2014 Report from ARECA

2014 saw rapid and dynamic change at ARECA. A new Board structure was implemented which was needed, and will help propel ARECA forward in the coming years.

The funding from AOF has doubled from 1.5 million to 3 million dollars. We are extremely pleased with this substantial and much needed increase in funding. This is a great opportunity for our member associations to grow, and bring wages and benefits up to industry standards. This will help to attract and retain excellent staff which is the key to our member associations' successes, that ultimately leads to a more profitable and sustainable agriculture industry.

There were many changes at ARECA in 2014. We have a new office in Leduc; we also have a lot of new staff members. Janette McDonald has joined us as our new Executive Director, Colleen Hensel as our new Executive Assistant, and Ileana Berezanki served as our intern Communications Manager. Early in 2015, Paul Watson joined Ashley Steeple to complete our Environmental Farm Plan team. Paul will serve as Director and lead our Environmental Farm Plan. The new ARECA staff along with the Board of Directors and member association managers and their staff have really pulled together to create one harmonious and energetic team.

We would like to thank our partners at the provincial government for seeing the need, and believing that ARECA and our member associations are the best way to deliver applied research and extension to Alberta farmers.

We would like to take this opportunity to thank all the staff and Directors, and Chairmen, for their dedication and service. It has taken a lot of energy and commitment from everyone involved with ARECA over the years to get us to the present.

We believe that ARECA's great success and challenges lay ahead. All the changes and team building that have occurred in 2014 will help drive ARECA and our member associations' success in the future.

ARECA Chairman

Bill Gaugler

ARECA Executive Director

Janette McDonald

GRO Chairman's Report

Keith Taylor

This year I have had the support of an active board of directors who have stepped up to the plate and helped in many ways. We have seen improvements through upgrades at our heifer pasture and are looking forward to further changes there. We had some struggles with the test plots this year but we were still able to complete some of them and can look forward to reflecting on the data they garnish. As we go into the new year. I hope for even greater success as we work with the extra funding that has been secured and another new employee.

I will be stepping down and would like to express my appreciation to the directors, employees and members for all that they do and have done. May we see great things in 2015 at GRO, and on each one of our farms.

GRO Manager's Report

Michelle Holden

It has certainly been a busy year for us at GRO. We welcomed our new extension specialist in April, and she has been instrumental in the growth of our program. We have hosted numerous events at our heifer pasture and in our plots, as well as sat on planning committees for several larger provincial events. I am sitting on the board of ARECA (our umbrella group) and have gained much useful knowledge and experience. We have begun restructuring GRO and our Board of Directors, and are looking forward to the many changes that will take place in the coming months. We appreciate the support of our directors, members, Counties, commodity groups, ARECA, the provincial government, our local suppliers and funding and donations that we receive from several others. Without all of you, we would not have a program. We would love to hear from you all with ideas for future programming, extension events & speakers, or field trials. Feel free to stop by our office, located in the Westlock County building, and have a coffee and a visit.

Here's to a prosperous new year!

Gateway Research Organization

Our History

Gateway Research Organization was formed from consolidation with the Pembina Forage Association in 1994. The Pembina Forage Association was started in 1975 by local producers interested in pasture management and forage & livestock research. While maintaining its interest in forage & livestock issues, the new organization became more involved in applied research and demonstrations in crops and environmental sustainability.

Our Vision

Gateway Research Organization will be a renowned and respected agriculture research and extension organization that is the preferred source of unbiased farm production information.

Our Mission

Gateway Research Organization provides cost-effective applied agricultural research, demonstration, and extension for producers in order to facilitate greater returns to farms by providing economically and scientifically sound information that enables our clients to make informed decisions.

The Goals of our Organization

1. To increase the profitability of our members.
2. To encourage active participation by local producers.
3. To provide a valuable resource for information transfer and extension to producers.
4. To produce high quality, unbiased, and scientifically sound research.
5. To produce research based on local growing conditions and soil properties.
6. To collaborate with specialists from the agricultural industry, government, and educational institutions.

Thank You To All Of Our Contributors and Supporters

Agriculture Opportunity Fund

Alberta Barley

Flatlander Agri Services Ltd

2014 Extension Activities

GRO Hosted and Co Hosted Events			
February	GRO AGM	18	
July 8	Jim Gerrish/Curt Pate Pasture Walk	45	Dapp, AB
August 6	GRO Field Tour	28	Dapp & Clyde, AB
October 28	Gabe Brown	8	Legal, AB
November 26	David Irvine	8	Westlock, AB
February 11	Managing Information for Profitable Cow/calf Production		Vermillion, AB

Events GRO Attended and Participated In		
May 29	West Central Forage Association with Curt Pate	Tomahawk, AB
June 10	The Original Women's Grazing School	Lamont, AB
June 26	Forage Tour	Lashburn, SK
July 4	ARD Crop Walk	Westlock, AB
July 14	ARECA Forage & Livestock Training	Leduc & Kinsella, AB
July 14, 15	ARECA Crop and Planning Team Training	Leduc & Lacombe, AB
July 22	GROWTH Agronomics Field Tour	Linaria & Barrhead, AB
July 23	Westlock ASB Tour	Westlock, AB
July 29-31	AARD Sainfoin Tour	Lethbridge, AB
August 12 & 14	Livestock Gentec Annual Conference	Edmonton, AB
September 25	Summit Up	Olds, AB
November 3	WCFA BIXs & BCS School	Tomahawk, AB
November 12	Pulse & Wheat Commission Meeting	Westlock, AB
December 9-11	Western Canadian Grazing Conference	Edmonton, AB

Weather Data for 2014

Table 1. Precipitation (mm)

Month	Dapp
May	40 mm
June	55 mm
July	110 mm
August	53 mm
September	22 mm
October	12 mm
TOTAL	**292 mm (11.5 inches)**

Table 2. Average Temperature (°C)

Month	Neerlandia	Dapp
May	10	8.5
June	14.5	13
July	18.5	17
August	16	16
September	12	11.5
October	3	5

2014 Heifer Pasture Summary

Heifer Pasture SE-23-61-26 W4

Manager: Christine Buchanan, GRO Extension Specialist

Stocking Rate: 82 heifers & 3 bulls (7 contributors)

112 total grazing days

Entry Date: June 16, 2014 (Average heifer weight 919lbs)

Exit Date: October 6, 2014 (Average heifer weight 1098lbs, ADG 1.5lbs/day)

Objectives:

To demonstrate a rotational grazing system and its effect on carrying capacity.
Provide a site for further research and producer learning activities.

History & Field Design

The pasture was established in 1979 and was originally used for steers. In 1988 the first heifers were put into the pasture, and the pasture has remained ever since. The 160 acre pasture is split into 16 paddocks; approximately 10 acres each. There is a central watering/ loafing area as well as a handling facility. The perimeter is fenced with 4 double strand barbed wire, and cross fencing is done with 2 single strand barbed wire that is powered with a solar electric fencer. (Our solar panel was graciously provided to us by Solare Distributors in Stony Plain). Each paddock is rotationally grazed to allow alternate periods of grazing and rest. If managed properly, these rest periods allow the grass a chance to replenish nutrients after defoliation and therefore increase grass production. In a continuous grazing situation some forage resources are continually stressed (no rest); while others may be underutilized as the animals will repeatedly graze the most palatable species. In this situation the preferred species will begin to decline and less palatable species or weeds will begin to dominate the pasture.

Water

In September 2002, the dugout and Dutch Industries windmill water system was replaced with a free flowing well delivering a rate of approximately 2 gal/min (cut back from 4 gal/min). A 580 gallon poly trough was installed with an over-flow pipe to prevent over filling, and spillage into the watering area. In 2014 flow rate was assessed again, it took approximately 2mins and 54.6 seconds to fill a 20 liter pail which transfer to a flow rate of 1.5 gal/min.

Herd Health

All heifers were weighed and inspected for overall health and soundness on entry day in June. The heifers were weighed again on exit day in October. CyLence® pour-on insecticide was applied at entry during weigh in for on pasture fly control. Six heifers showing signs of hoof rot were treated on June 27th, and an additional 14 heifers showing signs of hoof rot were treated July 16th. All livestock were fed granular Panacur as per products indications to treat for internal parasites. A pasture blend of loose mineral was fed as per product indications in each paddock.

Breeding

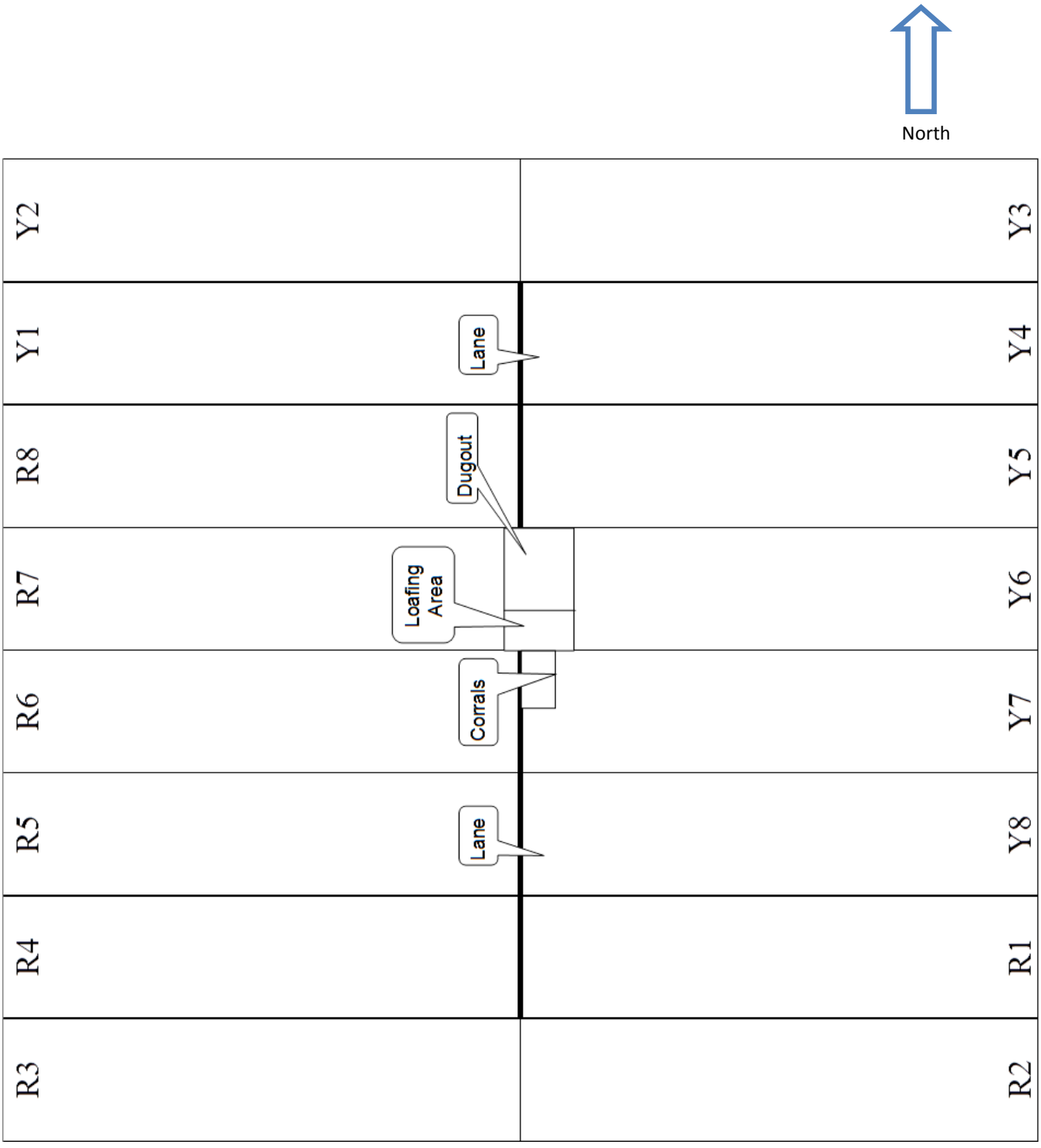
Three red angus bulls , two owned by Maurice Kruk and one held by GRO were used in the pasture, and entered the heifer pasture at the same time as the heifers (June 16). Bulls remained in the pasture until October 6th when the heifers were removed. The heifers were palpated for pregnancy upon exit and it was determined that the overall open rate was 3.6%.

Grazing

The order that the paddocks were grazed was determined by the quantity of growth and species composition on a visual inspection. Paddock size was also determined (in acres) and used as an indicator for grazing days. Those paddocks containing a high proportion of meadow foxtail were grazed earlier in the rotation then those paddocks containing a high proportion of legume species. Grazing periods in 2014 were altered from the 2-3 day rotation to a 7 day rotation on average, and when the situation allowed. This strategy was to increase rest period on paddocks and allow for each paddock to experience only one defoliation event through the season. This allowed legume species to set seed and litter accumulation. Table 1 contains the number of grazing days supported by each paddock, as well as the rotation schedule.

Above: Curt Pate demonstrating his methods to gather and move cattle using Gateway Research Organizations contributor heifers.

GRO Heifer Pasture Map



2014 Paddock Rotation Schedule (Days)

Pasture	Entry	Exit	Days
R1	September 10	October 1	20
R2	September 2	October 6	33
R3	July 8	July 15	8
R3 & R4	August 19	September 4	17
R4	June 16	June 17	1
R5	August 27	September 4	8
R6	July 4	July 10	7
R7	June 27	July 4	8
R8	August 7	August 13	7
Y1	June 18	June 23	6
Y2	June 23	June 27	5
Y3	July 30	August 7	8
Y4	August 13	August 19	7
Y5	July 23	July 30	8
Y6	July 16	July 23	8
Y8 & Y7	September 16	October 6	21

NOTE: days will not be full days as animals are typically moved in the middle of the day or evening, 8 days will be closer to 7 full days in hours on pasture.

Above: side by side comparison of two paddocks at the heifer pasture, the left is ungrazed and the right had recently been grazed.

Below: Shrub that has been browsed by cattle at the heifer pasture.

AUM for Replacement Heifers on Pasture (2005-2014)

Year	# of Animals	Grazing Days	# AUM on 150 Acres	# AUM/Acre
2005	101	117	291	1.94
2006	98	127	307	2.05
2007	110	135	366	2.44
2008	78	133	256	1.71
2009	103	118	300	2.00
2010	94	126	292	1.95
2011	82	112	226	1.51
2012	76	133	249	1.66
2013	108	126	364	2.28
2014	**85**	**112**	**309**	**2.06**
Average	94.44	**125.22**	**254.11**	**1.7**

Above: Contributor heifers loafing at the far west end of a paddock.

Above: Jim Gerrish talking to members about pasture productivity at our July 8th Pasture Walk.

Summary of Production (1988-2014)

Year	Entry Weight	Exit Weight	Gain (lbs.)	ADG (lbs.)
1988-2004	922	1124	208	1.74
2005	891	1059	168	1.44
2006	907	1083	176	1.38
2007	873	1117	244	1.82
2008	843	1106	263	1.98
2009	869	1073	204	1.73
2010	913	1049	136	1.08
2011	953	1134	181	1.62
2012	867	1052	185	1.39
2013	928	1146	218	1.7
2014	**919**	**1098**	**179**	**1.5**
Average	**896.6**	**1094.3**	**198.3**	**1.59**

Heifer Pasture Paddock Size (acres)

Paddock	Size (ac)	Paddock	Size (ac)
R1	8.90 ac	Y1	9.53 ac
R2	9.53 ac	Y2	10.36 ac
R3	9.5 ac	Y3	9.93 ac
R4	10.49 ac	Y4	9.75 ac
R5	10.25 ac	Y5	10.15 ac
R6	10.35 ac	Y6	9.04 ac
R7	9.14 ac	Y7	9.50 ac
R8	9.82 ac	Y8	9.81 ac

2014 Contributors: Back Row L - R Calvin Wruk, Matt Haisan, George Kerkhoff, Maurice Kruk, Richard Geiger Front Row L - R Alex Bowen (summer staff), Anita Wruk, Christine Buchanan (Staff), Michelle Holden (Manager), Chelsea Geiger

Heifer Pasture Precipitation in Inches

Year	May	June	July	August	September	October	Total
1988-2004	1.11	2.67	3.21	2.24	0.78	0.36	9.17
2005	1.44	4.08	1.64	1.20	0.56	0.80	9.72
2006	4.50	3.12	1.36	2.28	1.76	0.12	13.14
2007	3.10	5.36	2.52	1.10	0.72	0.04	12.84
2008	3.60	2.04	3.60	1.40	0.96	0.00	11.60
2009	0.18	0.39	3.43	1.06	0.74	--	5.80
2010	1.54	1.69	1.64	2.06	1.00	0.10	8.01
2011	0.03	3.32	0.48	0.98	0.41	0.02	5.24
2012	0	1.63	4.77	1.47	.61	.26	8.74
2013	1.16	2.68	3.26	2.98	.98	.89	11.95
2014	**1.57**	**2.16**	**4.33**	**2.08**	**0.86**	**0.47**	**11.49**
Average	**1.65**	**2.64**	**2.74**	**1.71**	**0.85**	**0.30**	**9.79**

Heifer Pasture Vegetation Production (lbs/ac)

Notes: R3 has no values as all cages in pasture were damaged leaving no site to sample. Small frame was used

Pasture	Date Sampled	Grasses	Forbes	Litter	Total
R1	August-29-14	3478.8	0	1873.2	3478.8
R2	August-29-14	2408.4	0	356.8	2408.4
R3	August-29-14				
R4	August-29-14	3032.8	0	981.2	3032.8
R5	August-29-14	1873.2	0	89.2	1873.2
R6	August-29-14	2765.2	0	624.4	2765.2
R7	August-25-14	2943.6	0	89.2	2943.6
R8	August-25-14	1248.8	0	0	1248.8
Y1	August-25-14	1806.3	0	156.1	1806.3
Y2	August-25-14	2073.9	0	133.8	2073.9
Y3	August-25-14	2230	0	1115	2230
Y4	August-25-14	2029.3	0	379.1	2029.3
Y5	August-25-14	2742.9	0	267.6	2742.9
Y6	August-25-14	2519.9	0	691.3	2519.9
Y7	August-29-14	1962.4	178.4	0	2140.8
Y8	August-29-14	2408.4	446	89.2	2854.4
					36148.3

Discussion

The GRO Heifer Pasture was established in 1979, making the pasture 35 years old, which is a well-aged pasture. From 1979 to 1988 steers were grazed on the pasture, it was in 1988 that the pasture started grazing heifers and has done so to this date. This is interesting in the sense that steer and heifer grazing behavior may be different, especially with the added influence of bulls on pasture.

The pasture was originally seeded to a mixture of grasses and legumes, but is now predominantly meadow foxtail. A variety of other grass species including orchard grass, timothy, meadow brome and other brome species can still be found out on pasture. In terms of forbs or legume type species, these are limited on the pasture with some paddocks having no broad leaf species other than Canada thistle. The species that do still exist in some of the paddocks are clovers, alfalfa and cicer milkvetch. With our adjusted rotational system we attempted to naturally allow those paddocks with these legumes species to set seed. While those paddocks dominated by grasses, especially meadow foxtail were used earlier in the season.

In addition to promoting seed set there was the hope that by allowing the heifers to access a paddock only once in the season for roughly seven days, we would promote even use of the 10 acres paddocks. The extension in time on the paddocks would force the heifers to search out forages past the gate. There was an obvious visual observation that those areas located farthest from the main alley were underutilized. It was assumed that by only accessing a paddock once in the grazing season we would allow the paddock a longer than normal rest period in which some litter and carryover could be accumulated. Litter is important for temperature regulation, water conservation and nutrient cycling. From hand raking it is noted that the pasture currently has minimal litter. There was good intention to allow each paddock to be grazed only once for a certain amount of days, however as with all farm operations some situations cannot be controlled entirely. Due to cross fence damage and cattle creeping or jumping over, some pastures were used in conjunction with another or cattle were not entirely restricted from entering. It was a learning experience and it will be interesting to see the vegetation data collected from the cages in 2015.

In terms of heifer health, we had zero death loss and a lower open rate than the previous year. We did see a lot of lameness in the heifers this year and treated them on two occasions.

5-Year Summary of Costs, 2010-2014

NOTES: C*apital Investment notes: **One bull was purchased @ $3500. He will be sold at the end of 2015. The remaining $ will be amortized over the two years that he is to be used.*

Operating Costs	**2010**	**2011**	**2012**	**2013**	**2014**
Rent	3500	3500	3500	3800	3800
Fertilizer	0	0	0	0	0
Insecticide	0	**0**	**0**	**0**	**0**
Ear Tags	0	144	0	0	60
Fly Control	0	**0**	**0**	**43**	**150**
Veterinary	423	265	619	1365	724
Breeding/Bull Insurance	400	**0**	**0**	**0**	**290**
Bull Rental		1400	2000	2000	2000
Salt/Mineral	758	**325**	**1531**	**740**	**441**
Labour	1120	1020	1050	3000	3750
Travel	1400	**840**	**850**	**600**	**700**
Misc/Other	350	452	315	438	140
Total Operating Costs	*7951*	***7946***	***9865***	***11986***	***12055***
Capital Costs					
Establishment	0	**0**	**0**	**0**	**0**
Capital Investment	0	0	0	0	0
Bulls	1500	**0**	**0**	**0**	**3500**
Total Capital Costs	*1500*	*0*	*0*	*0*	*3500*

Barley Silage

Kevin & Brian Ratke SW 21-1-1-W5

Keith Taylor NW 9-61-26-W5

Objectives

Compare silage yield and nutritional value of new and commonly used barley varieties. Summarize historical silage data.

Background

A randomized complete block with 3 replicates of each treatment was used. Plot size was 1.37 metres wide (6 rows with 9 inch spacing) by 6 meters long. Barley was harvested in the soft dough stage. Samples were weighed and sent for wet chemistry analysis to obtain moisture and feed quality.

Introduction

Variety selection plays an important role in production management due to the impact that yield, maturity and other agronomic characteristics can have on producer profitibilty. Variety testing continues to be important in providing producers with information on the performance of newly registered and established varieties.

Action	**Stony Plain**	**Dapp**
Seeding	May 14	June 23
Seeding Specifics	Depth: 1 inch Row Spacing: 9 inches	Depth: 1 inch Row Spacing: 9 inches
Plot Activities	Cultivated and harrowed prior to seeding In crop herbicide - Curtail M	Direct seeded into stubble In crop herbicide - Curtail M
Equipment	Fabro zero- till drill with atom jet openers	Fabro zero- till drill with atom jet openers
Fertilizer (actual)	50 lbs/ac N 30 lbs/ac P 20 lbs/ac K 10 lbs/ac S	50 lbs/ac N 30 lbs/ac P 20 lbs/ac K 10 lbs/ac S
Harvest	August 18	September 11

Barley Varieties Used in the Trial

CDC Cowboy	A rough- awned, two- row forage barley that does very well with less management, is resistant to stem rust, covered and false loose smuts and moderately resistant to net blotch. A tall growing plant, it is said to produce high amounts of biomass, but is susceptible to lodging, spot blotch, loose smut and scald.
Ponoka	A rough- awned, two- row feed barley with excellent disease resistance; silage yields as high as or higher than AC Lacombe. Could replace Seebe in some areas. Resistant to loose smut & surface-borne smuts. Intermediate resistance to net blotch, common root rot, spot blotch, and scald.
Seebe	A rough- awned, two- row feed barley that is noted for its outstanding forage yields and has very good straw strength. Adapted to the high scald areas in Alberta, with scald resistance superior to all registered 2- row varieties. Also resistant to the surface-borne smuts. Susceptible to loose smut, common root rot, and net blotch.
Sundre	A smooth-awned six-row barley. High silage yield. Sundre has multiple gene resistance to scald, and has resistance to covered smut and false loose smut. Intermediate resistance for net blotch (spot form), spot blotch and stem rust. Susceptible to septoria, loose smut, net blotch (net form), and common root rot.
Trochu	A smooth-awned, six-row barley with moderate disease resistance for scald but different strains than AC Lacombe; provides a rotation opportunity. The high % plump kernels facilitate even processing for cattle feed resulting in increased feed efficiency. Lodging resistance is similar to AC Lacombe. Resistant to the surface borne smuts and common root rot. Intermediate resistance to scald and net blotch. Susceptible to loose smut.
Vivar	A rough-awned, six-row semi-dwarf feed barley that has high grain yields. Intermediate reaction in the field to scald and net blotch
Xena	A rough-awned, two- row that has good lodging resistance with high percentage of plump kernels. Xena has resistance to common root rot, intermediate resistance to surface borne smuts and is susceptible to loose smut, scald, and net blotch.
Busby	Two-row, rough-awned feed barley. Excellent disease resistance, good grain yields and feed quality make it a good feed barley choice for the scald areas of Western Canada.
Chigwell	A smooth-awned hulled, six- row feed barley that is a good multi-use feed barley. Silage yield similar to Vivar and AC Lacombe. Medium height, good lodging resistance. Resistant to surface borne smuts, moderately resistant to scald, spot blotch and spot form net blotch. Moderately susceptible to loose smut and susceptible to common root rot, fusarium head blight, septoria and leaf blotch.

CDC Austenson	A two-row, rough-awned hulled feed barley with very high grain yield and short, strong straw. Large plump kernels. A top yielding two-row with improved, performance over Xena. Resistant to stem rust and covered and false loose smut. Medium maturity. Susceptible to scald and true loose smut.
CDC Coalition	A two-row general purpose barley. It has excellent straw strength and lodging resistance. Good yield potential and high test weight. Resistant to loose and false loose smut and rpg1 stem rust with moderate resistance to covered smut. Mildly susceptible to net blotch and spot blotch. Susceptible to septoria and scald.
Gadsby	Rough awned. Similar straw strength to Xena. Yields 10% higher than Seebe for both grain and biomass. Heads and matures two days later than Xena, but two days earlier than Seebe. Plumper, heavier kernels than Xena with lower fiber and higher digestible energy content. Resistant to the covered and loose smuts and scald. Moderately resistant to the spot form of net blotch. Moderate resistance/ moderately susceptible reaction to common root rot, fusarium head blight and stem rust. Susceptible to the net form of net blotch and spot blotch.
CDC Maverick	Two-row, spring forage-type general purpose barley. Fair to good resistance to lodging, good resistance to shattering, good tolerance to straw breakage, fair to good tolerance to drought. Susceptible to true loose smut.
Muskwa	Six-row, smooth-awned, hulled, general purpose. Semi-dwarf with strong straw, smut resistant and intermediate maturity traits. Stable grain yield and well-adapted to Western Canada. Better than average combination of disease resistant package of spot blotch, scald and stem rust. Good lodging resistance and quality traits similar to Vivar.
Conlon	Two-row, feed and malting barley variety.
AC Ranger	Smooth-awned, six-row, hulled barley has a high forage yield and quality, good lodging resistance and grain yield, moderate resistance to net blotch, and resistance to non-QCC stem rust. Its maturity is later than AC Lacombe. It is susceptible to scald, septoria, and QCC races of stem rust.
Amisk	Plump seeds, with 16% more than AC Ranger and 14% more than Vivar. Seeds were plumper than the two checks AC Metcalfe and Xena, by 5% and 7%, respectively. The higher percent plump kernels facilitate even processing for cattle feed resulting in increased feed efficiency. Amisk has a better than average combination of disease resistance: resistant to stem rust and septoria, moderately resistant to spot-form of net blotch, intermediate resistance to net-form of net blotch, scald, spot blotch, and common root rot. Amisk has strong straw with good lodging resistance, better than Vivar and AC Ranger. Forage yields are similar Vivar. Grain yields are similar to checks Vivar and AC Ranger. The heading, maturity days, 1000 kernel weight and test weight of Amisk are similar to the checks.

Seeding Rates

Seeding rates were based on 1000 kernel weight and germination in order to achieve 24 plants per square foot for barley. It is very important to calculate seeding rates using this method (using germination % and 1000 kernel weight) to prevent under or over seeding. Crops with larger seed size have fewer seeds per pound/bushel. They need to have more pounds/bushel seeded per acre to keep viable seed counts the same as crops with small seed size.

Results

Dapp Barley Variety	Yield @ 65% Moisture (ton/acre)	CP (%)	TDN (%)
CDC Maverick	15.5	8.27	69.83
CDC Austenson	14.54	9.07	69.57
Ranger	12.4	8.64	68.82
Trochu	11.87	8.51	69.6
Muskwa	11.72	9.4	67.66
Seebe	11.57	8.58	68.93
CDC Coalition	11.4	8.51	68.36
CDC Cowboy	11.28	7.89	66.96
Busby	11.06	8.42	72.29
Amisk	10.95	9	71.45
Gadsby	10.25	10.16	68.21
Sundre	10.05	11.18	68.16
Ponoka	9.77	8.91	70.25
Chigwell	9.64	9.51	67.91
Conlon	**7.48	9.25	72.21
Vivar	**12.68	7.88	67.2
Xena	**12.25	8.7	70.02

**Wild Oats in Plots - 70% stand

Stony Plain Barley Variety	Yield @ 65% Moisture (ton/acre)	CP (%)	TDN (%)
Amisk	15.46	11.1	73.3
Busby	12.45	11.66	71.21
CDC Austenson	14.08	11.25	70.48
CDC Coalition	13.93	11.46	72.45
CDC Cowboy	18.67	12.25	66.66
CDC Maverick	17.12	10.2	70.31
Chigwell	17.58	11.79	73.52
Conlon	9.59	12.16	71.74
Gadsby	15.19	11.52	70.36
Muskwa	17.15	12.82	71.84
Ponoka	16.03	9.96	69.42
Ranger	14.69	11.03	70.2
Seebe	15.71	9.91	65.86
Sundre	14.31	11.16	68.72
Trochu	11.96	11.99	75.24
Vivar	16.11	10.62	69.69
Xena	11.69	13.14	71.19

Oat Silage

Kevin & Brian Ratke SW 21-1-1-W5 (Stony Plain)
Keith Taylor NW 9-61-26-W5 (Dapp)

Objectives:

Compare silage yield and nutritional value of new and commonly used oat varieties.

Summarize historical silage data.

Background:

A randomized complete block with 3 replicates of each treatment was used. Treatment size was 1.37 metres wide (6 rows with 9 inch spacing) by 10 metres long and trimmed back accordingly. The oats were harvested in the late milk stage. Samples were weighed and sent for wet chemistry analysis to obtain moisture and feed

Seeding Rates

Seeding rates were based on 1000 kernel weight and germination in order to achieve 24 plants per square foot for barley. It is very important to calculate seeding rates using this method (using germination % and 1000 kernel weight) to prevent under or over seeding. Crops with larger seed size have fewer seeds per pound/bushel. They need to have more pounds/bushel seeded per acre to keep viable seed counts the same as crops with small seed size.

Action	**Stony Plain**	**Dapp**
Seeding	May 14	June 23
Seeding Specifics	Depth: 1/2 inch Row Spacing: 9 inches	Depth: 1/2 inch Row Spacing: 9 inches
Plot Activities	Cultivated and harrowed prior to seeding In crop herbicide	Direct seeded into stubble In crop herbicide
Equipment	Fabro zero- till drill with atom jet openers	Fabro zero- till drill with atom jet openers
Fertilizer (actual)	50 lbs/ac N 30 lbs/ac P 20 lbs/ac K 10 lbs/ac S	50 lbs/ac N 30 lbs/ac P 20 lbs/ac K 10 lbs/ac S
Harvest	August 26	September 12

Varieties used In the Trial:

CDC Baler: A forage oat with very long wide leaves, slightly taller than the standard forage variety, excellent lodging resistance and exceptional forage yield. It generally has higher energy and protein values than other forage oats.

AC Morgan: A milling oat. Susceptible to crown and stem rust, moderately susceptible to smuts. Adapted to black and grey wooded soil zones of Alberta.

Murphy: A forage oat bred specifically for use for silage/greenfeed production. A taller variety than others tested (other than Foothills).

AC Mustang: A feed oat with good lodging resistance. High hull percent content - not a milling oat. Susceptible to crown and stem rust. Adapted to the Black and Gray soil zones of Alberta and Saskatchewan.

Waldern: A feed oat with good lodging resistance. High percent hull, relatively late maturity, susceptible to rust and smut, low test weight.

Jordan: A new feed, milling, and forage oat with a high silage yield, high grain yield and larger seed size. Superior lodging resistance.

CDC SO-1 Designed for ruminant feeding programs. Low lignin hull with high oil groat (better digestibility).

Foothills Fair resistance to lodging, very late and tall. Poor resistance to smut.

AC Juniper A general purpose oat, very good resistance to lodging and fair resistance to smut.

Results

Oat Variety - Dapp	Yield @ 65% Moisture (ton/acre)	CP (%)	TDN (%)
AC Morgan	13.03	9.95	61.47
Murphy	15.93	6.45	60.55
Waldern	14.75	7.11	58.42
CDC Baler	14.18	6.96	58.96
CDC Haymaker	14.03	7.5	59.7
Foothills	12.99	7.13	57.06
Jordan	12.31	8.53	62.33
CDC SO-1	12.06	7.19	60.92
Ac Mustang	11.89	8.67	60.25
AC Juniper	10.08	9.15	65.35

Oat Variety - Stony Plain	Yield @ 65% Moisture (ton/acre)	CP (%)	TDN (%)
AC Morgan	10.37	8.7	61.56
AC Mustang	11.87	9.85	63.86
CDC Baler	12.01	9.84	62.73
CDC Haymaker	12.30	9.82	63.43
CDC SO-1	8.44	10.6	68.9
Foothills	10.21	8.54	60.26
Jordan	12.69	7.71	65.97
AC Juniper	8.24	8.77	66.32
Murphy	10.54	8.36	59.89
Waldern	9.95	9.93	63.81

Triticale Silage

Kevin & Brian Ratke SW 21-1-1-W5

Keith Taylor NW 9-61-26-W5

Objectives

Compare silage yield and nutritional value of new and commonly used triticale varieties

Summarize historical silage data

Background

A randomized complete bock with 3 replicates of each treatment was used. Treatment size was 1.37 meter wide (6 rows with 9 inch spacing) by 10 meters long and trimmed back accordingly. The triticale was harvested at the late milk stage/early dough. Samples were weighed and sent for wet chemistry analysis to obtain moisture and feed quality.

Action	**Stony Plain**	**Dapp**
Seeding	May 14	June 23
Seeding Specifics	Depth: 1/2 inch Row Spacing: 9 inches	Depth: 1/2 inch Row Spacing: 9 inches
Plot Activities	Cultivated and harrowed prior to seeding In crop herbicide	Direct seeded into stubble In crop herbicide
Equipment	Fabro zero- till drill with atom jet openers	Fabro zero- till drill with atom jet openers
Fertilizer (actual)	50 lbs/ac N 30 lbs/ac P 20 lbs/ac K 10 lbs/ac S	50 lbs/ac N 30 lbs/ac P 20 lbs/ac K 10 lbs/ac S
Harvest	August 26	September 12

Triticale Varieties Used in the Trial

Bunker — A reduced awn spring triticale that is earlier maturing than Pronghorn or Ultima, and has good disease resistance.

Tyndal — A reduced awn spring triticale designed for conserved forage production (silage/ greenfeed). Good leaf and stem rust resistance. An earlier maturing variety with good lodging resistance and high forage yields.

Pronghorn — A spring triticale that is susceptible to some races of stem rust.

Sunray — Adapted to the Canadian prairies and represents an improvement in ergot resistance for Canadian triticale. It is resistant to the prevalent races of leaf rust, stem rust, common bunt, root rot and is moderately resistant to grain sprouting. Short statured with excellent lodging resistance and grain yield. Matures 2 days earlier than Pronghorn and AC Certa, and similar to AC Ultima.

Taza — Awnletted (reduced awn expression) standard height spring triticale line intended for use as a feed grain conserved forage, swath grazing crop and potentially for industrial use. Adapted to the Canadian Prairie Provinces. It yields similar to Pronghorn but is equal to or higher than AC Ultima and AC Certa. This line has good lodging resistance, good test weight, and high kernel weight. Taza is moderately susceptible to moderately resistant to FHB; it is resistant to leaf rust and stem rust.

Seeding Rates

Seeding rates (table 2) were based on 1000 kernel weight and germination in order to achieve 24 plants per square foot. It is very important to calculate seeding rates using this method (using germination % and 1000 kernel weight) to prevent under or over seeding. Crops with larger seed size have fewer seeds per pound/ bushel. They need to have more pounds/bushel seeded per acre to keep viable seed counts the same as crops with smaller seed size.

Results

Dapp Triticale Variety	Yield @ 65% Moisture (ton/ acre)	CP (%)	TDN (%)
Pronghorn	8.57	7.7	62.44
Sunray	8.14	8.43	66.22
Bunker	7.9	8.38	63.72
Taza	7.67	8.72	63.27
Tyndal	7.53	8.74	65.2

Pulse Silage

Kevin & Brian Ratke

Objectives

1. Compare silage yield and nutritional value of new and commonly used pulse varieties.
2. Summarize historical silage data

Background

A randomized complete block with 3 replicates of each treatment was used. Treatment size was 1.37 meters wide (6 rows with 9 inch spacing) by 10 meters long and trimmed back accordingly. Samples were weighed and sent for wet analysis to obtain moisture and feed quality.

Action	**Stony Plain**
Seeding	May 14
Seeding Specifics	Depth: 1 inch Row Spacing: 9 inches
Plot Activities	1. Cultivated and harrowed prior to seeding 2. In crop herbicide
Equipment	Fabro zero- till drill with atom jet openers
Fertilizer (actual)	50 lbs/ac N 30 lbs/ac P 20 lbs/ac K 10 lbs/ac S
Harvest	August 27

Pulse Varieties Used in the Trial

CDC Meadow — Yellow pea, semileafless leaf type, good lodging resistance, powdery mildew resistance, medium-sized, round seeds, and good yielding ability

Horizon — Forage pea, semileafless leaf type, high biomass production, good biomass quality, good seed yield, and resistance to powdery mildew. It has superior lodging resistance to the check cultivars Trapper, 40-10 and CDC Sonata.

Pulse/Cereal Variety	Yield @ 65% Mois-ture (ton/acre)	CP (%)	TDN (%)
Vivar	11.14	11.03	71.69
Murphy	19.56	7.95	62.99
Pronghorn	9.17	10.1	64.95
CDC Meadow / Murphy	12.22	9.43	63.73
CDC Meadow / Pronghorn	*7.51	8.16	56.28
CDC Meadow / Vivar	9.67	10.48	66.73
CDC Horizon / Murphy	22.17	11.85	64.06
CDC Horizon / Pronghorn	8.78	12.37	63.92
CDC Horizon / Vivar	12.27	14.58	66.7

***Many plots had high volunteer canola pressure.**

AC Mountainview Sainfoin Establishment Trial

Alberta Agriculture & Rural Development

Seth Olthius SE 34-61-3-W5

Objectives

1. Determine local suitability based on establishment in our soil zone
2. Provide information on establishment and potential productivity

Background

Plot sites once seeded will remain in production for a minimum of 4 years (seeding plus 3 production years). Bulk seed and Nova (as check) in alternate rows with AC Grazeland alfalfa. Aslo establish AC Grazeland as a replicated site to provide a comparison for a pure stand of alfalfa. A randomized complete block with 4 replicates of each treatment was used. Treatment size was 2m by 6m long. In the establishment year plant counts were observed, biomass was not sampled as plots were heavily defoliated by wildlife. In subsequent years harvest samples will be taken to determine percent composition of alfalfa and sainfoin. Yield will be determined by full plot harvest. Dry matter estimates will be done when the sainfoin is at 25-40% bloom, second cut will be taken 6 weeks after first cut. A third cut, if applicable, will be taken after the first hard frost (-5°C).

Plant Counts from September 5th

Guard	Guard	Guard	Guard
Rep 403 **Bulk Seed/Grazeland** **7 Sainfoin** **1 Alfalfa**	***Rep 303*** **Nova/ Grazeland** **2 Sainfoin** **3 Alfalfa**	***Rep 203*** **Bulk Seed/Grazeland** **3 Sainfoin** **7 Alfalfa**	***Rep 103*** **Grazeland** **14 Alfalfa**
Rep 402 **Grazeland** **21 Alfalfa**	***Rep 302*** **Bulk Seed/Grazeland** **14 Alfalfa**	***Rep 202*** **Grazeland** **9 Alfalfa**	***Rep 102*** **Nova/Grazeland** **14 Alfalfa**
Rep 401 **Nova/ Grazeland** **10 Sainfoin** **11 Alfalfa**	***Rep 301*** **Grazeland** **15 Alfalfa**	***Rep 201*** **Nova/Grazeland** **1 Sainfoin** **13 Alfalfa**	***Rep 101*** **Bulk Seed/Grazeland** **5 Sainfoin** **11 Alfalfa**
Guard	**Guard**	**Guard**	**Guard**

Table 2. Year 1 Seeding Information

Action	**Neerlandia**
Seeding	July 10
Seeding Specifics	Depth: 1/2 inch Row Spacing: 9 inches
Plot Activities	Rototilled Pre seeding and pre emergence herbi-cide
Equipment	Fabro zero- till drill with atom jet openers
Fertilizer (actual)	50 lbs/ac N 30 lbs/ac P 20 lbs/ac K 10 lbs/ac S
Harvest	August 26

Seeding Rates

The regular seeding rate is; sainfoin 30lbs/acre, alfalfa 12lbs/ac. As these are alternate row mixtures seeding would be at ½ the rate; sainfoin at 15 lbs/ac and alfalfa at 6 lbs/ac. The seeding rate is based on 50 seeds per meter of row for the small test plots. Sainfoin would be seeded at 30-40 gr per plot (5 rows x 6m) if germination is 80%. We will send you seed after all the adjustments are made for the germination rate.

Discussion

AC Moutainview was bred by Dr. Surya Acharya with Agriculture and Agri-Food Canada at Lethbridge, AB. The AC Mountainview Sainfoin plots were seeded July 10, 2014 in Neerlandia, AB. Seeding was delayed as a result of some shipping confusion. The site was pre- burned with an application of glyphosate and rototilled to create a clean seed bed. A post seeding application of glyphosate was done to ensure low weed competition. Plant counts were done on September 5th. It was observed that wildlife had defoliated the site and plants were not able to flower. Plant densities were also noted to be lower than expected.

Above: AC Mountainview site, Dr. Surya Acharya speaking about the sainfoin project, Lethbridge, AB

Stem Mining Weevil

Locations: GRO Heifer Pasture - Dapp / Maurice Kruk Farm - Thorhild

Objectives

To determine the potential use of Stem mining weevils as a biological control agent for Canada Thistle, and if native populations can be established in our area

To determine if stem mining weevils are a cost effective method of Canada thistle control

Background

Two treatments of weevil populations (control and five dishes) were released into sites of Canada thistle with approximately 50 plants per site with a density of 5-10 plants per square meter. Sites are ten feet apart. Control sites have no application of weevils, treatment sites have released weevils, and each dish contains 105 weevils.

Discussion

Canada thistle (*Cirsium arvense*) is an aggressive, colony- forming perennial weed which reproduces by both seeds and horizontal creeping root systems. It is listed under the Alberta Weed Control Act as noxious. Canada thistle has a high tolerance to many different environmental conditions and is highly competitive with other vegetation. It is prevalent in many locations such as riparian areas that do not allow for chemical or mechanical control methods.

The adult lifespan of the stem mining weevil, *Hadropontus litura*, is approximately 10 months as they overwinter in the soil and leaf litter, and emerge in the spring to feed on rosette leaf foliage and stem tissue. Eggs are laid in May and June in the mid vein of the leaf and eggs hatch 9 days later. The larva mine down the stem into the root collar consuming plant tissue.

The majority of previous research on *Hadropontus litura* has been dependent on geographic location. On the west coast of British Columbia and California the weevils have not been very successful compared to the Midwest including Montana. Montana has similar climate to Alberta, therefore weevils may be effective across the region.

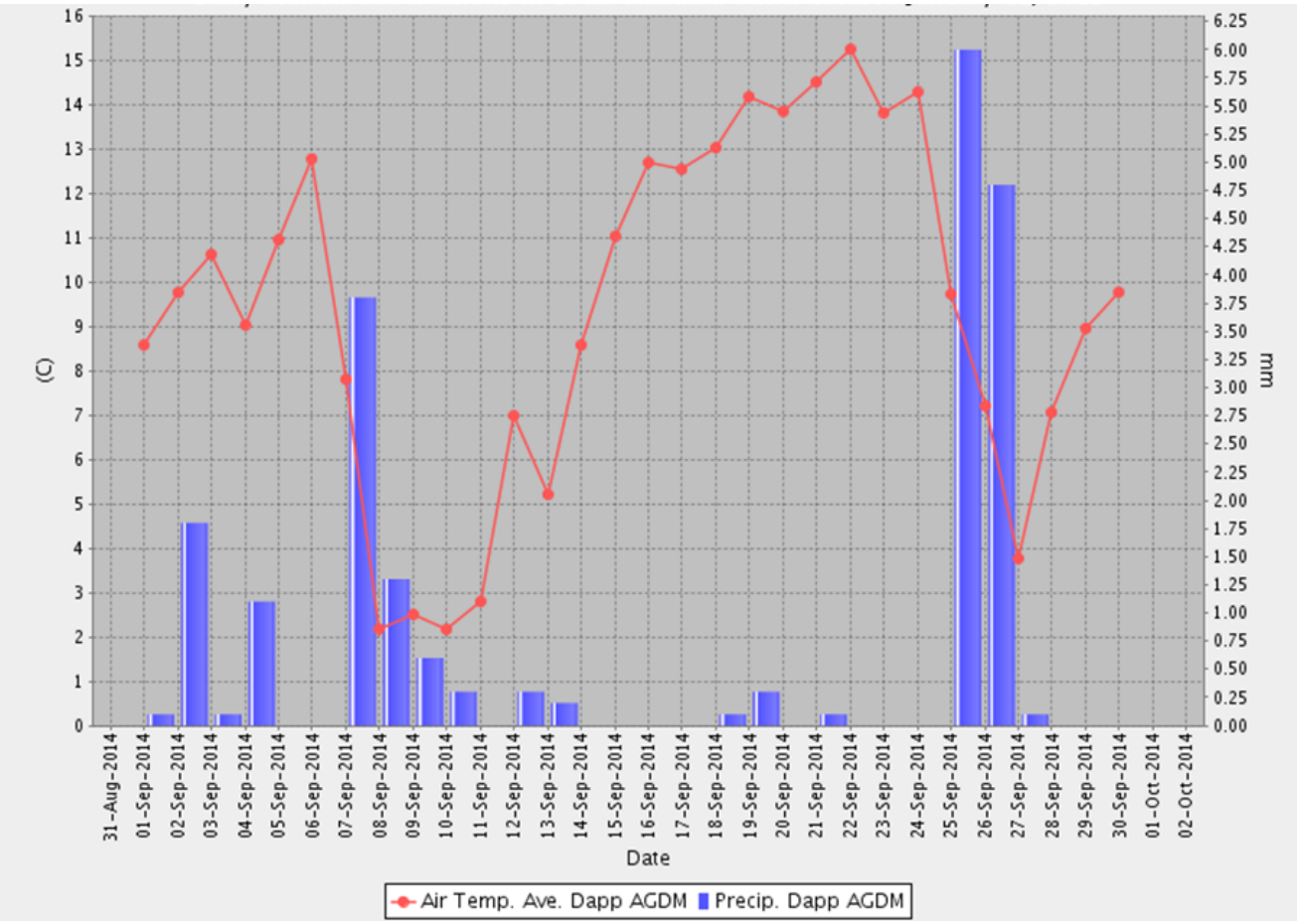
Weevils were pick up Monday September 15, 2014 and released Tuesday September 16, 2014. Weevils were active and mobile upon release. The weather on the release date was recorded as being clear and sunny, 26^{o}C with a light breeze. In subsequent years weevil presence will recorded if weevil population persists, and Canada thistle population, height and health at mid and late season will be recorded.

Weevil Release Information September 16, 2014

Site	Heifer Pasture South	Heifer Pasture North	Homestead
Site Size (m)	5 x 10	5 x 10	5 x 5
# weevils released	5 containers	5 containers	8 containers
Targeted Species	Canada Thistle	Canada Thistle	Canada Thistle
Plant Population (0.5m frame)	7+	5+	7+
Plant Height (cm)	75	75	75
Plant Health	In seed	In seed	Lodged, healthy in appearance, not in flower yet

Below: Quadrant to determine Canada thistle plant density at GRO heifer pasture

Average Temperate and Precipitation for the Month of September at Dapp, AB



Michelle Holden (manager) releasing stem mining weevils at the GRO heifer pasture

Jim Gerrish & Curt Pate Pasture Walk

Our event, which was titled “Pasture Walk with Jim Gerrish & Low Stress Cattle Handling with Curt Pate”, was held on July 8th 2014 at the Gateway Research Organization’s Heifer Pasture from 9:30am to 4:30pm. Both speakers provided hands-on demonstrations as well as lectured on their topics. The morning was spent with Jim Gerrish, walking through 10acre grazing cells discussing livestock needs and identifying strategies to improve overall use as well as long term gains. After Jim Gerrish, lunch was served providing an opportunity for attendees to network with each other and the speakers. Following lunch, we had our session with Curt Pate who opened by discussing stockmanship and the financial benefits producers can gain from low stress handling, he then provided a demonstration with the GRO heifers and our new mobile handling system. Attendance was document at 45 attendees, there was great interest in this event and registration exceeded actual attendance, however the day proved to be ideal for haying.

Special thanks is given to our event sponsors: ALMA, Servus Credit Union, Farm Credit Canada, Champion Feed Services Ltd.

Thank you to our in kind sponsors: Tim Hortons for our coffee & donuts, Smokin’ Elk Ranch for our chili lunch ingredients, and our volunteers.

Soil Health with Gabe Brown

GRO in partnership with Sturgeon County hosted holistic manager Gabe Brown at Legal, AB October 28th. The event was held in the afternoon from 2pm to 5pm. Gabe lead us in a presentation focused on improving soil health through vegetation diversity. On farm examples from Gabe’s farm and clients were used to showcase his ideas and applications. Techniques and strategies delivered by Gabe were for both annual cropping and livestock production. Participants were invited to question and discuss throughout the presentation. Farm marketing and profitability were discussed in addition to soil health. Dinner was provided allowing participants an additional opportunity to talk with Gabe as well as network with other local producers.

Western Canadian Grazing Conference "Going Beyond Sustainability"

The 2014 Western Canadian Grazing Conference was held December 9 to 11th at the Radisson South in Edmonton, AB. The three day conference included a tradeshow, keynote speakers and breakout sessions speakers. The event was organized by ARECA in partnership with NPARA, MARA, PCBFA, GRO, LARA, GWFA, BRRG, CARA, and FFGA. Keynote speakers were: Judith Schwartz, Dr. Dianne Knight, Josh Dukart, Greg Johnson. Breakout session speakers were: Grant Lastiwka, Dale Kaliel, Duane McCartney, Graeme Finn, Jim Bauer, Vicky Horn, Josh Dukart, Dr. Dianne Knight, Dylan Biggs, Marj Veno and Matthew Gould. There was a producer panel including Dr. Gabriel Ribeiro, Leon Specht and Art McElroy. The conference was a mixture of industry, academics and producers alike. A diverse bundle of information was delivered to attendees over the three days, promoting innovation and ideas for graziers.

Regional Cereal Variety Trials

Co-operators:
Kevin & Brian Ratke – Stony Plain – SW 36-51-1 W5
Keith Taylor - Dapp - NW 9-61-26-W5

Objectives

1. To provide yield and agronomic information of current cereal varieties to producers in west central Alberta.
2. To provide yield and agronomic data for use in the Alberta Agriculture publication "Varieties of Cereals and Oilseed Crops for Alberta."

Introduction

Variety selection plays an important role in production management due to the impact that yield, maturity and other agronomic characteristics can have on producer profitability. Variety testing continues to be important in providing producers with information on the performance of newly registered and established varieties. The yield and characteristics of cereals grown in the Northwest region are presented below.

	Dapp	Stony Plain
Seeding Date	May 18	May 20
Seeding Specifics	Fabro zero till drill	same
	Seeding Depth: 1/2 inch	same
	Seeding Rates:	same
	22 plants/ft^2 - 2-Row & 6-Row Barley 24 plants/ft^2 - HRS & Utility Wheat, Oats	same where seeded same where seeded
	30 plants/ft^2 - Triticale	same where seeded
	Seed treatment: Raxil	same
Fertilizer	75 lbs. N, 30 lbs. P, 30 lbs. K, 15 lbs. S,	same
Herbicide	Cereals: Curtail M	Cereals: Curtail M
	Oats: Frontline	Oats: Frontline
Harvest Date	Sept 28 Oct 18 (Flax)	Sept 21 (6-row Barley) Sept 28 (Utility Wheat) Sept 29 (HRS Wheat) Sept 30 (2-row Barley, Trit) Oct 10 (Oats)

Results

2-Row Barley – The majority of malt-grade barley produced is two-row. Two-row barley is characterized by having only one fertile spikelet at each node. Six-row barley has three fertile spikelets at each node. This lack of crowding in two-row barley allows for straight, symmetrical kernels with low dormancy; key characteristics essential for malting. The malting process begins by soaking the grain and causing it to germinate. The low dormancy and high seed viability in two-row barley is important for this process.

Dapp Barley Variety	Yield (bu/ac)	Yield % of	Bushel	Height	Lodging
TR12733	100.89	123.0%	59.67	85.7	1
Champion	99.39	121.1%	58.8	86	1
TR12735	98.84	120.5%	60.53	79	1
TR11127	94.74	115.5%	55.4	90	1
TR07921	92.96	113.3%	60.13	99	2.7
ABI Voyageur	92.07	112.2%	61.67	86.7	1.4
TR10214	91.89	112.0%	54.8	92	1
TR10694	91.08	111.0%	57.77	83.3	1
Xena	90.87	110.8%	58.13	83.7	1.7
Brahma	88.75	108.2%	59.23	77.3	1
AAC Synergy	85.84	104.6%	55.4	90.7	3.3
AC Metcalfe	82.05	100.0%	58.47	95	1.7
HB623	73.60	89.7%	63.13	94.3	1
	CV 7.27				

Check Variety is Metcalfe

Lodging Scale: 1= standing, 9=flat

Hard Red Spring (HRS) Wheat – The Canadian Grain Commission currently classes 79 varieties under the Canadian Western Red Spring (CWRS) class. HRS is known for its hard texture, high protein and high gluten content. These attributes contribute to making superior bread making flour. The top two grades, No. 1 and No. 2, are segregated by protein level, with guaranteed minimum protein contents.

Dapp Wheat Variety	Yield (bu/ac)	Yield % of AC Barrie	Bushel Weight	Height	Lodging
BW479	67.98	109%	76.1	92.3	1
BW957	65.56	105%	72.43	51.3	1
BW961	64.48	103%	73.3	84.3	1
Thorsby	64.38	103%	47.07	63.7	1
AAC Brandon	64.03	102%	73.1	82.7	1
5605HR CL	63.89	102%	78.97	65	1
AC Barrie	62.50	100%	78.1	96.3	1
BW487	62.43	100%	76.83	93.3	1
AAC Elie	61.91	99%	75.54	82.3	1
Titanium	60.16	96%	72.77	83.7	1
PT637	57.73	92%	77.5	94	1
Aac Iceberg	54.39	87%	75.3	85.7	1
CDC Whitewood	53.61	86%	75.17	84.3	1
AAC Redwater	52.22	84%	74.57	86.7	1
PT769	50.86	81%	70.97	96.3	1
CDC Plentiful	50.67	81%	74.63	83.3	1
Cardale	50.08	80%	72.1	78.7	1
PT765	47.73	76%	73.17	58	1
Katepwa	45.72	73%	73.37	96	1
PT245	44.78	72%	63.43	84.7	1
AAC Prevail	44.64	71%	69.1	100.3	1
Aac Bailey	41.65	67%	73.03	82.7	1
HW363	40.72	65%	73.03	53.3	1
	CV 14.04				

Check Variety is AC Barrie

Lodging Scale: 1=standing, 9=flat

Utility / General Purpose Wheat – The Western Canadian wheat classes consist of eight individual descriptions. This trial consisted of two classes: Canadian Prairie Spring Red (CPSR) and Canadian Wheat Soft White Spring (CWSWS). CPSR has medium to hard kernels and medium to hard dough strength. It has two milling grades, and is used for hearth, flat, and steamed breads, and noodles. CWSWS is a soft white wheat with low protein. It has three milling grades used for cookies, cakes, and pastry.

Dapp Wheat Variety	Yield (bu/ac)	Yield % of AC Barrie	Bushel Weight	Height	Lodging
Innova	93.18	135%	71.03	86.3	1
AAC Chiffon	92.12	133%	73.97	94.7	1
AC Andrew	91.12	132%	49.13	83.6	1
AAC Ryley	89.11	129%	73.7	88.7	1
Pasteur	86.66	125%	73.43	87.6	1
HY1610	81.43	118%	49.47	86	1
SY995	81.09	117%	73.23	86	1
SY985	80.87	117%	75.03	83.7	1
AC Enchant VB	77.32	112%	74.63	88.9	1
AAC NRG097	76.44	111%	73.5	85.3	1
HY1319	74.28	107%	76.9	73.7	1
AAC Crusader	71.86	104%	70.03	84.3	1
AAC Proclaim	70.77	102%	72.97	87.6	1
AC Barrie	69.11	100%	50.73	95.3	1
SY087	67.87	98%	76.37	83.3	1
AAC Tenacious	66.81	97%	50.07	98.2	1
	CV 9.32				

Check Variety is AC Barrie

Lodging Scale: 1=standing, 9=flat

Winter Wheat - Clyde

Farmers who grow winter wheat enjoy many benefits including higher yields, as well as more efficient use of crop input products. Winter wheat fields provide significantly more productive habitat for many prairie wildlife species, such as waterfowl that are 24 times more productive nesting in winter wheat than in spring sown varieties.

Beyond being a smart choice for the environment, growing winter wheat benefits your farm in many ways like:

- increasing return on investment
- improving overall rotational productivity and profitability
- spreading out spring and fall workload resources
- longer harvesting window
- improving weed control
- improving efficiency use of inputs
- reducing soil erosion

Variety	Yield (bu/ac)	Yield % of Radiant	Height	Lodging
Emerson	98.39	114%	80.77	1
W495	96.22	112%	69.08	1
Broadview	95.74	111%	75.94	1
Sunrise	93.90	109%	83.14	1
CDC Buteo	93.89	109%	78.41	1
CDC Falcon	93.44	108%	84.66	1
Blend 2	92.88	108%	70.78	1
Moats	92.36	107%	78.06	1
Pintail	91.55	106%	82.88	1
DH00W31N*34	91.32	106%	77.63	1
CDC Ptarmigan	89.66	104%	86.19	1
CDC Chase	89.50	104%	88.81	1
Swainson	88.82	103%	81.11	1
AAC Gateway	86.46	100%	76.45	1
Peregrine	86.32	100%	74.59	1
Radiant	86.20	100%	774.08	1
Blend 3	85.52	99%	78.74	1
Accipiter	85.17	99%	76.7	1
Flourish	83.47	97%	76.62	1
Blend 1	79.77	93%	81.28	1
	CV 10.9			

Regional Variety Trial Results by Zone

OAT												
			Yield Category[1] (% CDC Dancer)				Agronomic Characteristics					
Variety	Overall Yield	Overall Station Years of Testing	Low < 70 (bu/ac)	Medium 70 - 100 (bu/ac)	High 100 - 130 (bu/ac)	V. High > 130 (bu/ac)	Maturity Rating[3]	Test Weight (lb/bu)	TSW[4] (g)	Height (cm)	Resistance to Lodging[5]	Tolerance to Smuts[5]
MILLING												
Varieties tested in the 2014 trials (Yield and agronomic data only directly comparable to CDC Dancer)												
CDC Dancer (bu/ac)	**93**		**50**	**84**	**113**	**146**						
CDC Dancer[2] ❀	**100**	**126**	**100**	**100**	**100**	**100**	**E**	**40**	**37**	**94**	**G**	**VG**
AAC Justice ▲	103	18	XX	98	110+	XX	M	35	37	97	G	VG
CDC Ruffian ▲	110+	28	110	105	116+	XX	M	36	39	94	G	VG
Souris ❀	110+	28	120+	103	111	XX	M	36	34	91	VG	VG
Previously tested varieties (Yield and agronomic data only directly comparable to CDC Dancer)												
AC Juniper	104+	80	102	104	106+	105+	E	41	38	94	VG	F
AC Morgan	111+	95	110+	110+	111+	115+	M	40	40	92	VG	F
Bradley ❀	104+	31	XX	103	108	106	M	39	39	92	VG	VG
CDC Boyer	102	89	103	102	100	105	M	39	42	101	G	P
CDC Minstrel ❀	104+	61	103	103	105	105+	M	39	38	88	VG	VG
CDC Orrin ❀	109+	52	113+	107+	107+	XX	M	41	40	84	G	VG
CDC Seabiscuit ❀	111+	30	124	106	108	108	**M**	39	41	101	**G**	**G**
CDC Weaver ❀	104	44	108+	103	100	100	M	40	43	91	F	VG
Derby	101	79	103	102	96-	105	L	41	39	103	G	P
Jordan ❀	112+	36	112+	109+	117+	XX	VL	38	44	87	G	VG
Stride ❀	104+	30	101	102	107	106	M	42	35	104	G	VG
Triactor ❀	110+	47	109	108+	114+	110+	M	38	38	89	G	VG
FEED												
Previously tested varieties (Yield and agronomic data only directly comparable to CDC Dancer)												
AC Mustang *	114+	108	118+	112+	110+	116+	L	42	37	103	G	F
CDC Nasser	116+	31	132	107	115+	110	L	38	36	98	G	G
Lu *	100	58	99	98	99	108	VE	41	39	85	G	VG
FORAGE												
Varieties tested in the 2014 trials (Yield and agronomic data only directly comparable to CDC Dancer)												
CDC Haymaker	104	18	XX	104	105	XX		32	41	109		
Previously tested varieties (Yield and agronomic data only directly comparable to CDC Dancer)												
CDC Baler *	99	42	96	106	96	XX	L	40	43	99	XX	VP
Murphy ❀ *	95-	51	93	96	97	94	M	39	36	108	XX	VP

Remarks: Use higher seeding rates for large seeded varieties. New registrations: AAC Justice (OT2084) and CDC Haymaker. Bia, CS Camden (OT4001), Nice and OT3066 - Insufficient data to describe. ❀ - Protected by Plant Breeders' Rights. ▲ - Plant Breeder's Rights applied for. * These varieties have limited data compared to CDC Dancer - yields are indirect comparisons to CDC Dancer based on Cascade.

[1]Yield Test Categories are based on the site means for small plot trials. The defined range for each Yield Test Category is provided in bu/ac. The actual yields (bu/ac) for CDC Dancer are reported in the Overall and Low, Medium, High, and Very High Yield Test Categories. [2]Yields are reported relative to CDC Dancer. Varieties that are statistically higher (+) or lower (-) yielding than CDC Dancer are indicated. No symbol after the yield figure indicates that there is no statistical difference. [3]Maturities rated as: VE = Very Early; E = Early; M = Medium; L = Late and VL = Very Late. The long term average maturity for CDC Dancer is 98 days and is rated as Early (E). [4]TSW: Thousand Seed Weight. [5]Resistance/Tolerance Ratings: VG = Very Good; G = Good; F = Fair; P = Poor; VP = Very Poor.

SPRING TRITICALE

Variety	Overall Yield	Overall Station Years of Testing	Yield Category[1] (% AC Ultima) Low < 60 (bu/ac)	Medium 60 - 80 (bu/ac)	High 80-110 (bu/ac)	V. High > 110 (bu/ac)	Agronomic Characteristics: Maturity Rating[3]	Test Weight (lb/bu)	TSW[4] (g)	Height (cm)	Resistance to:[5] Lodging	Shat-tering	Sprout-ing	Disease Tolerance:[5] Ergot	Stripe Rust	Bunt	Fusarium Head Blight
Varieties tested in the 2013 trials (Yield and agronomic data only directly comparable to AC Ultima)																	
AC Ultima (bu/ac)	86		47	73	99	143											
AC Ultima[2]	**100**	**188**	**100**	**100**	**100**	**100**	**E**	**56**	**45**	**97**	**G**	**G**	**F**	**P**	**G**	**VG**	**F**
Brevis	109+	35	103	107+	112+	110+	M	60	45	91	G	G	F	G	G	VG	F
Sunray	98-	48	100	98	97	95	E	56	45	92	VG	G	F	G	G	VG	P
Taza ❀	98	48	101	97	100	95-	M	57	47	99	G	G	F	F	G	VG	VP
Previously tested varieties (Yield and agronomic data only directly comparable to AC Ultima)																	
Bumper ❀	104	41	117+	99	101	96	E	45	45	89	VG	G	F	XX	G	VG	P
Bunker ❀	91-	49	87-	93-	89-	93	VL	48	48	107	F	G	F	XX	G	VG	F
Pronghorn	101	179	99	100	101	100	M	43	43	99	G	G	F	F	G	VG	G
Tyndal ❀	101	55	106	101	97	96	L	44	44	97	G	G	P	XX	G	VG	P

Remarks: Triticale is late maturing compared to CWRS wheat (approximately five days later). AC Ultima yields about 30% more than AC Barrie (CWRS wheat) in areas of adaptation. Bunker, Taza, and Tyndal have heads with reduced-awns. ❀- Protected by Plant Breeders' Rights.

1Yield Test Categories are based on the site means for small plot trials. The defined range for each Yield Test Category is provided in bu/ac. The actual yields for AC Ultima are reported in the Overall and Low, Medium, High, and Very High Yield Test Categories. [2]Yields are reported relative to AC Ultima. Varieties that are statistically higher (+) or lower (-) yielding than AC Ultima are indicated. No symbol after the yield figure indicates that there is no statistical difference. [3]Maturities rated as: VE = Very Early; E = Early; M = Medium; L = Late; VL = Very Late. The long term average maturity for AC Ultima is 112 days and rated as Early (E). [4]TSW: Thousand Seed Weight.
[5]Resistance/Tolerance Ratings: VG = Very Good; G = Good; F = Fair; P = Poor; VP = Very Poor.

FALL RYE

Variety	Overall Yield	Overall Station Years of Testing	Yield Category[1] (% Prima) Low < 48 (bu/ac)	Medium 48 - 80 (bu/ac)	High 80 - 112 (bu/ac)	V. High > 112 (bu/ac)	Agronomic Characteristics: Winter Survival[3]	Maturity Rating[4]	Test Weight (lb/bu)	TSW[5] (g)	Falling Number (sec)	Height (cm)	Resistance to:[3] Lodging	Sprouting
Yield and agronomic data only directly comparable to Prima														
Prima (bu/ac)	**82**		**36**	**62**	**89**	**125.2**								
Prima[2]	**100**	**98**	**100**	**100**	**100**	**100**	**EX**	**E**	**58**	**33**	**181**	**121**	**F**	**F**
Brasetto	154+	15	XX	XX	XX	141+	EX	M	59	37	249	105	G	XX
Guttino	156+	15	XX	XX	XX	143+	EX	M	60	37	278	101	G	XX
Hazlet	123+	41	XX	125+	134	114	EX	M	59	39	137	108	G	XX
AC Remington	99	39	120	100	94	87	EX	M	57	32	181	99	G	VG
AC Rifle	100	98	114	105	100	86	EX	E	57	30	174	88	VG	VG

REMARKS: AC Rifle and AC Remington are semi-dwarf varieties. Brasetto and Guttino are hybrid varieties. Hazlet has lower viscosity which improves feed performance in monogastric livestock. Hazlet has lower falling number than other varieties. No fall rye variety performance data were collected in 2010 and 2011. XX - Insufficient data to describe.

[1]Yield Test Categories are based on the site means for small plot trials. The defined range for each Yield Test Category is provided in bu/ac. The actual yields for Prima are reported in the Overall and Low, Medium, High and Very High Yield Test Categories. Note that small plot yields may be 10-15% higher than field scale results. [2]Yields are reported relative to Prima. Varieties that are statistically higher (+) or lower (-) yielding than Prima are indicated. No symbol after the yield figure indicates no statistical difference. [3]Resistance/Tolerance Ratings: EX = Excellent; VG = Very Good; G = Good; F = Fair; P = Poor; VP = Very Poor. [4]Maturities rated as: VE = Very Early; E = Early; M = Medium; L = Late; VL = Very Late. The long term average maturity for Prima is 215 days after January 1 (August 3) and is rated as Early (E). [5]Thousand Seed Weight.

FEED AND FOOD BARLEY

Variety	2 or 6 row	Awn Type[1]	Overall Yield	Overall Station Years of Testing	Yield Category[2] (% AC Metcalfe)				Agronomic Characteristics:					Disease Tolerance:[6]						
					Low <60 (bu/ac)	Medium 60 - 90 (bu/ac)	High 90 - 120 (bu/ac)	V. High >120 (bu/ac)	Maturity Rating[4]	Test Weight (lb/bu)	TSW[5] (g)	Height (cm)	Resistance to Lodging[6]	Loose Smut[7]	Other Smuts[7]	Root Rot	Scald	Net Blotch: Spot form	Net Blotch: Net form	Fusarium Head Blight
GENERAL PURPOSE																				
Varieties tested in the 2014 trials (Yield and agronomic data only directly comparable to AC Metcalfe)																				
AC Metcalfe (bu/ac)			99		46	79	103	133												
AC Metcalfe[3] ❀	**2**	**R**	**100**	**510**	**100**	**100**	**100**	**100**	**M**	**51**	**46**	**79**	**F**	**VG**	**F**	**F**	**VP**	**F**	**VP**	**F**
Amisk ▲	6	SS	106+	28	XX	109	104	109+	M	44	45	71	VG	VP	P	P	F	G	F	VP
Brahma ❀	2	R	111+	87	112+	109+	113+	111+	M	51	47	74	G	P	VG	G	VP	F	F	F
Breton ▲	6	S	107+	42	97	108	106+	110+	M	45	45	80	F	P	G	F	F	G	F	VP
Canmore ▲	2	R	108+	28	XX	105	112+	108+	M	48	49	76	G	VG	VG	F	G	G	P	F
Champion ❀	2	R	113+	139	125+	113+	113+	110+	M	52	49	77	G	VP	VG	XX	VP	F	VP	F
Vivar ❀	6	R	109+	216	98	105+	111+	117+	M	49	44	73	VG	F	VG	G	F	G	VG	VP
XENA ❀	2	R	112+	271	111+	109+	114+	112+	M	52	49	77	G	P	P	G	VP	F	VP	G
Previously tested varieties (Yield and agronomic data only directly comparable to AC Metcalfe)																				
AC Harper ❀	6	SS	103+	166	95	96-	102	111+	M	48	40	80	G	P	F	F	F	F	F	P
AC Ranger	6	S	107+	48	101	99	118+	107+	L	49	43	74	F	P	F	G	P	G	F	VP
AC Rosser ❀	6	S	108+	166	101	102	109+	113+	M	48	41	82	G	P	VG	G	VP	G	F	VP
Busby ❀	2	R	104+	45	107	103	106	103	M	53	49	78	G	VP	G	VP	F	G	P	F
CDC Austenson ❀	2	R	112+	65	108	113+	111+	112+	L	54	46	78	G	VP	VG	F	VP	VG	P	F
CDC Bold	2	R	106+	77	111+	107+	106+	102	M	53	48	72	VG	P	G	G	VP	F	VP	VP
CDC Coalition ❀	2	R	110+	57	107	112+	108+	109+	L	53	47	74	G	VG	VG	F	VP	G	VP	F
CDC Cowboy ❀	2	R	95-	75	107	94-	93-	96-	L	52	55	103	F	P	G	F	P	G	F	G
CDC Dolly	2	R	101	184	97	100	103+	100	M	53	49	74	F	VP	F	F	F	P	VP	G
CDC Maverick ▲	2	S	95-	43	XX	90-	97	96	M	54	55	98	F	VP	VG	F	P	G	F	F
CDC Trey❀	2	R	103+	106	101	105+	101	105+	M	52	50	80	G	P	VG	G	P	VG	F	F
Chigwell ❀	6	S	104	43	XX	98	106	111+	M	49	41	76	G	P	G	P	G	G	F	VP
CONLON ❀	2	S	94-	63	97	93-	93-	96-	VE	52	52	80	G	F	F	G	VP	G	F	G
Gadsby ▲	2	R	112+	45	XX	114+	114+	108+	M	53	51	83	F	VG	VG	F	VG	G	P	F
Muskwa ▲	6	S	105+	44	XX	103	105	110+	M	50	42	73	G	P	VG	P	G	G	P	VP
Ponoka ❀	2	R	108+	120	101	107+	110+	109+	L	51	46	80	G	VG	VG	F	G	G	P	F
Seebe	2	R	101	229	97	100	102	100	VL	52	50	86	G	VP	VG	F	G	P	VP	G
Sundre ❀	6	S	110+	72	100	105	112+	117+	L	51	43	86	G	P	VG	P	VG	F	P	VP
Trochu ❀	6	S	107+	136	101	102	109+	112+	M	49	41	78	G	P	G	G	F	G	VP	F
HULLESS																				
Previously tested varieties (Yield and agronomic data only directly comparable to AC Metcalfe)																				
CDC Clear ▲	2	R	95-	43	XX	92-	100	XX	L	62	47	85	G	VG	VG	F	VP	VG	P	G
CDC Carter ❀	2	R	97-	45	97	99	94-	XX	M	62	39	77	VG	VG	VG	VP	P	G	F	F
CDC McGwire ❀	2	R	93-	107	88-	93-	99	XX	M	61	39	80	VG	P	G	G	F	G	F	G
Tyto	6	S	81-	72	79-	84-	96	96	M	55	40	73	VG	VP	VG	F	P	F	VP	P

Remarks: General Purpose barley varieties are described as follows: 1) General Purpose varieties - standard height and semi-dwarf 2) Hulless - Hulless General Purpose type. Hulless varieties yield 9-12% lower than hulled varieties. Hulless seed is more susceptible to damage than hulled seed, so handling should be minimized. CDC Carter, CDC McGwire and Tyto are normal starch barleys suitable for food use. CDC Clear is a hulless malting variety. New registrations: Amisk (BT593) and Canmore (TR10694). BT596, TR12733 and TR12735 - Insufficient data to describe. ❀ - Protected by Plant Breeders' Rights. ▲ - Plant Breeder's Rights applied for. XX - Insufficient data to describe.

[1]Awn types: R = rough; S = smooth; SS = semi-smooth. [2]Yield Test Categories are based on the site means for small plot trials. The defined range for each Yield Test Category is provided in bu/ac. The actual yields for AC Metcalfe are reported in the Overall and Low, Medium, High, and Very High Yield Test Categories. Note that small plot yields may be 10-15% higher than field scale results. [3]Yield is reported relative to AC Metcalfe. Varieties that are statistically higher (+) or lower (-) yielding than AC Metcalfe are indicated. No symbol after the yield figure indicates no statistical difference. [4]Maturities rated as: VE = Very Early; E = Early; M = Medium; L = Late and VL = Very Late. The long term average maturity for AC Metcalfe is 95 days and is rated as Medium (M). [5]TSW: Thousand Seed Weight. [6]Resistance/Tolerance Ratings: VG = Very Good; G = Good; F = Fair; P = Poor; VP = Very Poor. [7]Varieties with ratings of Fair (F) to Very Poor (VP) for smuts should be treated with a systemic seed treatment to reduce the potential for infection.

CANADA WESTERN SOFT WHITE SPRING

Variety	Overall Yield	Overall Station Years of Testing	Yield Category[1] (% AC Andrew)			Agronomic Characteristics:								Disease Tolerance:[5]				
											Resistance to:[5]							
			Low < 45 (bu/ac)	Medium 45 - 90 (bu/ac)	High > 90 (bu/ac)	Maturity Rating[3]	Protein %	Test Weight (lb/bu)	TSW[4] (g)	Height (cm)	Lodging	Shattering	Sprouting	Loose Smut[6]	Bunt[6]	Stripe Rust	Leaf Spot	Fusarium Head Blight[7]
Varieties tested in the 2014 trials (Yield and agronomic data only directly comparable to AC Andrew)																		
AC Andrew (bu/ac)	**82**		**43**	**77**	**115**													
AC Andrew[2]	**100**	**154**	**100**	**100**	**100**	**L**	**10.9**	**61**	**39**	**79**	**VG**	**VG**	**P**	**VP**	**VP**	**F**	**P**	**F**
AAC Chiffon	104+	28	XX	105+	103	L	-0.5	56	46	92	G	VG	P	VP	VP	G	XX	VP
Previously tested varieties (Yield and agronomic data only directly comparable to AC Andrew)																		
AC Meena	97-	51	101	97-	95	L	0.0	61	37	80	G	G	F	P	VP	G	F	VP
Sadash	110+	51	113+	109+	109+	L	0.2	63	39	82	VG	VG	P	F	VP	VG	F	VP

Remarks: All soft white spring (SWS) wheat varieties have a semi-dwarf stature. AC Andrew yields about 35% more than AC Barrie. SWS wheat varieties may have potential demand as a feedstock for ethanol production. SWS wheat tends to be more susceptible to preharvest sprouting. AAC Chiffon - a new entry. - Protected by Plant Breeders' Rights. XX - Insufficient data to describe.

[1]Yield Test Categories are based on the site means for small plot trials. The defined range for each Yield Test Category is provided in bu/ac. The actual yields for AC Andrew are reported in the Overall and Low, Medium, and High Yield Test Categories. Note that small plot yields may be 10-15% higher than field scale results. [2]Yields are reported relative to AC Andrew. Varieties that are statistically higher (+) or lower (-) yielding than AC Andrew are indicated. No symbol after the yield figure indicates no statistical difference. [3]Maturities rated as: VE = Very Early; E = Early; M = Medium; L = Late; VL = Very Late. The long term average maturity for AC Andrew is 110 days and is rated as Late (L). [4]Thousand Seed Weight. [5]Resistance/Tolerance Ratings: VG = Very Good; G = Good; F = Fair; P = Poor; VP = Very Poor. [6]Varieties with ratings of Fair (F) to Very Poor (VP) for loose smut or bunt should be treated with a systemic seed treatment to reduce the potential for infection. [7]Fusarium Head Blight (FHB) infection is highly influenced by the environment and heading date.

CANADA PRAIRIE SPRING RED																	
Variety	Overall Yield	Overall Station Years of Testing	Yield Category[1] (% AC Barrie)			Agronomic Characteristics:							Disease Tolerance:[5]				
			Low < 45 (bu/ac)	Medium 45 - 90 (bu/ac)	High > 90 (bu/ac)	Maturity Rating[3]	Protein %	Test Weight (lb/bu)	TSW[4] (g)	Height (cm)	Resistance to:[5] Lodging	Resistance to:[5] Sprouting	Loose Smut[6]	Bunt[6]	Stripe Rust	Leaf Spot	Fusarium Head Blight[7]
Varieties tested in the 2014 trials (Yield and agronomic data only directly comparable to AC Barrie)																	
AC Barrie (bu/ac)	**63**		**16**	**58**	**92**												
AC Barrie[2]	**100**	**28**	**100**	**100**	**100**	**M**	**13.6**	**63**	**37**	**88**	**G**	**G**	**G**	**F**	**VP**	**P**	**F**
AAC Ryley	118+	37	XX	120+	114+	M	-0.6	61	48	82	G	G	F	VG	VP	P	P
Enchant VB *	115+	37	XX	119+	112	M	-0.7	62	48	85	F	G	P	VG	XX	P	VP
AAC Penhold	115+	28	XX	121+	111+	M	-0.4	56	46	73	VG	G	F	VG	G	F	G
AAC Foray VB	127+	28	XX	131+	118+	M	-0.7	56	52	88	G	G	P	F	G	P	F
SY985 *	112+	51	XX	115+	109+	M	0.1	62	44	78	G	P	VG	G	XX	F	F
SY995	117+	28	XX	119+	111+	M	-1.3	55	45	82	G	P	VP	G	G	P	P
Previously tested varieties (Yield and agronomic data indirectly comparable to AC Barrie)																	
5700PR *	117+	117	XX	121+	113+	L	-1.9	62	42	75	VG	F	P	VG	P	P	P
5701PR *	115+	113	XX	119+	112+	M	-1.6	61	42	78	G	P	F	F	G	P	VP
5702PR *	117+	52	XX	119+	114+	M	-1.8	61	40	79	G	P	P	F	P	F	P
AC Crystal *	115+	278	XX	119+	113+	L	XX	62	42	79	G	P	F	VG	VP	F	VP
AC Foremost *	116+	124	XX	119+	112+	M	XX	62	43	73	VG	F	F	VG	VP	P	VP
Conquer VB *	121+	51	XX	123+	120+	M	-0.8	62	45	84	G	P	P	VG	G	F	P

CANADA WESTERN GENERAL PURPOSE

Varieties tested in the 2014 trials (Yield and agronomic data only directly comparable to AC Barrie)

AAC NRG097	123+	28	XX	123+	119+	L	-2.4	55	47	83	G	F	F	VG	VP	F	F
AAC Pro-claim	115+	28	XX	118+	115+	M	-2.2	55	40	92	F	G	G	VP	P	F	G
Pasteur *	137+	37	XX	142+	132+	L	-2.3	56	42	82	VG	G	P	VP	G	F	F
SY087	122+	28	XX	124+	111+	M	-0.8	56	41	85	G	F	P	G	G	F	G

Previously tested varieties

CDC NRG003 □ *	121+	51	XX	125+	118+	M	-1.9	61	43	80	G	F	P	VG	XX	P	VP
NRG010 □*	126+	51	XX	130+	122+	L	-2.6	62	41	83	G	P	P	VG	VG	F	P
Minne-dosa □*	120+	44	XX	1124+	117+	M	-1.9	62	43	82	G	G	F	G	G	P	P

Remarks: CPS varieties are more susceptible to take-all root rot than other wheat classes. More recent varieties of CPSR have improved quality compared to AC Foremost and AC Taber. AAC Foray VB, Conquer VB and Enchant VB are midge resistant CPSR varieties. VB - designates a varietal blend to preserve the *Sm1midge tolerance gene. Varieties in the General Purpose market class are intended for ethanol and livestock feed purposes. New registries: AAC NRG097 (GP097), AAC Proclaim (GP80), AAC Penhold (HY1319), AAC Foray (HY1610), SY087 (GP087) and SY995 (HY995). AAC Crusader (HY1603), AAC Innova (GP47) and AAC Tenacious (HY1615) - Insufficient data to describe. □ - Protected by Plant Breeders' Rights. □ - Plant Breeders' Rights applied for. XX - Insufficient data to describe. * These varieties have limited data compared to AC Barrie - yields are indirect comparisons to AC Barrie based on AC Crystal.*

[1]Yield Test Categories are based on the site means for small plot trials. The defined range for each Yield Test Category is provided in bu/ac. The actual yields for AC Barrie are reported in the Overall and Low, Medium, and High Yield Test Categories. Note that small plot yields may be 10-15% higher than field scale results. [2]Yields are reported relative to AC Barrie. Varieties that are statistically higher (+) or lower (-) yielding than AC Barrie are indicated. No symbol after the yield figure indicates no statistical difference. [3]Maturities rated as: VE = Very Early; E = Early; M = Medium; L = Late; VL = Very Late. The long term average maturity for AC Barrie is 106 days and is rated as Medium (M). [4]Thousand Seed Weight. [5]Resistance/Tolerance Ratings: VG = Very Good; G = Good; F = Fair; P = Poor; VP = Very Poor. [6]Varieties with ratings of Fair (F) to Very Poor (VP) for loose smut or bunt should be treated with a systemic seed treatment to reduce the potential for infection. [7]Fusarium Head Blight (FHB) infection is highly influenced by the environment and heading date. Under high levels of FHB all varieties will sustain damage. Good (G) and Very Good (VG) tolerance ratings for FHB do not equate to immunity.