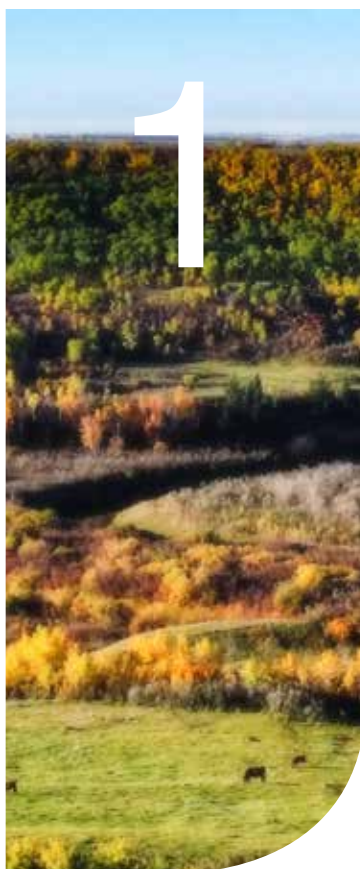


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annual report



Battle River Research
Group





Mission Statement

Battle River Research Group is an independent, producer-driven applied agricultural research association that exists to improve agriculture in a sustainable manner.

Vision Statement

Battle River Research Group is a grass roots organization whose focus is agricultural sustainability. It provides credible, unbiased information, promoting an integrated approach to research through partnerships with producers, industry and government.

Sponsoring Counties



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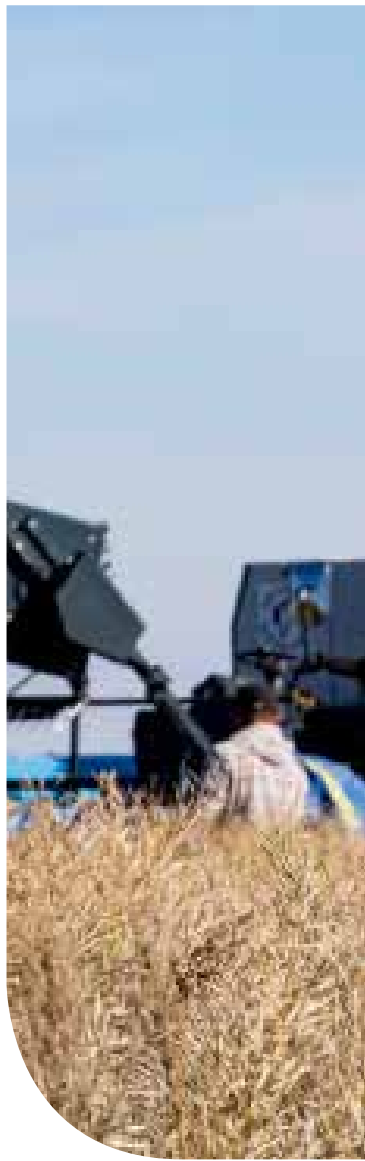
BATTLE RIVER RESEARCH GROUP

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| 2015 Seasonal Staff | | |
| Matthew Dooleage | | |



ACKNOWLEDGMENTS



THANK YOU

To the Counties of Beaver, Camrose, Flagstaff, Stettler and Paintearth for your financial support and advice

The work conducted by the Battle River Research Group is the result of support by many individuals and groups. We have highlighted many of these on the next page. Further thanks go to:

Major Funding Agencies

Agricultural Opportunity Fund (AOF)

BRRG Field Crop Sponsors

Canola Council of Canada
Alberta Canola Producers Commission
Alberta Barley Commission
Alberta Pulse Growers
AgQuest
Canada Humalite
ENR Distribution (McRae Holdings Ltd)
CPS, Forestburg
Agrium

Agricultural Research and Extension Council of Alberta (ARECA)
and Partner Associations

PROJECT SPONSORS AND SUPPORT

Agricultural Opportunity Fund (AOF)
AB Agriculture & Forestry (AF)
Agricultural Research and Extension Council of
Alberta (ARECA)
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Alberta Canola Producers Commission
Alberta Wheat Commission
Alberta Pulse Growers
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McRae Holdings Ltd
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Sponsoring seed companies of variety testing
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Thanks to our many other Sponsors and Advisors who helped in 2015

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SeCan, Trent Whiting
CARA (Chinook Applied Research Association)
GRO (Gateway Research Organization)
WCFA (West-central Forage Association)
Bayer Crop Science
CPS

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Gerald Kuefler - Galahad & Forestburg
Tom & Ron Streit - Stettler
Bernie Klammer - Holden
Kevin James – Castor
Flagstaff County

Tour And Workshop Support

Alberta Pulse Growers
Flagstaff County - Kelsey Fenton
Camrose County - Mark Millang
Counties of Minburn and Vermilion River - Owen
Nelson
Alberta Canola Producer Association
Cows & Fish
Grazing School for Women Committee
Battle River Watershed Alliance
McRae Holdings Ltd

We apologize to anyone we unintentionally
omitted

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PRESIDENT'S REPORT



On behalf of our Board of Directors I would like to thank the employees of Battle River Research Group. It is through their hard work and efforts that our organization is able to serve local farmers. I would also like to acknowledge the Agriculture Opportunity Fund (AOF) for their major contribution towards our funding, as well as the numerous other sponsors listed prior including counties, private companies, as well as members of our organization.

BRRG provides valuable research and agricultural extension for farmers in a wide geographic area throughout five municipalities. It is encouraging to see cooperation among the groups of ARECA to provide a valuable service to the agricultural community.

I look at the past year and see triumphs for our group as well as challenges. Much like farming this is the reality of the industry we choose to be involved. It is with confidence that I look forward to the next season, and the advancements that our group is striving to accomplish.

Blair Kuefler

MANAGER AND FORAGE & LIVESTOCK REPORT



2015 was a year of change for the Battle River Research Group and learning for the staff of the association. Manjit had to take over the reins of the Crops Programs from Alvin Eyolfson, as we saw Alvin retire at the end of 2014. November marked one full year of Eric working in the Environmental Program and Extension coordinator position. I was thankful for six months that Matthew Dooelage worked for us, that guy has a outstanding work ethic!

2015's weather really showed the good from the bad interns of pastures and pasture managers. It's easy to be a rockstar manager when it rains....a little harder when "mother nature" works against you. I wish more people would manage their pasture rather than just using them. Give them rest, because if you let the plant grow up above ground, they can send those roots further down into the soil moisture.

Hope this year is better then all the rest and here's a little tidbit that I read the other day, FAIL is the First, Attempt, In, Learning...so don't be afraid to try something new.

Vicki Heidt





CROP PROGRAM REPORT



This was my second season at BRRG since joining May 2014. During 2015 my main focus was on accuracy and quality control and to do that we have started mandatory seeder and sprayer calibration. In the yield report tables, I have included standard error alongside mean yield as an additional tool to do better comparison among some of the treatments. All the trials at Forestburg site were hailed-out July 22 this included trials on Urea-ESN nitrogen rate trial. We were able to maintain most trials with good quality although some trials had some weed issues. I took time submitting a proposal to the Agriculture Funding Consortium for testing different nitrogen rates in a 3 yr Pea-wheat rotation. Results are due by March first week 2016.

We have spent significant time during winter to organize Tactical Farming conference 2016 in Calgary and also I was involved with regional variety trial committee to make the business case to improve funding for regional variety trials. I am planning to continuously improve research quality in future years.

Manjit Deol P.hD

ENVIRONMENTAL REPORT



2015 was designated by the United Nations as the International Year of Soils. This was definitely a challenging year from a soil, land and environmental standpoint. Frost and dry weather in May and then continued lack of precipitation set us up for a year that could have been a disaster. Canola crops were re-seeded due to frost, and grass and hay production was very low. It was a year to clearly see contrasts in production on poorly versus well-managed land. When the rains finally came at the end of June, it became a fairly favorable year from then on, with abundant silage and greenfeed crops to help make up for the lack of hay and pasture. These conditions highlighted the need for grazing management and how having a plan for years like this is important to help protect the soil health and long term productivity of the land.

I continued to work with producers in assisting with Environmental Farm Plans and answering inquiries about Growing Forward 2 applications. The transition of the EFP from the big binder towards the online web-book is ongoing, with about close to 1/2 of recent locally completed EFP's now being web-books. The web-book has its advantages (provided that you have decent internet); it is faster to complete and easier to update if there are changes in your operation.

In 2015, we began work on the Eco-Buffer Shelterbelt project at Sedgewick (more on that elsewhere) and had three local extension events. These included the Solar-Wind Workshop in Forestburg, the Soil-Pit Demonstration in Stettler, and the Christine Jones event at Castor. As a member of ARECA we were involved in hosting a sold out Western Canada Conference on Soil Health in Edmonton in December. One of the highlights of my year was the learning opportunity realized as I proof read all of the in-house produced soil health articles that were later published on the companion albertasoilhealth.ca website. We are planning on putting more of an emphasis on environmental extension in 2016 and increasing the amount of assistance we provide for producers regarding the Environmental Farm Plan and Growing Forward 2 applications. We are also looking forward to partnering with other organizations in order to increase the awareness of best management practices for riparian area protection, restoration, and enhancement.

Eric Neilson

BATTLE RIVER RESEARCH GROUP EXTENSION ACTIVITIES

2015

Funding provided by: Agricultural Opportunity Fund (AOF), Local Counties and Alberta Crops Extension (ACE) Fund

Extension is a priority for BRRG and this year, we conducted a wide variety of tours, workshops, and seminars covering various topics. As this year was designated by the United Nations as the international year of soils, we had some events that focused on soils and soil health. As we are a producer driven organization, please contact me with your ideas for speakers or events that you feel are important.

January

January 16 - Farm Succession Workshop at the Killam Agriplex. The Alberta Wheat Commission, Alberta Canola Producers Commission, and AFSC sponsored the event. Presentations were made by Paul McLaughlin of Turning Point Law (Lawyer), Allan Sawiak of Kingston Ross Pasnak LLP (Accountant), and Art Lange of AJL Consulting (farm business consultant). Major issues related to succession including legal, tax, business structure, retirement planning, and how to get started, were discussed. 30 were in attendance.

February

February 23 – Annual General Meeting at the Holden Community Hall. Our guest speaker was best-selling author and newspaper columnist, Bruno Wiskel. His presentation, “The Wealthy Farmer”, was both humorous and informative. Vicki Heidt (manger)and the newly hired in 2014 staff members Manjit Deol (Field Crop Agronomist)

and Eric Neilson(Extension and Environmental Program Coordinator) also made presentations. 45 were in attendance.

February 26 – Crop Production Workshop at the Vegreville Legion Hall. The Alberta Wheat Commission and Alberta Canola Producers Commission sponsored the event. We had several informative presentations. Mark Cutts (ARD Crop Specialist) spoke on soil fertility and fertilizer recommendations; Kimberly Kenward from 20/20 Seed Labs spoke on Fusarium; Manjit Deol and Eric Neilson from BRRG spoke about On Farm Trials; Dan Orchard (Canola Council) talked about Canola production and challenges; and Steve Myshak of Ventus Geospatial talked about unmanned air vehicles (UAV’s) and Agriculture. 7 were in attendance.

March

March 3 – Crop Production Workshop at the Castor Community Hall. The Alberta Wheat Commission

SPEAKING AS THE EXTENSION COORDINATOR FOR BRRG I FEEL THAT WE HAD AN EXCELLENT YEAR IN TERMS OF EXTENSION. IT WAS A GREAT LEARNING EXPERIENCE FOR ME, MAINLY IN TERMS OF ORGANIZING AND COORDINATING EVENTS, BUT ALSO IN TERMS OF PRESENTING AT EVENTS AND LEARNING HOW PRODUCERS HAVE DIFFERENT NEEDS THAN STUDENTS. I LOOK FORWARD TO CONTINUING TO BUILD BRIDGES RELATIONSHIPS IN 2016, BOTH WITH PRODUCERS AND INDUSTRY PEOPLE.

ERIC NELSON

and Alberta Canola Producers Commission sponsored the event. The BRRG and Ventus Geospatial, as well as Mark Cutts presentations were the same as in Vegreville. In addition to these, Trevor Blois and Brady Chase from 20/20 Seed Labs gave a clubroot update and Harry Brook (ARD Crop Specialist) spoke on herbicide action and resistance issues. 15 were in attendance.

March 11 – Solar-Wind Workshop at the Forestburg Arena. Funding for this event came from ARD and it was held in partnership with the Solar Energy Society of Alberta and the Canadian Wind Energy Association. Rob Harlan, the executive director of the Solar Energy Society of Alberta conducted a workshop on solar and wind micro-generation opportunities and issues related to siting, design, installation, and the permitting process. The economics involved was also covered. 50 were in attendance.

June

June 9-10 – Grazing School for Women in St. Paul. Vicki is on the planning committee for this two day event that is also hosted by nine different counties/M.D.s, as well as Cows and Fish and the Alberta Conservation Association. Highlights included a tour of the Luc Tellier Farm and information on extending the grazing season. 30 were in attendance.

June 24 – Organic Transition Workshop at the Tofield Community Hall. This event was held in conjunction with Organic Alberta and sponsored by Beaver County and Pro-Cert. It included presentations from producers Steve Snider (grain) and Terry Sheehan (beef). Wallace Hamm spoke about the certification process and Keri Sharpe (ARD Organic Business Development Specialist) spoke about the economics of organic production. Melisa Zapisocky and Karen Snethum from Organic Alberta and Eric Nelson from BRRG also gave



Farm Succession workshop held early January in Killiam



Crop production workshop in Vegreville. Demonstrating drone image capabilities



BRRG AGM guest speaker Bruno Wiskel



The Original Grazing School for Women

brief presentations. 50 were in attendance.

July

July 28 – Stettler Field Tour and Soil Pit at the Ron Streit research plots near Stettler. This event was sponsored by the Alberta Pulse Growers, Alberta Barley, the Alberta Wheat Commission, and the Alberta Canola Producers Commission. It was highlighted by a Soil Pit discussion and demonstration led by Rob Dunn of Farm Wise Inc., which was funded in part by ACIDF as part of the International Year of Soils soil health initiative. There was good interest in the display of our new Turple Brothers Honda Side X Side and the attached CO₂ plot sprayer. 5 were in attendance.

August

August 2 – Forestburg Field Tour – Cancelled due to the July 21 Hail Storm. This was very disappointing as, especially the east site with the Alberta Wheat Commission pilot project trial, was looking very good.

August 6 – Building Soil – Creating Land (Part 2) at the Castor Community Hall. This event was sponsored by the ACIDF, as part of the International Year of Soils soil health initiative, and the County of Paintearth. Christine Jones, an internationally renowned soil scientist gave a presentation on the basics of soil health and the processes that build up and maintain healthy

topsoil. It was followed a brief tour of Eric Neilson's pasture, 5 miles east of Castor, where we got a hands-on look at soil, plants, roots, and organisms. The saskatoons and raspberries in my garden were a hit with Christine, as she is very much into eating fresh produce and healthy eating. 25 were in attendance.

December

December 2 – Fall Beef Information Meeting at the Coronation Community Hall. This event was sponsored by the County of Paintearth. We had four different presentations. Barry Yaremicio (AF Beef and Forage Specialist) spoke on the topic "Using Non-Traditional Feeds. Impact of Winter Feeding Programs on Future Cow Productivity". Dean Dyck (AF Farm Business Management Specialist) addressed the current high feed prices and dropping cow prices through "Can You Make Money and Preserve Equity This Winter?" David Moss (Agriclear Inc.) explained what his company does to help you market your cattle in "Agriclear – Marketing on Your Terms." Eric Neilson (BRRG) spoke on "Genetics, Genomics and Genotyping – How it can Improve Your Herd." We also had information booths set up from CCIA, AFSC, AF, and BRRG. 35 Were in attendance.



Our new CO₂ powered sprayer mounted on a Honda Pioneer purchased from Turple Bros.



Soil Pit demonstration at Stettler Field Day...Thanks Ron Streit for letting us dig a hole in your field



Dr. Christine Jones presentation at the Castor Hall in August



Electric fence demo at Grazing School for Women

STATISTICAL DEFINITIONS

The terms below are used throughout our report. Statistics are needed in order to determine if the differences between treatments are likely due to the variable in question (variety, herbicide treatment etc.) or are due to other errors or factors.

Seed Status Abbreviations:

S=Select; F=Foundation; R=Registered;
C=Certified; BI=Breeding
Institution; Dist=Canadian Distributor(s); * -
Protected under plant breeder rights; ^ Plant
Breeder Rights Applied for.

AOV – Analysis of Variance; **OSL** –
Observed Significance Level

LSD - Least Significant Difference: The least significant difference indicates if the differences between different varieties or treatments are statistically significant or not. Generally, LSD is calculated at 5% level of probability for agricultural field experiments. It means that it is 95% certain that the differences are due to a treatment factor and not from any error. If treatments differ significantly at 10% LSD level it means that there are chances that you will get these results 9 out of 10 times under similar conditions.

Example - If Variety 'A' yielded 30 bushels per acre and Variety 'B' yielded 34 bushels per acre and the LSD (at 95%) is 2.5 bushels, then Variety B has significantly higher yield from variety A because $34-30=4$ which is greater than 2.5.

Some reports have letters (a, b, c...) behind results that have significant difference. Numbers followed by the same letter are not significantly different,



and those followed by different letters differ significantly from each other.

Measures of Dispersion - Basic measures of dispersion (standard deviation, standard error, coefficient of variation) can be calculated for each treatment mean.

Variance or Error Mean Square (EMS) and Standard Deviation (SD) - Variance is average of squared differences from mean. By definition, Standard Deviation is the square root of Variance and variance is calculated by dividing sum of squared deviations by $(n - 1)$. The Standard Deviation reported on the AOV Means Table Report is the Square Root of the Error Mean Square (EMS) from the AOV table. When analyzing a trial with a Randomized Complete Block design (two way AOV), the EMS is not the same as when calculated by Excel or a scientific calculator (using a one way Analysis of Variance).

This is because in this report (using ARM software) both the Treatment and the Replicate Sum of Squares have been partitioned from the Error Sum of Squares (in a two way Analysis of Variance). In other words, the variance (error mean square) is not the same when calculated for a two way AOV as for a one way AOV.

Another way to state the difference is that a standard deviation calculated for one way AOV is the square root of the Total Sum of Squares (TSS) divided by Total Degrees of Freedom. In two way AOV because there are Treatments and Replications, the Sum of Squares for these terms needs to be

removed from the TSS to determine the unexplained variance, which is the EMS.

Standard Error (SE) - The Standard Error is calculated by dividing the standard deviation by the square root of the number of replications. Smaller SE is more representative of population.

Put simply, the standard error of the sample is an estimate of how far the sample mean is likely to be from the population mean, whereas the standard deviation of the sample is the degree to which individuals within the sample differ from the sample mean. If the population standard deviation is finite, the standard error of the sample will tend to zero with increasing sample size, because the estimate of the population mean will improve, while the standard deviation of the sample will tend to the population standard deviation as the sample size increases (Accessed Jan 15, 2016 at https://en.wikipedia.org/wiki/Standard_error).

The Standard deviation (SD) does not change predictably as you acquire more data. The SD computed from a sample is the best possible estimate of the SD of the overall population. By collecting more data, you'll assess the SD of the population with more precision. But you can't predict whether the SD from a larger sample will be bigger or smaller than the SD from a small sample (www.graphpad.com/guides/prism/6/statistics/index.htm?stat_semandsdnotsame.htm Accessed-January 15, 2016).

Standard deviation and coefficient of variation are used to show how much variation is

there among individual observations of a treatment mean, while standard error or confidence intervals show how good your estimate of the mean is. Standard deviation or coefficient of variation would be reported to see the amount of variation. For example, if you grew wheat plants with two different kinds of fertilizer, your main interest would be whether the yield of wheat plants was different, so report would be the mean yield \pm either standard error or confidence intervals. For artificial selection on the wheat plants to breed for better yield, you might be interested in which treatment had the higher variation (making it easier to pick the fastest-growing or higher yielding plants), so then standard deviation or coefficient of variation would be reported. Accessed - 17 February 2016 at <http://www.biostathandbook.com/standarderror.html>

Coefficient of Variation - The Coefficient of variation (CV) is a percentage value that is calculated by dividing the standard deviation by the treatment mean then multiplying by 100.

Treatment means with a lower standard deviation are more consistent across replicates.

In this report, only trials and individual treatments with $CV < 15\%$ are reported. To compare crop yield CV less than 15% is acceptable but CV less than 10% is more desirable to detect significant differences among treatments. Yield variation among different plots could be due to other factors such as: soil fertility variation, change in

soil moisture, weeds and human error etc.

RCBD - Randomized Complete Block design: It is the most used experimental design for agronomic field experiments in which all experimental treatments grouped randomly into uniform blocks. Soil conditions within each block should be as uniform as possible so that observed differences among treatments is largely due to treatment effect and not due to soil fertility variation or difference in weed density. Blocks are replicated three or more times to separate treatment effect from the variation due to other factors at experimental site.

Split Plot Design – This design is mainly used to conduct interaction studies between two or more treatments. In a split plot design each main plot has sub plots. For example, main plots could be different seeding dates or rate of fertilizer application, while sub-plots could be different crop varieties. Different experimental designs such as RCBD or a Latin square design can be arranged as a split-plot design. Treatments in sub-plots are compared with more precision than main plots.

ARM Program - BRRG uses ARM software for data analysis to calculate different measures of variability in replicated field research trials. This program also helps with project design, plot plans, making seeding and harvesting labels, and statistical analysis.



CEREAL VARIETY TRIALS

2015

Materials and Methods:

Location: Coordinates - N 52.246820°, W - 111.551799°, east of Castor, Alberta.

Legal Location - SW8-38-11-W4

Experimental Design: RCBD, 3 replications in 28 × 4.5 foot plots.

Wheat grain protein % is calculated from single sample, hence LSD or error value is not calculated although there may be some error. Some other experiments on wheat during 2015 near Forestburg has shown grain protein standard deviation ranged from 0.6-1.7 % within the same treatment.

Previous Year (2014): Herbicide - Glyphosate, Crop – Canola

Production practices: Recommended herbicides were applied as per Alberta Crop Protection Guide 2015, and Glyphosate was applied as desiccant on August 20, 2015. All cereal variety trials were seeded on May 20, 2015 with minimum till seeder six row seeder at 9 inch row spacing and 1.5-2 inch deep. All nitrogen was side placed as urea and P2O5 @ 22lbs/acre as MAP was applied with seed.

Rain: April to September: 308 mm (2015). Historic average is 309 mm. Source: Alliance ACIS weather station (For weather details, see page 59 Alliance).

Soil: Dark Brown soil zone. Analysis below based on two composite samples. Soil Organic matter was between 4.5-4.8%, Clay content 10.5 – 13.6% and pH 5.4.

Soil Test Characteristics

| Depth (inches) | pH (1S:2W) | E.C. (1S:2W) mS/cm | E.C. Calc Sat. Extr. | Salinity | Organic matter (Walkley Black) | Organic Matter (Combustion) | Clay % | Sand % | Silt % | Texture |
|----------------|------------|--------------------|----------------------|------------|--------------------------------|-----------------------------|-----------|---------|-----------|---------|
| 0-6 | 5.4 | 0.1 | 0.2 | Non Saline | 5-6 % | 4.5-4.8 % | 10.5-13.6 | 45-48.7 | 40.8-41.5 | Loam |
| 6-24 | 6.3 | 0.1 | 0.2 | Non Saline | | | | | | |

Soil Test Micro-nutrient Levels (lbs/acre)=(2xppm)

| Depth Inches | NH ₄ -N | NO ₃ -N | P | K | SO ₄ -S | Cu | Mn | Zn | B | Fe |
|--------------|--------------------|--------------------|-------|------|--------------------|---------|-----------|---------|---------|---------|
| 0-6 | 4-5 | 16-19 | 43-45 | 1050 | 15-32 | 1.2-0.9 | 60.5-58.5 | 8.7-7.4 | 1.9-1.8 | 243-238 |
| 6-24 | | 23-27 | | | 40-70 | | | | | |

HARD RED SPRING

Canadian Western Red & Canadian Western Hard White Spring wheat Variety Trial – (Legal Location - SW8-38-11-W4)

| Variety Name | Yield | | | Maturity | Height | | Protein (%) |
|---------------|-----------|---------------|------|----------|--------|-----|-------------|
| | Bushel/ac | % of Carberry | SE* | | (Cm) | SE* | |
| CARBERRY | 50.2 | 100 | ±2.1 | L | 69 | ±2 | 12 |
| BW965 | 56.3 | 112 | ±1.3 | - | 77 | ±9 | 11.1 |
| BW963 | 55.9 | 111 | ±0.5 | - | 85 | ±1 | 11.1 |
| CDC MORRIS | 55.4 | 110 | ±2.9 | M | 82 | ±5 | 10.6 |
| AAC CAMERSON | 53.8 | 107 | ±0.3 | - | 87 | ±4 | 10.6 |
| BW 496 | 53.7 | 107 | ±0.5 | - | 76 | ±0 | 12.6 |
| CDC WHITEWOOD | 52.2 | 104 | ±2.8 | M | 75 | ±1 | 11.8 |
| BW966 | 50.2 | 100 | ±1 | - | 81 | ±3 | 11.7 |
| COLEMAN | 49.9 | 99 | ±1.2 | M | 79 | ±5 | 11.6 |
| 5605HR | 49.7 | 99 | ±0.9 | M | 89 | ±5 | 12.3 |
| THORSBY | 49.9 | 98 | ±1.7 | E | 75 | ±3 | 12.3 |
| SY479(VB) | 47.9 | 95 | ±1.4 | - | 90 | ±2 | 11.8 |
| GO EARLY | 47.6 | 95 | ±2.1 | VE | 80 | ±4 | 13.1 |
| TITANIUM VB | 46.2 | 92 | ±2.3 | E | 80 | ±5 | 12.3 |
| BW472 | 45.4 | 91 | ±3.2 | - | 78 | ±3 | 11.3 |
| AAC CONNERY | 45.3 | 90 | ±0.7 | - | 72 | ±3 | 11.5 |
| AC BARRIE | 43.7 | 87 | ±4.5 | M | 80 | ±7 | 11.6 |
| SY637 | 43.3 | 86 | ±1.3 | - | 80 | ±2 | 13.1 |
| AAC PREVAIL | 42.6 | 85 | ±1.3 | - | 86 | ±1 | 10.4 |

| | | % mean diff | | % mean diff | |
|-------------------------------|-------|-------------|------|-------------|-------|
| LSD P=.05 | 5.25 | 11 | 10.8 | 14 | ----- |
| LSD P=.01 | 7.04 | 15 | | | |
| LSD P=.25 | 3.03 | 7 | | | |
| LSD P=.50 | 1.76 | 4 | | | |
| | | | | | |
| Standard Deviation | 3.17 | | 6.15 | | |
| | | | | | |
| CV% | 6.42 | | 8.17 | | |
| | | | | | |
| Minimum Replicates (power=80) | 2 | | 2 | | |
| | | | | | |
| Largest Mean Difference | 13.70 | 27 | 20.7 | 25 | |

VB – designates variety blend to preserve midge tolerance. CL – Clearfield tolerant to Adrenail SC and Altitude FX herbicides. Maturity – Medium (M) 106 Days, L – late, VE – very early. New CWRS registrations: AAC Cameron VB (BW485), AAC Connery (PT245), AAC Jatharia VB (BW483), AAC Prevail (BW462), CDC Bradwell (BW472), Go Early (PT769).

*SE – Standard Error (See page 15).

For replicate and treatment F values see Appendix 1 at the end.

Results and Interpretation:

Top yielding hard red spring wheat varieties were BW965, BW963, CDC Morris, AAC Cameron, BW496, and CDC Whitewood. Carberry was considered 100% to do yield comparison with other varieties. LSD (P=0.05) value of 5.25 bushel indicates that there are 95% chances that mean difference more than 5.25 bushel is significant. Similarly a variety with 7.04 bushel (LSD P=0.01) higher yield have 99% chances to yield significantly higher again in repeated trials at similar locations. Standard error shows how good your estimate of the treatment mean is. Varieties with similar and lower standard error (SE) values are compared with more accuracy relative to the one's with higher standard error. For example, in above table AC Barrie did not have fair comparison with other varieties due to high (4.5) SE value that may due

to variation in soil under different plots or a human error in measurements. Protein analysis provided is based on one composite sample, which may have about 1% error.

Provincial yield average provided has on next page from Alberta Seed Guide have more information

Reference:

Information from Alberta Seed Guide is provided on page 25-29 to see provincial yield average among different varieties, disease resistance ratings, list of varieties tested in the past, varieties protected by plant breeder rights and contact information of seed producers.

Yield trend's in this report may be different than provincial seed guide because results below based on the trial conducted near Castor, Alberta during 2015. On the other hand, Alberta Seed Guide publishes provincial averages and for comparison, the number of site years vary among some crop varieties.

DURUM SPRING WHEAT

| Durum Spring Wheat Variety Trial - (Legal Location - SW8-38-11-W4) | | | | | | | |
|--|-------------|-------------|------|--------------|-------------|-------------|-----------------|
| Variety Name | Grain Yield | | | Plant Height | | Protein (%) | Maturity Rating |
| | bushels/ ac | % of check | SE * | (cm) | SE * | | |
| AAC CURENT | 44.7 | 100 | ±3.2 | 82 | ±2.3 | 12.1 | E |
| DT856 | 43 | 96 | ±2.1 | 78 | ±3.9 | 11.1 | M |
| CDC CARBIDE | 43 | 96 | ±3.1 | 85 | ±2 | 10.6 | M |
| AAC DURAFIELD | 41 | 92 | ±2.1 | 79 | ±0.3 | 10.9 | L |
| DT577 | 39 | 97 | ±3.1 | 77 | ±0.9 | 11.7 | L |
| AAC MARCHWELL | 35.7 | 80 | ±0.9 | 75 | ±1.5 | 11.8 | M |
| AAC SPITFIRE | --- | --- | | 74 | | 10.5 | M |
| CDC FORTITUDE | --- | --- | | 80 | | 11 | M |
| STRONGFIELD | --- | --- | | 73 | | 11 | E |
| AAC CABRI | --- | --- | | 82 | | 10.9 | L |
| | | | | | | | |
| | | % mean diff | | | % mean diff | | |
| LSD P=0.05 | 4.30 | 11 | | 6.23 | 8 | | |
| Standard Deviation | 2.36 | | | 3.42 | | | |
| CV | 5.76 | | | 4.32 | | | |
| Minimum Replicates (power=80) | 2 | | | 3 | | | |
| Largest Mean Difference | 9.00 | 22 | | 10.00 | 12 | | |

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

* SE – Standard Error (see page 15 for details)

Maturity: E-Early, M-Medium, and L-Late

See Appendix # 2 for replicate and treatment F values

Results and Discussion:

Higher yielding durum varieties during 2015, were AAC CURRENT, DT856, CDC CARBIDE, and AAC DURAFIELD, all 2015 varieties are rate medium maturity in Alberta Seed Guide (ASG), although at AAC Current was rated early at site near Bulwark. In this region (52° North) durum wheat tend to be late maturing, which may lead to poor quality. According to ASG, Strongfield is provincial check for durum wheat yield comparison and is rated medium maturity (105 days) and CDC Desire is rated early maturing variety.

Due to high CV% (15.7 – 20.6), some durum wheat varieties are not included for yield comparison in previous table are AAC SPITFIRE, CDC FORTITUDE, STRONGFIELD, and AAC CABRI.

Varieties with similar and lower standard error (SE) values are compared with more accuracy relative to the one's with higher standard error. Protein analysis provided is based on one composite sample, which may have about 1% error.



GENERAL PURPOSE & SOFT SPRING WHEAT

General Purpose & Soft White Spring wheat variety trial – 2015 (Legal Location - SW8-38-11-W4)

| Variety Name | Yield | | | Height | | Maturity |
|----------------------------------|-------------|------------|------|--------|------|----------|
| | (bushel/ac) | % of check | SE* | (cm) | SE* | |
| AAC INNOVA | 74.0 | 135 | ±2.6 | 82.7 | ±0.9 | M |
| BELVOIR | 73.3 | 133 | ±3.2 | 67.3 | ±1.2 | L |
| AC ANDREW | 67.3 | 122 | ±5.8 | 71 | ±2.0 | L |
| AAC CHIFFON | 65.3 | 119 | ±0.9 | 78.7 | ±1.8 | M |
| SY087 | 60.3 | 110 | ±2.6 | 79 | ±1.2 | M |
| AAC NRG097 | 59.3 | 108 | ±5.2 | 76.3 | ±1.3 | M |
| CARBERRY | 55.0 | 100 | ±1.5 | 72.3 | ±0.3 | M |
| AAC INDUS | 42.0 | 76 | ±3.0 | 87.7 | ±0.9 | L |
| AC BARRIE | -----* | | | 83.8 | | M |
| LSD P=.05 | 10.3 | 17 | | 3.9 | 5 | |
| Standard Deviation | 5.9 | | | 2.2 | | |
| CV | 9.5 | | | 2.9 | | |
| Minimum Replicates (power=80) | 2 | | | 2 | | |
| Largest Mean Difference | 32.0 | | | 20.3 | | |

**AC Barie is not included in data analysis due to high CV%.

*Maturity: E – Early (95-100 Days), M - Medium, L – Late

*SE – standard error (see page 15), See Appendix # 3 for replicate and treatment F values

Results and Interpretation:

In general purpose and soft white spring wheat varieties AAC INNOVA and BELVOIR recorded highest yield, although they were at par with AC ANDREW and AAC CHIFFON. AC Barrie yield (58.7 bushel/acre) was excluded from data analysis due to high CV (25.6%). There is no relation between yield and height although tallest variety (AAC INDUS) yielded lowest and was late maturing. BELVOIR and AC ANDREW were shortest among all varieties.

Varieties with similar and lower standard error (SE) values are compared with more accuracy relative to the one's with higher standard error.

CANADA PRAIRIE SPRING (CPS) WHEAT

| Canada Prairie Spring (CPS) wheat variety trial – 2015 (Legal Location - SW8-38-11-W4) | | | | | | | | |
|--|--------------|-------------|---------|------|--------|-------------|------|---------|
| Variety Name | Yield | | | | Height | | | Protein |
| | (Bushels/ac) | % of check | Signif. | SE* | (cm) | Signif. | SE* | |
| ELGIN ND | 54.8 | 126 | a | ±2.2 | 79.3 | b | ±1.8 | 10.1 |
| HY1627 | 54.1 | 124 | ab | ±1.1 | 76.0 | bc | ±2.1 | 10.5 |
| AAC FORAY | 54.0 | 124 | ab | ±1.0 | 79.3 | b | ±1.5 | 11.1 |
| AAC CRUSADER | 51.1 | 117 | ab | ±2.7 | 72.0 | c | ±3.5 | 10.5 |
| AAC TENACIOUS | 48.6 | 112 | bc | ±1.4 | 92.3 | a | ±3.0 | 10.4 |
| CARBERRY | 43.5 | 100 | cd | ±3.9 | 71.7 | c | ±0.3 | 11.9 |
| AC BARRIE | 41.5 | 95 | d | ±1.3 | 81.0 | b | ±3.0 | 11.2 |
| AAC PENHOLD | 50.9 | 117 | -- | | | | | 10.8 |
| HY1632 | 50.4 | 116 | -- | | | | | 10.6 |
| SY995 | 55.4 | 127 | -- | | | | | 10.3 |
| | | % mean diff | | | | % mean diff | | |
| LSD P=0.05 | 6.16 | 13 | | | 6.20 | 8 | | |
| Standard Deviation | 3.47 | | | | 3.48 | | | |
| CV | 6.98 | | | | 4.42 | | | |
| Minimum Replicates (power=80) | 2 | | | | 2 | | | |
| Largest Mean Difference | 13.31 | 26 | | | 20.67 | 26 | | |

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

Mean comparisons performed only when AOV Treatment P(F) is significant at mean comparison OSL

*SE – Standard Error (see page 15)

Results and Interpretation:

Among CPS wheat varieties six varieties between (117 – 126%) were higher yielding, although they did not differ significantly from each other. Varieties AAC PENHOLD, HY1632 and SY995 were not included in LSD calculations data analysis due to high (>15%) CV.

Varieties with similar and lower standard error (SE) values are compared with more accuracy relative to those with higher standard error. Protein analysis provided is based on one composite sample, which may have about 1% error.

CANADA WESTERN RED SPRING

| Variety | Overall Station Years of Testing | Yield Category (% AC Barrie) | | | | Agronomic Characteristics: | | | | | | | Disease Tolerance: | | | | | |
|---|----------------------------------|------------------------------|------------------|----------------------|-------------------|----------------------------|-----------|---------------------|---------|-------------|------------|----------------|--------------------|------------|------|-------------|-----------|-----|
| | | Overall Yield | Low < 45 (bu/ac) | Medium 45-70 (bu/ac) | High > 70 (bu/ac) | Mat. Rating | Protein % | Test Weight (lb/bu) | TSW (g) | Height (cm) | Awns (Y/N) | Resistance to: | | Loose Smut | Bunt | Stripe Rust | Leaf Spot | FHB |
| | | | | | | | | | | | | Ldg. | Sprt. | | | | | |
| Varieties tested in the 2015 trials (Yield, significant differences and agronomic data only directly comparable to AC Barrie) | | | | | | | | | | | | | | | | | | |
| AC Barrie (bu/ac) | | 59 | 34 | 55 | 78 | | | | | | | | | | | | | |
| AC Barrie 🍀 | | 100 | 100 | 100 | 100 | M | 14.1 | 64 | 37 | 87 | N | G | G | MR | I | S | MS | I |
| 5605HR CL 🍀 | 43 | 109+ | XX | 114+ | 106+ | M | -0.2 | 64 | 38 | 91 | Y | G | XX | R | MR | I | MS | MR |
| AAC Connery ▲ | 28 | 105 | XX | 105 | 107 | E | 0 | 62 | 39 | 78 | N | VG | G | MR | I | R | I | MR |
| AAC Prevail | 28 | 105+ | XX | 106 | 105 | L | -0.5 | 64 | 37 | 91 | Y | G | G | S | S | R | MS | I |
| Carberry 🍀 | 91 | 107+ | 116+ | 105 | 106+ | L | -0.1 | 64 | 39 | 77 | Y | VG | F | MR | R | MR | MS | MR |
| CDC VR Morris 🍀 | 41 | 109+ | 105 | 111+ | 107 | M | | 65 | 37 | 84 | N | G | P | I | I | XX | I | MR |
| CDC Titanium VB ▲ | 41 | 108+ | XX | 112+ | 103 | E | 0.5 | 65 | 41 | 87 | Y | G | P | MS | I | R | MS | MR |
| Coleman | 43 | 101 | XX | 105 | 98 | M | 0.0 | 64 | 37 | 93 | Y | F | P | S | S | MR | I | MR |
| Go Early ▲ | 28 | 105+ | XX | 106 | 104 | VE | 0.2 | 63 | 38 | 90 | Y | G | P | I | MR | I | S | I |
| Thorsby ▲ | 43 | 106+ | XX | 110 | 105 | E | -0.5 | 64 | 38 | 89 | N | G | F | I | S | R | MS | I |
| Previously tested varieties (Yield, significant differences and agronomic data only directly comparable to AC Barrie) | | | | | | | | | | | | | | | | | | |
| 5603HR 🍀 | 63 | 105+ | 104 | 107+ | 104+ | L | -0.5 | 63 | 33 | 87 | Y | G | VG | MS | I | MS | MR | I |
| 5604HR CL 🍀 | 76 | 99 | 102 | 98 | 99 | E | -0.7 | 63 | 33 | 87 | Y | G | G | MS | I | XX | MS | I |
| AAC Bailey 🍀 | 58 | 103 | 102 | 104 | 103 | M | -0.6 | 63 | 37 | 92 | N | G | G | MS | I | I | I | I |
| AAC Brandon ▲ | 41 | 114+ | 106 | 117+ | 113+ | M | -0.2 | 64 | 38 | 81 | Y | VG | P | MR | S | MR | I | MR |
| AAC Elie ▲ | 41 | 115+ | 107 | 120+ | 112+ | M | -0.1 | 64 | 38 | 81 | Y | G | F | I | I | MR | I | I |
| AAC Redwater ▲ | 41 | 103 | 96 | 106 | 104 | E | 0.0 | 64 | 35 | 87 | Y | G | VG | MS | I | MR | MS | I |
| AC Eatoria 🍀† | 78 | 94- | 87- | 97 | 92- | M | 0.4 | 62 | 35 | 92 | N | P | G | I | MR | I | MS | XX |
| AC Elsa 🍀† | 110 | 103+ | 99 | 105 | 104 | M | 0.2 | 62 | 35 | 89 | N | G | F | MR | I | I | I | MS |
| AC Intrepid 🍀 | 107 | 102 | 98 | 103 | 105+ | E | 0.0 | 62 | 39 | 90 | N | G | P | I | MR | MR | MS | MS |
| AC Splendor † | 153 | 95- | 93- | 96- | 98 | VE | 0.9 | 61 | 37 | 89 | N | F | F | I | I | I | I | MS |
| Alvena 🍀 | 68 | 101 | 100 | 101 | 103 | E | 0.1 | 63 | 37 | 90 | N | G | P | MR | MR | I | XX | MS |
| Cardale 🍀 | 41 | 105+ | 100 | 106+ | 105 | M | -0.3 | 63 | 37 | 84 | Y | G | G | I | S | MS | MS | MR |
| CDC Abound 🍀 | 88 | 110+ | 108+ | 110+ | 112+ | M | -0.1 | 63 | 40 | 82 | Y | G | F | I | I | MS | MS | S |
| CDC Go | 92 | 110+ | 103 | 111+ | 116+ | M | -0.1 | 61 | 42 | 83 | Y | G | VP | MS | I | MR | S | MS |
| CDC Imagine 🍀† | 76 | 104+ | 102 | 104 | 109+ | M | 0.1 | 61 | 37 | 83 | N | G | F | MR | MR | I | MS | S |
| CDC Kernen 🍀† | 61 | 107+ | 110 | 102 | 110+ | M | -0.3 | 63 | 37 | 92 | Y | G | F | R | I | I | MS | I |
| CDC Osler † | 74 | 106+ | 103 | 106+ | 108+ | E | 0.0 | 61 | 35 | 85 | N | G | F | MR | MR | I | I | S |
| CDC Plentiful 🍀 | 41 | 106+ | 100 | 108+ | 106+ | M | -0.2 | 64 | 35 | 87 | N | VG | P | R | I | MR | I | MR |
| CDC Stanley 🍀 | 76 | 113+ | 114+ | 114+ | 113+ | M | -0.8 | 63 | 34 | 87 | N | G | G | MR | S | I | I | MS |
| CDC Thrive 🍀 | 66 | 108+ | 107 | 107+ | 110+ | M | -0.4 | 63 | 36 | 88 | N | G | P | MR | I | I | I | MS |
| CDC Ulmost VB 🍀 | 53 | 112+ | 115+ | 112+ | 111+ | M | -0.2 | 64 | 36 | 85 | N | G | G | MS | S | I | I | MS |
| Fieldstar VB 🍀† | 50 | 102 | 102 | 102 | 102 | M | -0.4 | 63 | 33 | 88 | Y | F | VG | I | I | MS | I | I |
| Glenn 🍀 | 61 | 104 | 110+ | 100 | 104 | L | -0.2 | 65 | 36 | 85 | Y | VG | F | I | I | MR | I | I |
| Goodeve VB 🍀 | 96 | 105+ | 107+ | 103 | 104 | M | -0.1 | 62 | 36 | 88 | N | VG | G | MR | MS | I | MS | S |
| Harvest 🍀 | 118 | 102 | 98 | 103 | 104 | M | -0.1 | 62 | 36 | 84 | N | VG | VG | MR | S | MR | MS | S |
| Infinity 🍀† | 74 | 104+ | 104 | 104+ | 106+ | M | -0.4 | 62 | 33 | 89 | N | G | G | MR | MR | MS | MS | S |
| Kane 🍀† | 51 | 99 | 95- | 98 | 102 | M | 0.4 | 64 | 36 | 85 | Y | G | VG | MS | I | I | I | I |
| Katepwa | 342 | 98- | 97- | 98- | 98- | E | -0.2 | 62 | 35 | 93 | N | F | F | MR | MR | MS | MS | I |
| Lillian 🍀 | 87 | 104+ | 111+ | 100 | 104 | M | 0.2 | 61 | 37 | 86 | N | F | G | I | MR | R | MR | S |
| Muchmore 🍀 | 53 | 111+ | 119+ | 107 | 110 | L | -0.9 | 63 | 37 | 75 | Y | VG | G | MR | R | MR | MS | MS |
| Park † | 45 | 97 | 91- | 98 | 102 | VE | -0.2 | 62 | 35 | 92 | N | F | G | MR | XX | MS | MS | S |
| Peace | 53 | 100 | 100 | 97 | 103 | M | 0.1 | 63 | 37 | 92 | N | G | P | R | R | MR | XX | S |
| Shaw VB 🍀 | 53 | 112+ | 116+ | 109+ | 113+ | M | -0.9 | 63 | 37 | 92 | N | G | G | S | MR | I | MS | MS |
| Stettler 🍀 | 69 | 112+ | 119+ | 109+ | 111+ | M | -0.3 | 63 | 37 | 84 | Y | G | G | R | I | I | S | MS |
| Superb 🍀 | 184 | 112+ | 110+ | 112+ | 115+ | L | -0.4 | 62 | 42 | 85 | Y | G | F | I | MR | S | S | MS |
| SY433 🍀 | 44 | 104 | 101 | 104 | 104 | M | | 64 | 39 | 95 | Y | G | G | I | S | XX | I | MR |
| Unity VB 🍀 | 71 | 110+ | 111+ | 110+ | 111+ | M | -0.7 | 64 | 36 | 89 | Y | F | G | MS | R | MS | MS | I |
| Vesper VB 🍀 | 45 | 106+ | 106 | 108+ | 104 | M | -1.5 | 63 | 37 | 90 | Y | F | F | I | S | S | I | I |
| Waskada 🍀† | 67 | 100 | 101 | 98 | 102 | M | 0.1 | 64 | 37 | 92 | Y | F | VG | MR | R | MS | MS | MR |
| WR859 CL 🍀 | 79 | 106+ | 110+ | 103 | 107+ | M | -0.4 | 64 | 34 | 81 | Y | G | G | R | R | I | MS | MR |

REMARKS: For explanations on data summarization methods, abbreviations and other pertinent information, please see the comments at the beginning of this publication. Several CWRs varieties will be reclassified to a new milling wheat class, effective August 1, 2018. The varieties affected are AC Abbey, AC Cora, AC Eatonia, AC Majestic, AC Michael, AC Minto, Alvena, Alikat, CDC Makwa, CDC Osler, Columbus, Conway, Harvest, Kane, Katepwa, Leader, Lillian, McKenzie, Neepawa, Park, Pasqua, Pembina, Thatcher, Unity VB and 5603HR. For more information see the Canadian Grain Commission website www.grainscanada.gc.ca. The varieties Elgin ND, Faller and Prosper (insufficient data to describe) have been granted interim registration and placed in the Canada Western Interim Wheat class. A permanent class designation is expected later in 2016. The long-term average maturity for AC Barrie is 106 days and rated as Medium (M). Fusarium Head Blight (FHB) infection is highly influenced by the environment and heading date. Under high levels of FHB all varieties will sustain damage. Moderately Resistant (MR) and Resistant (R) ratings for FHB do not equate to immunity. Varieties rated Intermediate (I) to Susceptible (S) for loose smut or bunt should be treated with a systemic seed treatment to reduce the potential for infection. AC Eatonia and Lillian have a solid stem that confers resistance to the wheat stem sawfly. 5604HR CL, 5605HR CL, CDC Abound, CDC Imagine, CDC Thrive and WR859 CL are tolerant to the CLEARFIELD® herbicides Adrenalin SC and Altitude FX. VB-designates a varietal blend to preserve the Sm1 orange wheat blossom midge tolerance gene. New CWRs registrations: AAC Cameron VB (BW485), AAC Connery (PT245), AAC Jatharia VB (BW483), AAC Prevail (BW462), CDC Bradwell (BW472), Go Early (PT769). Insufficient data to describe: AAC Cameron VB, CDC Bradwell, AAC Whitelox. †-Flagged for possible removal in 2017.

CANADA WESTERN HARD WHITE SPRING

| Variety | Overall Station Years of Testing | Yield Category (% AC Barrie) | | | | Agronomic Characteristics: | | | | | | | | Disease Tolerance: | | | | | |
|---|----------------------------------|------------------------------|--------------|---------------|--------------|----------------------------|-----------|---------------------|---------|-------------|------------|----------------|------|--------------------|------|-------------|-----------|-----|--|
| | | Overall Yield | Low | Medium | High | Mat. Rating | Protein % | Test Weight (lb/bu) | TSW (g) | Height (cm) | Awns (Y/N) | Resistance to: | | Loose Smut | Bunt | Stripe Rust | Leaf Spot | FHB | |
| | | | < 45 (bu/ac) | 45-70 (bu/ac) | > 70 (bu/ac) | | | | | | | Ldg. | Spr. | | | | | | |
| Varieties tested in the 2015 trials (Yield, significant differences and agronomic data only directly comparable to AC Barrie) | | | | | | | | | | | | | | | | | | | |
| CDC Whitewood ▲ | 43 | 107+ | XX | 110 | 105 | M | -0.9 | 64 | 38 | 87 | Y | G | G | S | S | I | MS | I | |
| Previously tested varieties (Yield and agronomic data only directly comparable to AC Barrie) | | | | | | | | | | | | | | | | | | | |
| AAC Iceberg ▲ | 39 | 104 | 96 | 106 | 107 | M | -0.7 | 64 | 39 | 86 | Y | G | P | MS | I | MR | MS | I | |
| Snowbird ☼ | 94 | 101 | 99 | 101 | 101 | M | -0.2 | 62 | 36 | 89 | N | G | G | MR | MS | MS | S | I | |
| Snowstar ☼ | 58 | 102 | 99 | 103 | 102 | M | -0.8 | 64 | 30 | 82 | N | G | G | MS | S | MS | I | MS | |
| Whitehawk ☼ | 42 | 107 | 112+ | 108+ | 106 | E | -0.9 | 63 | 33 | 90 | N | G | G | I | MS | MS | MS | I | |
| REMARKS: For explanations on data summarization methods, abbreviations and other pertinent information, please see the comments at the beginning of this publication. Several CWRS varieties will be reclassified to a new milling wheat class, effective August 1, 2018. The varieties affected are AC Abbey, AC Cora, AC Eatonia, AC Majestic, AC Michael, AC Minto, Alvena, Alkat, CDC Makwa, CDC Osler, Columbus, Conway, Harvest, Kane, Katepwa, Leader, Lillian, McKenzie, Neepawa, Park, Pasqua, Pembina, Thatcher, Unity VB and 5603HR. For more information see the Canadian Grain Commission website www.grainscanada.gc.ca . The varieties Elgin ND, Faller and Prosper (insufficient data to describe) have been granted interim registration and placed in the Canada Western Interim Wheat class. A permanent class designation is expected later in 2016. The long-term average maturity for AC Barrie is 106 days and rated as Medium (M). Fusarium Head Blight (FHB) infection is highly influenced by the environment and heading date. Under high levels of FHB all varieties will sustain damage. Moderately Resistant (MR) and Resistant (R) ratings for FHB do not equate to immunity. Varieties rated Intermediate (I) to Susceptible (S) for loose smut or bunt should be treated with a systemic seed treatment to reduce the potential for infection. AC Eatonia and Lillian have a solid stem that confers resistance to the wheat stem sawfly. 5604HR CL, 5605HR CL, CDC Abound, CDC Imagine, CDC Thrive and WR589 CL are tolerant to the CLEARFIELD® herbicides Adrenalin SC and Altitude FX. VB designates a varietal blend to preserve the Sm1 orange wheat blossom midge tolerance gene. New CWRS registrations: AAC Cameron VB (BW485), AAC Connery (PT245), AAC Jatharia VB (BW483), AAC Prevail (BW462), CDC Bradwell (BW472), Go Early (PT769), SY479 (BW479), SY637 (PT637). Insufficient data to describe: AAC Cameron VB, CDC Bradwell, AAC Whitefox. †-Flagged for possible removal in 2017. | | | | | | | | | | | | | | | | | | | |

CANADA PRAIRIE SPRING RED

| Variety | Overall Station Years of Testing | Overall Yield | Yield Category (% AC Barrie) | | | Agronomic Characteristics: | | | | | | | | | | Disease Tolerance: | | | | |
|---|----------------------------------|---------------|------------------------------|----------------------|--------------------|----------------------------|------------|---------------------|---------|-------------|------------|----------------|-------|------------|------|--------------------|-----------|-----|--|--|
| | | | Low < 45 (bu/ ac) | Medium 45-90 (bu/ac) | High > 90 (bu/ ac) | Mat. Rating | Pro-tein % | Test Weight (lb/bu) | TSW (g) | Height (cm) | Awns (Y/N) | Resistance to: | | Loose Smut | Bunt | Stripe Rust | Leaf Spot | FHB | | |
| | | | | | | | | | | | | Ldg. | Sprt. | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | |
| Varieties tested in the 2015 trials (Yield, significant differences and agronomic data only directly comparable to AC Barrie) | | | | | | | | | | | | | | | | | | | | |
| AC Barrie (bu/ac) | | 59 | 34 | 62 | 92 | | | | | | | | | | | | | | | |
| AC Barrie 🍷 | | 100 | 100 | 100 | 100 | M | 14.1 | 63 | 37 | 87 | N | G | G | MR | I | S | MS | I | | |
| Carberry 🍷 | 91 | 107+ | 116+ | 106+ | 104 | L | -0.1 | 64 | 39 | 77 | Y | VG | F | MR | R | MR | MS | MR | | |
| AAC Crusader 🍷 | 27 | 116+ | XX | 115+ | XX | M | -1.5 | 62 | 40 | 76 | Y | G | P | MR | I | XX | MS | I | | |
| AAC Foray VB 🍷 | 41 | 128+ | XX | 130+ | 120+ | M | -1.7 | 63 | 51 | 85 | Y | G | G | MS | I | MR | MS | I | | |
| AAC Penhold 🍷 | 41 | 117+ | XX | 121+ | 114+ | M | -1.5 | 64 | 46 | 71 | Y | VG | G | I | R | MR | I | MR | | |
| AAC Tenacious 🍷 | 27 | 107+ | XX | 110+ | XX | M | -1.5 | 64 | 39 | 92 | Y | P | VG | R | R | MR | MS | R | | |
| SY995 🍷 | 41 | 118+ | XX | 119+ | 113+ | M | -1.9 | 63 | 45 | 79 | Y | G | P | S | MR | MR | MS | MS | | |
| Previously tested varieties (Yield, significant differences and agronomic data only directly comparable to AC Barrie) | | | | | | | | | | | | | | | | | | | | |
| 5700PR 🍷* | 117 | 117+ | XX | 121+ | 113+ | L | -1.9 | 62 | 42 | 75 | Y | VG | F | MS | R | MS | MS | MS | | |
| 5702PR 🍷* | 52 | 117+ | XX | 119+ | 114+ | L | -1.8 | 61 | 40 | 79 | Y | G | P | MS | I | MS | I | MS | | |
| AAC Ryley 🍷 | 37 | 118+ | XX | 120+ | 114+ | M | -0.6 | 60 | 48 | 82 | Y | G | G | I | R | S | MS | MS | | |
| AC Crystal * | 278 | 115+ | XX | 119+ | 113+ | L | XX | 62 | 42 | 79 | Y | G | P | I | R | S | I | S | | |
| AC Foremost * | 124 | 116+ | XX | 119+ | 112+ | L | XX | 62 | 43 | 73 | Y | VG | F | I | R | S | MS | S | | |
| Conquer VB 🍷* | 51 | 121+ | XX | 123+ | 120+ | M | -0.8 | 62 | 45 | 84 | Y | F | P | MS | R | MR | I | MS | | |
| Enchant VB 🍷*† | 37 | 115+ | XX | 119+ | 112 | M | -0.7 | 62 | 48 | 85 | Y | F | G | MS | R | XX | MS | S | | |
| SY985 🍷* | 51 | 112+ | XX | 115+ | 109+ | M | 0.1 | 61 | 44 | 78 | Y | G | P | R | MR | XX | I | I | | |

CANADA WESTERN GENERAL PURPOSE

| Previously tested varieties (Yield, significant differences and agronomic data only directly comparable to AC Barrie) | | | | | | | | | | | | | | | | | | |
|---|----|------|----|------|------|----|------|----|----|----|---|----|---|----|----|----|----|----|
| AAC Innova ▲ | 27 | 133+ | XX | 135+ | 133+ | L | -3.3 | 61 | 41 | 79 | Y | G | P | S | S | R | I | S |
| AAC NRG097 ▲ | 41 | 124+ | XX | 121+ | 126+ | L | -3 | 63 | 47 | 80 | Y | G | F | I | R | S | I | I |
| SY087 ▲ | 41 | 120+ | XX | 122+ | 114+ | M | -1.4 | 63 | 40 | 82 | Y | G | F | MS | MR | MR | I | MR |
| Previously tested varieties (Yield, significant differences and agronomic data only directly comparable to AC Barrie) | | | | | | | | | | | | | | | | | | |
| CDC NRG003 🍷 * | 51 | 121+ | XX | 125+ | 118+ | M | -1.9 | 61 | 43 | 80 | Y | G | F | MS | R | XX | MS | S |
| Minnedosa 🍷 * † | 44 | 120+ | XX | 124+ | 117+ | M | -1.9 | 62 | 43 | 82 | Y | G | G | I | MR | MR | MS | MS |
| NRG010 🍷 * | 51 | 126+ | XX | 130+ | 122+ | L | -2.6 | 62 | 41 | 83 | Y | G | P | MS | R | R | I | MS |
| Pasteur * | 37 | 137+ | XX | 142+ | 132+ | VL | -2.3 | 62 | 42 | 82 | N | VG | G | MS | S | MR | I | I |

REMARKS: For explanations on data summarization methods, abbreviations and other pertinent information, please see the comments at the beginning of this publication. Several CPSR varieties will be reclassified to a new milling wheat class, effective August 1, 2018. The varieties affected are AC Foremost, AC Taber, Conquer and Oslo. For more information see the Canadian Grain Commission website www.grainscanada.gc.ca. The long term average maturity for AC Barrie is 106 days and rated as Medium (M). Fusarium Head Blight (FHB) infection is highly influenced by the environment and heading date. Under high levels of FHB all varieties will sustain damage. Moderately Resistant (MR) and Resistant (R) ratings for FHB do not equate to immunity. Varieties rated Intermediate (I) to Susceptible (S) for loose smut or bunt should be treated with a systemic seed treatment to reduce the potential for infection. VB designates a varietal blend to preserve the Sm1 orange wheat blossom midge tolerance gene. New CPSR registrations: AAC Crossfield (HY1632), AAC Entice (HY1627). Insufficient data to describe: AAC Crossfield, AAC Entice. XX-Insufficient data to describe. * Yield figures based on direct and indirect comparisons with AC Barrie. †-Flagged for possible removal in 2017.

CANADA WESTERN SOFT WHITE SPRING

| Variety | Overall Station Years of Testing | Over-all Yield | Yield Category (% AC Andrew) | | | Agronomic Characteristics: | | | | | | | | | | Disease Tolerance: | | | | |
|---|----------------------------------|----------------|---------------------------------|----------------------------|-----------------------------|----------------------------|-------------------|---------------------------|------------|----------------|---------------|----------------|-------|-------|---------------|--------------------|----------------|--------------|-----|--|
| | | | Low < 45 (bu/ ac) | Medium 45-90 (bu/ac) | High > 90 (bu/ ac) | Mat. Rat- ing | Pro- tein % | Test Weight (lb/bu) | TSW (g) | Height (cm) | Awns (Y/N) | Resistance to: | | | Loose Smut | Bunt | Stripe Rust | Leaf Spot | FHB | |
| | | | | | | | | | | | | Ldg. | Shat. | Sprt. | | | | | | |
| | | | | | | | | | | | | | | | | | | | | |
| Varieties tested in the 2015 trials (Yield, statistical differences and agronomic data only directly comparable to AC Andrew) | | | | | | | | | | | | | | | | | | | | |
| AC Andrew (bu/ac) | | 83 | 43 | 77 | 115 | | | | | | | | | | | | | | | |
| AC Andrew * | | 100 | 100 | 100 | 100 | L | 10.8 | 62 | 39 | 79 | Y | VG | VG | P | S | S | I | MS | I | |
| AAC Chilton ▲ | 39 | 104+ | 106 | 105+ | 101 | L | -0.4 | 63 | 46 | 88 | Y | G | VG | P | S | S | MR | I | S | |
| Previously tested varieties (Yield, statistical differences and agronomic data only directly comparable to AC Andrew) | | | | | | | | | | | | | | | | | | | | |
| AC Meena | 51 | 97- | 101 | 97- | 95 | L | 0.0 | 61 | 37 | 80 | Y | G | G | F | MS | S | MR | I | S | |
| Sadash ☀ | 51 | 110+ | 113+ | 109+ | 109+ | L | 0.2 | 63 | 39 | 82 | Y | VG | VG | P | I | S | R | I | S | |

REMARKS: For explanations on data summarization methods, abbreviations and other pertinent information, please see the comments at the beginning of this publication. AC Andrew yields about 35% more than AC Barrie. In addition to traditional markets, SWS wheat varieties may have demand as a feedstock for ethanol production. *Maturity, resistance to lodging and sprouting are compared with AC Barrie. Varieties rated Intermediate (I) to Susceptible (S) for loose smut or bunt should be treated with a systemic seed treatment to reduce the potential for infection. New registrations: AAC Indus (SWS427), AAC Paramount (SWS433). Insufficient data to describe: AAC Indus, AAC Paramount. †-Flagged for possible removal in 2017.

WHEAT - MIDGE TOLERANT

| | S | F | R | C |
|--|---|----|---|---|
| AAC MARCHWELL - AAC RAYMORE | | | | |
| BI: AAFC (Swift Current), Dist: SeCan Members | | | | |
| Hierath, Michael Wayne & Philip / Milk River / AB / (403) 647-2347 | | | R | |
| AAC TENACIOUS VB | | | | |
| BI: N/A, Dist: Alliance Seed | | | | |
| Stamp Seeds / Enchant / AB / (403) 739-2233 | | F* | | |
| BW971 - BW965 | | | | |
| BI: N/A, Dist: N/A | | | | |
| Chin Ridge Seeds Ltd. / Taber / AB / (403) 223-3900 | S | | | |
| Galloway Seeds Ltd. / Fort Saskatchewan / AB / (780) 998-3036 | S | | | |
| Logan, Glenn C. & Marie & Douglas / Lomond / AB / (403) 792-3696 | S | | | |
| Sand, Ron W. & David R. / McLaughlin / AB / (780) 745-2251 | S | | | |
| Sim, Darwin & Derek / Ponoka / AB / (780) 372-2111 | S | | | |
| CDC UTMOST - HARVEST ☼ | | | | |
| BI: N/A, Dist: FP Genetics | | | | |
| Dalton, Dennis / Wainwright / AB / (780) 842-2361 | | R | C | |
| Galloway Seeds Ltd. / Fort Saskatchewan / AB / (780) 998-3036 | | R | | |
| Markert Seeds / Vulcan / AB / (403) 485-6708 | | C | | |
| Sand, Ron W. & David R. / McLaughlin / AB / (780) 745-2251 | | R | | |
| Tomlinson, Chelsea / Redwater / AB / (780) 777-5885 | | C | | |
| CONQUER - 5701PR ☼ | | | | |
| BI: AAFC (Winnipeg), Dist: Canterra Seeds | | | | |
| Huvenaars, John & Lisa / Hays / AB / (403) 725-2126 | | C | | |
| Parkland Fertilizers / Wetaskiwin / AB / (780) 352-3359 | | C | | |
| Sendziak, Don P. & Stephen / Edmonton / AB / (780) 434-1322 | | C* | | |
| SHAW - AC DOMAIN | | | | |
| BI: AAFC (Winnipeg), Dist: SeCan Members | | | | |
| Warkentin, Harold K. & Errol / Tofield / AB / (780) 662-2617 | | | R | |

WHEAT

| | S | F | R | C |
|---|---|---|---|---|
| AAC BRANDON ☼ | | | | |
| BI: AAFC (Swift Current), Dist: SeCan Members | | | | |
| Baier, Bill & Dean / Clyde / AB / (780) 348-5791 | | | R | |
| Benci, Dennis / Carmangay / AB / (403) 643-2294 | | | R | C |
| Brummelhuis, Tara / Vauxhall / AB / (403) 654-2734 | | | R | |
| Chin Ridge Seeds Ltd. / Taber / AB / (403) 223-3900 | | | R | |
| Clark, Todd / Edmonton / AB / (780) 499-5060 | | | R | |
| Croymans, John, Joseph & Andrew / Bow Island / AB / (403) 580-7264 | | | C | |
| Cyre, Clifford & Greg / Barrhead / AB / (780) 349-4775 | | | R | |
| Dovichak, Michael / Brooks / AB / (403) 501-5420 | | | C | |
| Dyck, Heinz W. & Colin & Alan & Kelton / Rosemary / AB / (403) 378-3321 | S | F | | |
| Haney, Shaun / Picture Butte / AB / (403) 738-4517 | | | C | |
| Holt, Peter Edward / Gleichen / AB / (403) 734-2140 | | | R | |
| Hoffmann, Curtis / Oyen / AB / (403) 664-9617 | | | R | |
| Holst, Todd / Hays / AB / (403) 725-2367 | | | R | |
| Huvenaars, John & Lisa / Hays / AB / (403) 725-2126 | | | R | C |
| King, Harold & Webb, David Gordon / Three Hills / AB / (403) 443-7330 | | | R | |
| Kittle, James William & Andrew / Viking / AB / (780) 336-2583 | | F | | |
| Kopjar, Gerald M. / Rowley / AB / (403) 368-2409 | | S | R | |
| Metzger, Don / Carbon / AB / (403) 572-3284 | | | R | |
| Mueller, Darcy / Three Hills / AB / (403) 820-4115 | | F | | |
| Pare, Raymond A. / Wainwright / AB / (780) 842-2073 | S | F | | |
| Penwest Seed / Three Hills / AB / (403) 443-2577 | | | R | |
| Sendziak, Don P. & Stephen / Edmonton / AB / (780) 434-1322 | | | R | |
| Shultz, Shawn / Didsbury / AB / (403) 335-3694 | | | R | |
| Solick, Corwin / Halkirk / AB / (403) 884-2358 | | F | | |
| Solick, Kelsey / Halkirk / AB / (403) 884-2358 | | F | | |
| Solick, Leonard & Kelsey & Corwin / Halkirk / AB / (403) 884-2358 | | F | R | |
| Thompson, M. Ellwood & Kelly / Red Deer County / AB / (403) 728-3535 | | | R | |
| Wagner, Terry & Loree / Lacombe / AB / (403) 782-2107 | | | R | |
| Willms, Henry & Timothy H. / Grassy Lake / AB / (403) 655-2434 | | | C | |
| Witdouch, Dale / Iron Springs / AB / (403) 738-4395 | | | R | C |
| Zwack, Adam / Daysland / AB / (780) 374-2450 | | | R | |

AAC CHIFFON**BI: AAFC (Lethbridge), Dist: SeedNet Inc.**

Chin Ridge Seeds Ltd. / Taber / AB / (403) 223-3900
 Degenhardt, Keith L. & Terry L. & K. / Hughenden / AB / (780) 856-2383
 Huvenaars, Carl / Hays / AB / (403) 725-2213
 Kiltiak, Nathan John / Foremost / AB / (403) 867-2338
 Markert Seeds / Vulcan / AB / (403) 485-6708
 Stamp Seeds / Enchant / AB / (403) 739-2233
 Williams, Henry & Timothy H. / Grassy Lake / AB / (403) 655-2434
 Wildouck, Dale / Iron Springs / AB / (403) 738-4395

AAC ELIE**BI: AAFC (Swift Current), Dist: Alliance Seed**

Hierath, Michael Wayne & Phillip / Milk River / AB / (403) 647-2347
 King, Harold & Webb, David Gordon / Three Hills / AB / (403) 443-7330
 Logan, Glenn C. & Marie & Douglas / Lomond / AB / (403) 792-3696
 Mercer Seeds Ltd. / Lethbridge / AB / (403) 327-9736
 Sich, Louis John & Ivan & Martin / Trochu / AB / (403) 442-2112
 Stamp Seeds / Enchant / AB / (403) 739-2233
 Van Roessel, William & Jean / Bow Island / AB / (403) 545-6018

AAC INDUS**BI: AAFC (Lethbridge), Dist: N/A**

Kittle, James William & Andrew / Viking / AB / (780) 336-2583

AAC PENHOLD**BI: AAFC (Swift Current), Dist: SeCan Members**

Anderson, Ken & Evelyn / Barrhead / AB / (780) 674-5670
 Baier, Bill & Dean / Clyde / AB / (780) 348-5791
 Clark, Todd / Edmonton / AB / (780) 499-5060
 Cyre, Clifford & Greg / Barrhead / AB / (780) 349-4775
 Dallas, Bradley C. / Bowden / AB / (403) 224-2162
 Dewindt, Harry & Renee / Thorhild / AB / (780) 398-2377
 Diachyshyn, Mike / Waskatenau / AB / (780) 691-7104
 Ellis, Brian / Olds / AB / (403) 556-2890
 Galloway Seeds Ltd. / Fort Saskatchewan / AB / (780) 998-3036
 Gibson, Donald / Sangudo / AB / (780) 785-2214
 Goldstrom, David / Red Deer County / AB / (403) 227-2133
 Hadway, W. Tom & Carol / Didsbury / AB / (403) 335-4929
 Hallett, Dale R. & Richard / Carstairs / AB / (403) 337-3072
 Hoff, Peter Edward / Gleichen / AB / (403) 734-2140
 Huvenaars, Carl / Hays / AB / (403) 725-2213
 Tomlinson, Chelsea / Redwater / AB / (780) 777-5885
 Trueblood, Brian G. / Dapp / AB / (780) 954-3745
 Victor, Rene & Jamie / Sturgeon County / AB / (780) 459-3253
 Wierenga, Brad & Bruce & Clayton / Neerlandia / AB / (780) 674-4624
 Wood, Robert & Patricia & Marshall / Bowden / AB / (403) 224-3928

AAC REDWATER**BI: AAFC (Winnipeg), Dist: SeCan Members**

Galloway Seeds Ltd. / Fort Saskatchewan / AB / (780) 998-3036
 Geeraert, Gerald / Rockyford / AB / (403) 533-2421
 Hadland, Edward / Baldonnel / BC / (250) 793-9746
 Hadway, W. Tom & Carol / Didsbury / AB / (403) 335-4929
 Hallett, Dale R. & Richard / Carstairs / AB / (403) 337-3072
 Hegland, David Olaf / Wembley / AB / (780) 766-2450
 Holmstrom, Darrell & Barbara / Killam / AB / (780) 385-3574
 Lopushinsky, Julian / Bruderheim / AB / (780) 796-2048
 McDonald, Gerald / Co. Of Grande Prairie #1 / AB / (780) 538-3868
 Mueller, Darcy / Three Hills / AB / (403) 820-4115
 Oatway, Ward / Clive / AB / (403) 784-3001
 Sekulic, John Jr. / Rycroft / AB / (780) 765-2280
 Sekulic, Warren, F. / Rycroft / AB / (780) 765-2234
 Sendziak, Don P. & Stephen / Edmonton / AB / (780) 434-1322
 Stamp Seeds / Enchant / AB / (403) 739-2233
 Warkentin, Harold K. & Errol / Tofield / AB / (780) 662-2617
 Weigum, Garry & Sarah / Three Hills / AB / (403) 443-2476
 Wildouck, Dale / Iron Springs / AB / (403) 738-4395

AAC RYLEY**BI: AAFC (Swift Current), Dist: SeCan Members**

Amyotte, Phillip / Mallard / AB / (780) 635-4010
 Baier, Bill & Dean / Clyde / AB / (780) 348-5791
 Dargis, Richard / St. Vincent / AB / (780) 635-2333
 Foster, Norman R. / Beaverlodge / AB / (780) 354-2107
 Gibson, Donald / Sangudo / AB / (780) 785-2214
 Hadway, W. Tom & Carol / Didsbury / AB / (403) 335-4929
 Harris, William & L. Thomas & A. / Beaverlodge / AB / (780) 354-2823
 Kopjar, Gerald M. / Rowley / AB / (403) 368-2409
 Ohm, Norman / Thorsby / AB / (780) 985-2263
 Penwest Seed / Three Hills / AB / (403) 443-2577
 Shultz, Shawn / Didsbury / AB / (403) 335-3694

AC ANDREW**BI: AAFC (Lethbridge), Dist: SeCan Members**

Degenhardt, Keith L. & Terry L. & Kerry / Hughenden / AB / (780) 856-2383
 Jackson, Thomas / Killam / AB / (780) 385-2332
 Jones, Greg Thomas / Ponoka / AB / (403) 783-6495
 Kemp, Richard L. / Red Deer County / AB / (403) 227-4836
 Lindholm Seed Farm / New Norway / AB / (780) 352-3240
 Lopushinsky, Julian / Bruderheim / AB / (780) 796-2048
 Macyk, Don / Waskatenau / AB / (780) 358-2411
 Macyk, Tim / Radway / AB / (780) 699-4073
 Massey, Derwin / Stettler / AB / (403) 883-2503
 Mueller, Richard J. & R.R. & Rosemary / Barrhead / AB / (780) 674-2595
 Niemela, Terrance & Tracy / Sylvan Lake / AB / (403) 746-2645
 Nisbet, Andrew E. & Diane E. / Bowden / AB / (403) 224-3788
 Oatway, Ward / Clive / AB / (403) 784-3001
 Pare, Raymond A. / Wainwright / AB / (780) 842-2073
 Radke, Bryan Victor / Barrhead / AB / (780) 674-5715
 Sand, Ron W. & David R. / McLaughlin / AB / (780) 745-2251
 Sayer, Roger / Carstairs / AB / (403) 337-5847
 Sendziak, Don P. & Stephen / Edmonton / AB / (780) 434-1322
 Stamp Seeds / Enchant / AB / (403) 739-2233
 Thompson, M. Elwood & Kelly / Red Deer County / AB / (403) 728-3535
 Kittle, James William & Andrew / Viking / AB / (780) 336-2583
 Sand, Ron W. & David R. / McLaughlin / AB / (780) 745-2251

AC CRYSTAL**BI: AAFC (Swift Current), Dist: SeCan Members**

Pare, Raymond A. / Wainwright / AB / (780) 842-2073

AC DOMAIN**BI: AAFC, Dist: SeCan Members**

Warkentin, Harold K. & Errol / Tofield / AB / (780) 662-2617

AC FOREMOST**BI: AAFC (Swift Current), Dist: SeCan Members**

Bearish, Dale / Janvie / AB / (780) 954-2166
 Clark, Todd / Edmonton / AB / (780) 499-5060
 Dallas, Bradley C. / Bowden / AB / (403) 224-2162
 Ellis, Brian / Olds / AB / (403) 556-2890
 Gibson, Donald / Sangudo / AB / (780) 785-2214
 Jackson, James D. / Dapp / AB / (780) 954-2617
 Lindholm Seed Farm / New Norway / AB / (780) 352-3240
 Macyk, Tim / Radway / AB / (780) 699-4073
 Nanninga, Justin / Neerlandia / AB / (780) 674-3822
 Nisbet, Andrew E. & Diane E. / Bowden / AB / (403) 224-3788
 Radke, Bryan Victor / Barrhead / AB / (780) 674-5715
 Schermund, Donnie / Sturgeon County / AB / (780) 967-2850
 Smith, Gary W. / Eckville / AB / (403) 746-5878
 Victor, Rene & Jamie / Sturgeon County / AB / (780) 459-3253
 Webber, Curtis / Stony Plain / AB / (780) 963-6897
 Wood, Robert & Patricia & Marshall / Bowden / AB / (403) 224-3928

CARBERRY**BI: AAFC (Swift Current), Dist: SeCan Members**

Brummelhuis, Tara / Vauxhall / AB / (403) 654-2734
 Cailliau, John / Enchant / AB / (403) 739-3785
 Card, Gordon B. / Magrath / AB / (403) 758-3444
 Croymans, John, Joseph & Andrew / Bow Island / AB / (403) 580-7264
 Dyck, Heinz W. & Colin & Alan & Kelton / Rosemary / AB / (403) 378-3321
 Haney, Shaun / Picture Butte / AB / (403) 738-4517
 Jonk, Nicholas / Westlock / AB / (780) 349-5458
 Kopjar, Gerald M. / Rowley / AB / (403) 368-2409
 Lopushinsky, Julian / Bruderheim / AB / (780) 796-2048
 Macyk, Tim / Radway / AB / (780) 699-4073
 Nanninga, Justin / Neerlandia / AB / (780) 674-3822
 Schermund, Donnie / Sturgeon County / AB / (780) 967-2850
 Stamp Seeds / Enchant / AB / (403) 739-2233

30

| Oats Variety Trial – 2015 (Legal Location - SW8-38-11-W4) | | | |
|---|--------------|-------------|------|
| Variety Name | Yield | | |
| | (bushels/ac) | % of Check | SE* |
| CS CAMDEN | 113 | 107 | ±4.5 |
| AKINA | 113 | 107 | ±8.3 |
| CDC DANCER | 105 | 100 | ±1.8 |
| CDC HAYMAKER | 104 | 104 | ±5.9 |
| OT3066 | 99 | 94 | ±1.8 |
| BIA | 91 | 86 | ±1.9 |
| NICE | 85 | 81 | ±6.2 |
| ACC JUSTICE | 103 | 98 | ±11 |
| | | % mean diff | |
| LSD P=.05 | 15 | 15 | |
| Standard Deviation | 8.4 | | |
| CV | 8.3 | | |
| Minimum Replicates (power=80) | 2 | | |
| Largest Mean Difference | 28.3 | 28 | |

Results and Interpretation:

The First five varieties in the table did not differ statistically because differences among yield means were less than 15% at 5% level of probability error. However, comparison among varieties at # 3,5 and 6 is more accurate because they have similar standard error, which indicates that yield comparison among them is more precise although we need to assume that soil and moisture variations were similar in those plots. Among oat varieties Bia and Nice yielded lowest (Table.....). AAC Justice was not included in data analysis due to high CV (18%).

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

Mean comparisons performed only when AOV Treatment P(F) is significant at mean comparison OSL.

*SE – Standard Error

Damaged Variety Trials:

- Barley Variety Trial near Stettler was canceled due to high soil variability.
- Winter Wheat Regional Variety Trial near Forestburg was damaged by hail storm on July 22, 2015.



PULSE VARIETY TRIALS

2015

Materials and Methods:

Location: Coordinates - N 53° 23' 48", W -112° 6' 50", near Holden, Alberta.
Legal Location – SE 28-50-15-W4

Experimental Design: RCBD, 4 replications in 28x4.5 foot plots.

Previous Year (2014): Herbicide – Avadex and Infinity, Crop – Wheat

Production practices: Herbicides Assure-II and Basagran Forte at label rate, and Raglone was applied as desiccant. Pea were seeded on May 11, 2015 with minimum till seeder six row seeder at 9 inch row spacing and 1.5-2 inch deep. Phosphorus was applied as mono-ammonium phosphate with seed @ 22lbs P2O5/acre as MAP.

Rain: 256 mm between April to September 2015. Long term average is 314 mm (For weather details, see page 59 Holden).

Soil: Black soil zone. Clay content about 13 % and pH 5.8.

Soil Test Characteristics

| Depth (inches) | pH (1S:2W) | E.C. (1S:2W) mS/cm | E.C. Calc Sat. Extr. | Salinity | Organic matter (Walkley Black) | Organic Matter (Combustion) | Clay % | Sand % | Silt % | Texture |
|----------------|------------|--------------------|----------------------|------------|--------------------------------|-----------------------------|--------|--------|--------|---------|
| 0-6 | 5.8 | 0.2 | 0.5 | Non Saline | 4.6% | 9% | 13.1 | 38.1 | 48.8 | Loam |
| 6-24 | 6.8 | 0.3 | 0.7 | Non Saline | | | | | | |

| Soil Test Micro-nutrient Levels (lbs/acre)=(2xppm) | | | | | | | | | | |
|--|--------------------|--------------------|-----|-----|--------------------|-----|------|------|-----|-----|
| Depth Inches | NH ₄ -N | NO ₃ -N | P | K | SO ₄ -S | Cu | Mn | Zn | B | Fe |
| 0-6 | 8 | 31 | 136 | 485 | 17 | 1.2 | 58.4 | 12.2 | 3.8 | 285 |
| 6-24 | | 37 | | | 440 | | | | | |

YELLOW PEA

| Yellow Pea Variety Trial – (SE28-50-15-W4) | | | | | | | | |
|--|--------------|-------------|------|-------|-------------|------|--------|-------------|
| Variety Name | Yield | | | TKW* | | | Height | |
| | (bushels/ac) | % of check | SE* | (g) | Signif. | SE* | (inch) | |
| CDC INCA | 107 | 104 | ±3.3 | 242 | b | ±3.6 | 32 | |
| CDC AMARILLO | 103 | 100 | ±5.9 | 244 | b | ±8.0 | 30 | |
| AAC LACOMBE | 100 | 97 | ±2.8 | 282 | a | ±3.6 | 30 | |
| LN4228 | 92 | 87 | ±2.9 | 283 | a | ±3.2 | 27 | |
| AAC PEACE RIVER | 86 | 83 | ±3.4 | 255 | b | ±4.3 | 22 | |
| | | | | | | | | |
| | | % mean diff | | | % mean diff | | | % mean diff |
| LSD P=0.5 | 8.71 | 9 | | 16.37 | 7 | | 3.3 | 12 |
| | | | | | | | | |
| Standard Deviation | 5.65 | | | 10.62 | | | 2.1 | |
| | | | | | | | | |
| CV | 5.8 | | | 4.06 | | | 7.52 | |
| | | | | | | | | |
| Minimum Replicates (power =80) | 2 | | | 2 | | | 2 | |
| | | | | | | | | |
| Largest Mean Difference | 21.50 | 22 | | 40.80 | 15 | | 10.3 | 36 |

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

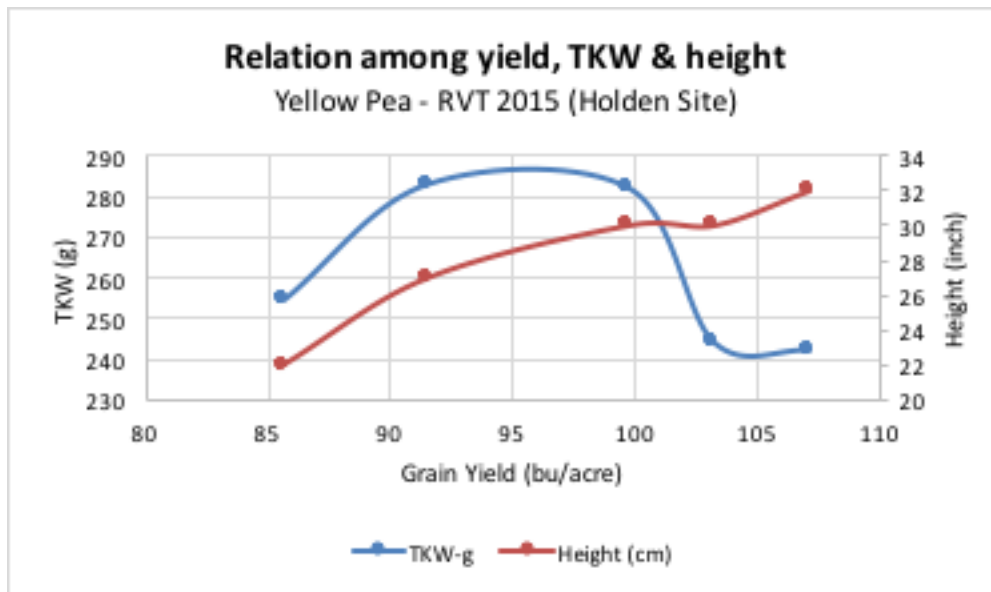
Mean comparisons performed only when AOV Treatment P(F) is significant at mean comparison OSL.

* TKW- Thousand Kernel Weight; *SE – Standard Error

See Appendix # 5 for replication and treatment F values.

Results and Interpretation:

During 2015, yellow pea varieties with low thousand kernel weight and more height yielded higher near Holden in black soil zone. CDC Inca, CDC Amarillo and AAC Lacombe yielded at par with each other. CDC Inca and CDC Amarillo yielded significantly higher than AAC Peace River and LN4228. The early maturing variety AAC Peace River yielded lowest and matured (August 7) about 10 days earlier than other varieties. The Higher yield of yellow pea appears to be associated with lower TKW, which is true for four yellow pea varieties out of five tested as shown in graph below.



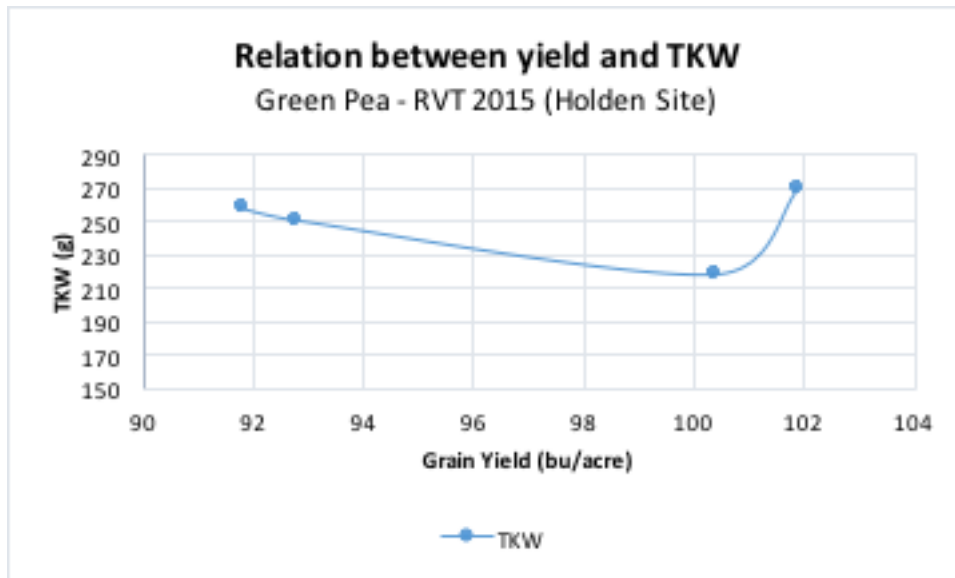
GREEN PEA

| Green Pea Variety Trial – (SE28-50-15-W4) | | | | | | | | | |
|---|--------------|-------------|------|------|-------------|-----|--------|-------------|------|
| Variety Name | Yield | | | TKW* | | | Height | | |
| | (bushels/ac) | Signif. | SE* | (g) | Signif. | SE* | (cm) | Signif. | SE* |
| AAC ROYCE | 101.9 | a | ±1.6 | 270 | a | ±4 | 32 | b | ±0.7 |
| CDC LIMERICK | 100.4 | a | ±4.2 | 219 | d | ±3 | 30 | a | ±1.0 |
| CDC GREENWATER | 92.8 | b | ±1.8 | 251 | c | ±3 | 30 | a | ±1.8 |
| AAC RADIUS | 91.8 | b | ±4.0 | 258 | b | ±2 | 27 | b | ±2.6 |
| | | % mean diff | | | % mean diff | | | % mean diff | |
| LSD P=0.10 | 6.97 | 8 | | 4.0 | 2 | | 3.83 | 14 | |
| LSD P=.05 | 8.60 | 9 | | 4.9 | 2 | | 4.73 | 17 | |
| Standard Deviation | 5.38 | | | 3.1 | | | 2.95 | | |
| CV | 5.56 | | | 1.23 | | | 10.25 | | |
| Minimum Replicates (power =80) | 5 | | | 2 | | | 3 | | |
| Largest Mean Difference | 10.09 | 10 | | 51.0 | 2 | | 7 | 24 | |

Means followed by same letter or symbol do not significantly differ ($P=.10$, LSD)

* TKW- Thousand Kernel Weight; *SE – Standard Error

See Appendix # 6 for replication and treatment F values.



Result and Interpretations:

Green pea varieties AAC Royce and CDC Limerick yielded significantly higher only at 10% level of probability but there was no significant difference at 5% probability level. Again three out of four varieties has shown an increased inverse relation between yield and thousand kernel weight.

FIELD PEAS - YELLOW

| Variety | Overall Site Years of Testing | Overall Yield | South | | East Central | | West Central | | Peace | | Agronomic Characteristics | | | |
|---|-------------------------------------|------------------|---------------|--------------|---------------|--------------|---------------|--------------|---------------|--------------|---------------------------------|------------------------|-------------------------|------------------------------------|
| | | | Site Years | Yield (%) | Site Years | Yield (%) | Site Years | Yield (%) | Site Years | Yield (%) | Maturity Rating ¹ | Vine Length (cm) | TSW ² (g) | Standability ³ (1-9) |
| Varieties tested in the 2015 trials (Yield and agronomic data only directly comparable to CDC Amarillo) | | | | | | | | | | | | | | |
| CDC Amarillo (kg/ha) | | 4910 | | 3336 | | 5534 | | 6962 | | 4669 | | | | |
| CDC Amarillo | | 100 | | 100 | | 100 | | 100 | | 100 | M | 77 | 224 | 2.5 |
| AAC Lacombe ▲ | 46 | 105+ | 13 | 106+ | 12 | 100 | 7 | 109 | 14 | 107+ | M | 73 | 254 | 2.3 |
| AAC Peace River | 48 | 92- | 13 | 95 | 12 | 88- | 7 | 85 | 16 | 97 | VE | 68 | 217 | 3.8 |
| CDC Inca (A) | 13 | 103 | 4 | 110 | 3 | 95 | 2 | 109 | 4 | 101 | M | 77 | 233 | 1.3 |
| LN4228 | 30 | 91- | 9 | 95 | 7 | 86 | 5 | 92 | 9 | 91- | M | 62 | 248 | 1.6 |
| Fully tested varieties: 2012-2014 (Yield and agronomic data only directly comparable to CDC Meadow) | | | | | | | | | | | | | | |
| CDC Meadow (kg/ha) | | 4982 | | 3740 | | 4762 | | 6350 | | 5189 | | | | |
| CDC Meadow | | 100 | | 100 | | 100 | | 100 | | 100 | E | 81 | 207 | 3.6 |
| Abarth | 49 | 102 | 13 | 106 | 14 | 103 | 8 | 101 | 14 | 99 | M | 77 | 249 | 3.6 |
| CDC Saffron | 47 | 103 | 13 | 108 | 14 | 101 | 7 | 99 | 13 | 101 | M | 84 | 236 | 4.3 |
| Hugo ☼ | 47 | 93- | 11 | 102 | 14 | 83- | 8 | 91 | 14 | 96 | M | 73 | 210 | 5.2 |
| Stella ☼ NR F | 45 | 80- | 11 | 76- | 14 | 80- | 8 | 84- | 12 | 80- | M | 95 | 213 | 3.9 |
| Fully tested varieties: 2003-2011 (Yield and agronomic data only directly comparable to Cutlass) | | | | | | | | | | | | | | |
| Cutlass (kg/ha) ☼ | | 4485 | | 3183 | | 3702 | | 5692 | | 4816 | | | | |
| Cutlass ☼ † | | 100 | | 100 | | 100 | | 100 | | 100 | M | 72 | 227 | 4 |
| Agassiz ☼ | 43 | 103 | 6 | 100 | 9 | 102 | 9 | 102 | 19 | 104 | M | 77 | 237 | 2.9 |
| Argus ☼ † | 33 | 105+ | 7 | 100 | 9 | 114+ | 5 | 104 | 12 | 100 | M | 89 | 227 | 4.1 |
| CDC Centennial † | 34 | 100 | 4 | 95 | 8 | 94 | 9 | 104 | 13 | 102 | E | 60 | 260 | 4.8 |
| CDC Hornet | 43 | 107+ | 10 | 101 | 12 | 116+ | 8 | 111+ | 13 | 102 | M | 89 | 215 | 3.7 |
| CDC Prosper NR | 44 | 97- | 6 | 93 | 11 | 96 | 9 | 97 | 18 | 99 | E | 73 | 150 | 3.9 |
| CDC Treasure NR | 44 | 100 | 6 | 96 | 11 | 105 | 9 | 99 | 18 | 100 | E | 80 | 217 | 3.4 |
| DS-Admiral ☼ † | 50 | 101 | 8 | 101 | 10 | 104 | 13 | 98 | 18 | 102 | M | 71 | 243 | 3.3 |
| Eclipse ☼ † | 79 | 100 | 13 | 101 | 18 | 98 | 20 | 99 | 27 | 102 | M | 65 | 249 | 2.9 |
| Polstead ☼ † | 36 | 101 | 4 | 96 | 8 | 96 | 9 | 99 | 15 | 105 | E | 62 | 263 | 3.5 |
| Reward ☼ † | 33 | 101 | 4 | 90 | 8 | 105+ | 9 | 102 | 12 | 102 | M | 76 | 249 | 2.4 |
| SW Midas ☼ † | 46 | 97 | 7 | 97 | 10 | 101 | 11 | 91- | 18 | 99 | E | 66 | 212 | 3.1 |
| Thunderbird | 37 | 97 | 6 | 89 | 9 | 99 | 9 | 99 | 13 | 98 | M | 76 | 229 | 2.1 |
| Fully tested varieties: 2000-2005 (Yield and agronomic data only directly comparable to CARRERA) | | | | | | | | | | | | | | |
| CARRERA (kg/ha) | | 4126 | | 2317 | | 3151 | | 5098 | | 4681 | | | | |
| CARRERA ☼ | | 100 | | 100 | | 100 | | 100 | | 100 | E | 55 | 256 | 4.6 |
| CDC Bronco † | 35 | 100 | 7 | 87 | 8 | 104 | 8 | 94 | 11 | 110 | M | 65 | 217 | 4 |
| CDC Golden | 35 | 103 | 7 | 97 | 8 | 107 | 8 | 102 | 11 | 105 | M | 71 | 224 | 3.4 |
| CDC Minuet † | 47 | 101 | 7 | 98 | 12 | 100 | 11 | 92 | 12 | 107 | M | 66 | 192 | 4.9 |
| CDC Mozart † | 33 | 105 | 5 | 106 | 7 | 107 | 7 | 97 | 14 | 107 | M | 63 | 243 | 6.1 |

REMARKS: Stella is a silage type pea. ☼ = Protected by Plant Breeder's Rights (PBR). ▲ = Applied for PBR protection. A = First year entries (2015). NR = Variety not registered with CFIA. F = Forage type. XX = No data available. ¹Maturity: E = early, M = medium, L = Late; ²Thousand Seed Weight: g; ³Standability: 1 = erect, 9 = flat; ⁴Tolerance to: P = poor, F = fair, G = good, VG = very good; ⁵Seed Coat Dimpling: VG = very good (0-5%), G = good (6-20%), F = fair (21-50%), ⁶Green Seed Coat: G = good (0-10%), F = fair (11-25%).

FIELD PEAS - YELLOW — *CONT.*

| Variety | Tolerance to ⁴ | | | | | |
|--|---------------------------|------------------------|---------------|--------------------|---------------------------------|------------------------------|
| | Powdery Mildew | Mycosphae-rella Blight | Fusarium Wilt | Seed Coat Breakage | Seed Coat Dimpling ⁵ | Green Seed Coat ⁶ |
| Varieties tested in the 2015 trials (Yield and agronomic data only directly comparable to CDC Amarillo) | | | | | | |
| CDC Amarillo (kg/ha) | | | | | | |
| CDC Amarillo | VG | F | G | F | F | G |
| AAC Lacombe ▲ | VG | F | P | G | F | G |
| AAC Peace River | VG | F | F | F | G | G |
| CDC Inca (A) | VG | F | F | G | G | F |
| LN4228 | VG | F | F | F | F | G |
| Fully tested varieties: 2012-2014 (Yield and agronomic data only directly comparable to CDC Meadow) | | | | | | |
| CDC Meadow (kg/ha) | | | | | | |
| CDC Meadow | VG | F | F | G | G | G |
| Abarth | VG | F | F | F | G | G |
| CDC Saffron | VG | F | F | G | F | G |
| Hugo 🍄 | VG | F | F | G | F | F |
| Stella 🍄 NR F | VG | F | F | G | G | F |
| Fully tested varieties: 2003-2011 (Yield and agronomic data only directly comparable to Cutlass) | | | | | | |
| Cutlass (kg/ha) 🍄 | | | | | | |
| Cutlass 🍄 † | VG | F | F | F | F | G |
| Agassiz 🍄 | VG | F | F | G | VG | G |
| Argus 🍄 † | VG | F | F | F | F | G |
| CDC Centennial † | VG | F | G | G | G | F |
| CDC Hornet | VG | F | F | F | F | G |
| CDC Prosper NR | VG | F | G | G | F | G |
| CDC Treasure NR | VG | F | F | G | F | F |
| DS-Admiral 🍄 † | VG | P | F | F | G | F |
| Eclipse 🍄 † | VG | F | F | G | F | G |
| Polstead 🍄 † | VG | P | P | F | VG | F |
| Reward 🍄 † | VG | F | F | G | VG | F |
| SW Midas 🍄 † | VG | P | F | G | G | G |
| Thunderbird | VG | F | F | G | VG | XX |
| Fully tested varieties: 2000-2005 (Yield and agronomic data only directly comparable to CARRERA) | | | | | | |
| CARRERA (kg/ha) | | | | | | |
| CARRERA 🍄 | P | P | F | F | G | XX |
| CDC Bronco † | VG | F | F | G | G | G |
| CDC Golden | VG | F | F | G | G | G |
| CDC Minuet † | VG | F | F | F | G | F |
| CDC Mozart † | VG | F | F | G | G | F |

FIELD PEAS - GREEN

| Variety | Overall Station Years of Testing | Overall Yield (%) | South | | East Central | | West Central | | Peace | | Agronomic Characteristics | | | |
|---|----------------------------------|-------------------|------------|-----------|--------------|-----------|--------------|-----------|------------|-----------|---------------------------|------------------|----------|---------------------|
| | | | Site Years | Yield (%) | Site Years | Yield (%) | Site Years | Yield (%) | Site Years | Yield (%) | Maturity Rating¹ | Vine Length (cm) | TSW² (g) | Standability³ (1-9) |
| Varieties tested in the 2015 trials (Yield and agronomic data only directly comparable to CDC Limerick) | | | | | | | | | | | | | | |
| CDC Limerick (kg/ha) | | 4463 | | 3277 | | 5316 | | 5963 | | 4016 | | | | |
| CDC Limerick | | 100 | | 100 | | 100 | | 100 | | 100 | L | 74 | 211 | 3 |
| AAC Radius | 30 | 91- | 8 | 96 | 6 | 89- | 5 | 81- | 11 | 93- | M | 71 | 215 | 2.8 |
| AAC Royce (A) | 13 | 96 | 3 | 98 | 2 | 95 | 2 | 83 | 6 | 100 | M | 52 | 256 | 2.8 |
| CDC Greenwater | 28 | 107+ | 8 | 109 | 6 | 100 | 5 | 113 | 9 | 107+ | L | 66 | 227 | 2.8 |
| Fully tested varieties: 2013-2014 (Yield and agronomic data only directly comparable to CDC Patrick) | | | | | | | | | | | | | | |
| CDC Patrick (kg/ha) | | 4732 | | 4291 | | 4522 | | 6323 | | 4305 | | | | |
| CDC Patrick | | 100 | | 100 | | 100 | | 100 | | 100 | M | 79 | 187 | 4.4 |
| CDC Pluto | 52 | 96- | 14 | 100 | 14 | 94 | 8 | 85- | 16 | 100 | M | 82 | 170 | 6 |
| CDC Raezer | 52 | 105 | 14 | 95 | 14 | 116+ | 8 | 98 | 16 | 107 | M | 89 | 227 | 4.2 |
| CDC Tetris | 52 | 106 | 14 | 104 | 14 | 111+ | 8 | 93 | 16 | 110+ | L | 91 | 215 | 4.4 |
| Fully tested varieties: 2004-2012 (Yield and agronomic data only directly comparable to Cooper) | | | | | | | | | | | | | | |
| Cooper (kg/ha) | | 4763 | | 4191 | | 4016 | | 6015 | | 4835 | | | | |
| Cooper 🍷 | | 100 | | 100 | | 100 | | 100 | | 100 | L | 77 | 270 | 3.5 |
| CDC Sage | 30 | 82- | 3 | 79 | 6 | 82- | 8 | 81- | 13 | 84- | M | 75 | 197 | 3.3 |
| CDC Striker | 38 | 96- | 4 | 96 | 8 | 110 | 5 | 104 | 21 | 89- | M | 74 | 254 | 2.8 |
| Mendel 🍷 | 37 | 91- | 6 | 85- | 10 | 95 | 6 | 89- | 15 | 91- | M | 78 | 206 | 3.9 |

REMARKS: CDC Tetris is an Escape type with blocky seed shape; A = First year entries (2015). ☼ = Protected by Plant Breeder's Rights (PBR); XX = No data available; † = Flagged for removal. ¹Maturity: E = Early, M = Medium, L = Late; ²Thousand Seed Weight: g; ³Standability: 1 = Erect, 9 = Flat; ⁴Tolerance to: P = Poor, F = Fair, G = Good, VG = Very Good; ⁵Seed Coat Dimpling: VG = Very Good (0-5%), G = Good (5-20%), F = Fair (21-50%).

FIELD PEAS - GREEN — CONT.

| Variety | Tolerance to: ⁴ | | | | | |
|---|----------------------------|------------------------|---------------|-----------|--------------------|---------------------------------|
| | Powdery Mildew | Mycosphae-rella Blight | Fusarium Wilt | Bleaching | Seed Coat Breakage | Seed Coat Dimpling ⁵ |
| Varieties tested in the 2015 trials (Yield and agronomic data only directly comparable to CDC Limerick) | | | | | | |
| CDC Limerick (kg/ha) | | | | | | |
| CDC Limerick | VG | F | F | G | VG | G |
| AAC Radius | VG | F | F | G | G | G |
| AAC Royce (A) | VG | F | F | G | F | F |
| CDC Greenwater | VG | F | G | G | F | F |
| Fully tested varieties: 2013-2014 (Yield and agronomic data only directly comparable to CDC Patrick) | | | | | | |
| CDC Patrick (kg/ha) | | | | | | |
| CDC Patrick | VG | F | G | G | G | G |
| CDC Pluto | VG | F | F | G | G | G |
| CDC Raezer | VG | F | G | G | G | G |
| CDC Tetris | VG | F | G | G | G | G |
| Fully tested varieties: 2004-2012 (Yield and agronomic data only directly comparable to Cooper) | | | | | | |
| Cooper (kg/ha) | | | | | | |
| Cooper | VG | F | F | G | F | G |
| CDC Sage | VG | F | G | G | VG | G |
| CDC Striker | P | F | G | G | G | F |
| Mendel | VG | F | F | G | F | G |

AAC BARRHEAD

BI: N/A, Dist: AAFC

Mueller, Richard J. & R.R. & Rosemary / Barrhead / AB / (780) 674-2595

AAC CARVER

BI: N/A, Dist: AAFC

Wutrich, David / Cecil Lake / BC / (250) 781-3527

AAC LACOMBE

BI: AAFC, Dist: SeedNet

Benci, Dennis / Carmangay / AB / (403) 643-2294

Chin Ridge Seeds Ltd. / Taber / AB / (403) 223-3900

Kilfiak, Nathan John / Foremost / AB / (403) 867-2338

Logan, Glenn C. & Marie & Douglas / Lomond / AB / (403) 792-3696

Markert Seeds / Vulcan / AB / (403) 485-6708

Mercer Seeds Ltd. / Lethbridge / AB / (403) 327-9736

Stamp Seeds / Enchant / AB / (403) 739-2233

Van Roessel, William & Jean / Bow Island / AB / (403) 545-6018

Welsh, Donald Alan / Milk River / AB / (403) 647-2228

Willms, Henry & Timothy H. / Grassy Lake / AB / (403) 655-2434

Wildouck, Dale / Iron Springs / AB / (403) 738-4395

AAC PEACE RIVER

BI: AAFC, Dist: FP Genetics

Hadland, Edward / Baldonnel / BC / (250) 793-9746

ABARTH

BI: Limagrain, Dist: FP Genetics

Airth, Jack & Linda / Brooks / AB / (403) 362-4372

Dalton, Dennis / Wainwright / AB / (780) 842-2361

Harbin, Clifford T. & Bruce C. / Rivercourse / AB / (780) 745-2268

Massey, Derwin / Stettler / AB / (403) 883-2503

Nannings, Justin / Neerlandia / AB / (780) 674-3622

Sand, Ron W. & David R. / McLaughlin / AB / (780) 745-2251

Sim, Darwin & Derek / Ponoka / AB / (780) 372-2111

CDC AMARILLO

BI: CDC, Dist: University of Saskatchewan

Airth, Jack & Linda / Brooks / AB / (403) 362-4372

Brummelhuis, Tara / Vauxhall / AB / (403) 654-2734

Harbin, Clifford T. & Bruce C. / Rivercourse / AB / (780) 745-2268

Hill, Gordon P. & Blair / Taylor / BC / (250) 789-3469

Hoff, Peter Edward / Gleichen / AB / (403) 734-2140

Hoffmann, Curtis / Oyen / AB / (403) 664-9617

Jacula, Dean S. & Shawn D. / Vermillion / AB / (780) 581-9011

Kapitski, Lawrence / Andrew / AB / (780) 365-2134

Limoges, Richard / McLennan / AB / (780) 324-2335

Pare, Raymond A. / Wainwright / AB / (780) 842-2073

Perwest Seed / Three Hills / AB / (403) 443-2577

Sekulic, Warren / F / Rycroft / AB / (780) 765-2234

Senzak, Don P. & Stephen / Edmonton / AB / (780) 434-1322

Solick, Leonard & Kelsey & Corwin / Halkirk / AB / (403) 884-2358

Tomlinson, Chelsea / Redwater / AB / (780) 777-5885

Van Roessel, William & Jean / Bow Island / AB / (403) 545-6018

Warkentin, Harold K. & Errol / Tofield / AB / (780) 662-2617

Weigum, Garry & Sarah / Three Hills / AB / (403) 443-2476

Willms, Henry & Timothy H. / Grassy Lake / AB / (403) 655-2434

CDC BLAZER

BI: CDC, Dist: N/A

Chin Ridge Seeds Ltd. / Taber / AB / (403) 223-3900

CDC DAKOTA

BI: CDC, Dist: University of Saskatchewan

Chin Ridge Seeds Ltd. / Taber / AB / (403) 223-3900

CDC GOLDEN

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Degenhardt, Keith L. & Terry L. & Kerry / Hughenden / AB / (780) 856-2383

CDC GREENWATER

BI: CDC, Dist: Saskatchewan Pulse Growers Inc.

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Hoff, Peter Edward / Gleichen / AB / (403) 734-2140

Knight, William, Craig & Brian / Tees / AB / (403) 784-3633

Solick, Leonard & Kelsey & Corwin / Halkirk / AB / (403) 884-2358

Thompson, M. Ellwood & Kelly / Red Deer County / AB / (403) 728-3535

Willms, Henry & Timothy H. / Grassy Lake / AB / (403) 655-2434

CDC HORIZON

BI: CDC, Dist: University of Saskatchewan

Foster, Norman R. / Beaverlodge / AB / (780) 354-2107

Hadland, Edward / Baldonnel / BC / (250) 793-9746

Warkentin, Harold K. & Errol / Tofield / AB / (780) 662-2617

CDC HORNET

BI: CDC, Dist: University of Saskatchewan

Solick, Leonard & Kelsey & Corwin / Halkirk / AB / (403) 884-2358

CDC INCA

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Markert Seeds / Vulcan / AB / (403) 485-6708

Van Roessel, William & Jean / Bow Island / AB / (403) 545-6018

Welsh, Donald Alan / Milk River / AB / (403) 647-2228

Willms, Henry & Timothy H. / Grassy Lake / AB / (403) 655-2434

CDC LEROY

BI: CDC, Dist: University of Saskatchewan

Solick, Leonard & Kelsey & Corwin / Halkirk / AB / (403) 884-2358

CDC LIMERICK

BI: CDC, Dist: University of Saskatchewan

Dallas, Bradley C. / Bowden / AB / (403) 224-2162

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Galloway Seeds Ltd. / Fort Saskatchewan / AB / (780) 998-3036

Hallett, Dale R. & Richard / Carstairs / AB / (403) 337-3072

Hegland, David Olaf / Wembley / AB / (780) 766-2450

Herminger, Patrick / Innisfail / AB / (403) 888-2050

Kopjar, Gerald M. / Rowley / AB / (403) 368-2409

Lindholm Seed Farm / New Norway / AB / (780) 352-3240

McDonald, Gerald / Co. Of Grande Prairie #1 / AB / (780) 538-3868

Moore, Dean W. / Red Deer County / AB / (403) 227-2865

Sayer, Roger / Carstairs / AB / (403) 337-5847

Sekulic, John Jr. / Rycroft / AB / (780) 765-2280

Shultz, Shawn / Didsbury / AB / (403) 335-3694

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Warkentin, Harold K. & Errol / Tofield / AB / (780) 662-2617

CDC MEADOW

BI: CDC, Dist: University of Saskatchewan

Bell, D. Leslie / Drumheller / AB / (403) 823-9462

Benci, Dennis / Carmangay / AB / (403) 643-2294

Chin Ridge Seeds Ltd. / Taber / AB / (403) 223-3900

Davidson, E. Daryl & Dean / Kitscoty / AB / (780) 846-2456

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Hadland, Edward / Baldonnel / BC / (250) 793-9746

Hartzer, Leonard / Carstairs / AB / (403) 337-2416

Hoff, Peter Edward / Gleichen / AB / (403) 734-2140

Kapitski, Lawrence / Andrew / AB / (780) 365-2134

Kilfiak, Nathan John / Foremost / AB / (403) 867-2338

King, Harold & Webb, David Gordon / Three Hills / AB / (403) 443-7330

Kittle, James William & Andrew / Viking / AB / (780) 336-2583

Letsud, Kevin J. & Edmund J. / Viking / AB / (780) 336-2500

Limoges, Richard / McLennan / AB / (780) 324-2335

Lindholm Seed Farm / New Norway / AB / (780) 352-3240

Logan, Glenn C. & Marie & Douglas / Lomond / AB / (403) 792-3696

Massey, Derwin / Stettler / AB / (403) 883-2503

Mastin, Robert B. / Sundre / AB / (403) 556-2609

Mueller, Richard J. & R.R. & Rosemary / Barrhead / AB / (780) 674-2595

Nemetz, Charlie & Jennit & Lewis & Brandon / Stettler / AB / (403) 742-0436

Page, Dan / Didsbury / AB / (403) 335-4563

Pare, Raymond A. / Wainwright / AB / (780) 842-2073

Perwest Seed / Three Hills / AB / (403) 443-2577

Radke, Bryan Victor / Barrhead / AB / (780) 674-5715

Rewerts, Ken / Fairview / AB / (780) 835-3474

Richard, Gerald / Spirit River / AB / (780) 864-2339

Richards, Cliff & Dan / Sexsmith / AB / (780) 766-2266

Sand, Ron W. & David R. / McLaughlin / AB / (780) 745-2251

Sich, Louis John & Ivan & Martin / Trochu / AB / (403) 442-2112

Solick, Leonard & Kelsey & Corwin / Halkirk / AB / (403) 884-2358

Tomlinson, Chelsea / Redwater / AB / (780) 777-5885

Warkentin, Harold K. & Errol / Tofield / AB / (780) 662-2617

Weigum, Garry & Sarah / Three Hills / AB / (403) 443-2476

CDC PATRICK

BI: CDC, Dist: University of Saskatchewan

Howard, Fred / Wanham / AB / (780) 694-2427

King, Harold & Webb, David G. / Three Hills / AB / (403) 443-7330

Perwest Seed / Three Hills / AB / (403) 443-2577

Sich, Louis John & Ivan & Martin / Trochu / AB / (403) 442-2112

Warkentin, Harold K. & Errol / Tofield / AB / (780) 662-2617

CDC PLUTO

BI: CDC, Dist: University of Saskatchewan

Chin Ridge Seeds Ltd. / Taber / AB / (403) 223-3900

Stamp Seeds / Enchant / AB / (403) 739-2233

CDC RAEZER**BI: CDC, Dist: University of Saskatchewan**

| | | | |
|---|---|----|---|
| Baier, Bill & Dean / Clyde / AB / (780) 348-5791 | | R | C |
| Dewindt, Harry & Renee / Thorhild / AB / (780) 398-2377 | | | C |
| Hemmlinger, Patrick / Innistail / AB / (403) 888-2050 | | | C |
| Hill, Gordon P & Blair / Taylor / BC / (250) 789-3469 | S | | |
| Kapitski, Lawrence / Andrew / AB / (780) 365-2134 | | | C |
| King, Harold & Webb, David Gordon / Three Hills / AB / (403) 443-7330 | | R* | C |
| Knight, William, Craig & Brian / Tees / AB / (403) 784-3633 | F | | |
| Krywko, Edward W. & Ron / Sturgeon County / AB / (780) 939-2166 | S | | |
| Krywko, Ronald / Sturgeon County / AB / (780) 459-8224 | | | C |
| Letsrud, Kevin J. & Edmund J. / Viking / AB / (780) 336-2500 | F | R | |
| McDonald, Gerald / Co. Of Grande Prairie #1 / AB / (780) 538-3868 | | | C |
| Penwest Seed / Three Hills / AB / (403) 443-2577 | | R | |
| Sand, Ron W. & David R. / McLaughlin / AB / (780) 745-2251 | | | C |
| Sayer, Roger / Carstairs / AB / (403) 337-5847 | | R | |
| Sendziak, Don P & Stephen / Edmonton / AB / (780) 434-1322 | | R | |
| Sim, Darwin & Derek / Ponoka / AB / (780) 372-2111 | F | R | |
| Stickland, Brian & Melvin G. & Irma / Red Deer / AB / (403) 886-4875 | F | | |

CDC SAFFRON**BI: CDC, Dist: University of Saskatchewan**

| | | | |
|---|---|---|-----|
| Amyotte, Phillip / Mallalig / AB / (780) 635-4010 | | | C |
| Benci, Dennis / Carmangay / AB / (403) 643-2294 | | | C |
| Chin Ridge Seeds Ltd. / Taber / AB / (403) 223-3900 | F | | |
| Galloway Seeds Ltd. / Fort Saskatchewan / AB / (780) 998-3036 | | R | |
| Hemmlinger, Patrick / Innistail / AB / (403) 888-2050 | | | C |
| Huvenaars, Carl / Hays / AB / (403) 725-2213 | | | C |
| Kilfiak, Nathan John / Foremost / AB / (403) 867-2338 | F | | C |
| Kopjar, Gerald M. / Rowley / AB / (403) 368-2409 | | F | R C |
| Letsrud, Kevin J. & Edmund J. / Viking / AB / (780) 336-2500 | S | F | R C |
| Markert Seeds / Vulcan / AB / (403) 485-6708 | | F | R C |

| | | | |
|---|---|--|----|
| Mercer Seeds Ltd. / Lethbridge / AB / (403) 327-9736 | S | | C |
| Penwest Seed / Three Hills / AB / (403) 443-2577 | | | C* |
| Shultz, Shawn / Didsbury / AB / (403) 335-3694 | | | C |
| Solick, Leonard & Kelsey & Conwin / Halkirk / AB / (403) 884-2358 | | | C |
| Stamp Seeds / Enchant / AB / (403) 739-2233 | | | C |
| Warkentin, Harold K. & Errol / Tofteld / AB / (780) 662-2617 | F | | |
| Welsh, Donald Alan / Milk River / AB / (403) 647-2228 | | | C |
| Welsh, Stuart Jason / Milk River / AB / (403) 647-2228 | | | C |

CDC STRIKER**BI: CDC, Dist: University of Saskatchewan**

| | | | |
|--|---|---|--|
| Sim, Darwin & Derek / Ponoka / AB / (780) 372-2111 | S | F | |
|--|---|---|--|

CDC TETRIS**BI: CDC, Dist: University of Saskatchewan**

| | | | |
|---|--|---|---|
| Mueller, Richard & R.R. & Rosemary / Barrhead / AB / (780) 674-2595 | | R | |
| Rewerts, Ken / Fairview / AB / (780) 835-3474 | | R | C |
| Richard, Gerald / Spirit River / AB / (780) 864-2339 | | | C |
| Sendziak, Don P & Stephen / Edmonton / AB / (780) 434-1322 | | | C |
| Zwack, Thomas / Daysland / AB / (780) 374-2450 | | | C |

LN4228 @***BI: N/A, Dist: Lindholm Seed Farm**

| | | | |
|---|---|---|--|
| Lindholm Seed Farm / New Norway / AB / (780) 352-3240 | S | F | |
|---|---|---|--|

REDBAT 8**BI: N/A, Dist: N/A**

| | | | |
|--|--|--|---|
| Willms, Henry & Timothy H. / Grassy Lake / AB / (403) 655-2434 | | | R |
|--|--|--|---|

REDBAT 88**BI: N/A, Dist: N/A**

| | | | |
|--|---|---|--|
| Willms, Henry & Timothy H. / Grassy Lake / AB / (403) 655-2434 | S | F | |
|--|---|---|--|

THUNDERBIRD**BI: AAFC (Lacombe), Dist: Canterra Seeds**

| | | | |
|---|--|--|---|
| Jonk, Nicholas / Westlock / AB / (780) 349-5458 | | | R |
|---|--|--|---|

Fababean regional variety trial was hail damaged.

Information provided below by Mark Olson (Alberta Agriculture & Forestry) will help in decision making to grow Fababean.

Faba bean was first introduced onto the prairies in the early 1970s. During early 2000s in Alberta zero tannin faba bean and lupin were investigated as potential new protein crops.

There are two types of faba bean; tannin (8-9%) and low tannin (sometimes referred to zero tannin, 1.0-1.5 % tannin). Tannins are anti-nutritive compounds which affect pal ability and digestion for monogastrics species; hogs, dogs, cats, horses and humans. Currently, 80% of the faba bean grown in Alberta is of the low tannin type.

Faba bean is the highest nitrogen fixing annual grain legume with upwards of 90% of its own nitrogen requirements coming from the air when the roots are inoculated with rhizobia. The crop has very good standability and can be straight cut harvested. The maturity of faba bean dependent on the variety can be 110-130 days.

Perennial weeds need to be controlled in the crop the year beforehand, as spraying broadleaf weeds out of a broadleaf crop can be difficult. Using a pre-harvest glyphosate treatment in the cereal crop (the preferred stubble) is better practice to control weeds. Edge (ethalfluralin) can be applied in the fall before the year of growing the faba bean. Herbicide residues of products applied in previous years need to be checked for registration.

Seeding rate of faba bean needs to be calculated on a seed size basis as there are large differences in

seed size. Seeding rate ranges between 4-5 seeds per square feet. Farmers have to test to see if their seeding system can actually handle the really large beans through the seed drill, as plugging is often cited as a major problem.

Varieties Snowbird, Snowdrop and Tabasco are the main low tannin varieties grown currently. Malik (FB 9-4) is a large tannin variety that is garnering acres as well.

When looking at nutrient requirements, a 50 bushel per acre faba bean crop will remove (lbs/acre); 154-188 of N, 55-67 phosphorous, 47-57 potassium and 6-8 of sulfur. Since the majority of the crop's nitrogen requirement will be met through nitrogen fixation, it the other three macronutrients that farmers want to pay attention to, especially if their soils are at low levels. Phosphorous is the nutrient most often cited in research that pulse crops respond to.

Diseases for faba bean are chocolate spot (botrytis) and ascochyta, although, not many farmers in Alberta have had to spray with the exception of those growing faba bean under irrigation.

Insects for faba bean include; pea leaf weevil, grasshopper, bertha armyworm, blister beetle and lygus bug. Lygus bug has been particularly troublesome as the damage on the seed coat will cause downgrading and often is mistaken for bruchid damage by some importers.

Faba bean have markets both internationally and domestically. Large seeded tannin types are preferred for human consumption in the Middle East (Egypt, United Arab Emirates). Tannin faba bean may be canned whole, used in a food product known as falafel, as well as, incorporated into various sauces. Low tannin can still be

used in these some of these same applications, although are not the preferred type use to smaller seed size. Competitors in the export market are the UK, France and Australia.

Low tannin faba bean, if it does not make human grade (i.e. too high a lygus and bertha armyworm damage), have the advantage that the product can be incorporated into animal rations as a protein source (replacing soybean or field pea) without concerns about tannins. However, tannin faba bean that are off grade can still be used in ruminant (beef, dairy) rations. As well, there is large number of acres of low tannin faba

bean grown in Alberta for use in their own hog operations. Both types of faba bean are higher in protein (28-32% reported on a dry matter basis) and energy than field pea.

Western Canadian acreage in this past year was estimated be (in acres); Alberta 80,000, Saskatchewan 15,000 and Manitoba 5,000.

Reference:

Mark Olson, Unit Head – Pulse Crops, Crop Research and Extension Division (2016), Alberta Agriculture and Rural Development.

FABA BEANS

| Variety | Type | Overall Station Years of Testing | Overall Yield | Relative Maturity ¹ | Plant Height (cm) | Thousand Seed Weight (g) | Flower Colour ² |
|--|-------------|----------------------------------|---------------|--------------------------------|-------------------|--------------------------|----------------------------|
| Varieties tested in the 2013-2015 trials (Yield and agronomic data only directly comparable to Snowbird) | | | | | | | |
| Snowbird (kg/ha) | | | 5982 | | | | |
| Snowbird 🐼 | Zero Tannin | | 100 | E | 91 | 480 | W |
| Malik | Tannin | 23 | 94 | M | 84 | 621 | C |
| Snowdrop 🐼 | Zero Tannin | 23 | 88- | E | 87 | 351 | W |
| Tabasco | Zero Tannin | 15 | 85- | M | 86 | 374 | W |
| Fully Tested Varieties: 2000-2007 (Yield and agronomic data only directly comparable to Earlibird) | | | | | | | |
| Earlibird 🐼 (kg/ha) ¹ | | | 5994 | | | | |
| Earlibird 🐼† | Tannin | | 100 | E | 93 | 522 | C |
| Ben 🐼† | Tannin | 7 | 113+ | E | 101 | 563 | C |

REMARKS: All coloured flower types have seed coats that contain tannins and may be suitable for export food markets if seed size and quality match customer demand. Varieties tested for a minimum three years are considered fully tested. 🐼 - Protected by Plant Breeders' Rights (PBR); R - Registered with CFIA. Varieties removed from the table: FB18-20 and Imposi. † - Flagged for removal. ¹Maturity: E = early, M = medium, ML = medium late, L = late; ²Flower Colour: W = white flower, zero tannin, C = coloured flower, tannin.

FABA BEANS

CDC SNOWDROP

BI: CDC, Dist: University of Saskatchewan

Airth, Jock & Linda / Brooks / AB / (403) 362-4372
 Jackson, Thomas / Killam / AB / (780) 385-2332
 Kittle, James William & Andrew / Viking / AB / (780) 336-2583
 Klempnauer, Joerg / Vauhall / AB / (403) 655-2420
 Kopjar, Gerald M. / Rowley / AB / (403) 368-2409
 Murray, Bruce & Wesley / Lethbridge / AB / (403) 327-9389
 Pare, Raymond A. / Wainwright / AB / (780) 842-2073
 Sim, Darwin & Derek / Ponoka / AB / (780) 372-2111
 Stamp Seeds / Enchant / AB / (403) 739-2233
 Stickland, Brian & Melvin G. & Irma / Red Deer / AB / (403) 886-4875
 Warkentin, Harold K. & Errol / Tofield / AB / (780) 662-2617

CDC SSNS-1

BI: CDC, Dist: N/A

Plett, Donald H. / Gem / AB / (403) 641-2494

FB 9-4

BI: N/A, Dist: N/A

Stamp Seeds / Enchant / AB / (403) 739-2233

SNOWBIRD 🐼

BI: Innoseeds, Dist: Bob Park

Cyre, Clifford & Greg / Barrhead / AB / (780) 349-4775
 Ellis, Brian / Olds / AB / (403) 556-2890
 Foster, Norman R. / Beaverlodge / AB / (780) 354-2107
 Galloway Seeds Ltd. / Fort Saskatchewan / AB / (780) 998-3036
 Gibson, Donald / Sangudo / AB / (780) 785-2214
 Harbin, Clifford T. & Bruce C. / Rivercourse / AB / (780) 745-2268
 Hegland, David Olaf / Wembley / AB / (780) 766-2450
 Jackson, Thomas / Killam / AB / (780) 385-2332
 Lindholm Seed Farm / New Norway / AB / (780) 352-3240
 Markert Seeds / Vulcan / AB / (403) 485-6708
 Solick, Leonard & Kelsey & Corwin / Halkirk / AB / (403) 884-2358
 Stamp Seeds / Enchant / AB / (403) 739-2233
 Tomlinson, Chelsea / Redwater / AB / (780) 777-5885
 Weigum, Garry & Sarah / Three Hills / AB / (403) 443-2476
 Zwack, Thomas / Daysland / AB / (780) 374-2450

TABASCO 🐼

BI: Norddeutsche Pflanzenzucht, Dist: DL Seeds

Warkentin, Harold K. & Errol / Tofield / AB / (780) 662-2617

SOYBEANS

Eight soybean varieties were tested. Five were conventional soybean and three were round-up ready. None of soybean varieties were found suitable for this region (around Flagstaff County) mainly due to late start of flowering and low temperature. The soybean trial was also damaged by hail. The plan is to retest a soybean variety (OT 11 – 01 C) during 2016 due to its relatively better growth and maturity than other 7 varieties tested. Among the tested varieties, OAC-prudent had maximum height, but did not produce mature grains.



OILSEED VARIETY TRIALS

2015

Materials and Methods:

Location: Coordinates - 52°19'09.5"N 112°38'46.4"W near Stettler, Alberta.
Legal Location – SE3-39-19-W4

Experimental Design: Canola trials 4 replications and Flax has 3 replications,
28x4.5 foot plots as Randomized Complete Block Design

Previous Year (2014): Herbicide – Velocity, Crop – Wheat

Production practices:

Canola Herbicides: Glyphosate and Liberty (glufosinate ammonium 150 g/L),
MUSTER Toss-N-Go (Ethametsulfuron-methyl 75%) were applied at 4-5 leaf
stage of Canola. Muster was applied at conventional and clear-field canola.

Flax Herbicides: Curtail M + Assure-II applied when flax was >5cm tall. Curtail
M (clopyralid 50 g a.e./L (present as acid) + MCPA 280 g a.e./L (present as
2-ethylhexyl ester). Assure-II (Quizalofop-p-ethyl 96 g/L).

Reglone (Diquat ion - 240 g per litre) was applied near maturity as desiccant
for both Canola and Flax. Seeded on May 28, 2015 with minimum till seeder
six row seeder at 9 inch row spacing and 1.5-2 inch deep. Phosphorus was
applied as mono-ammonium phosphate with seed @ 22lbs P2O5/acre as
MAP. Nitrogen was side banded.

Rain: 256 mm between April to September 2015. Long term average is 314
mm (For weather details, see page 59).

Soil: Black soil zone. Clay content about 17 % and pH 5.5.

| Soil Test Characteristics | | | | | | | | | | |
|---------------------------|------------|--------------------|----------------------|------------|--------------------------------|-----------------------------|--------|--------|--------|-----------|
| Depth (inches) | pH (1S:2W) | E.C. (1S:2W) mS/cm | E.C. Calc Sat. Extr. | Salinity | Organic matter (Walkley Black) | Organic Matter (Combustion) | Clay % | Sand % | Silt % | Texture |
| 0-6 | 5.5 | 0.1 | 0.2 | Non Saline | 6.7% | 6.2% | 17.8 | 38.1 | 48.7 | Silt Loam |
| 6-24 | 6. | 0.9 | 2.0 | Non Saline | | | | | | |

| Soil Test Micro-nutrient Levels (lbs/acre) | | | | | | | | | | |
|--|--------------------|--------------------|----|-----|--------------------|-----|------|-----|-----|-----|
| Depth Inches | NH ₄ -N | NO ₃ -N | P | K | SO ₄ -S | Cu | Mn | Zn | B | Fe |
| 0-6 | 6 | 24 | 42 | 466 | 32 | 2.0 | 75.8 | 6.7 | 2.7 | 256 |
| 6-24 | | 53 | | | 1960 | | | | | |

CLUBROOT RESISTANT & CONVENTIONAL CANOLA VARIETY TRIAL - STETTLE

| Club Root Resistant & Conventional Canola Variety Trial - Stettler (SE3-39-19-W4) | | | | |
|--|-------------|-------------|---------|-----|
| Variety Name | Yield | | | |
| | (bushel/ac) | % of Check | Signif. | SE* |
| 45H33 (CLUBROOT REST) (RR) | 61 | 102 | a | ±4 |
| CS1990 (RR) | 60 | 100 | a | ±4 |
| CS2000 (CLUBROOT REST) (RR) | 59 | 98 | a | ±1 |
| BY6060 (RR) | 59 | 98 | a | ±4 |
| 45H31 (RR) | 58 | 96 | b | ±3 |
| CS2200 CL | 50 | 83 | b | ±2 |
| 5440 (LIBERTY LINK) | 48 | 79 | b | ±1 |
| 29-NI | 45 | 74 | b | ±3 |
| 72-POI-CL | 43 | 72 | b | ±2 |
| | | % mean diff | | |
| LSD P=.05 | 7.6 | 15 | | |
| Standard Deviation | 5.2 | | | |
| CV | 9.92 | | | |
| Minimum Replicates (Power =80) | 2 | | | |
| Largest Mean Difference | 17.8 | 34 | | |

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

*SE – Standard Error, RR-Roundup Ready, CL- Clearfield

See appendix 8 at the end for treatment and replicate F values.

Results and Interpretation:

At Stettler (2015), canola varieties were 45H33, CS1990, CS2000, BY6060, and 45H31 significantly higher than CS2200, 5440, 29-NI and 72-POICL. Weed (mainly wild oats and cleavers) control was poor in conventional canola and Clearfield varieties which may have made effected their yield negatively.

Standard error shows how good your estimate of the treatment mean is. Varieties with similar and lower standard error (SE) values are compared with more accuracy relative to the one's with higher standard error.

CANOLA PERFORMANCE TRIAL - HOLDEN

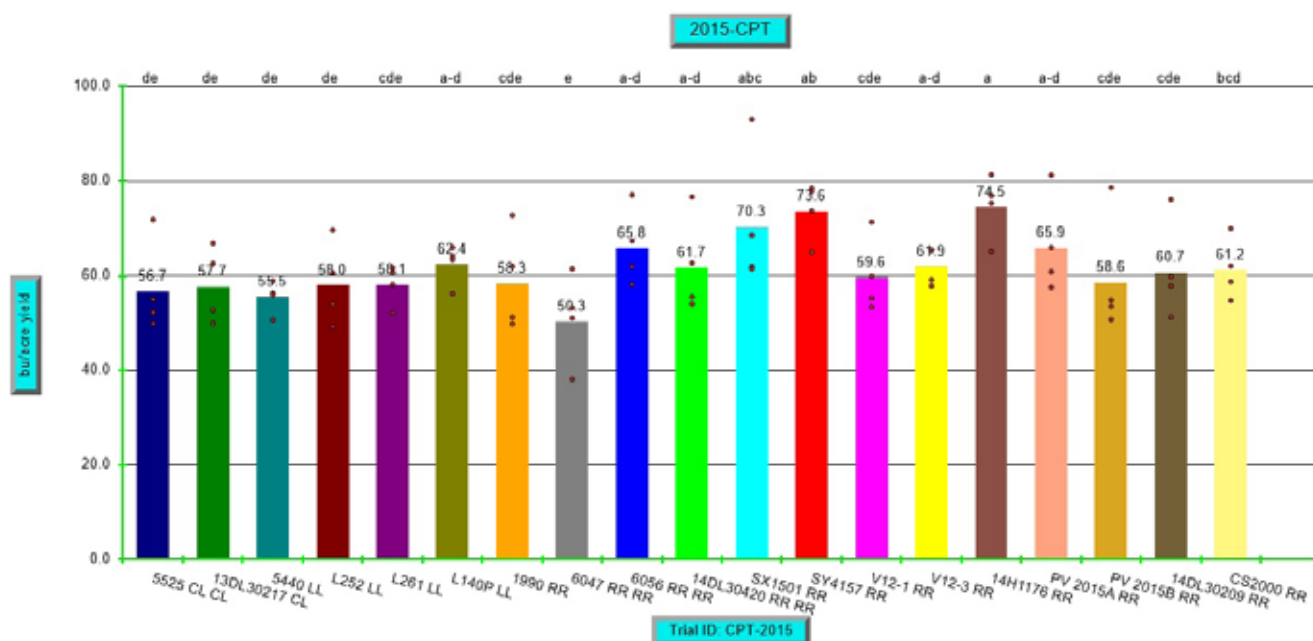
| Canola Performance Variety Trial – (SE28-50-15-W4) | | | | |
|--|------------------|-------------|--------------------|---------------|
| Variety Name | Yield | | | Distributor |
| | Mean (bushel/ac) | % of CS1990 | Median (bushel/ac) | |
| 14H1176 RR | 74.5 | 128 | 76.2 | BrettYoung |
| SY4157 RR | 73.6 | 126 | 75.8 | Syngenta |
| SX1501 RR | 70.3 | 120 | 65.3 | Syngenta |
| PV 2015A RR | 65.9 | 113 | 63.5 | CPS |
| 6056 RR | 65.8 | 113 | 64.7 | BrettYoung |
| L140P | 62.4 | 107 | 63.8 | Bayer |
| V12-3 RR | 61.9 | 106 | 62.3 | Cargill |
| 14DL30420 RR | 61.7 | 106 | 59.2 | BrettYoung |
| CS2000 RR | 61.2 | 15 | 60.5 | Canterra |
| 14DL30209 RR | 60.7 | 104 | 58.9 | DL Seeds |
| V12-1 RR | 59.6 | 102 | 57.7 | Cargill |
| PV 2015B RR | 58.6 | 100 | 54.3 | CPS |
| CS1990 RR | 58.3 | 100 | 56.7 | Canterra |
| L261 | 58.1 | 100 | 59.5 | Bayer |
| L252 | 58.0 | 99 | 57.4 | Bayer |
| 13DL30217 CL | 57.7 | 99 | 57.7 | Canterra |
| 5525 CL | 56.7 | 97 | 53.7 | Growers Group |
| 5440 LL | 55.5 | 95 | 56.3 | Bayers |
| 6074 RR | 50.3 | 86 | 52.2 | BrettYoung |

| | | % mean diff |
|-------------------------------|-------------|-------------|
| LSD P=.005 | 10.68-10.01 | 5 |
| Standard Deviation | 0.06t | |
| CV | 3.23t | |
| Minimum Replicates (power=80) | 3 | |
| Largest Mean Difference | 0.17t | 9 |

L or LL – liberty link, RR – roundup ready, CL – Clearfield

t=Mean descriptions are reported in transformed data units ((X+1) Log transformation).

Replicate and treatment probabilities are in appendix – 10.



Results and Interpretation:

The top seven varieties in the above table yielded higher with no significant yield difference from the top yielding variety (14H1176). Canola variety trial yield data is presented as median along with mean due to high variability within treatments. Median is considered as better indicator of average when there is high yield variability among different plots within same variety. Higher variability in Canola yield during 2015 may be due to uneven germination caused by a cool and dry spring season and then late season growth of lambs-quarter weed in empty spaces.

*2015 Canola Performance Trial at Forestburg site was canceled

For western Canadian Results for the Canola Performance Trial and to be able to search specific parameters visit <http://www.canolaperformancetrials.ca>

| Flax Variety Trial – Stettler (Legal Location – SE 3-39-19-W4) | | | |
|--|-------------|-------------|------|
| Variety Name | Yield | | |
| | (bushel/ac) | % of check | SE* |
| CDC BETHUNE | 41.6 | 100 | ±2.0 |
| FP2457 | 41.3 | 99 | ±1.5 |
| WESTLIN 72 | 40.6 | 98 | ±2.7 |
| VT50 | 40.2 | 97 | ±1.1 |
| FP2454 | 40.2 | 97 | ±2.1 |
| FP2388 | 39.8 | 96 | ±2.2 |
| FP2385 | 39.1 | 94 | ±0.4 |
| CDC NEELA | 38.3 | 92 | ±1.1 |
| WESTLIN 71 | 38.1 | 92 | ±3.4 |
| FP2316 | 40.1 | 96 | ±5.6 |
| PRAIRIE GRANDE | 34.8 | 84 | ±4.2 |
| | | % mean diff | |
| LSD P=0.05 | 6.17 | 16 | |
| Standard Deviation | 3.52 | | |
| CV | 8.8 | | |
| MinimumReplicates (power=80) | 2 | | |
| Largest Mean Difference | 6.77 | 17 | |

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

*SE – Standard Error (See Page 15)

See appendix 9 at the end for treatment and replicate F values.

Results and Interpretation:

The yield difference among flax varieties was statistically not significant when LSD was calculated with the probability of 5% chances of error. However, CDC Neela and VT50 in the above table have a 5% yield difference and same standard error (±1.1), which indicates significant yield difference between these two varieties.

Standard error shows how good your estimate of the treatment mean is. Varieties with similar and lower standard error (SE) values are compared with more accuracy relative to the one's with higher standard error.

FLAX

| Variety | Overall Station Years of Testing | Yield Category (% CDC Bethune) | | | | | Agronomic Characteristics | | | | | | | | Quality | | |
|---|----------------------------------|--------------------------------|------------------|----------------------|--------------------|----------------------|---------------------------|-------------|-----------|-------------|-------------------------|---------------|----------------|-----------------|-----------------|--------------|--|
| | | Overall Yield | Low < 20 (bu/ac) | Medium 20-35 (bu/ac) | High 35-50 (bu/ac) | V. High > 50 (bu/ac) | Mat. Rating | Seed Colour | Seed Size | Height (cm) | Disease Tolerance | | | Oil Content (%) | ALA Content (%) | Iodine Value | |
| | | | | | | | | | | | Resis- tance to Lodging | Fusarium Wilt | Powdery Mildew | | | | |
| | | | | | | | | | | | | | | | | | |
| Varieties tested in the 2015 trials (Yield, significant differences and agronomic data only directly comparable to CDC Bethune) | | | | | | | | | | | | | | | | | |
| CDC Bethune (bu/ac) | | 34 | 14 | 29 | 44 | 58 | | | | | | | | | | | |
| CDC Bethune 🌱 | | 100 | 100 | 100 | 100 | 100 | L | brown | M | 57 | G | MR | MR | 45.6 | 54.7 | 189 | |
| CDC Neela 🌱 | 17 | 112+ | XX | 120+ | 101 | XX | L | brown | M | 54 | G | MR | MR | 45.5 | 59.1 | 194 | |
| CDC Plava 🌱 | 17 | 106 | XX | 117 | 95 | XX | M | brown | M | 52 | G | MR | XX | 46.5 | 57.2 | 196 | |
| Prairie Grande 🌱 | 69 | 99 | 101 | 103 | 92- | 99 | M | brown | M | 53 | G | MR | MR | 45.6 | 57.5 | 193 | |
| VT 50 🌱 | 17 | 103 | XX | 104 | 101 | XX | VL | yellow | M | 49 | VG | MR | XX | 47.1 | 67.6 | 209 | |
| WestLin 71 🌱 | 25 | 95- | 101 | 94 | 91- | XX | L | brown | M | 56 | G | MR | MS | 47.5 | 61.2 | 198 | |
| Previously tested varieties (Yield, significant differences and agronomic data only directly comparable to CDC Bethune) | | | | | | | | | | | | | | | | | |
| AAC Bravo 🌱 | 23 | 104 | XX | XX | 103 | 104+ | L | brown | L | 64 | G | MR | MR | 44.6 | 60.2 | 194 | |
| CDC Glas 🌱 | 23 | 106+ | XX | XX | 106 | XX | L | brown | M | 61 | G | MR | MR | 45.8 | 56.6 | 192 | |
| CDC Sanctuary 🌱 | 28 | 105+ | XX | 100 | 100 | 108+ | VL | brown | M | 64 | G | MR | MR | 45.6 | 57.2 | 191 | |
| CDC Sorrel 🌱 | 32 | 104 | 112 | 104 | 100 | 99 | L | brown | L | 61 | F | MR | MR | 45.1 | 57.8 | 193 | |
| Hanley 🌱 | 37 | 97- | 99 | 97 | 95 | 97 | M | brown | M | 53 | VG | R | MR | 44.7 | 58.6 | 198 | |
| Prairie Sapphire 🌱 | 23 | 96 | XX | XX | 97 | 101 | L | brown | M | 64 | G | MR | MR | 48.1 | 57.2 | 193 | |
| Prairie Thunder 🌱 | 40 | 99 | 101 | 98 | 99 | 99 | L | brown | M | 55 | G | R | MR | 45.3 | 57.9 | 195 | |
| Taurus 🌱 | 27 | 98- | 103 | 97 | XX | XX | L | brown | M | 53 | VG | MR | R | 45.6 | 53.9 | 187 | |

REMARKS: For explanations on data summarization methods, abbreviations and other pertinent information, please see the comments at the beginning of this publication. The long term average maturity for CDC Bethune in Alberta is 110 days and rated as Late (L). All varieties are immune to flax rust. New registrations: CDC Plava (FP2385) and WestLin 72 (FP2376). Insufficient data to describe: WestLin 72.

FLAX

| | S | F | R | C |
|--|---|---|---|---|
| AAC BRAVO 🌱 | | | | |
| BI: AAFC (Lacombe), Dist: FP Genetics | | | | |
| Chin Ridge Seeds Ltd. / Taber / AB / (403) 223-3900 | | | R | |
| Dalton, Dennis / Wainwright / AB / (780) 842-2361 | | | | C |
| King, Harold & Webb, David Gordon / Three Hills / AB / (403) 443-7330 | | | R | |
| Logan, Glenn C. & Marie & Douglas / Lomond / AB / (403) 792-3696 | S | F | | |
| Sim, Darwin & Derek / Ponoka / AB / (780) 372-2111 | | | C | |
| HANLEY 🌱 | | | | |
| BI: AAFC (Morden), Dist: SeCan Members | | | | |
| Letsrud, Kevin J. & Edmund J. / Viking / AB / (780) 336-2500 | | | R | |
| PRAIRIE SAPPHIRE 🌱 | | | | |
| BI: AAFC (Morden), Dist: Alliance Seed | | | | |
| Feenstra, Lloyd / Barons / AB / (403) 757-3737 | | | R | |
| Stamp Seeds / Enchant / AB / (403) 739-2233 | | | R | |
| TAURUS 🌱 | | | | |
| BI: N/A, Dist: FP Genetics | | | | |
| Logan, Glenn C. & Marie & Douglas / Lomond / AB / (403) 792-3696 | | | R | |
| WESTLIN 70 | | | | |
| BI: N/A, Dist: CPS (Canada) Inc. | | | | |
| Mercer, Lloyd C. & Ryan & Bolstad, L. / Lethbridge / AB / (403) 327-9736 | | | R | C |

FLAX - RECONSTITUTED

| | S | F | R | C |
|---|---|---|---|---|
| CDC GLAS 🌱 | | | | |
| BI: CDC, Dist: SeCan Members | | | | |
| Cailliau, John / Enchant / AB / (403) 739-3785 | | | | C |
| Corns, Bryan & Gary / Grassy Lake / AB / (403) 655-2464 | | | | C |
| Dovichak, Michael / Brooks / AB / (403) 501-5420 | | | | C |
| Dyck, Heinz W. & Colin & Alan & Kelton / Rosemary / AB / (403) 378-3321 | | | | C |
| Fabian, Patrick V. / Tilley / AB / (403) 377-2000 | | | | C |
| Hoff, Peter Edward / Gleichen / AB / (403) 734-2140 | | S | F | C |
| Hoffmann, Curtis / Oyen / AB / (403) 664-9617 | | | | C |
| Huvenaars, Carl / Hays / AB / (403) 725-2213 | | | | C |
| Huvenaars, John & Lisa / Hays / AB / (403) 725-2126 | | | | C |
| Jackson, Thomas / Killam / AB / (780) 385-2332 | | | | R |
| Stamp Seeds / Enchant / AB / (403) 739-2233 | | | | C |
| Weigum, Garry & Sarah / Three Hills / AB / (403) 443-2476 | | | | R |
| Willms, Henry & Timothy H. / Grassy Lake / AB / (403) 655-2434 | | | | C |
| CDC SANCTUARY 🌱 | | | | |
| BI: CDC, Dist: SeCan Members | | | | |
| Benci, Dennis / Carmangay / AB / (403) 643-2294 | | | R | |
| Huvenaars, Carl / Hays / AB / (403) 725-2213 | | | | C |
| CDC SORREL 🌱 | | | | |
| BI: CDC, Dist: SeCan Members | | | | |
| Bright, David / New Norway / AB / (780) 855-2240 | | | | R |
| Degenhardt, Keith L. & Terry L. & Kerry / Hughenden / AB / (780) 856-2383 | | | | R |
| King, Harold & Webb, David Gordon / Three Hills / AB / (403) 443-7330 | | | | C |
| Sendziak, Don P. & Stephen / Edmonton / AB / (780) 434-1322 | | | | C |
| Zwack, Thomas / Daysland / AB / (780) 374-2450 | | | | R |



SILAGE-ANNUAL FEED VARIETY TRIAL

2015

Annual forages make up a large component of the yearly feed supply for many cattle producers in the form of silage, green feed and swath grazing. Selection of varieties which produce the highest forage yield and/or nutritional quality becomes increasingly important. Silage is an integral forage source in feedlots across the province and has become more prevalent in cow herds as well. With many producers trying to lower production costs, swath grazing of cow herds has increased dramatically in the last few years.



This is the seventh year the regional silage trials have been conducted by groups across Alberta. The objective of the trials was to determine yield and nutritional values of the various crops and cereal/pulse combinations. The tables below show a summary of data from 2012 through 2015 as compared to the control variety (in bold). Yield of the test varieties are expressed as wet tons/acre (ie. 65 per cent moisture, typical of silage production). Data sets which did not meet minimum quality standards (variance levels) were excluded.

Varieties of barley, oats, triticale and peas commonly used for silage, green feed and swath grazing were included in the trial, as well as new varieties showing good potential for these uses. The cereal trials, (barley, oats and triticale), were seeded at recommended seeding density rates and recommended fertility.

Materials and Methods:

Location: Coordinates - 52°19'09.5"N 112°38'46.4"W near Stettler, Alberta. Legal Location – SE 3-39-19-W4 and Coordinates - N 52.246820°, W - 111.551799°, east of Castor, Alberta.
Legal Location - SW8-38-11-W4 , Area 3.

Experimental Design: Barley, Oats, Triticale-Wheat trials are 4 replications, 28×4.5 foot plots as Randomized Complete Bock Design

Previous Year (2014): Herbicide - Glyphosate, Crop – Canola

Castor:
Rain: April to September: 308 mm (2015). Historic average is 309 mm. Source: Alliance ACIS weather station (For weather details, see page 58).
Soil: Dark Brown soil zone. Analysis below based on two composite samples. Soil Organic matter was between 4.5-4.8%, Clay content 10.5 – 13.6% and pH 5.4

Stettler:
Rain: 256 mm between April to September 2015. Long term average is 314 mm (For weather details, see page 59).
Soil: Black soil zone. Clay content about 17 % and pH 5.5.

OATS

| OATS | | | | | | | | | | | | | | | | |
|---|---------------|----------------------------------|-------------|------|-----|-----|-----|---------------------------|--------------------------|--------------------|------------------|---------|--------|-------|-------|--------|
| Variety | Overall Yield | Overall Station Years of Testing | Area (t/ac) | | | | | Yield Category (% Murphy) | | | Nutritional Data | | | | | |
| | | | 2 | 3 | 4 | 5 | 6 | Low < 7.0 (t/ac) | Medium 7.1 - 10.0 (t/ac) | High > 10.1 (t/ac) | CP (%) | TDN (%) | Ca (%) | P (%) | K (%) | Mg (%) |
| Varieties tested in the 2015 trials (Yield, significant differences and agronomic data only directly comparable to CDC Baler) | | | | | | | | | | | | | | | | |
| CDC BALER (t/ ac) | 9.9 | | 7.9 | 10.7 | 7.8 | 11 | 6.4 | 5.6 | 9.1 | 12.6 | 9.2 | 61.8 | 0.3 | 0.2 | 1.8 | 0.2 |
| CDC BALER | 100 | 27 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 |
| AC Morgan | 101 | 26 | 101 | 100 | 90 | 98 | 129 | 114 | 95- | 101 | 99 | 102 | 100 | 114 | 98 | 96 |
| AC Mustang | 100 | 27 | 101 | 97 | 95 | 102 | 105 | 98 | 100 | 101 | 104 | 99 | 98 | 106 | 102 | 100 |
| CDC Haymaker | 99 | 22 | 110 | 96 | 98 | 97 | 100 | 108+ | 94 | 100 | 98 | 100 | 99 | 103 | 105 | 99 |

| OATS | | | | | | | | | | | | | | | | |
|---|---------------|----------------------------------|-------------|------------|------------|-------------|------------|---------------------------|--------------------------|--------------------|------------------|-------------|------------|------------|------------|------------|
| Variety | Overall Yield | Overall Station Years of Testing | Area (t/ac) | | | | | Yield Category (% Murphy) | | | Nutritional Data | | | | | |
| | | | 2 | 3 | 4 | 5 | 6 | Low < 7.0 (t/ac) | Medium 7.1 - 10.0 (t/ac) | High > 10.1 (t/ac) | CP (%) | TDN (%) | Ca (%) | P (%) | K (%) | Mg (%) |
| CDC SO-I | 95- | 27 | 84- | 102 | 82- | 95 | 103 | 96 | 96 | 94- | 105 | 103 | 97 | 108 | 97 | 105 |
| Previously tested varieties: 2012 - 2014 (Yield, significant differences and agronomic data only directly comparable to MURPHY) | | | | | | | | | | | | | | | | |
| MURPHY (t/ac) | 95 | | 8.7 | 9.2 | 6 | 11.2 | 5.4 | 5.9 | 9.1 | 12.2 | 8.5 | 58.9 | 0.3 | 0.2 | 1.8 | 0.2 |
| MURPHY | 100 | 22 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 |
| AC Juniper | 95 | 18 | 99 | 97 | XX | 86- | 125 | 112 | 83 | 96 | 123 | 107 | 100 | 118 | 101 | 108 |
| Everleaf | 89 | 5 | XX | 98 | 106 | 67- | XX | 104 | 68 | 67 | 118 | 103 | 112 | 110 | 98 | 102 |
| Foothills | 97 | 22 | 99 | 95 | 101 | 96 | 97 | 95 | 94 | 100 | 122 | 103 | 106 | 110 | 100 | 101 |
| Jordan | 97 | 21 | 103 | 92 | 88 | 97 | 112 | 96 | 100 | 96 | 120 | 105 | 100 | 107 | 97 | 114 |
| Waldern | 100 | 21 | 100 | 104 | 94 | 100 | 104 | 98 | 105 | 98 | 112 | 105 | 109 | 106 | 94 | 97 |

BARLEY

| BARLEY | | | | | | | | | | | | | | | | |
|--|---------------|----------------------------------|-------------|------|-----|------|-----|--------------------------|--------------------------|--------------------|------------------|---------|--------|-------|-------|--------|
| Variety | Overall Yield | Overall Station Years of Testing | Area (t/ac) | | | | | Yield Category (% Vivar) | | | Nutritional Data | | | | | |
| | | | 2 | 3 | 4 | 5 | 6 | Low < 8.0 (t/ac) | Medium 8.1 - 12.0 (t/ac) | High > 12.1 (t/ac) | CP (%) | TDN (%) | Ca (%) | P (%) | K (%) | Mg (%) |
| Varieties tested in the 2015 trials (Yield and agronomic data only directly comparable to CDC AUSTENSON) | | | | | | | | | | | | | | | | |
| CDC AUSTENSON (t/ac) | 10.5 | | 7.2 | 12.1 | 9.7 | 12 | 6.7 | 6.6 | 9.6 | 12.5 | 10.3 | 68.2 | 0.3 | 0.2 | 1.3 | 0.2 |
| CDC AUSTENSON | 100 | 27 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 |
| Amisk | 90- | 15 | 102 | 92- | 97 | 88- | 79 | 87 | 93 | 91- | 105 | 99 | 132 | 104 | 106 | 111 |
| CDC Maverick | 103 | 21 | 108 | 96 | 101 | 104 | 105 | 111 | 101 | 101 | 97 | 98 | 130 | 104 | 98 | 120 |
| CDC Meredith | 106 | 8 | 127 | 106 | 99 | 101 | XX | 127 | XX | 102 | 95 | 95 | 102 | 92 | 99 | 97 |
| Canmore | 103 | 8 | 111 | 99 | 98 | 104 | XX | 111 | XX | 102 | 95 | 97 | 127 | 95 | 93 | 106 |
| Champion | 105 | 8 | 116 | 97 | 109 | 105 | XX | 116 | XX | 104 | 99 | 97 | 113 | 94 | 105 | 105 |
| Tr12733 | 106 | 8 | 125 | 102 | 105 | 103 | XX | 125 | XX | 103 | 93 | 93 | 124 | 88 | 103 | 101 |
| Tr13740 | 104 | 8 | 109 | 92 | 112 | 106 | XX | 109 | XX | 103 | 99 | 94 | 114 | 92 | 108 | 96 |
| Varieties tested in the 2012 - 2014 trials (Yield and agronomic data only directly comparable to VIVAR) | | | | | | | | | | | | | | | | |
| VIVAR (t/ac) | 8.9 | | 8.5 | 10.2 | 5.9 | 10.3 | 6.3 | 6.1 | 9.5 | 10.8 | 10.5 | 66.2 | 0.4 | 0.2 | 1.3 | 0.2 |
| VIVAR (t/ac) | 100 | 19 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 |

| BARLEY | | | | | | | | | | | | | | | | |
|---------------|---------------|----------------------------------|-------------|-----|-----|------|------|--------------------------|--------------------------|--------------------|------------------|---------|--------|-------|-------|--------|
| Variety | Overall Yield | Overall Station Years of Testing | Area (t/ac) | | | | | Yield Category (% Vivar) | | | Nutritional Data | | | | | |
| | | | 2 | 3 | 4 | 5 | 6 | Low < 8.0 (t/ac) | Medium 8.1 - 12.0 (t/ac) | High > 12.1 (t/ac) | CP (%) | TDN (%) | Ca (%) | P (%) | K (%) | Mg (%) |
| Busby | 101 | 19 | 96 | 100 | 91 | 105+ | 96 | 96 | 97 | 105 | 98 | 100 | 93 | 103 | 97 | 86 |
| CDC Coalition | 99 | 19 | 97 | 95 | 115 | 94 | 108 | 104 | 90 | 97 | 100 | 100 | 78 | 109 | 103 | 84 |
| CDC Cowboy | 111+ | 19 | 106 | 106 | 134 | 112+ | 109+ | 115+ | 111 | 109 | 94 | 98 | 92 | 111 | 111 | 98 |
| Chigwell | 98 | 19 | 84 | 97 | 112 | 94- | 106 | 103 | 84 | 98 | 99 | 100 | 108 | 103 | 102 | 96 |
| Conlon | 92- | 13 | 72 | 92 | XX | 88- | 103 | 96 | 76 | 94 | 91 | 99 | 89 | 109 | 95 | 84 |
| Gadsby | 110+ | 19 | 115 | 110 | 122 | 107 | 112 | 116+ | 110 | 107 | 95 | 100 | 94 | 103 | 97 | 88 |
| Muskwa | 95 | 13 | 106 | 90 | XX | 91- | 101 | 97 | 93 | 95 | 99 | 100 | 111 | 107 | 116 | 101 |
| Ponoka | 105 | 19 | 95 | 103 | 129 | 105 | 104 | 108 | 96 | 104 | 95 | 99 | 108 | 105 | 101 | 96 |
| Ranger | 100 | 13 | 114 | 99 | 92 | 99 | 98 | 98 | 100 | 101 | 96 | 98 | 108 | 106 | 113 | 102 |
| Seebe | 105 | 19 | 100 | 106 | 118 | 104 | 103 | 107 | 98 | 104 | 101 | 97 | 97 | 111 | 110 | 85 |
| Sundre | 97 | 19 | 99 | 95 | 106 | 95 | 102 | 95 | 95 | 99 | 100 | 99 | 100 | 108 | 112 | 97 |
| Trochu | 96 | 18 | XX | 93 | 94 | 99 | 93 | 92 | 88 | 99 | 98 | 101 | 103 | 111 | 107 | 100 |
| Xena | 103 | 19 | 92 | 104 | 108 | 100 | 108 | 107+ | 92 | 102 | 99 | 100 | 83 | 108 | 98 | 88 |

TRITICALE - WHEAT

| TRITICALE - WHEAT | | | | | | | | | | | | | | | | |
|---|---------------|----------------------------------|-------------|------|-----|------|-----|------------------------------|--------------------------|--------------------|------------------|---------|--------|-------|-------|--------|
| Variety | Overall Yield | Overall Station Years of Testing | Area (t/ac) | | | | | Yield Category (% Pronghorn) | | | Nutritional Data | | | | | |
| | | | 2 | 3 | 4 | 5 | 6 | Low < 8.0 (t/ac) | Medium 8.1 - 12.0 (t/ac) | High > 12.1 (t/ac) | CP (%) | TDN (%) | Ca (%) | P (%) | K (%) | Mg (%) |
| Varieties tested in the 2015 trials (Yield and agronomic data only directly comparable to TAZA) | | | | | | | | | | | | | | | | |
| TAZA (t/ac) | 10.6 | | 9.7 | 12.3 | 8.5 | 10.7 | 8.9 | 6.4 | 10.8 | 14.2 | 8.9 | 62.7 | 0.2 | 0.2 | 1.3 | 0.1 |
| TAZA | 100 | 30 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 |
| AAC Chiffon | 111 | 8 | 124 | 123 | 118 | 92 | 126 | 105 | 113 | 114 | 97 | 101 | 88 | 97 | 106 | 108 |
| AAC Innova | 104 | 8 | 121 | 119 | 123 | 83 | 102 | 95 | 107 | 107 | 108 | 100 | 87 | 106 | 109 | 107 |
| AAC Ryley | 97 | 8 | 108 | 104 | 87 | 87 | 110 | 86 | 100 | 101 | 103 | 100 | 95 | 106 | 89 | 117 |
| Pasteur | 94 | 8 | 110 | 96 | 97 | 84 | 103 | 91 | 99 | 91 | 107 | 103 | 96 | 99 | 107 | 117 |
| Sadash | 102 | 8 | 111 | 102 | 109 | 91 | 121 | 101 | 108 | 97 | 99 | 99 | 88 | 91 | 110 | 105 |
| Sunray | 98 | 23 | 93 | 100 | 101 | 99 | 96 | 95 | 100 | 96 | 104 | 104 | 106 | 100 | 105 | 104 |

| TRITICALE - WHEAT | | | | | | | | | | | | | | | | |
|---|---------------|----------------------------------|-------------|-------------|------------|-------------|------------|------------------------------|--------------------------|--------------------|------------------|-------------|------------|------------|------------|------------|
| Variety | Overall Yield | Overall Station Years of Testing | Area (t/ac) | | | | | Yield Category (% Pronghorn) | | | Nutritional Data | | | | | |
| | | | 2 | 3 | 4 | 5 | 6 | Low < 8.0 (t/ac) | Medium 8.1 - 12.0 (t/ac) | High > 12.1 (t/ac) | CP (%) | TDN (%) | Ca (%) | P (%) | K (%) | Mg (%) |
| Tyndal | 98 | 29 | 97 | 105 | 109 | 95- | 96 | 101 | 98 | 98 | 103 | 101 | 102 | 103 | 98 | 105 |
| Varieties tested in the 2012 - 2014 trials (Yield and agronomic data only directly comparable to PRONGHORN) | | | | | | | | | | | | | | | | |
| PRONGHORN (t/ac) | 10.4 | | 11.9 | 11.5 | 5.2 | 10.5 | 8.2 | 6.6 | 10.7 | 14.5 | 9.3 | 62.4 | 0.2 | 0.2 | 1.5 | 0.1 |
| PRONGHORN (t/ac) | 100 | 21 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 |
| Bunker | 98 | 21 | 89 | 92 | 101 | 102 | 98 | 98 | 99 | 94 | 103 | 98 | 116 | 98 | 93 | 110 |

PULSE MIXTURE

| PULSE MIXTURES | | | | | | | | | | | | | | | | |
|--|---------------|----------------------------------|-------------|-----|-----|-----|-----|--------------------------|--------------------------|--------------------|------------------|---------|--------|-------|-------|--------|
| Variety | Overall Yield | Overall Station Years of Testing | Area (t/ac) | | | | | Yield Category (% Vivar) | | | Nutritional Data | | | | | |
| | | | 2 | 3 | 4 | 5 | 6 | Low < 8.0 (t/ac) | Medium 8.1 - 10.0 (t/ac) | High > 10.1 (t/ac) | CP (%) | TDN (%) | Ca (%) | P (%) | K (%) | Mg (%) |
| Varieties tested in the 2015 trials (Yield and agronomic data only directly comparable to CDC AUSTENSON) | | | | | | | | | | | | | | | | |
| CDC AUSTENSON (t/ac) | 7.3 | | 5.3 | XX | XX | 9.3 | XX | 5.3 | 9.3 | XX | 10.2 | 64.5 | 0.4 | 0.2 | 1.3 | 0.2 |
| CDC AUSTENSON | 100 | 2 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 |
| CDC Baler | 108+ | 2 | 111 | XX | XX | 106 | XX | 111 | 106 | XX | 89 | 95 | 104 | 90 | 122 | 97 |
| Taza | 105 | 2 | 110 | XX | XX | 100 | XX | 110 | 100 | XX | 85 | 95 | 82 | 88 | 103 | 89 |
| CDC Austenson/ CDC Horizon | 101 | 2 | 109 | XX | XX | 93 | XX | 109 | 93 | XX | 110 | 96 | 165 | 107 | 127 | 131 |
| CDC Austenson/ CDC Meadow | 97 | 2 | 105 | XX | XX | 89 | XX | 105 | 89 | XX | 106 | 98 | 138 | 94 | 125 | 122 |
| CDC Baler/ CDC Horizon | 100 | 2 | 111 | XX | XX | 89 | XX | 111 | 89 | XX | 92 | 93 | 146 | 96 | 136 | 111 |
| CDC Baler/ CDC Meadow | 99 | 2 | 105 | XX | XX | 93 | XX | 105 | 93 | XX | 101 | 96 | 141 | 99 | 138 | 113 |
| Taza/CDC Horizon | 96 | 2 | 96 | XX | XX | 97 | XX | 96 | 97 | XX | 112 | 95 | 170 | 99 | 130 | 128 |
| Taza/CDC Meadow | 92 | 2 | 99 | XX | XX | 85 | XX | 99 | 85 | XX | 92 | 94 | 165 | 96 | 109 | 121 |

| PULSE MIXTURES | | | | | | | | | | | | | | | | |
|---|---------------|----------------------------------|-------------|------|------|------|-----|--------------------------|--------------------------|--------------------|------------------|---------|--------|-------|-------|--------|
| Variety | Overall Yield | Overall Station Years of Testing | Area (t/ac) | | | | | Yield Category (% Vivar) | | | Nutritional Data | | | | | |
| | | | 2 | 3 | 4 | 5 | 6 | Low < 8.0 (t/ac) | Medium 8.1 - 10.0 (t/ac) | High > 10.1 (t/ac) | CP (%) | TDN (%) | Ca (%) | P (%) | K (%) | Mg (%) |
| Varieties tested in the 2012 - 2014 trials (Yield and agronomic data only directly comparable to VIVAR) | | | | | | | | | | | | | | | | |
| VIVAR (t/ac) | 8.6 | | 7.9 | 11.2 | 4.4 | 9 | 8 | 5.8 | 9.7 | 10.3 | 9.4 | 63.5 | 0.5 | 0.2 | 1.2 | 0.2 |
| VIVAR (t/ac) | 100 | 19 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 |
| Murphy | 119+ | 18 | 102 | 106 | 158 | 123+ | 100 | 129 | 108 | 125+ | 88 | 94 | 77 | 99 | 129 | 88 |
| Pronghorn | 111 | 19 | 98 | 96 | 109 | 116 | 114 | 106 | 105 | 122 | 96 | 101 | 63 | 105 | 103 | 75 |
| 40-10 /Murphy | 105 | 12 | XX | 90 | 132 | 102 | 92 | 122 | 86 | 113 | 142 | 98 | 161 | 129 | 117 | 141 |
| 40-10 / Pronghorn | 104 | 12 | XX | 97 | 112 | 105 | 93 | 110 | 88 | 122 | 125 | 98 | 150 | 115 | 103 | 134 |
| 40-10 /Vivar | 97 | 12 | XX | 68 | 108 | 92 | 121 | 114 | 84 | 97 | 140 | 98 | 170 | 107 | 108 | 141 |
| CDC Horizon/ Murphy | 112 | 19 | 82 | 106 | 144 | 113 | 102 | 121 | 97 | 120+ | 114 | 94 | 130 | 100 | 124 | 114 |
| CDC Horizon/ Pronghorn | 111 | 19 | 85 | 98 | 133+ | 111 | 117 | 120 | 101 | 112 | 125 | 98 | 143 | 105 | 105 | 106 |
| CDC Horizon/ Vivar | 98 | 19 | 94 | 99 | 112 | 96 | 94 | 103 | 87- | 105 | 128 | 97 | 162 | 101 | 107 | 116 |
| CDC Meadow/ Murphy | 105 | 7 | 74 | 105 | XX | 117+ | 103 | 96 | 94 | 119+ | 104 | 95 | 116 | 101 | 123 | 95 |
| CDC Meadow/ Pronghorn | 101 | 7 | 81 | 91 | XX | 109 | 118 | 107 | 95 | 101 | 122 | 99 | 124 | 113 | 105 | 95 |
| CDC Meadow/ Vivar | 99 | 7 | 92 | 94 | XX | 104 | 98 | 101 | 98 | 98 | 115 | 100 | 187 | 89 | 98 | 119 |

* Note - BRRG did not grow the Pulse Mixture in 2015, we have in previous years. Pulse Mixture data provided for reference for those of interested. The pulse mixture do have the ability to provide a high nutrient forage. In our past experience timing of harvest can be an issue, because with the mixture you are also dealing with staging of the cereal. In the trials the plots are harvest at the correct time for the cereal in the mixture.

ECO SHELTERBELT DEMO

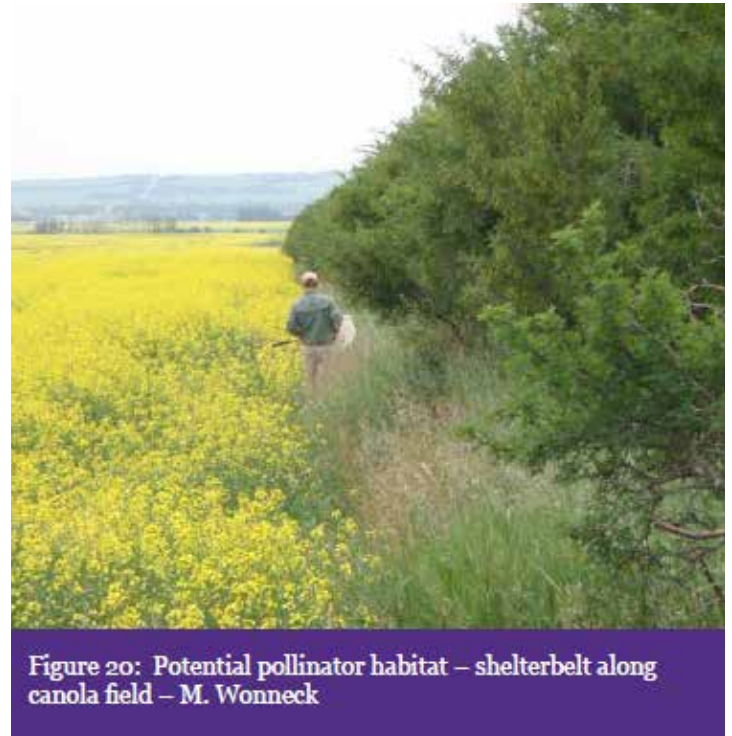
In the winter of 2014, we applied for and received funding from the Alberta Conservation Association to go towards the establishment of a demonstration Eco-Buffer Shelterbelt at the Flagstaff County, Sedgewick site to the south of the Forage Demonstration site. This type of shelterbelt considers the idea of the importance of pollinators, native and introduced, to the health and sustainability of the ecosystem. In addition to tree establishment, it incorporates mainly native flowering plants and shrubs as part of the shelterbelt to provide habitat for pollinators and other wildlife.

“Canada ranks first and second in the world in terms of canola and blueberry production, respectively. Both of these crops are dependent on insect pollinators, especially hybrid canola seed production.”¹ An additional benefit of this type of shelterbelt would be of interest to crop producers, especially canola, because it has been shown that canola yields are higher in areas adjacent to established shelterbelts that are home to pollinators. So, in theory, if a canola field had islands of shelterbelts inside a large field, the overall yield of canola may be increased.

The spring and early summer of 2015 was very dry and the trees that we planted had a low survival rate. We made a decision in late June to postpone the ordering and planting of the native flowers and shrubs portion of the shelterbelt because of the dry weather. In 2016, we plan to plant more trees, as well as the required native flowers and shrubs.

Thanks to the Alberta Conservation Association for

funding, and to Flagstaff County for the provision of the site, help with tree provision, and the tree planter in 2015. We look forward to continuing on with this project with you in 2016.

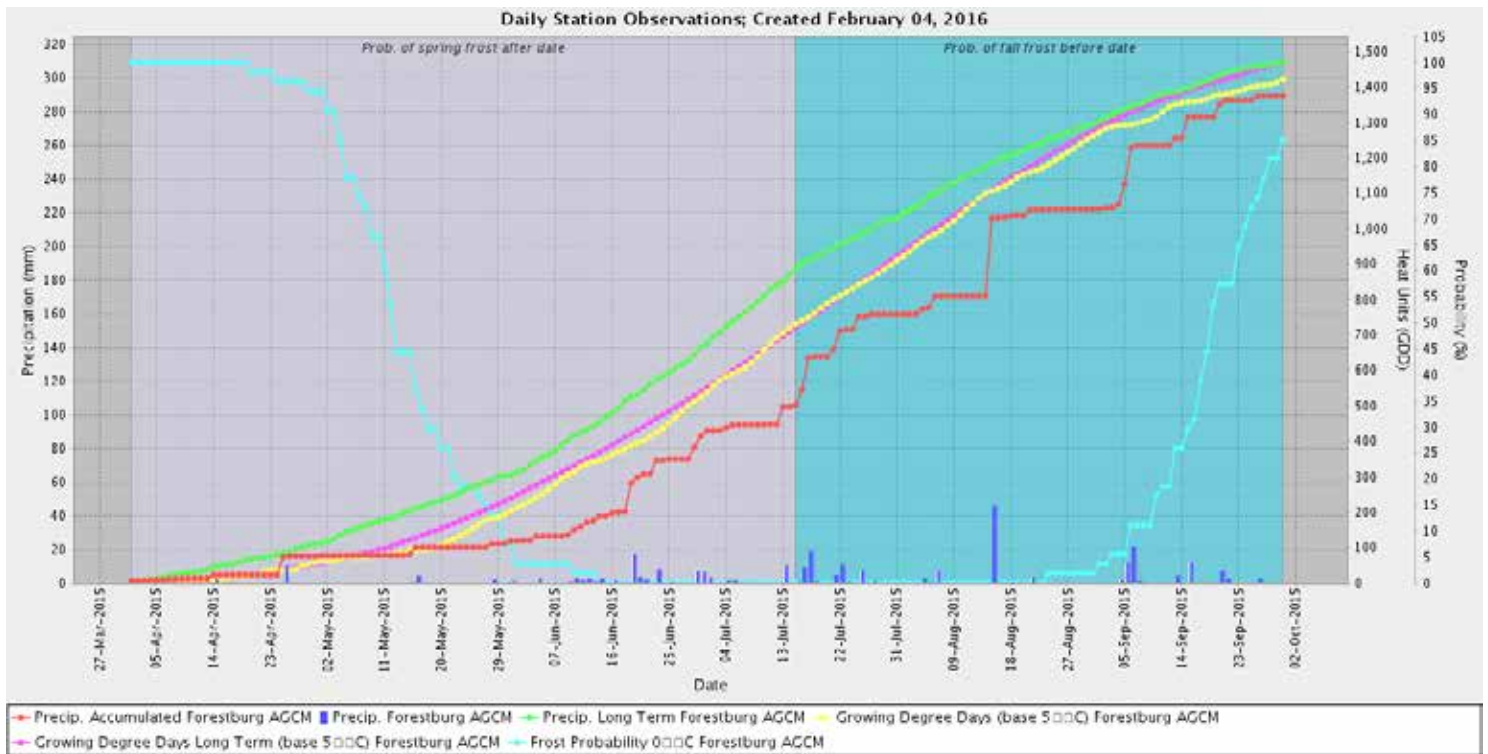


2

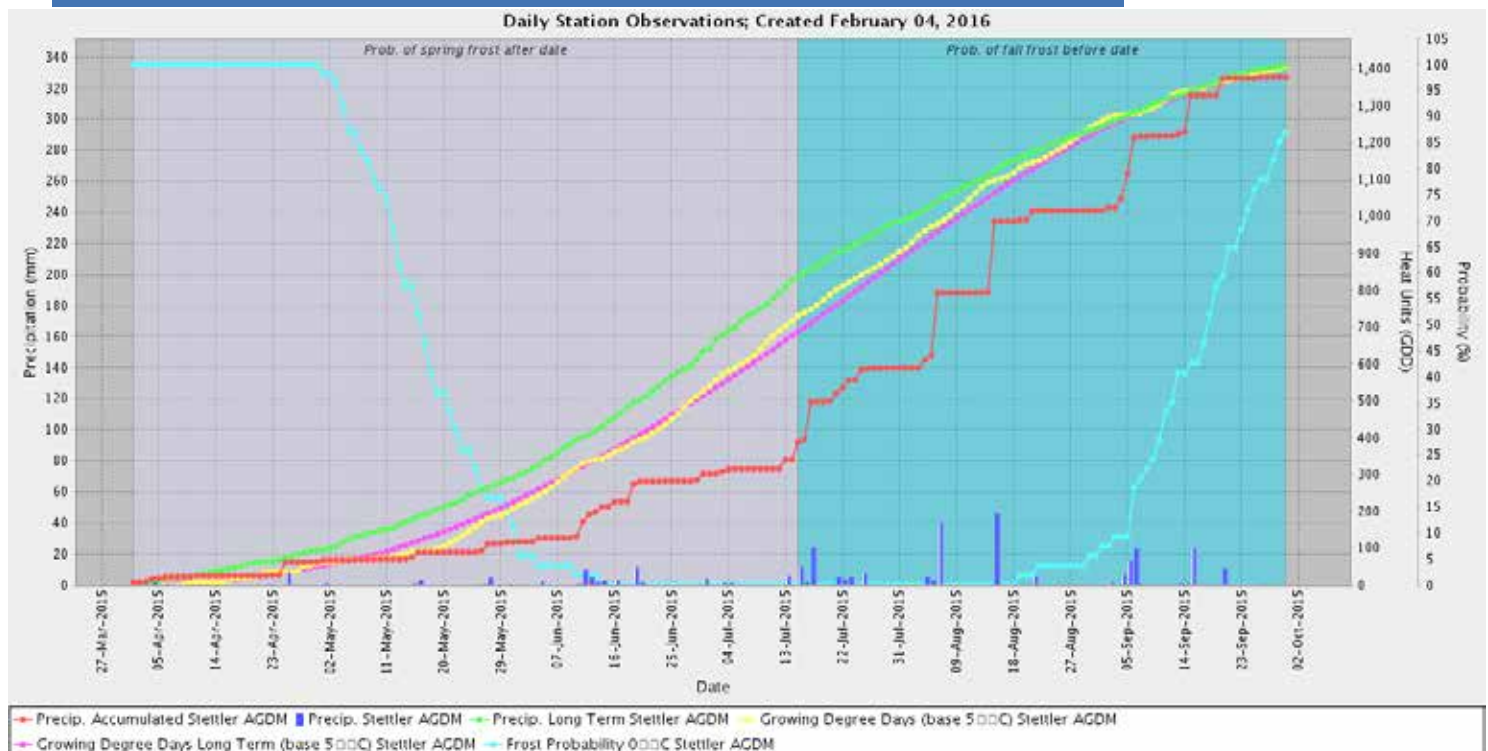
1, 2 Native Pollinators and Agriculture in Canada, Wonneck, Mark. Ministry of Agriculture and Agri-Food Canada, 2014



Forestburg weather data

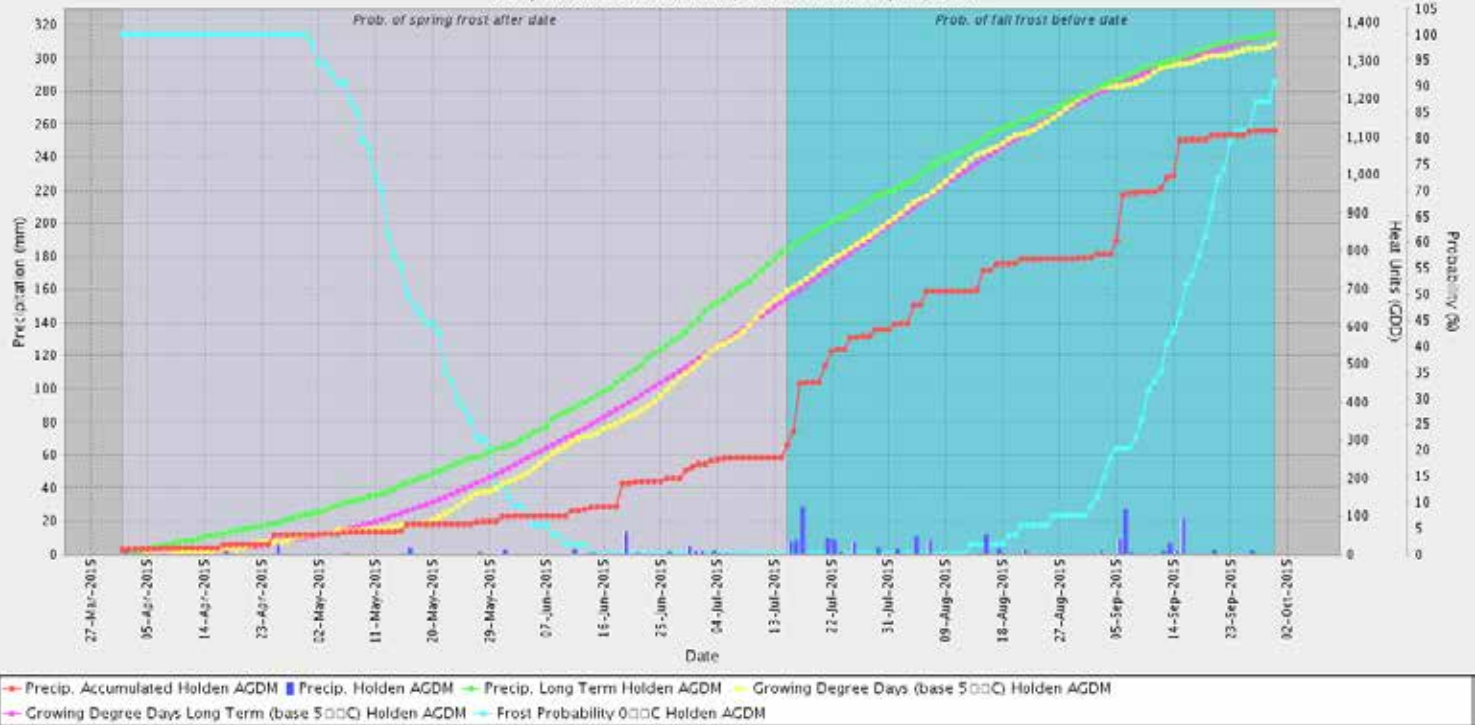


Stettler weather data



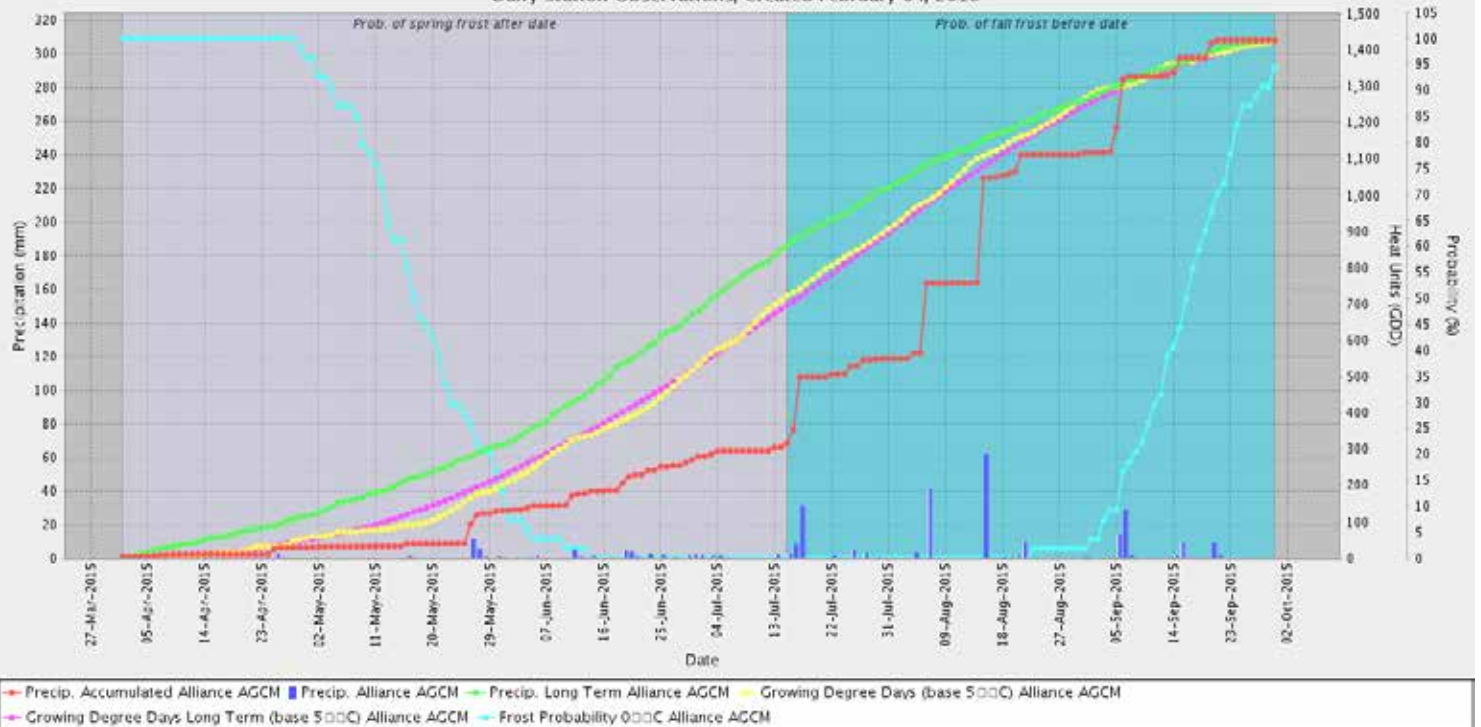
Holden weather data

Daily Station Observations; Created February 04, 2016



Alliance weather data

Daily Station Observations; Created February 04, 2016



INSECT SURVEY REPORT 2015

BERTHA ARMYWORM

Populations are normally kept in check by such factors as weather and natural enemies. Potential damage may be more or less severe than suggested by the moth count data depending on weather and crop conditions and localized population dynamics. Field scouting is critical for pest management decisions.

These numbers are generated from paired pheromone traps in individual fields. Except in the Peace where only 1 trap is used to reduce impact on native pollinators.

| Bertha Armyworm | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|-----------------|--|--|--|--|-------------------------------------|----|-------------------------------------|----|-------------------------------------|---|-------------------------------------|---|-------------------------------------|----|-------------------------------------|----|-------------------------------------|----|-------------------------------------|----|-------------------------------------|---------|-------------------------------------|-----|-------------------------------------|--|-------------------------------------|--|-------------------------------------|--|-------------------------------------|--|-------------|--|--------------|--|
| LLD | | | | | 14-Jun-2015 thru 20-Jun-2015 trap 1 | | 14-Jun-2015 thru 20-Jun-2015 trap 2 | | 21-Jun-2015 thru 27-Jun-2015 trap 1 | | 21-Jun-2015 thru 27-Jun-2015 trap 2 | | 28-Jun-2015 thru 04-Jul-2015 trap 1 | | 28-Jun-2015 thru 04-Jul-2015 trap 2 | | 05-Jul-2015 thru 11-Jul-2015 trap 1 | | 05-Jul-2015 thru 11-Jul-2015 trap 2 | | 12-Jul-2015 thru 18-Jul-2015 trap 1 | | 12-Jul-2015 thru 18-Jul-2015 trap 2 | | 19-Jul-2015 thru 25-Jul-2015 trap 1 | | 19-Jul-2015 thru 25-Jul-2015 trap 2 | | 26-Jul-2015 thru 01-Aug-2015 trap 1 | | 26-Jul-2015 thru 01-Aug-2015 trap 2 | | Trap totals | | Trap average | |
| | | | | | NE | 19 | 38 | 11 | W4 | 0 | 0 | 0 | 0 | 7 | 8 | 6 | 13 | 30 | 12 | 10 | 3 | invalid | invalid | 89 | 44.5 | | | | | | | | | | | |
| | | | | | SE | 27 | 42 | 15 | W4 | 0 | 0 | 0 | 0 | 1 | 1 | 3 | 4 | 1 | 4 | 1 | 2 | 2 | 6 | 25 | 12.5 | | | | | | | | | | | |
| | | | | | SE | 28 | 50 | 15 | W4 | 0 | 0 | 6 | 6 | 41 | 27 | 25 | 23 | 38 | 42 | 13 | 14 | invalid | invalid | 235 | 117.5 | | | | | | | | | | | |
| | | | | | SE | 3 | 39 | 19 | W4 | 1 | 1 | 6 | 4 | 25 | 28 | 32 | 25 | 21 | 11 | 13 | 7 | 15 | 8 | 243 | 121.5 | | | | | | | | | | | |

DIAMONDBACK MOTH (DBM)

Diamondback moth adults may overwinter in the prairies, but most infestations occur when adult moths arrive on wind currents in the spring from the southern or western United States or northern Mexico.

To assess the population, a network of 35 monitoring sites has been established across Alberta. This network is meant to act as part of an early warning system for diamondback moth and should be used in conjunction with crop scouting.

| Diamondback moth (DBM) | | | | | | | | | | | | | | | | | | |
|------------------------|---|----|----|---|-------------------------------------|-------------------------------------|-------------------------------------|-------------------------------------|-------------------------------------|-------------------------------------|-------------------------------------|-------------------------------------|-------------------------------------|-------------------------------------|-------------------------------------|-------------------------------------|-------------|--------------|
| LLD | | | | | 26-Apr-2015 thru 02-May-2015 trap 1 | 26-Apr-2015 thru 02-May-2015 trap 2 | 03-May-2015 thru 09-May-2015 trap 1 | 03-May-2015 thru 09-May-2015 trap 2 | 10-May-2015 thru 16-May-2015 trap 1 | 10-May-2015 thru 16-May-2015 trap 2 | 17-May-2015 thru 23-May-2015 trap 1 | 17-May-2015 thru 23-May-2015 trap 2 | 24-May-2015 thru 30-May-2015 trap 1 | 24-May-2015 thru 30-May-2015 trap 2 | 31-May-2015 thru 06-Jun-2015 trap 1 | 31-May-2015 thru 06-Jun-2015 trap 2 | Trap totals | Trap average |
| sw | 8 | 38 | 11 | 4 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0.5 |



| Appendix - 1 Hard Red Spring 2015 (Grain Yield) | |
|--|--------|
| Replicate F | 4.676 |
| Replicate Prob (F) | 0.0157 |
| Treatment F | 5.589 |
| Treatment Prob(F) | 0.0001 |

| Appendix – 2 Durum wheat | | |
|-----------------------------|-------------|--------|
| Variety - 2015 | Grain Yield | Height |
| Replicate F | 15.517 | 2.166 |
| Replicate Prob(F) | 0.0009 | 0.1654 |
| Treatment F | 5.783 | 3.261 |
| Treatment Prob(F) | 0.0092 | 0.0527 |

| Appendix - 3 General Purpose & Soft White Spring wheat variety trial – 2015 | | |
|---|--------|--------|
| | Yield | Height |
| Replicate F | 1.429 | 1.266 |
| Replicate Prob(F) | 0.2723 | 0.3124 |
| Treatment F | 9.581 | 26.941 |
| Treatment Prob(F) | 0.0002 | 0.0001 |

| Appendix - 4 Oats Variety Trial – 2015 | |
|---|-------------|
| | Grain Yield |
| Replicate F | 1.295 |
| Replicate Prob(F) | 0.3097 |
| Treatment F | 4.824 |
| Treatment Prob(F) | 0.0100 |

Appendix - 5 Yellow Peas

| | Yield | TKW (000) | Height |
|-------------------|--------|-----------|--------|
| Replicate F | 5.171 | 0.188 | 6.522 |
| Replicate Prob(F) | 0.0160 | 0.9026 | 0.0073 |
| Treatment F | 9.623 | 14.222 | 14.485 |
| Treatment Prob(F) | 0.0010 | 0.0002 | 0.0002 |

Appendix - 6 Green Pea Variety trial- 2015

| | Yield | TKW | Height |
|-------------------|--------|---------|--------|
| Replicate F | 2.479 | 13.070 | 2.222 |
| Replicate Prob(F) | 0.1275 | 0.0012 | 0.1550 |
| Treatment F | 3.680 | 198.312 | 5.869 |
| Treatment Prob(F) | 0.0560 | 0.0001 | 0.0167 |

Appendix # 7 CPS Wheat Variety Trial 2015

| | Yield | Height |
|--------------------|--------|--------|
| Replicate F | 2.245 | 3.827 |
| Replicate Prob (F) | 0.1485 | 0.0518 |
| Treatment F | 7.170 | 12.086 |
| Treatment Prob (F) | 0.0020 | 0.0002 |

Appendix # 8 Club-Root Resistant and Conventional Canola variety trial- 2015 (Stettler)

| | Seed Yield |
|-------------------|------------|
| Replicate F | 2.464 |
| Replicate Prob(F) | 0.0880 |
| Treatment F | 7.620 |
| Treatment Prob(F) | 0.0001 |

Appendix # 9 Flax Variety Trial – 2015

| | Yield |
|-------------------|--------|
| Replicate F | 1.817 |
| Replicate Prob(F) | 0.1988 |
| Treatment F | 0.382 |
| Treatment Prob(F) | 0.8977 |

Appendix - 10

Canola Performance Trial – 2015 (Holden)

| | | | |
|-------------------|--|--------|--|
| Replicate F | | 2.130 | |
| Replicate Prob(F) | | 0.1072 | |
| Treatment F | | 2.067 | |
| Treatment Prob(F) | | 0.0208 | |

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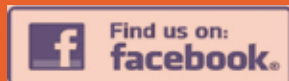


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