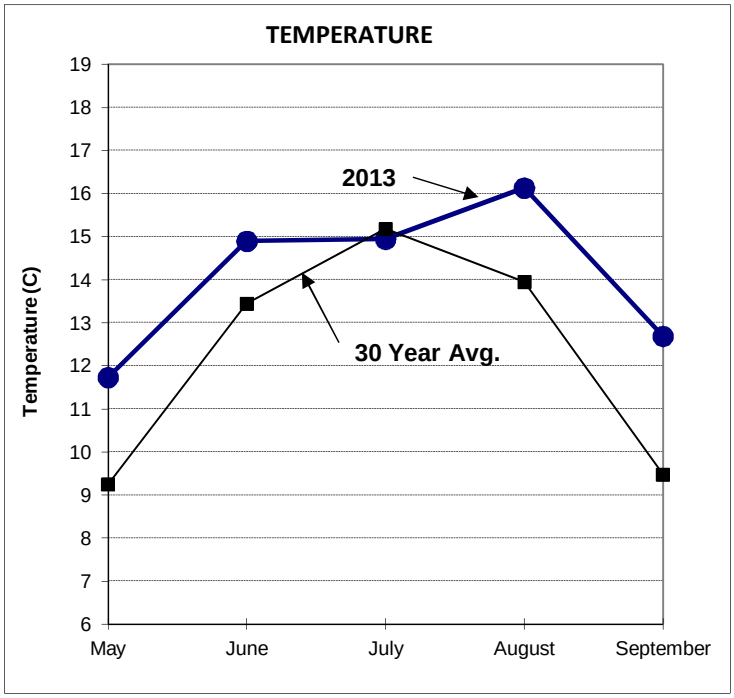
Varietal Development *continued …*	Site	Varieties	Replicates	Plots	Source
Flax					
Northern Flax Co-op	DC	36	3	108	Michelle Beaith, CPS, Saskatoon, SK
Northern Flax Co-op	FSJ	36	3	108	Michelle Beaith, CPS, Saskatoon, SK
Northern Flax CFET	DC	36	3	108	Dr. Scott Duguid - MRC Morden
Flax Northern Prelim	DC	36	3	108	Dr. Scott Duguid - MRC Morden
Flax - NorFlax-Prject - CCF13O01 DC	DC	25	3	75	Michelle Beaith, CPS, Saskatoon, SK
Flax - NorFlax-Prject - CCF13O02 DC	DC	25	3	75	Michelle Beaith, CPS, Saskatoon, SK
Flax - NorFlax-Prject - CCF13O03 DC	DC	25	3	75	Michelle Beaith, CPS, Saskatoon, SK
Flax - NorFlax-Prject - CCF13O04 DC	DC	25	3	75	Michelle Beaith, CPS, Saskatoon, SK
Flax - NorFlax-Prject - CCF13O05 DC	DC	25	3	75	Michelle Beaith, CPS, Saskatoon, SK
Oat					
Oat Private Co-op (Prelim-P) **	DC	240	1	240	Dr. Jennifer Mitchell-Fetch - AAFC Winnipeg
Oat Co-op (BOAT) **	DC	42	3	126	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" PYT22	FSJ	36	2	72	Dr. Dengjin Bing - AAFC Lacombe
"Peace Field Pea Project" PYT23	FSJ	36	2	72	Dr. Dengjin Bing - AAFC Lacombe
Field Pea - Short-Season - Co-op "C"	FSJ	16	3	48	Don Beauchesne - AAFC Lacombe
Triticale					
T-Y3A Triticale Grain Pre-Co-op	DC	25	3	75	Dr. Mazen Aljarrah - AAFC Lacombe
T-Y3B Triticale Grain Pre-Co-op	DC	25	3	75	Dr. Mazen Aljarrah - AAFC Lacombe
Triticale Registration Co-op Test	DC	20	4	80	Dr. Harpinder Randhawa - AAFC - Lethbridge
Wheat					
CPS Wheat CPS **	DC	12	3	36	Jim Anderson - CPS, Calgary
CPS Wheat HRSW **	DC	20	3	60	Jim Anderson - CPS, Calgary
Early Wheat Parkland A1 (3m plots) **	FSJ	56	2	112	Dr. Gavin Humphreys - AAFC Winnipeg
Early Wheat Parkland A2 (3m plots) **	FSJ	81	2	162	Dr. Gavin Humphreys - AAFC Winnipeg
Early Wheat Parkland A3 (3m plots) **	FSJ	25	3	75	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	30	3	90	Alanna Olson - AAFC Beaverlodge
Parkland 'C' Wheat Co-op	FSJ	30	3	90	Alanna Olson - AAFC Beaverlodge
Syngenta-Peace-Learning Center	DC	7	1	7	Justin Bouvier - Syngenta Canada Inc.
Wheat-UofA -'GPAYT' Co-op **	DC	32	2	64	Dr. Dean Spaner - U of A, Edmonton, AB
Wheat-UofA- 'ORGAYT' Co-op **	DC	32	3	96	Dr. Dean Spaner - U of A, Edmonton, AB
Wheat-UofA-Parkland 'B' Private Co-op **	FSJ	25	3	75	Dr. Dean Spaner - U of A, Edmonton, AB
Wheat-UofA-'TGAYT' Co-op **	DC	15	4	60	Dr. Dean Spaner - U of A, Edmonton, AB
Agronomic Trials					
Bayer - Flea Beetle Control - Seed-Trt **	DC	11	4	44	Scott Henry - Bayer CropScience, Calgary
Bayer - Flea Beetle Control - Seed-Trt **	FSJ	11	4	44	Scott Henry - Bayer CropScience, Calgary
BASF - Flea Beetle Study **	DC	12	4	48	Ryan Nielson - BASF, Edmonton
BASF - Flea Beetle Study **	FSJ	12	4	48	Ryan Nielson - BASF, Edmonton
Cereal Rust Plots (individual plots)	DC	6	1	6	Tom Fetch - AAFC Winnipeg
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 2013



TEMPERATURE

Month	Monthly Avg. Temp. (C)	Temp.* 30 year Avg. (C)
May	12	9
June	15	13
July	15	15
August	16	14
September	13	9

Frost Events: May 7 -4.38 September 26 -1.44
September 30 -2.66

Killing Frost (-2.2 C) Free Period: 146
May 7 - September 30

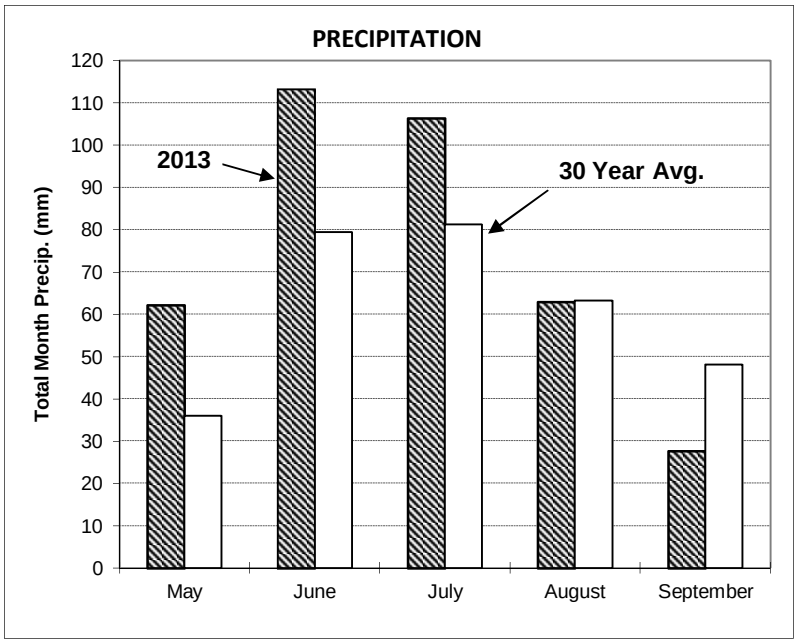
Accumulated Growing Degree Days:
2013: 1326
1994-2013 Average: 1177

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

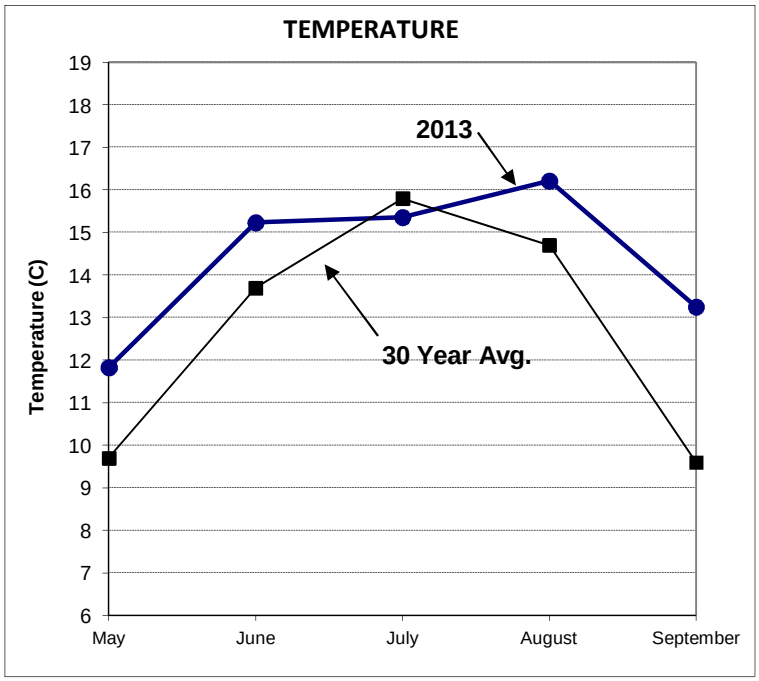
PRECIPITATION

Month	Monthly Precipitation (mm)	Precipitation * 30 year Avg. (mm)
May	62	36
June	113	79
July	106	81
August	63	63
September	28	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 2013



TEMPERATURE

Month	Monthly Avg. Temp. (C)	Temp.* 30 year Avg. (C)
May	12	10
June	15	14
July	15	16
August	16	15
September	13	10

Frost Events: May 1 -7.57 September 26 -1.66
October 13 -2.85

Killing Frost (-2.2 C) Free Period: 165
May 1 – October 13

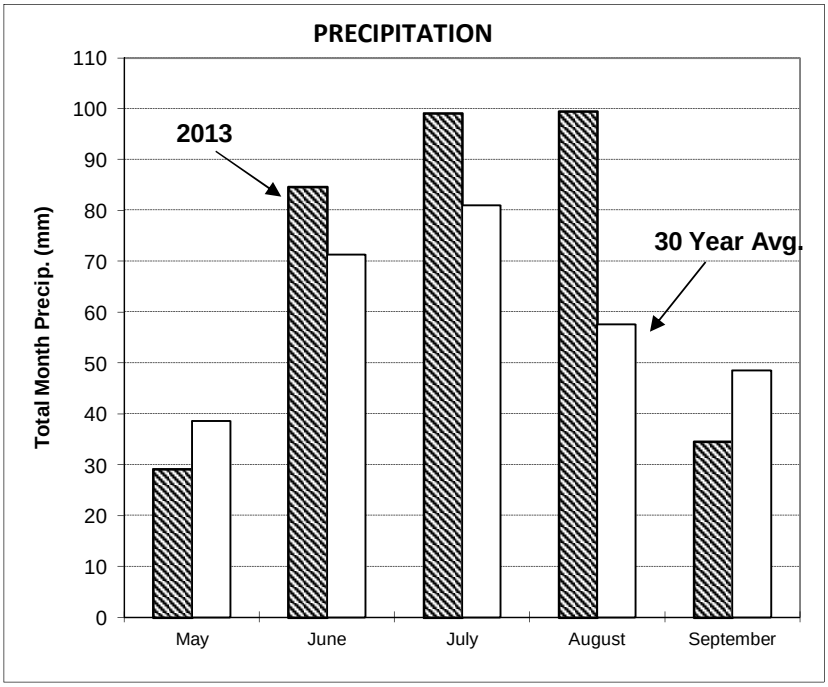
Accumulated Growing Degree Days:
2013: 1363
1994-2013 Average: 1173

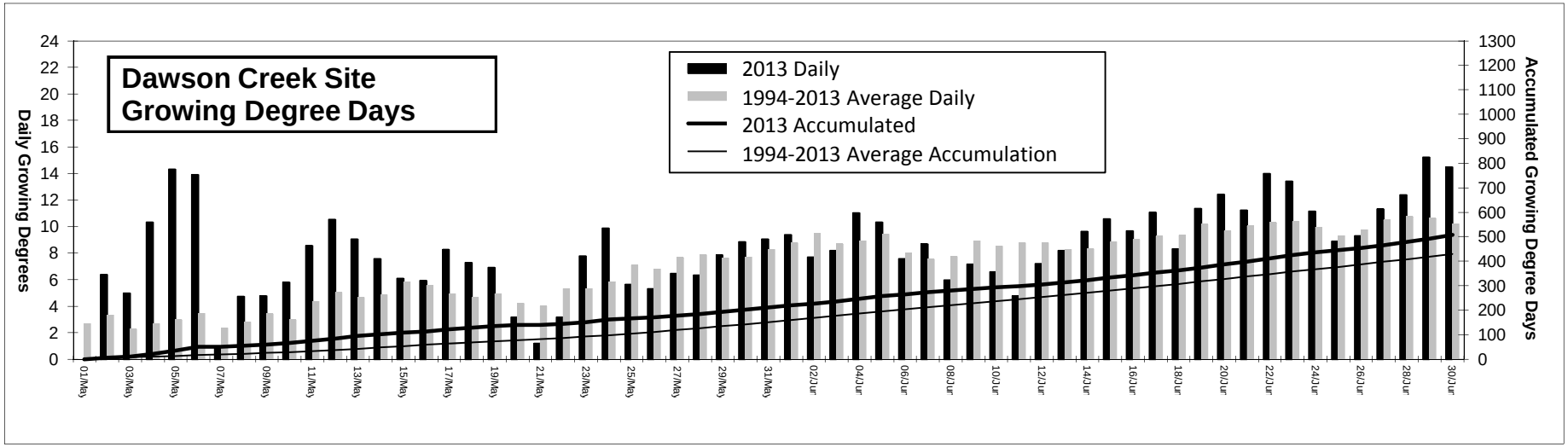
* 30 year average FSJ from 1968-1997
source: Environment CANADA

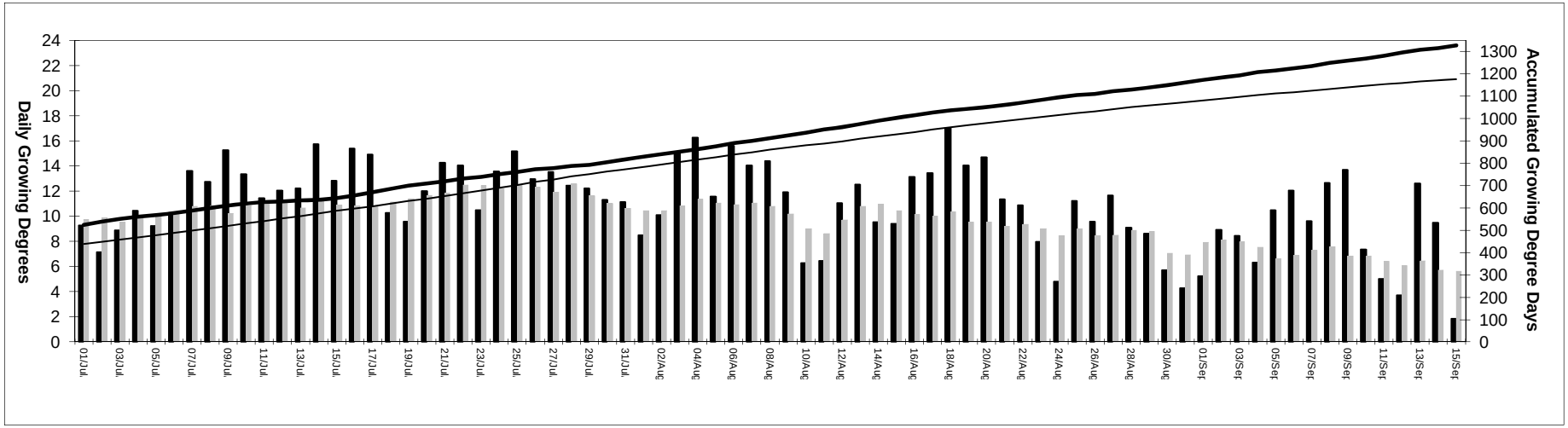
PRECIPITATION

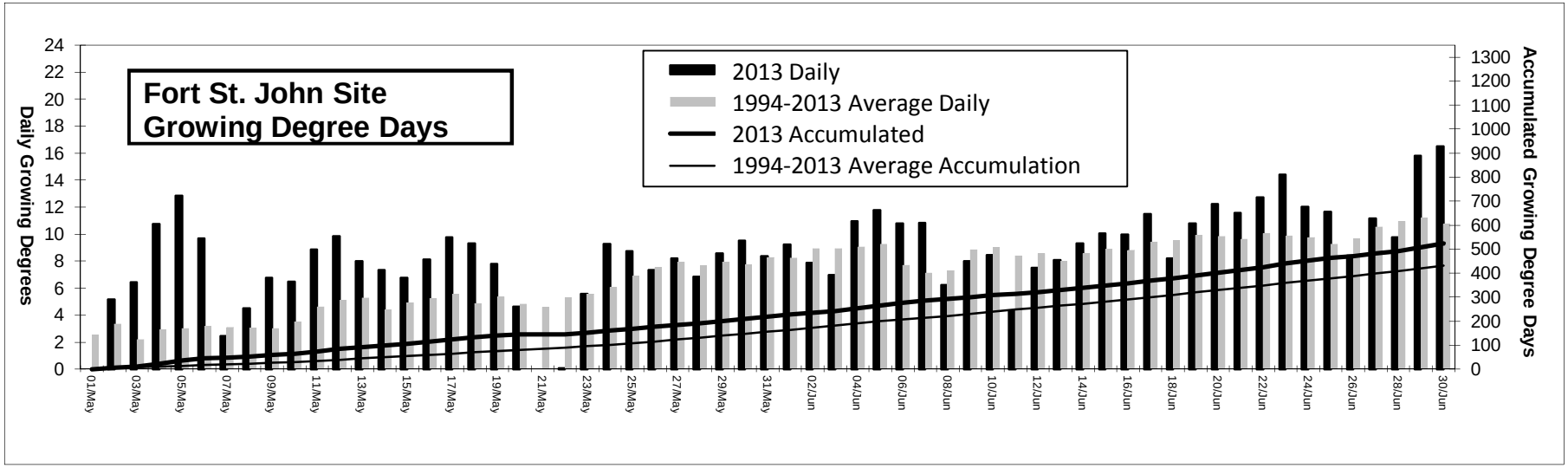
Month	Monthly Precipitation (mm)	Precipitation * 30 year Avg. (mm)
May	29	39
June	85	71
July	99	81
August	100	58
September	35	49

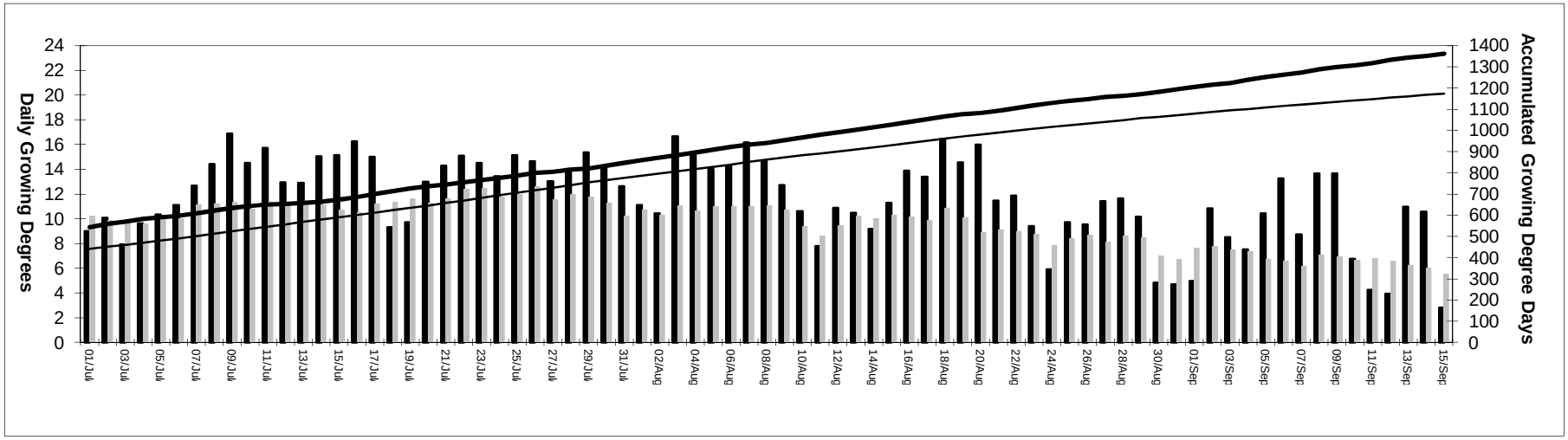
Data is provided by an on site weather station maintained by the Canadian Wheat Board and the BC Grain Producers Association.




Dawson Creek Site
Growing Degree Days
2013 Daily
1994-2013 Average Daily
2013 Accumulated
1994-2013 Average Accumulation
Daily Growing Degrees
Accumulated Growing Degree Days


Daily Growing Degrees
Accumulated Growing Degree Days


Fort St. John Site
Growing Degree Days
2013 Daily
1994-2013 Average Daily
2013 Accumulated
1994-2013 Average Accumulation
Daily Growing Degrees
Accumulated Growing Degree Days


Daily Growing Degrees
Accumulated Growing Degree Days

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 0X0
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 2Y:

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

Photo (above): Research plots at Dawson Creek's research farm around mid-July 2013; flax bottom left (some blue flowers still showing but today's flowers already wrapping up by mid-morning), canola bottom middle and right, field pea and lentils centre left, barley behind the peas top left, wheat and triticale top right, oat far top right, and more barley top centre. 2013 was a year of frequent well-spaced rains following planting, never at levels to cause flooding, just the pattern continuing right on through the summer and into the harvest period. Crops just did not want to stop growing nor stop producing flowers and thus seed (canola averaged significantly over 30 days of continuous blooming). Despite heavy disease pressures, final yields in all crops were excellent to exceptional, maybe even record breaking in the cereals and of surprisingly good quality for the most part.

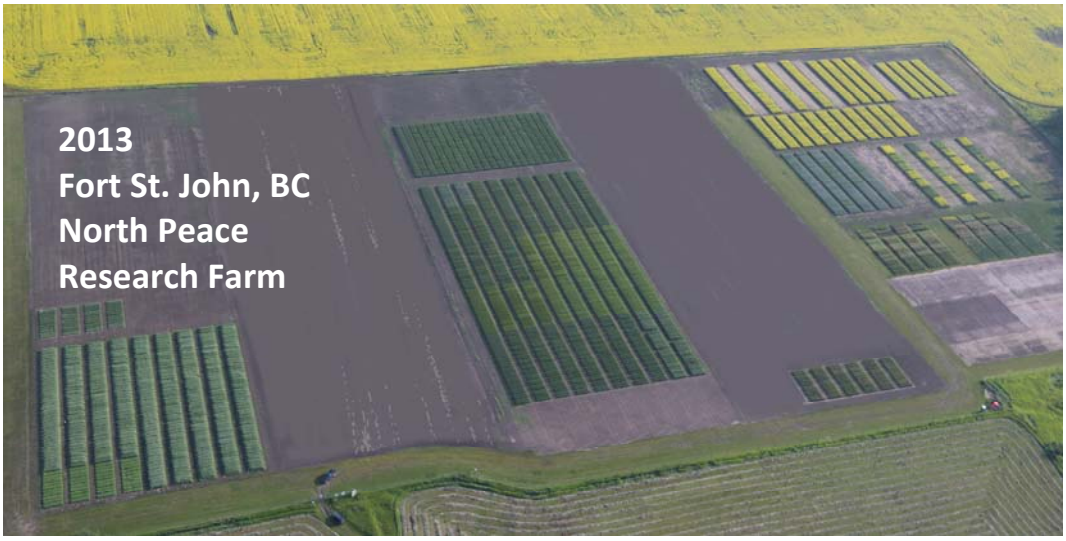


Photo (right): Fort St. John research plots same day in mid-July. Plots of wheat, barley, oat, and triticale in the middle, canola and flax plots upper-right, winter wheat bottom right, field pea, lentil, and dry-bean bottom left.