



canola

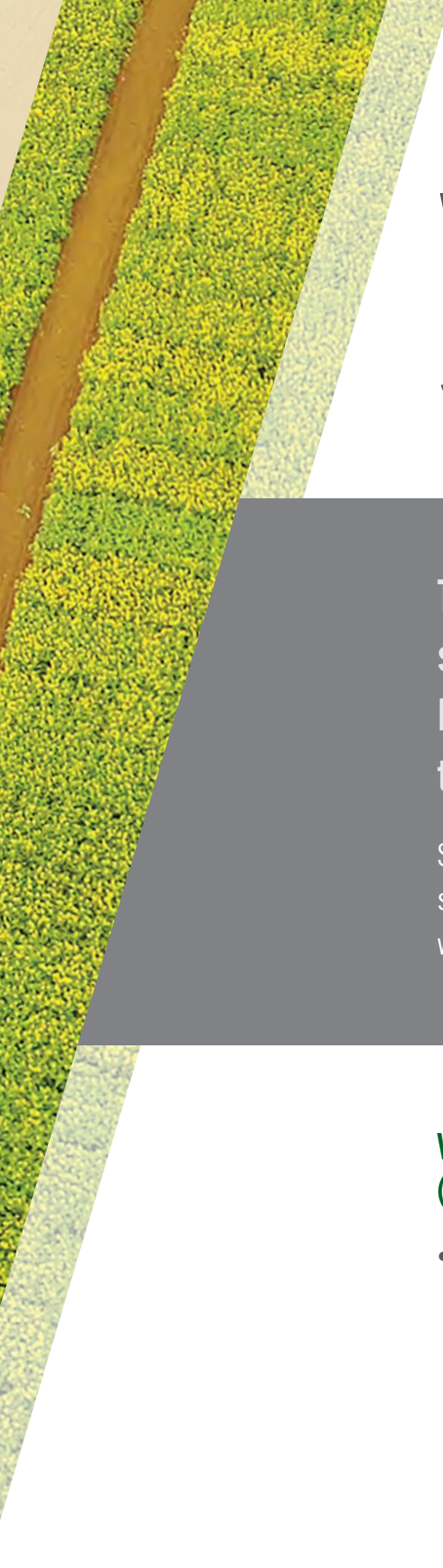
PERFORMANCE TRIALS

**FUNDED BY GROWERS
FOR GROWERS**

CANOLA VARIETY SELECTION GUIDE:

FEATURING CPT SUMMARY DATA

Brought to you by the CPT Governance Committee



WHAT IS A CANOLA VARIETY SELECTION GUIDE?

This booklet is designed to assist growers with the variety selection process by showcasing 2011 through 2016 small plot and field scale results from the Canola Performance Trials (CPT). It is laid out in a step-by-step format with many factors along the way for a grower or agronomist to consider and an industry member to showcase.

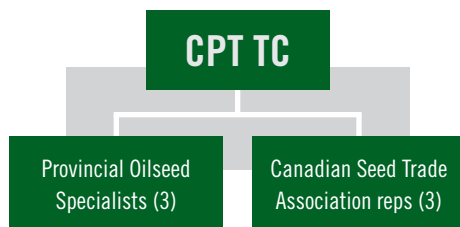
Seed is a major input decision that every grower has to make. Considering several years of data from small plot and field scale sites grown in a wide range of agronomic and agrometeorologic conditions across Western Canada can help make a well-informed choice.

What is the Canola Performance Trials (CPT) program?

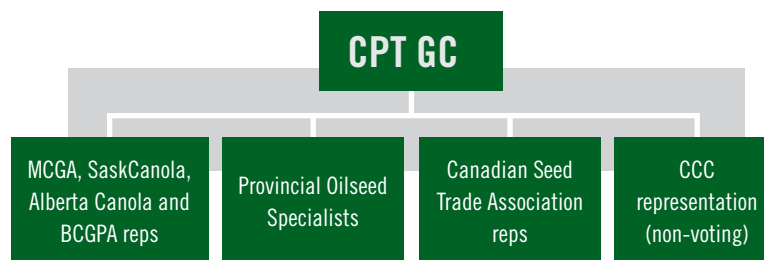
- The CPT program is an independent, third-party canola variety testing program that provides relevant, unbiased performance data which reflects actual production practices and comparative small plot and field scale data on a collection of leading and newly introduced varieties.
- The Alberta Canola Producers Commission (Alberta Canola), Saskatchewan Canola Development Commission (SaskCanola) and Manitoba Canola Growers Association (MCGA) funded the 2017 program, along with contributions from the British Columbia Grain Producers Association (BCGPA). The Canola Council of Canada (CCC) delivers the program on their behalf, and a contractor (Haplotech, led by Dr. Rale Gjuric) coordinates the trials under guidance from the CPT Governance and Technical Committees.

Who is involved with the CPT program?

- The CPT Technical Committee (CPT TC) establishes the protocols, develops plot designs and reviews the dataset at the end of each year to ensure that the data is representative and of top quality.



- The CPT Governance Committee (CPT GC) is made up of the Manitoba, Saskatchewan and Alberta Oilseed Specialists, Canadian Seed Trade Association (CSTA) representatives, MCGA, SaskCanola, Alberta Canola and BCGPA representatives and representation from the CCC. It provides direction on the operation of the program, including input on the small plot and field scale trials, budget, website, booklets, workshops, communications, promotion and variety selection. The CSTA representation can change from year to year but 2017 included Bayer CropScience, BrettYoung Seeds, CANTERRA SEEDS, Cargill and DL Seeds. Proven Seed/CPS, DEKALB and DuPont Pioneer also contributed to the program in 2017.



How can the CPT program help with variety selection?

- CPT protocols for both the small plot and field scale trials maintain quality assurance to ensure reliability of the final annual dataset. Both protocols (including the new straight cut entry component) are available for viewing on the website at canolaperformancetrials.ca/trial-protocol
- CPT evaluates a number of parameters, including height, lodging, days to maturity and yield values. Before the performance characteristics of varieties in a specific dataset can be compared, a good quality dataset must be found. To determine if a dataset is good quality, consider the following questions:

The small plot and field scale protocols are available for viewing on the website at canolaperformancetrials.ca/trial-protocol



Does the dataset have these qualities?

- a) **Replication** – Replicated trials provide greater confidence that the results are due to the treatment effect (in this case, the difference in varieties) and are less due to chance (from factors other than the treatment being considered).

Due to practicalities, the use of two replications at each location is realistic and acceptable for field scale trials, while more replications would be expected for small plot trials (four replications are used in the CPT small plots).

- b) **Experimental design** – Plots are arranged with some randomization to minimize any impact of external variation, such as topography (CPT small plot trials use a Randomized Complete Block Design). Though field scale trials may be limited in experimental design options, they should be oriented in such a way to limit variation between replications (e.g. either avoiding an area with an extreme low spot or hill, or trying to have an equal amount of each rep affected by the low spot or hill if it takes up too much of the field to be avoided).

- c) **Good management** – All management should be in compliance with the protocol and all plots should be treated uniformly (i.e. same seeding date, same method of weighing yield, same thresholds for any insecticide or fungicide applications and adherence to product labels). Audits by trained independent inspectors confirm the quality of the management and site condition.

- d) **Many trial locations distributed throughout a large area** – A large dataset and testing variety performance across a wide range of environmental conditions (soil, climate, topography, etc.) provides information on the general variety stability.

- e) **Multiple site years** – This will provide additional data points and an evaluation of the product at a specific location (e.g. close to someone's farm) across some range in conditions (e.g. soil type remains, but different weather and insect/disease conditions will occur).

What is a least significant difference?

The least significant difference (LSD) for each dataset indicates whether differences between two values are statistically meaningful. Varieties should only be considered different if the numerical difference between them is greater than the LSD value. LSD values are calculated on data collected within an individual year and are presented in the annual CPT booklets.

When multiple year averages are presented, LSD is not applicable as different varieties were tested in different combinations of years and locations. Therefore no LSD values are provided in the data summary booklet, which displays multiple year averages from CPT data from 2011 through 2016.

How many samples (replications and site locations) are needed to determine significant differences?

The significant difference in a dataset is impacted by the number of samples that are being considered. The greater number of replications and site locations there are, the smaller the amount of difference between averages that is necessary in order for the difference to be significant.

Table 1. The number of site locations required (when a given number of replications is used) to detect significant yield differences of 2 bu/ac, 3 bu/ac and 5 bu/ac between varieties.

| Reps | Significant yield differences between varieties | | |
|------|---|---------|---------|
| | 2 bu/ac | 3 bu/ac | 5 bu/ac |
| 6 | 33 | 15 | 5 |
| 5 | 35 | 16 | 6 |
| 4 | 38 | 17 | 6 |
| 3 | 43 | 19 | 7 |
| 2 | 53 | 24 | 9 |
| 1 | 83 | 37 | 13 |

For example, the 2017 CPT small plot trials were planted at 25 locations and had four replications at each location, so a difference in yield of ≥ 3 bu/ac between

variety averages would be considered significant, according to Table 1 (since 25 is below 38, but ≥ 17). Similarly, if 4 replications were planted at 39 locations, a significant difference of 2 bu/ac could be detected between variety averages.

How many years of variety data are required to make predictions for variety performances?

Often an increased dataset, with a greater number of years of data considered, produces better predictions for (or correlation to the data in) the following year, as shown in Table 2.

Correlations are also referred to as R^2 values and are measured on a scale of 0 to 1 (where 0 = no correlation and therefore an inaccurate prediction, and 1 = a perfect correlation between two factors considered and therefore a completely accurate prediction).

Table 2. Correlations of yield predictions for a selection of canola varieties* over single and multiple year intervals.

| Single and multiple year(s) of data used to calculate yield predictions in subsequent years | Year that predictions were calculated for | | | | |
|---|---|------|------|------|------|
| | 2012 | 2013 | 2014 | 2015 | 2016 |
| 2011 (single year) | 0.55 | 0.94 | 0.88 | 0.97 | 0.35 |
| 2012 (single year) | | 0.58 | 0.51 | 0.75 | 0.14 |
| 2013 (single year) | | | 0.93 | 0.90 | 0.71 |
| 2014 (single year) | | | | 0.92 | 0.79 |
| 2015 (single year) | | | | | 0.89 |
| 2011-14 (multiple years) | | | | 0.91 | |
| 2011-15 (multiple years) | | | | | 0.86 |

*The same selection of canola varieties was used in all these correlations.

According to Table 2, the **single year yield** data from a selection of canola varieties in 2011, 2012, 2013, 2014 and 2015 could predict the yield data from the same selection of canola varieties with anywhere between 14% accuracy (for 2012 to predict 2016 data) and 97% accuracy (for 2011 to predict 2015 data), depending on the year considered. While the compilation of **multiple years of yield data**, such as 2011-2014, could predict the data from 2015 with 91% accuracy and yield data compiled from 2011-2015 could predict the data from 2016 with 86% accuracy.

After reviewing the dataset, also consider these key values:

- a) **Coefficient of variation (CV)** – This is a reflection of the variability between replications (of the same variety), with lower values depicting less variability between replications, often resulting from good site management and experimental design. The CPT TC generally uses a CV of 15 as a threshold above which sites are rejected due to lack of trust in the reliability of data (lack of certainty in the data accurately representing the true variety performances). Other organizations or companies may use different CV thresholds.
- b) **Number of sites (n or N)** – A greater number of sites (which includes number of locations in each year) is more likely to accurately describe the factors considered ($n \geq 10$ is preferred).
- c) **Level of statistical significance** – Often used in trial data to show the degree of confidence that a difference between two average values (e.g. average yield of variety A and variety B) is not just due to chance or random variation (e.g. variability across a field). A 1% level of significance (also displayed as $P < 0.01$) represents a greater level of confidence than 5% ($P < 0.05$). If there is no significant difference found between two averages, it means that they are not statistically different or that the difference could have easily occurred by chance (even though one value may be arithmetically greater than the other).

Want to determine which specific variety performs the best on the fields in your farm?

The Canola Council of Canada's Ultimate Canola Challenge (UCC) could be a perfect fit for you. It is a program which provides protocols to test different varieties, products, management strategies (e.g. 25% additional nitrogen) along with agronomic support and summarized data analysis. Contact Nicole Philp at philpn@canolacouncil.org or check out the UCC website for more details (canolacouncil.org/crop-production/ultimate-canola-challenge/).



Once you have a quality dataset, it's time to analyze trial results for a customized recommendation. This can be done by considering a number of the following factors for ideal canola variety selection.

- **Climatic factors** – Understand which climatic parameters have a major impact on the region in which you will be growing these varieties, such as average frost-free days (FFD), average growing degree days (GDD) and average growing season precipitation, which may describe the season zone you are in (and the amount of emphasis that should be put on days to maturity in your selection criteria).
- **Environmental parameters** – Recall environmental factors that have a major impact on the area in which you will be growing these varieties, such as soil zone, topographic features and annual disease concerns, which may impact your variety selection criteria in terms of reasonable yield targets, variety height or days to maturity.
- **Herbicide tolerance system** – Consider previously grown varieties and/or crops, agronomic concerns to be addressed (e.g. specific weed issues), and potential marketing decisions (e.g. specialty oils). Rotating herbicide tolerance systems may be beneficial if some weeds are difficult to control or if you are aware of herbicide resistance in weeds in your area.
- **Disease management** – Evaluate the risk level you are operating at, including disease and rotation history of the fields that will be growing this variety and fields in the area, the amount of scouting and other management practices utilized (tillage, biosecurity, weed control, seed source, etc.) to determine which type of disease resistance is critical for seed variety selection. Also consider indirect-impact factors such as lodging and height characteristics of the variety.
- **Special traits** – Consider your operational and time management plans, equipment capabilities and interests to see if specialty oil varieties or varieties with special traits, such as increased pod-shatter tolerance, are more appealing.

- **Agronomic traits** – Due to regional conditions, management decisions or specific preference, additional factors such as height, lodging or standability and days to maturity can be considered.
- **Yield potential** – Consider the variety's yield potential and the achievable yield target set for the specific field that this variety will be seeded into. Note that residual soil fertility, fertility plan, weed conditions, typical insect and disease management, seeding date, seeding rate and expected spring moisture conditions can impact yield.

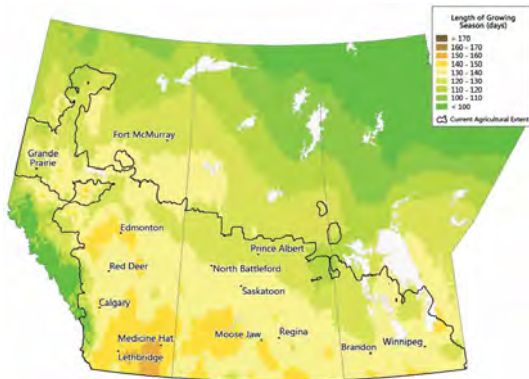
Check out all kinds of scenarios and head-to-head variety comparisons (includes only those varieties grown in the same year and location) at canolaperformancetrials.ca

The image displays two screenshots of the 'SEARCH PERFORMANCE TRIAL RESULTS' web interface. The top screenshot shows the main search form with the following elements: a 'Must select at least one' note, 'Search All Varieties' and 'Compare Varieties' buttons, dropdown menus for 'PROVINCE:' (All Provinces), 'ZONE TYPE:' (All Zones), and 'TRIAL TYPE:' (Small Plot), a 'SELECT WHICH YEARS SHOULD BE INCLUDED*' section with checkboxes for years 2011 through 2016, and a 'HERBICIDES:*' section with checkboxes for Roundup Ready, Liberty Link, and Clearfield. A 'Reset Custom Filters' link and a 'Search Trials' button are also visible. The bottom screenshot shows 'Step 1: Choose your type of comparison' with two radio button options: 'SHOW ME ALL THE DATA' (selected) and 'HEAD TO HEAD COMPARISON'. Below these options are explanatory text blocks for each search type. 'Step 2: Customize Your Search' is indicated at the bottom.

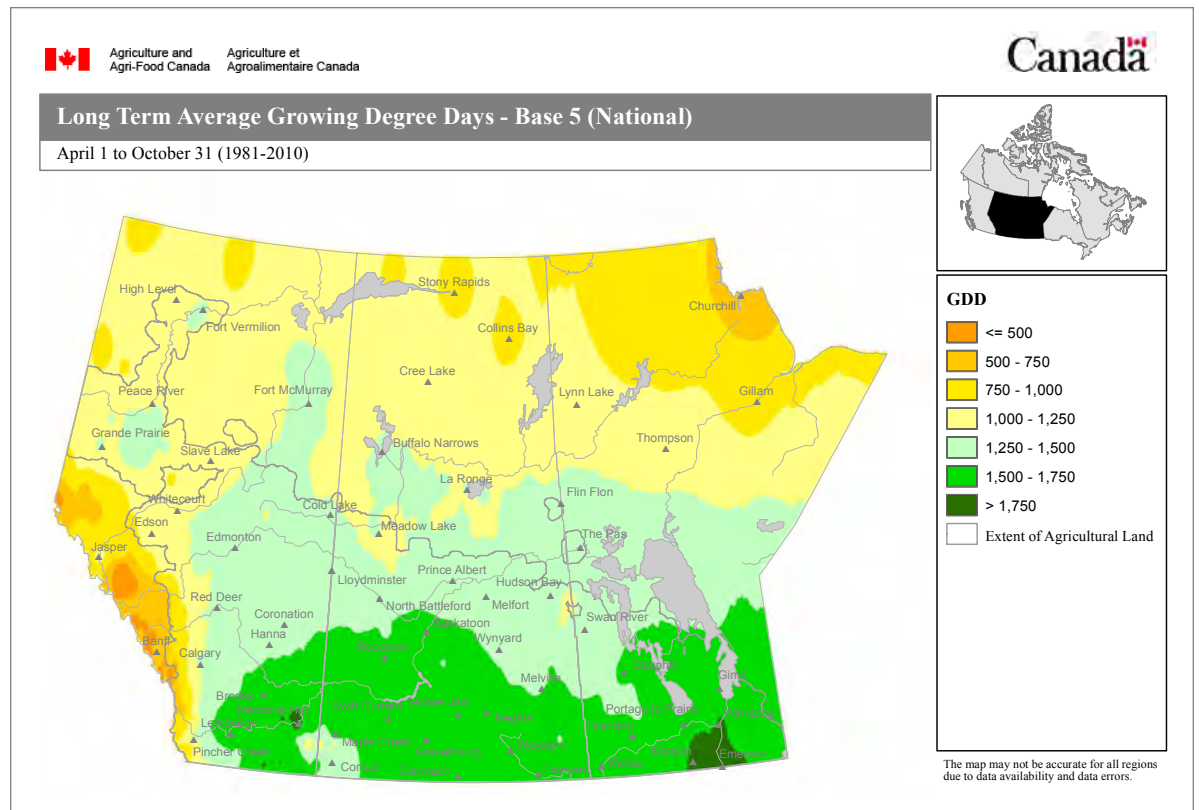
CONSIDER CLIMATIC FACTORS

Considering varieties with days to maturity equal to or less than the length of the average frost-free period can reduce risk. Average growing degree days accumulated over the growing season can also help with maturation estimates.

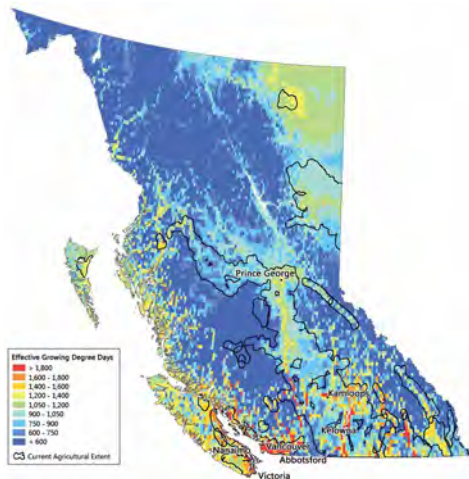
Average frost-free period in the Prairies



Average growing degree days (base 5°C) in the Prairies



Average growing degree days (base 5°C) in B.C.

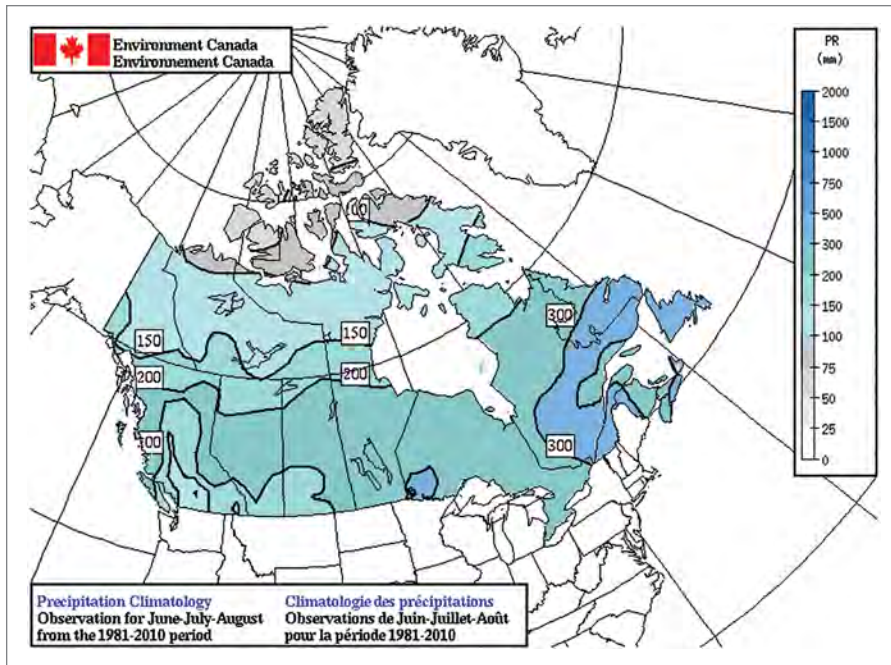


Map sources: Agriculture and Agri-Food Canada (www.agr.gc.ca/eng/science-and-innovation/agricultural-practices/agriculture-and-climate/future-outlook/climate-change-scenarios/effective-growing-degree-days-in-british-columbia); www.agr.gc.ca/eng/science-and-innovation/agricultural-practices/agriculture-and-climate/future-outlook/climate-change-scenarios/length-of-growing-season-in-the-prairie-region; www.agr.gc.ca/drought

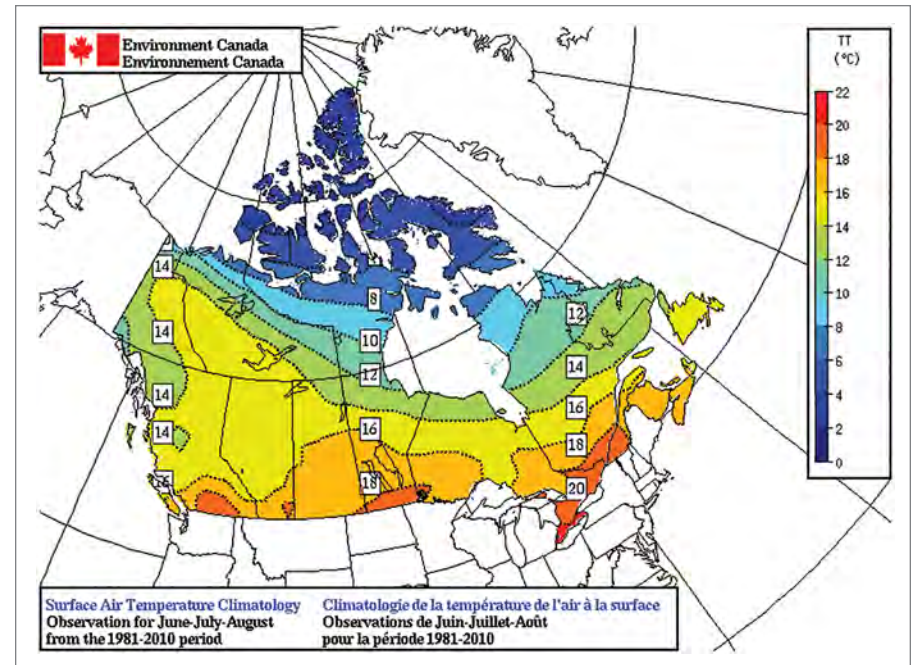
CONSIDER CLIMATIC FACTORS

Considering average summer temperatures and average summer precipitation levels can be helpful to set realistic yield goals and gauge the importance of yield as a selection criterion for canola varieties.

Average summer precipitation (Jun-Aug)



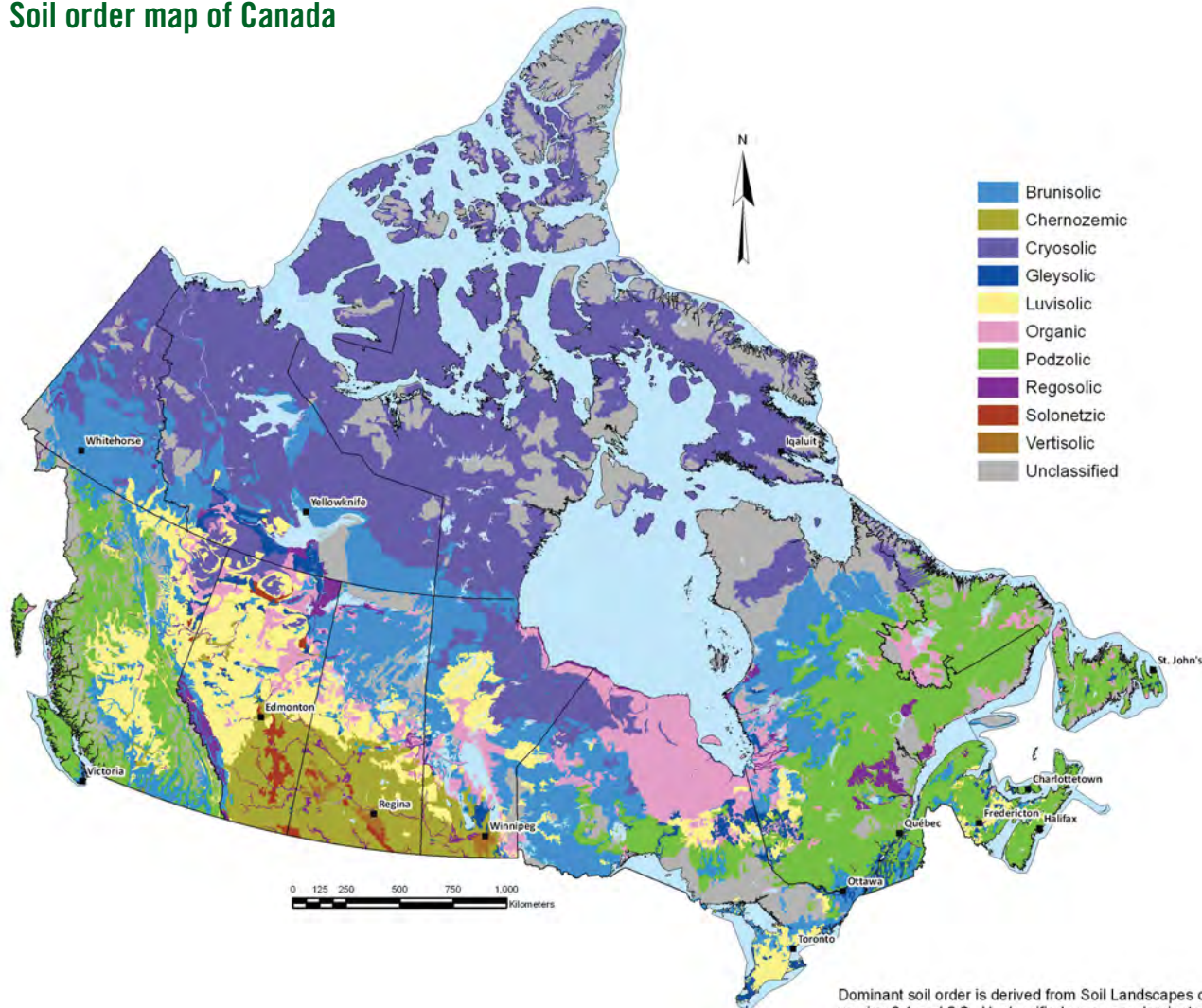
Average summer temperature (Jun-Aug)



CONSIDER ENVIRONMENTAL PARAMETERS

Awareness of soil order (and the soil characteristics associated with that order) can be useful when considering yield potential, preferred crop height and level of fertility that may be required as well as other management choices (e.g. tillage or machinery options best suited for soil based on its ability to hold water/nutrients and potential to be eroded by wind or water due to particle size).

Soil order map of Canada

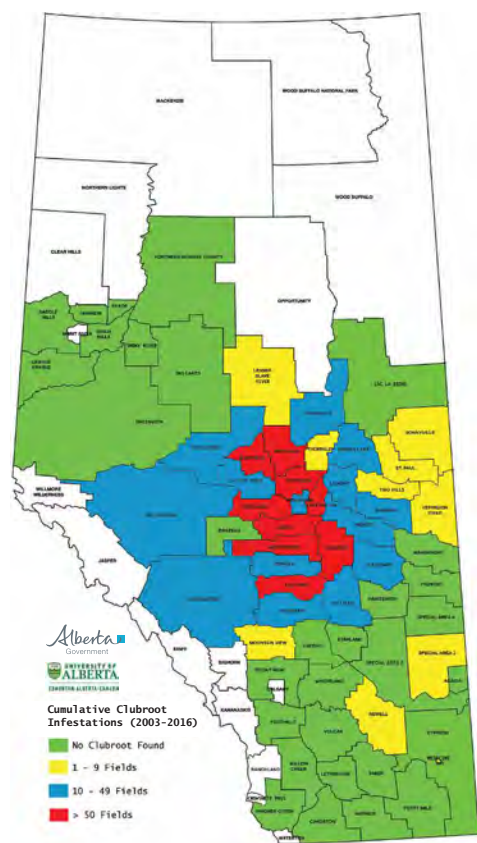


Map source: University of Saskatchewan (www.soilsofcanada.ca)

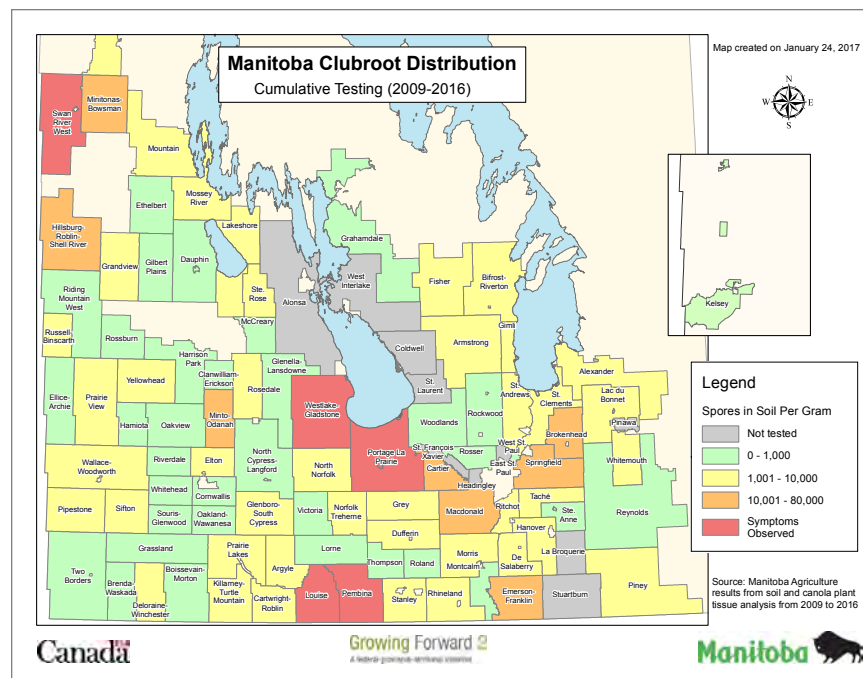
CONSIDER ENVIRONMENTAL PARAMETERS

Specific environmental concerns may influence the variety traits which must be included in your variety selection criteria. For example, if clubroot or the presence of the clubroot pathogen has been confirmed in your field or your community, the use of clubroot resistant varieties in an integrated management approach will reduce pathogen buildup in your field and help to prevent yield losses due to this disease. Variety lodging can also be an important factor to investigate when considering various canola disease concerns in the field, as lodging canola can provide a more favourable environment within the crop canopy for disease development (if the pathogen is present).

Alberta Clubroot Map: Cumulative clubroot infestations as of January 2017



2017 Clubroot Distribution Map: Cumulative testing of spores/gram of soil



Please note that the Alberta and Manitoba maps showing the range of clubroot across each province are based on different criteria. The Alberta map shows the extent of fields with observed clubroot symptoms by county. The Manitoba map is based primarily on clubroot spore levels in soil samples, however municipalities in red have had clubroot symptoms observed in at least one field or have had at least one soil sample with spore levels above 80,000 per gram, which is considered the minimum spore population threshold for gall formation under field conditions.

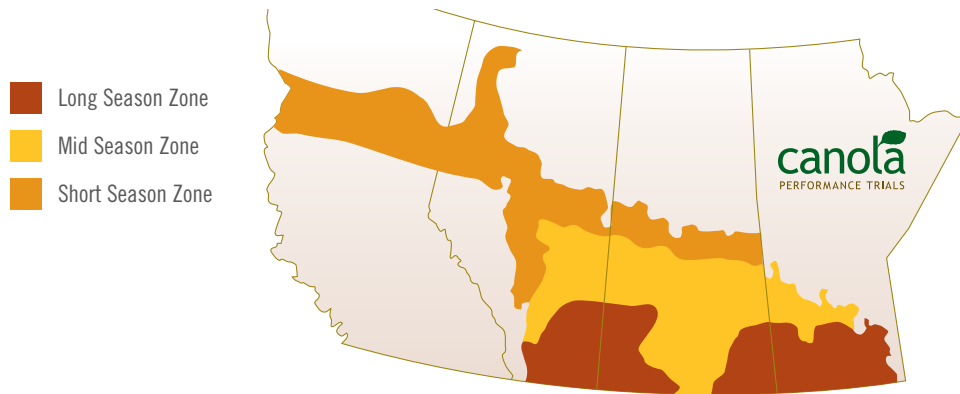
Clubroot was found in crop districts 9A and 9B of northwest Saskatchewan in 2017. It continues to be scouted for as part of the provincial disease survey (however there was no clubroot map for Saskatchewan available when this booklet was released). Read the [SaskCanola press release](#) for further information on the clubroot confirmation in Saskatchewan.

SELECTION BY SEASON ZONE

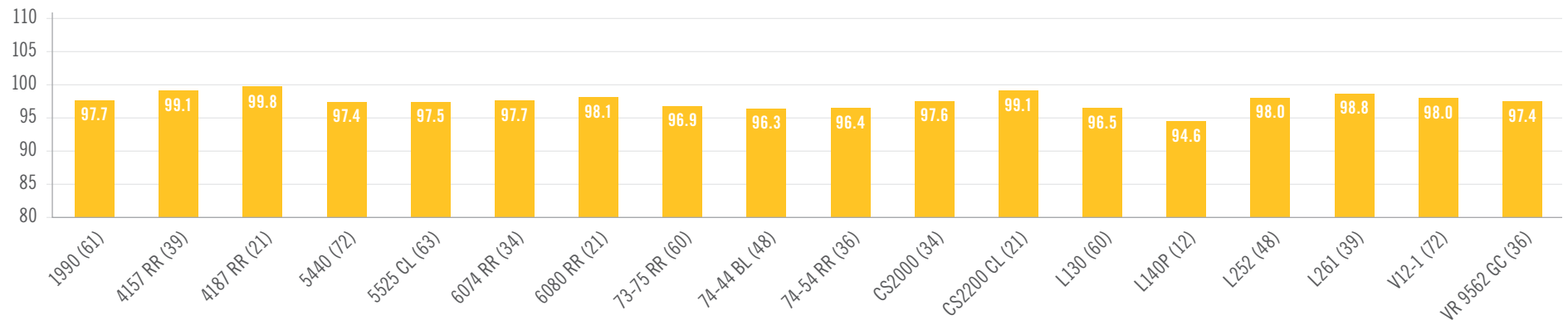
FEATURING 2011-2016 CPT SUMMARY DATA

CPTs are grown in short, mid and long season zones. Considering the number of days to maturity (DTM) for a variety in short and mid season zones is especially important.

Small plot locations throughout Western Canada



Average DTM of varieties* (and number of sites) in small plot trials in the mid season zone



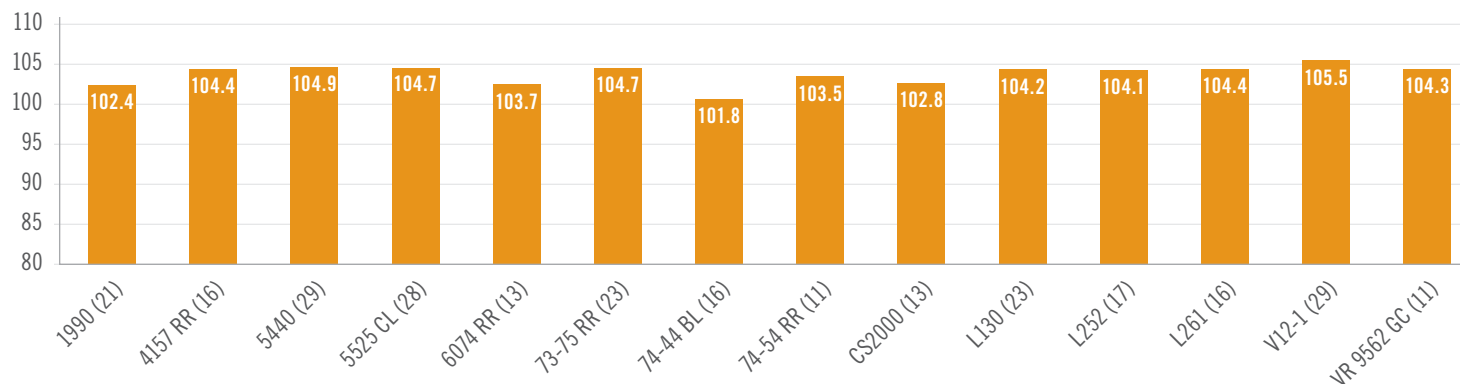
Note that the small plot data was displayed because there were many more data points for more varieties than the field scale trials.

*Varieties listed include only those which had ≥ 10 sites and were either grown in two of the last three years of CPTs (2014-2016) or were in both 2016 and 2017 trials.

SELECTION BY SEASON ZONE

FEATURING 2011-2016 CPT SUMMARY DATA

Average DTM of varieties* (and number of sites) in small plot trials in the short season zone



Average DTM and number of sites of varieties* in field scale trials in the short season zone

| Distributor | Variety | Average DTM | Number of sites |
|-------------------|---------|-------------|-----------------|
| Bayer CropScience | 5440 | 106.6 | 31 |
| DEKALB | 73-75RR | 105.7 | 47 |
| DEKALB | 74-44BL | 104.3 | 33 |
| DEKALB | 74-54RR | 105.2 | 16 |
| Bayer CropScience | L130 | 104.3 | 37 |
| Bayer CropScience | L252 | 106.1 | 28 |
| Bayer CropScience | L261 | 105.7 | 18 |

Note that the small plot data was displayed because there were many more data points for more varieties than the field scale trials.

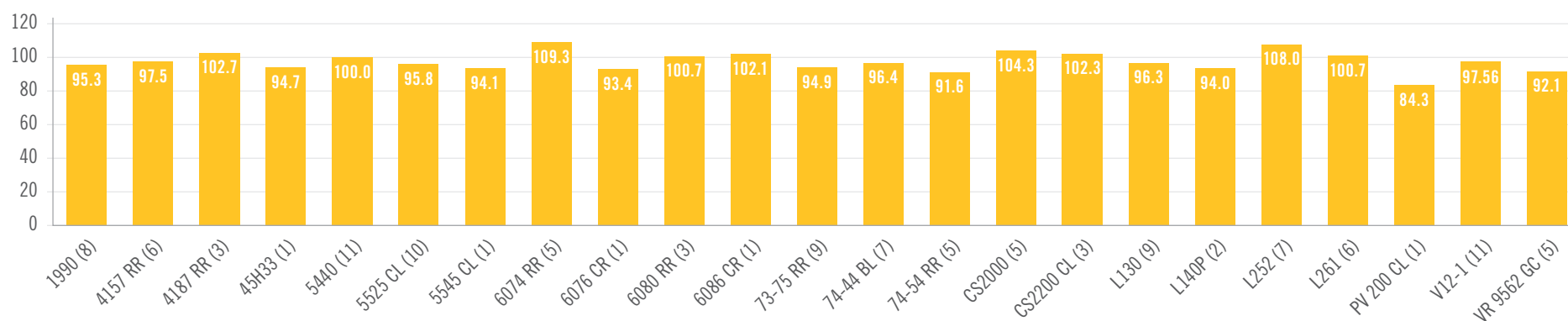
*Varieties listed include only those which had ≥ 10 sites and were either grown in two of the last three years of CPTs (2014-2016) or were in both 2016 and 2017 trials.

SELECTION BY PROVINCE

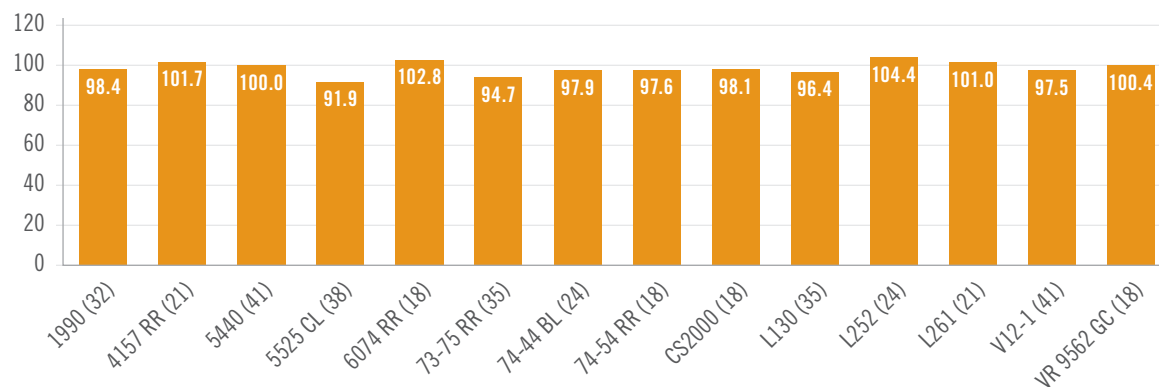
FEATURING 2011-2016 CPT SUMMARY DATA

Although variety performance across a wider range of areas shows how robust it is (and suggests how likely it will be to perform well under a variety of weather conditions – including whatever next year may bring), looking at variety performance across the province or at a more local level can suggest how a variety would perform under environmental factors or management strategies that are common in your province.

Average yield (% of check) of varieties** (and number of sites) in small plot trials in British Columbia



Average yield (% of check) of varieties* (and number of sites) in small plot trials in Alberta



Note that check refers to 5440 or an adjusted value for 5440. Also note that the small plot data was displayed because there were many more data points for more varieties than the field scale trials.

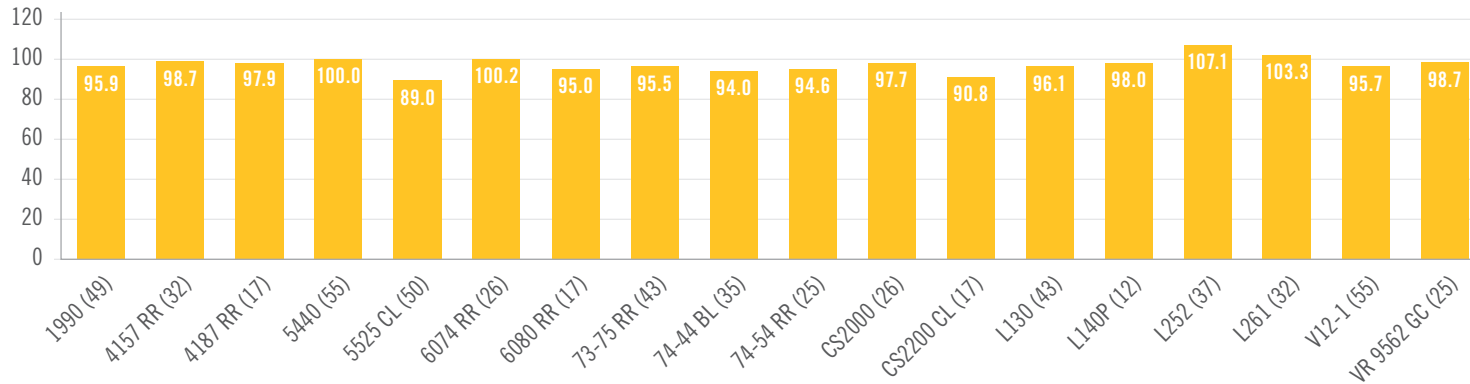
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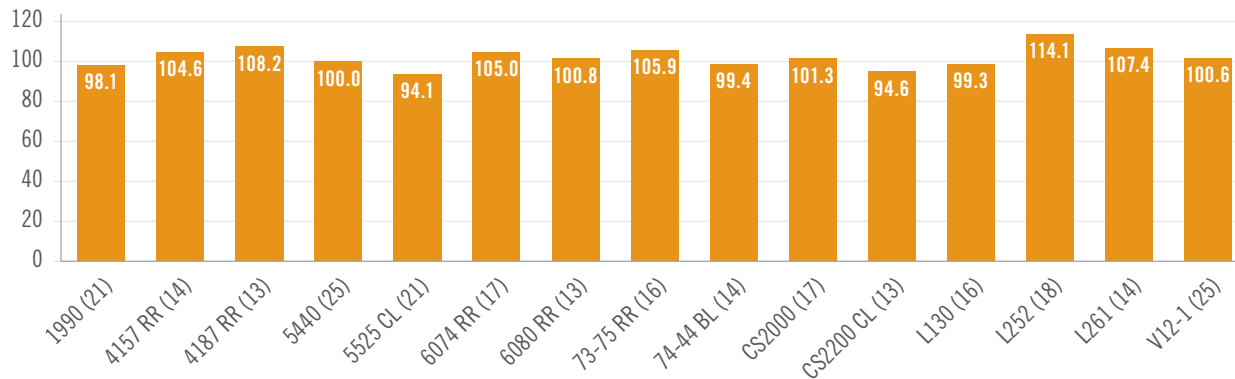
SELECTION BY PROVINCE

FEATURING 2011-2016 CPT SUMMARY DATA

Average yield (% of check) of varieties* (and number of sites) in small plot trials in Saskatchewan



Average yield (% of check) of varieties* (and number of sites) in small plot trials in Manitoba



Note that check refers to 5440 or an adjusted value for 5440.

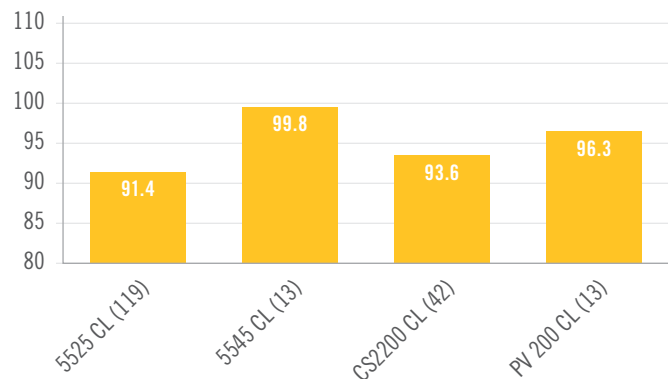
*Varieties listed include only those which had ≥10 sites and were either grown in two of the last three years of CPTs (2014-2016) or were in both 2016 and 2017 trials.

SELECT A HERBICIDE TOLERANCE (HT) SYSTEM

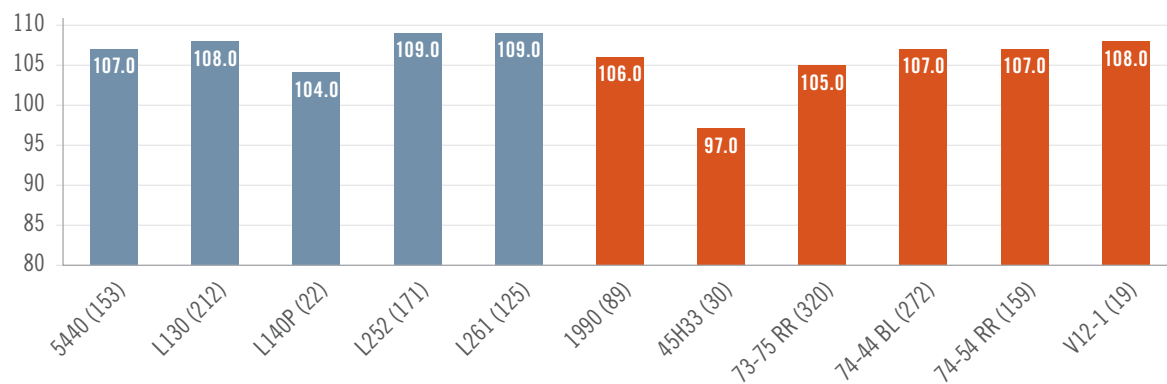
FEATURING 2011-2016 CPT SUMMARY DATA

When selecting one of the three HT systems, consider the system of previously grown varieties (and rotating systems), any weed issues and HT weeds that you may need to address in the canola year (as well as in non-canola years) and potential marketing decisions (e.g. specialty oils).

Average yield (% of check) of Clearfield varieties* (and number of sites) in small plot trials



Average yield (% of check) of Liberty Link and Roundup Ready varieties* (and number of sites) in field scale trials



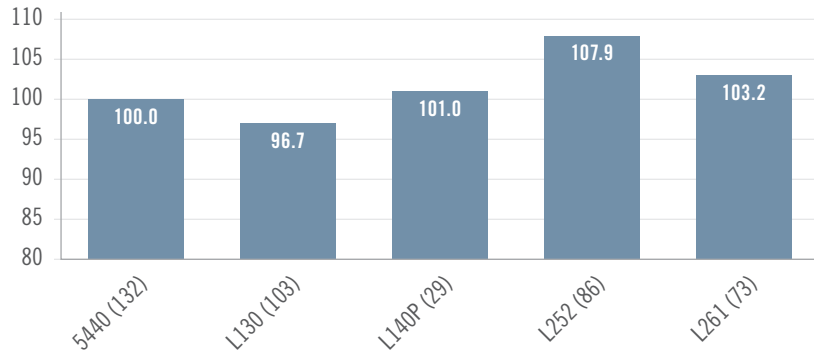
Note that there was no Clearfield data to include in the field scale graphs because there were no Clearfield varieties included in field scale sites. Also note that check refers to 5440 or an adjusted value for 5440.

*Varieties listed include only those which had ≥ 10 sites and were either grown in two of the last three years of CPTs (2014-2016) or were in both 2016 and 2017 trials.

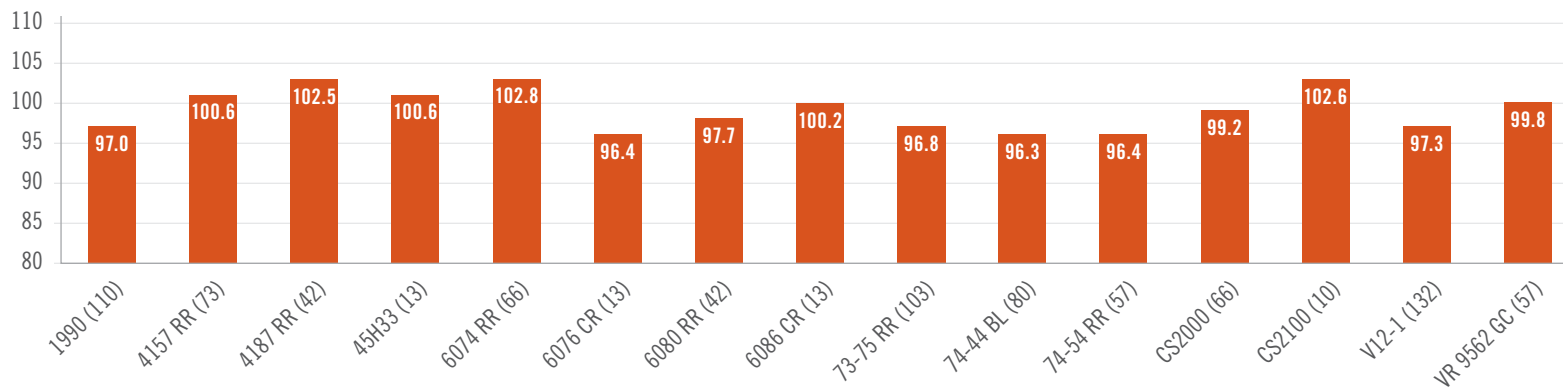
SELECT A HERBICIDE TOLERANCE (HT) SYSTEM

FEATURING 2011-2016 CPT SUMMARY DATA

Average yield (% of check) of Liberty Link varieties* (and number of sites) in small plot trials



Average yield (% of check) of Roundup Ready varieties* (and number of sites) in small plot trials



Note that check refers to 5440 or an adjusted value for 5440.

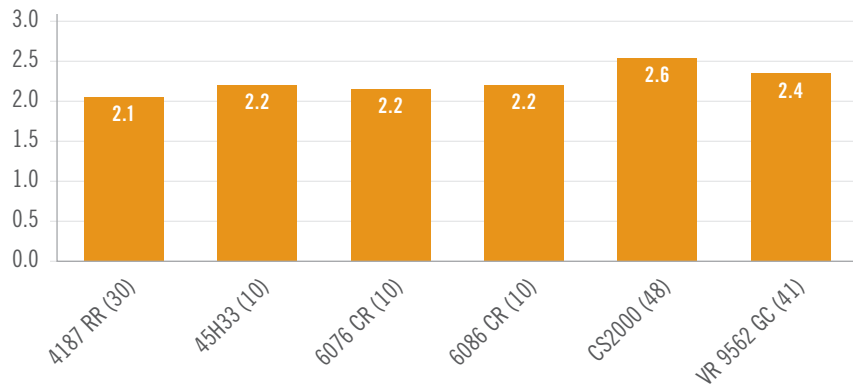
*Varieties listed include only those which had ≥10 sites and were either grown in two of the last three years of CPTs (2014-2016) or were in both 2016 and 2017 trials.

SELECTION BY DISEASE TOLERANCE

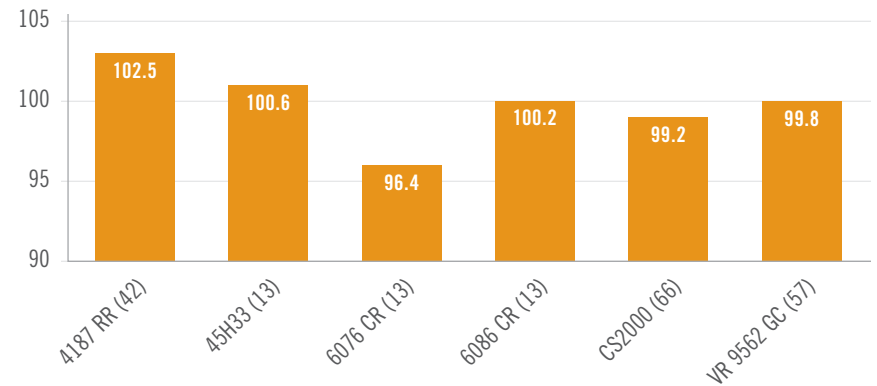
FEATURING 2011-2016 CPT SUMMARY DATA

Current canola varieties offer disease tolerance to two key canola diseases: blackleg and clubroot. All varieties shown in this booklet are blackleg resistant (according to the S, MR, R rating system) so this section features only clubroot resistant (CR) varieties. Note that selecting a CR variety is only part of an integrated management approach, along with scouting fields, using a diverse crop rotation, effectively managing weeds, sanitizing equipment and minimizing soil movement.

Average lodging values of CR varieties* (and number of sites) in small plot trials



Average yield (% of check) of CR varieties* (and number of sites) in small plot trials



Increased lodging can create a more favourable environment for disease to flourish, so lodging values should be considered in high-risk scenarios. Lodging values are between 1 and 5, with 1 indicating no lodging and 5 being completely lodged.

Note that since only two of the CR varieties had any field scale sites and one variety had only three sites, only the small plot data results are shown in this section. Also note that check refers to 5440 or an adjusted value for 5440.

**Varieties listed include only those which had ≥ 10 sites and were either grown in two of the last three years of CPTs (2014-2016) or were in both 2016 and 2017 trials.*

CUSTOMIZE YOUR RESULTS

Check this out on the CPT database

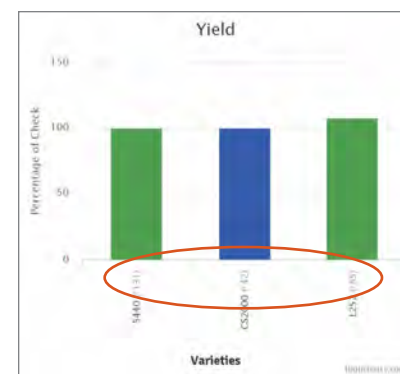
- Compare varieties** – Use the “show me all the data” option to compare data from all the sites where a variety was grown. This allows for more data points to be considered, but it will be an unbalanced number of samples for each variety.
- Head-to-head comparisons** – Compare data from varieties that were only grown at the same location and time. The sample size will be the same for each variety, but the total number of samples considered will be lower than the “show me all the data” option.
- Check a specific site** – You can look at data from a site near you or that you saw on a field tour by enlarging the interactive map and clicking on pointers to show the location, or by looking through the data table and sorting by location.
- Filter by your preference** – By using the drop-down menus you are able to search data: from any province; from one, two or all three HT systems; by any or all season zones; from any single year or combination of years; or from either field scale or small plot trials.
- Consider agronomic traits** – Look at yield in bu/ac (in the scrollable data table) and per cent of check, or days to maturity (DTM), lodging scores and measured height.

This screenshot shows the search interface with the 'SHOW ME ALL THE DATA' option circled in red. The interface includes a 'HEAD TO HEAD COMPARISON' option, a 'Step 2: Customize Your Search' section with dropdown menus for Province (All Provinces), Zone Type (All Zones), and Trial Type (Small Plot), and a 'SELECT WHICH YEARS SHOULD BE INCLUDED' section with checkboxes for years 2011 through 2016. There are also buttons for 'Reseed Ready', 'Liberty Link', and 'Clear All'.

This screenshot shows the search interface with the 'HEAD TO HEAD COMPARISON' option circled in red. The interface is similar to the previous one, but the 'SHOW ME ALL THE DATA' option is not selected. The 'Step 3' and 'Step 4' sections are visible at the bottom, with 'Step 3: Select your first variety' set to 'L252' and 'Step 4: Select your second variety' set to 'L25009'.



This screenshot shows the search interface with the 'Search All Varieties' option selected. The interface is similar to the previous ones, but the 'Compare Varieties' option is not selected. The 'Search Trials' button is visible at the bottom.



It's all at canolaperformancetrials.ca

2017 CPT VARIETY ENTRIES

Varieties planted in the 2017 CPT small plot trials

| Variety | Disease tolerance* | Distributor |
|----------------------|--------------------|---------------------------------|
| Clearfield | | |
| 46H75 | | DuPont Pioneer |
| 5545 CL | | BrettYoung |
| CS2200 CL | | CANTERRA SEEDS |
| PV 200 CL | | Proven Seed/CPS |
| Liberty Link | | |
| 5440 | | Bayer CropScience |
| L140P | | Bayer CropScience |
| L241C | CR | Bayer CropScience |
| L252 | | Bayer CropScience |
| Roundup Ready | | |
| 4187 RR | CR | BrettYoung |
| 45H33 | CR | DuPont Pioneer |
| 45M35 | | DuPont Pioneer |
| 6074 RR | | BrettYoung |
| 6076 CR | CR | BrettYoung |
| 6080 RR | | BrettYoung |
| 6086 CR | CR | BrettYoung |
| 74-44 BL | | DEKALB |
| 75-65 RR | | DEKALB |
| CS2000 | CR | CANTERRA SEEDS |
| CS2100 | | CANTERRA SEEDS |
| CS2300† | | CANTERRA SEEDS |
| 6090RR‡ | CR | BrettYoung |
| DL1634 RR | | DL Seeds |
| PV 540 G | | Proven Seed/CPS |
| PV 581 GC | | Proven Seed/CPS |
| V12-1** | | Cargill – VICTORY Hybrid Canola |

*All varieties listed are blackleg resistant. **Indicates varieties with specialty oil profiles and premiums associated with pricing.

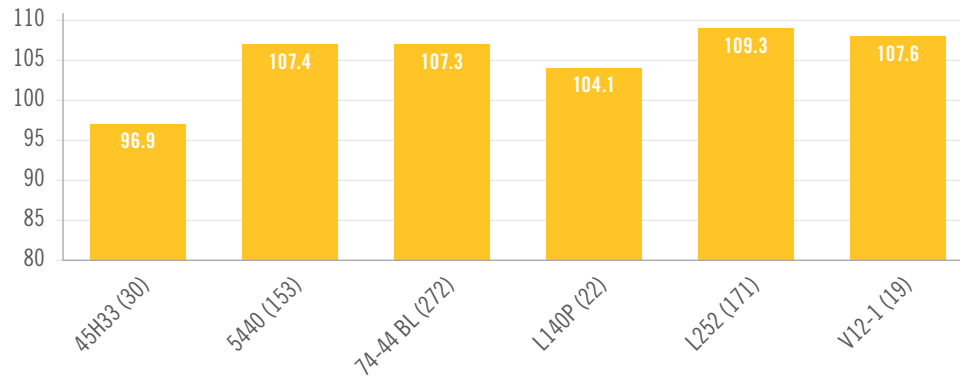
†Previously was DL1512 RR, distributed by DL Seeds. ‡Previously was DL1630RR, distributed by DL Seeds.

2017 CPT VARIETY ENTRIES

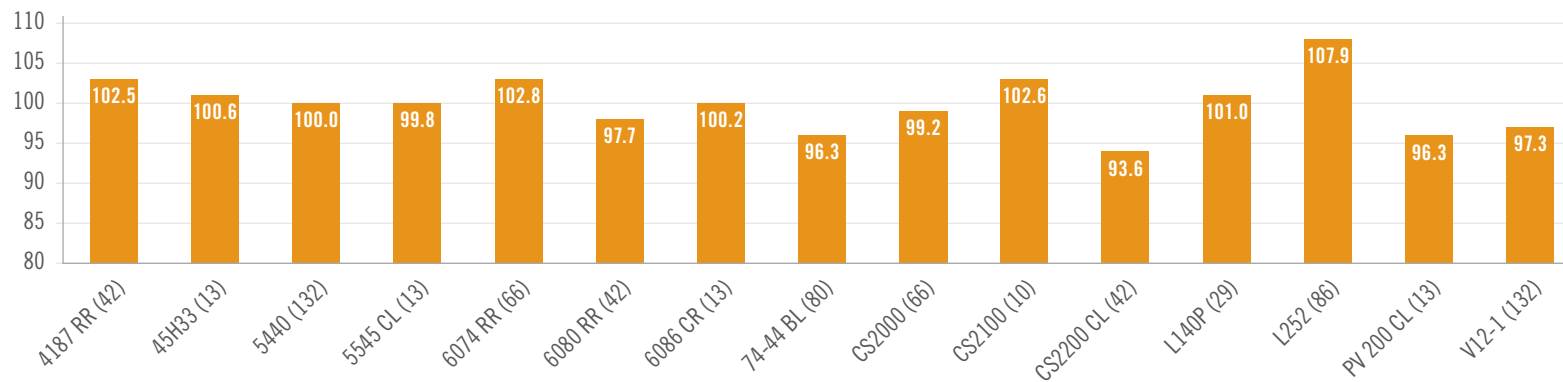
FEATURING 2011-2016 CPT SUMMARY DATA

This page features CPT yield summary data from 2011-2016 on the varieties that were planted in the 2017 CPT small plot trials (but **does not include data from the 2017 CPT sites**). Check out the field scale quality assurance measures that the CPTs require for inclusion of the data in the field booklet, at canolaperformancetrials.ca.

Average yields (% of check) of varieties* (and number of sites) in field scale trials



Average yields (% of check) of varieties* (and number of sites) in small plot trials



Note that check refers to 5440 or an adjusted value for 5440.

*Varieties listed include only those which had ≥ 10 sites and were planted in the 2017 CPT small plot trials.

WHEN IS THE 2017 CPT DATA COMING OUT AND WHAT WILL IT INCLUDE?

- The 2017 data booklet will be released shortly after all sites are harvested (including those in prairie regions which have been lagging in maturity this growing season). It will include small plot and field scale data from the CPT sites, as well as the usual map of all CPT small plot site locations and graphs and tables of season zone averages for each variety in the 2017 trials. Due to grower interest in varieties with pod shatter tolerance, the new straight cut (SC) protocol was tested this year and results from the SC trials will also be included in the 2017 data booklet.
- The searchable online database on the CPT website (canolaperformancetrials.ca) will be updated to include the 2017 small plot and field scale dataset, once completed (after release of the booklet).
- This year, the CPT small plot site cooperators collected a number of crop management details including stand establishment information, major weather events and fertility information based on target yields. After this information is compiled, it will become available on the CPT website in a summarized form.

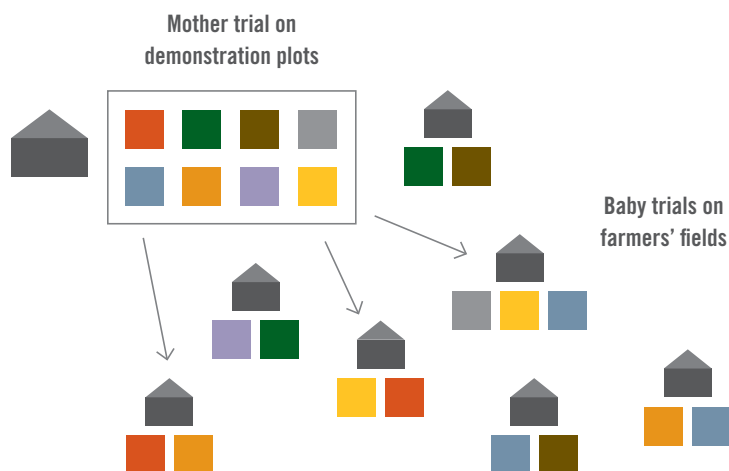


A photo from one of the CPT small plot sites that was featured on a crop tour/field day (hosted by a CPT cooperator site).

What new opportunities is the CPT program exploring?

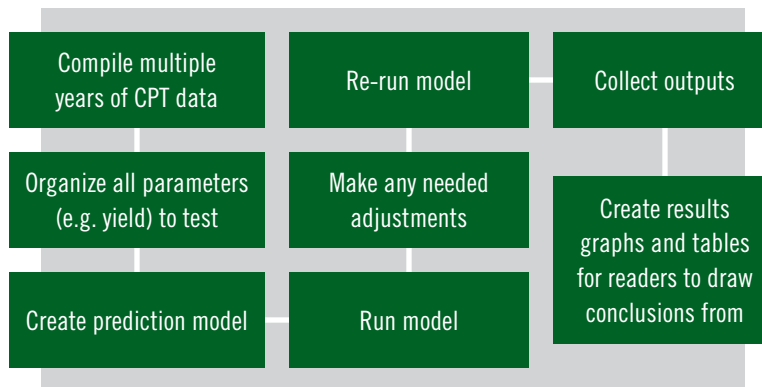
- The CPT GC is investigating the impact of environmental factors and management practices on canola variety performances. This could provide growers with useful information on selecting and fertilizing canola varieties for increased yield, increased profitability, increased sustainability, and reduced production risk.
- In the future, the CPT GC is also looking into setting up CPTs to identify stress tolerance and yield stability of commercially available canola varieties for western Canadian growers. This will allow for the identification of canola varieties that perform well across a range of environmental conditions (i.e. broad adaptation) and those that perform well under stress conditions (i.e. specific adaptation).
- The CPT program is proposing to use a “Mother-Baby” trial concept, where the small plots with randomized replication of many varieties are the “mother trial.” The field scales with fewer varieties and fewer replications are the “baby trials” and they are united by a common check variety. Currently these datasets are displayed separately, but the CPT GC is exploring methods to accurately analyze these datasets together, in order to provide more useful information to canola producers.

An illustration of the “Mother-Baby” concept:



- A growing CPT database, a knowledgeable CPT GC along with a resourceful CPT coordinator will be examining new statistical techniques to provide results on a wider range of topics, such as the “Best Linear Unbiased Predictor (BLUP)” statistical technique. This method, which has proven to be robust for other variety trial analyses, uses previous years’ data to model predictions for the next year’s performance. It has potential to deliver good variety performance predictions for producers.

Here is a basic schematic explaining how the BLUP technique works:



- Initial results of the BLUP and other potential analyses will become available on the CPT website once completed. Feedback collected, along with input from the CPT GC and CPT TC, will provide direction for the content to be included in future CPT booklets.

Check out this crop production resource too!

- The growing season is a busy time for CPTs with all the farm operations, first round of site audits, drone image collection, second round of site audits, data collection and coordination as well as data analysis. In addition to attending crop tours at CPT small plot sites, growers can keep up-to-date on managing timely canola agronomic issues by subscribing to the free, weekly Canola Watch issues at canolawatch.org.



This CPT program is funded by canola growers for canola growers. See what more it can do for you!
canolaperformancetrials.ca



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Visit canolaperformancetrials.ca to source canola variety information by location and to use the variety evaluation tools.