Battle River Research Group

www.battleriverresearch.com

ANNUAL REPORT 2024

Photo by Kabir Makan

Improve Agriculture with Independent Producer Driven Research

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WE ARE LOOKING FOR PRODUCERS WHO ARE INTERESTED IN TRYING & TESTING NEW INNOVATIVE IDEAS ON THEIR FARMING OPERATIONS. PLEASE CONTACT BRRG WITH YOUR IDEAS & WE CAN HELP MAKE YOUR IDEA A REALITY!

Photo by Kabir Makan

Battle River Research Group is a producer-led research organization located in East Central Alberta. BRRG owns a Facility in Forestburg that includes a fenced compound, and an over 3000 sq. ft shop and an office building.

We offer small plot research services under supervision of qualified staff. We are research partner in many government and industrial research projects including variety, fertilizers and soil health research. Please check our website battleriverresearch.com for further details about projects

Photos by Kabir Makan

Table of Contents

Photos by Kabir Makan

President's Message 1
BRRG Group & Membership 2
Board Members 3
Our Staffs 5
Research 2024..... 6
BRRG Extension Events 2024 27
UOA Student visit 43
Analytics 45
Financial Report 47
Thank you 48

Battle River
Research Group
www.battleriverresearch.com

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Battle River Research Group

www.battleriverresearch.com

MISSION

To perform high-quality producer-driven research and knowledge transfer for the advancement of all agriculture stakeholders.

VISION

Improving sustainability through innovation in agriculture.

President Report 2024

BY DON KROETCH

The Battle River Research Group continues its mission to drive sustainable agricultural practices, environmental stewardship, and scientific research in the Battle River region. This year, BRRG made significant progress in its ongoing projects, collaborated with local and regional stakeholders, and contributed to a variety of initiatives focused on climate change adaptation, land health, and rural sustainability. This year we will welcoming a new team member to BRRG. Ahsan Rajper will be assuming the role as BRRG new manager! Ahsan is leaving his role as Research Coordinator at Suncrest college in Yorkton Sak. He comes to us with a very strong skill set and will be valuable team member along with our other team members Alex Olson and Kabir Makan! The board is excited to begin 2025 with this very talented team.

In 2024 BRRG continued its efforts to investigate and implement sustainable farming practices. The group ran several soil health and crop rotation studies designed to improve land productivity while increasing sustainability in our agriculture industry.

Partnerships with local farmers were strengthened, including workshops and field days where researchers shared the latest findings on sustainable agriculture techniques and technology.

BRRG also teamed up with local schools and educational groups to raise awareness about importance of agriculture through youth engagement programs.

Public workshops and seminars were held, focusing on topics like agriculture innovation, sustainable practices and new technology driven by our producers.

DON KROETCH

BOARD OF DIRECTORS PRESIDENT

BRRG successfully secured new funding for ongoing research projects, including grants from provincial (RDAR, AB AG), federal agencies and private sector partnerships. These funds allowed the group to expand its research on topics that are important to our local producers.

BRRG plans to expand its partnerships with agricultural producers to increase the adoption of sustainable farming practices. The group will continue its research on the challenges faced by our producers, especially for water management and crop diversification, to help local farmers withstand drought conditions. Emphasis will be placed on the new technologies, with a focus on precision agriculture tools that provide real-time data to farmers for more efficient resource use. BRRG aims to broaden its educational programs and workshops to include a wider audience, from rural families to urban citizens, fostering a deeper connection to the agriculture community.

For more information about the exciting programs and services BRRG provides please go to our website.

https://www.battleriverresearch.com/

MEMBERSHIP

The Battle River Research Association (BRRG) came into existence after the amalgamation of the Battle River Forage Association and the Battle River Applied Research Association in 1993. We are in Forestburg, Alberta, allowing us to efficiently serve the east-central region of Alberta.

We serve the counties of Paintearth, Stettler, Beaver, and Flagstaff. The Battle River Research Group has three programs to help serve the local producer, including the field Crops Program forage program, extension & Environmental Program.

BRRG Free Membership is open to agricultural producers or other agricultural stakeholders outside East Central Alberta interested in the Association's objectives.
Visit **battleriverresearch.com** to Become a Member.

Photo by Kabir Makan

ACKNOWLEDGEMENT

Battle River Research Group gratefully acknowledges the base funding provided by Results Driven Agriculture Research (RDAR). This foundational support enables BRRG to carry out applied research, knowledge transfer, and producer-focused innovation across East Central Alberta. RDAR's investment is critical to advancing sustainable, science-based agriculture in our region.

OUR BOARD MEMBERS

Don Kroetch
Flagstaff, Alberta

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Stettler, Alberta

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Stettler, Alberta

OUR STAFF

Khalil Ahmed PhD., PAg
Manager (2024)

Ahsan Rajper PhD.
Manager (2025)

We thank Khalil Ahmed for his leadership over the past several years and welcome Ahsan Rajper as the new manager starting in January 2025.

Alexander Olson BSc.
Research Coordinator

Kabir Makan B.M.S
Extension Coordinator

Dona Stoddart
Payroll & Bookkeeper

SUMMER STUDENTS

Kevin Masigwa

Caitlyn Arychuk

Bodi Goodrich

RESEARCH 2024

Early spring 2024 had a lot of rain in the Forestburg area which made early seeding difficult. Reducing what we could get done and resulting in later seeding of some of our plots. Many of our trials also suffered from a lack of moisture later in the summer. We had a frost in June which set back sensitive crops like canola and lupins. Further south grasshoppers reduced yields. As ever, weather challenges can lead to variation in our results.

Photos by Kabir Makan

DEEP ROOTED COVER CROP TRIAL

INTRODUCTION

Year 3: This is trial was started in 2022 as cover crops planted on Canola stubble. In 2023 peas, canola, and wheat were planted parallel to the cover crop stubble. This cycle of cover crops and traditional crops continued in 2024 with cover crops and will be finished this year with traditional crops.

The main objective of this trial is to assess the benefits of cover crops on the water holding capacity of the soil. By planting cover crops with deep roots, we hope to see faster water infiltration and a large water holding capacity of those plots compared to plots that are just left fallow. The seeding rate has also been adjusted to have different densities of cover crops.

THE DOUBLE RING INFILTROMETER IN CANOLA STUBBLE. MULTIPLE INFILTRATIONS REQUIRE LARGE QUANTITIES OF WATER. PHOTO BY ALEXANDER OLSON

METHODS

The majority of the testing for this trial was completed in the spring before the planting of the crop. We have two water infiltration tests. One has a large protective ring (Fig. 1) around the smaller infiltration ring so that the infiltrating water can only penetrate the ground vertically and gives a better description of the water holding capacity of the soil. All of these tests must be completed before seeding therefore we completed the double ring infiltrations only on one replication of the trail. The mini disc infiltration was completed on all of the plots before seeding because it is a quicker test (Figure 2).

After these tests were completed during the growing season, we received 220 mm of precipitation from May 1 to October 1 as measured at the weather station 7 miles north west of our site at the Forestburg Weather Sation (Acis.Alberta.com). We planted our plots in the same orientation as in 2022 (perpendicular to 2023). At seeding the plots were fertilized with 167 lbs/ac of Urea, and 25 lbs/ac of Muriate of Potash, and 23 lbs/ac of MAP + MST. All of the cover crops were mixed with low, medium, and high (5.4 lbs/ac, 9.6 lbs/ac, 14.4 lbs/ac) rates of deep rooted crops; Daikon Radish, Forage Radish, and Forage Turnip.

THE MINI DISC INFILTROMETER IS A SMALL TUBE THAT TESTS THE INFILTRATION RATE ON SMALL AMOUNT OF SOIL. PHOTO BY ALEXANDER OLSON

Treatment Description	Hydraulic Conductivity
DRCC mid rateOat + Millet + Clover	0.60
DRCC mid rateCorn + Ryegrass +Vetch	0.68
DRCC high ratePea + Sunflower	0.82
DRCC mid rate	0.92
DRCC high rate	1.06
DRCC mid ratePea + Sunflower	1.66
DRCC low ratePea + Sunflower	1.70
Fallow	1.73
DRCC low rateCorn + Ryegrass +Vetch	2.25
DRC high rateCorn + Ryegrass +Vetch	2.40
DRCC high rateOat + Millet + Clover	2.50
DRCC low rate	2.50
DRCC low rateOat + Millet + Clover	6.85

TABLE 1: HYDRAULIC CONDUCTIVITY AS MEASURED BY THE DOUBLE RING INFILTROMETER.

Table 2: Yield and nutrition of deep-rooted cover crop silage harvested Sept. 18th 2024

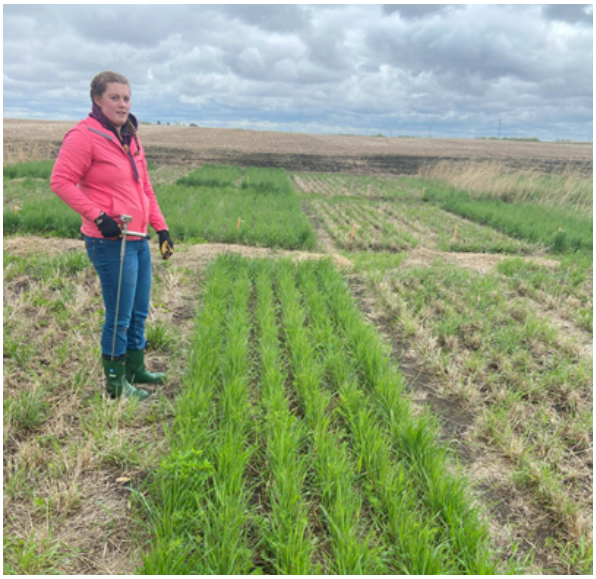
Treatment Description	Average Ton/ac	Crude Protein	TDN	Calcium	Phosphorus	Potassium	Magnesium
DRCC low rate	2.99	8.04	53.97	1.72	0.16	1.95	0.46
DRCC mid rate	2.36	8.23	53.42	1.49	0.12	1.91	0.44
DRCC high rate	2.61	8.15	52.75	1.70	0.14	2.03	0.55
DRCC low rate Oat + Millet + Clover	2.79	11.50	54.42	0.82	0.15	1.87	0.28
DRCC mid rate Oat + Millet + Clover	3.07	10.55	51.15	0.99	0.13	1.90	0.35
DRCC high rate Oat + Millet + Clover	3.02	8.00	57.20	0.78	0.16	1.55	0.33
DRCC low rate Pea + Sunflower	3.42	8.12	56.07	1.28	0.13	2.09	0.42
DRCC mid rate Pea + Sunflower	3.51	10.20	56.73	1.34	0.19	1.74	0.40
DRCC high rate Pea + Sunflower	3.41	5.67	53.08	1.20	0.16	1.88	0.40
DRCC low rate Corn + Ryegrass +Vetch	3.47	7.89	53.63	1.26	0.16	1.90	0.39
DRCC mid rate Corn + Ryegrass +Vetch	2.72	10.49	55.13	1.51	0.18	2.09	0.50
DRCC high rate Corn + Ryegrass +Vetch	2.89	12.65	47.98	1.60	0.16	2.12	0.51

PERENNIAL CEREAL GRAIN CROP TRIAL

This is a three-year trial with two years of major data collection 2023 and 2024. We seeded 128 plots of Kernza wheat or ACE 1- perennial Rye in 2022. Half of the plots were seeded with legumes in the same row and half had legumes seeded in three rows and the perennial cereals seeded in another three rows. For our purposes we were looking at the cereal yield as well as the total forage yield. The majority of the data from this trial was also being used for a University of Alberta research project looking at the advantages of legume mixes for soil moisture, temperature, and compaction. That project will be completed by Cosmas Ugwu, and Guillermo Hernandez Ramirez. This project was lead by the team at Peace Country Beef and Forage Association.

SOIL SAMPLING ON MAY 3RD NOTE THE WINTER KILL IN THE RYE PLOTS AND THE GREEN IN THE KERNZA WHEAT PLOTS. THE KERNZA WHEAT HAD MUCH BETTER SURVIVABILITY THAN THE PERENNIAL RYE. PHOTO BY ALEXANDER OLSON

PERENNIAL WHEAT KERNZA PHOTO BY ALEXANDER OLSON



CAITLYN ARYCHUK (SUMMER TECHNICIAN) ASSESSING SOIL COMPACTION. HEALTHY PLOTS ARE KERNZA WHEAT AND THE MORE WINTER-KILLED PLOTS ARE PERENNIAL RYE. PHOTO BY ALEXANDER OLSON

LOCAL GRAIN

INTRODUCTION

In the last few years, we have been growing barley and wheat variety plots to have data from our local area for producers to compare the yields of different varieties. This is a complimentary snapshot of a crop's performance. Other resources like the Alberta Seed Guide use cumulative data over multiple seasons to give long term comparison. In this local data, varieties or blends with higher yields this year may perform differently with different weather conditions. In 2024 we planted a barley and a wheat local cereal variety trial in cooperation with Chinook Applied Research Association and Gateway Research Organization. We would like to thank all the seed growers and seed cleaners that contributed to these trials including Forestburg Co-op Seed Cleaning Plant and Solick Seeds.

METHODS

The varieties were chosen with an eye for what is grown in our area or is grown with success in neighboring regions that may do well here. These trials were grown 4 miles south of Forestburg where we had 220.2mm of rain from May 1st to Sept. 30th according to the Forestburg weather station (ACIS.alberta.com 2024).
For nutrition we put down 245 lbs/ac of Urea and 33.4 lbs/ac of Muritate of Potash (MoP) and well as 34.4 lbs/ac of Monoammonium phosphate with MST (Micronized Sulfur Technology).

BARLEY VARIETY PLOT. PHOTO BY ALEXANDER OLSON

BARLEY RESULTS

The barley did well with the moisture we had. We had some wild oats in the barley, but most weeds were controlled early and did not survive until roguing. Austenson, Wrangler, Cattlac, and Canmore varieties all had yields that were statistically similar and the highest for a barley grain crop in 2024.

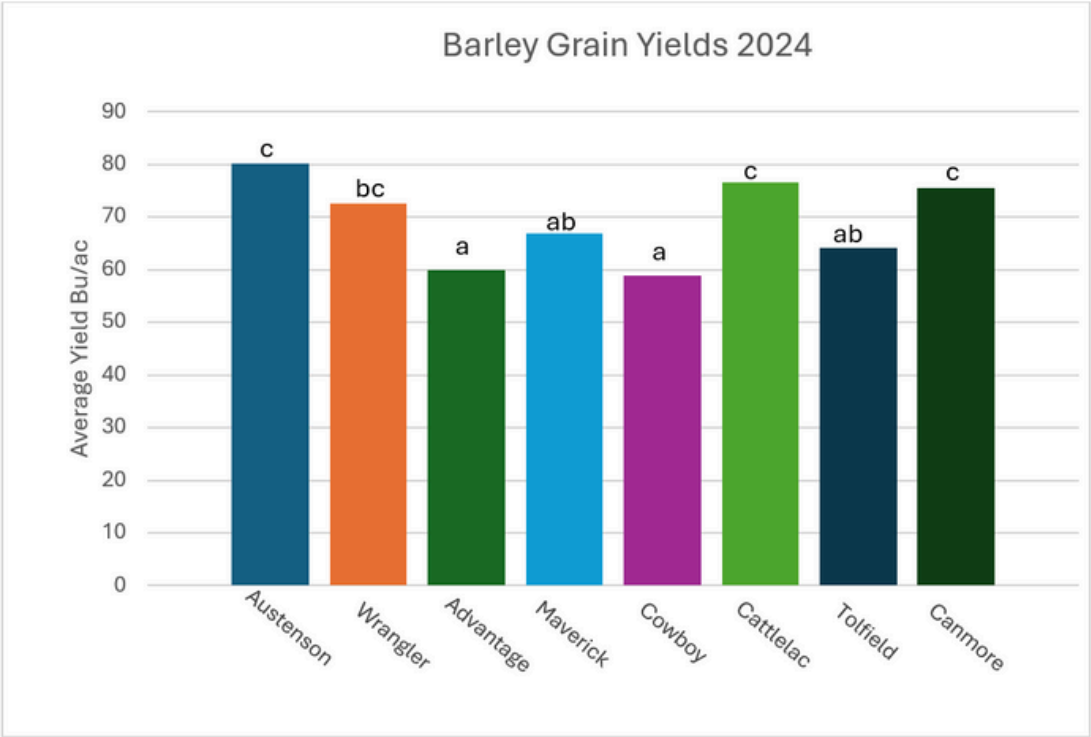


FIGURE 1: AVERAGE YIELD OF DIFFERENT BARLEY VARIETIES IN BUSHELS PER ACRE. IF TWO BARS SHARE A LETTER THEN THEY ARE NOT STATISTICALLY DIFFERENT. FOR EXAMPLE ADVANTAGE AND MAVERICK BOTH HAVE AN A ABOVE THEIR BAR SHOWING THAT THEIR YIELDS ARE STILL STATISTICALLY SIMILAR.

WHEAT RESULTS

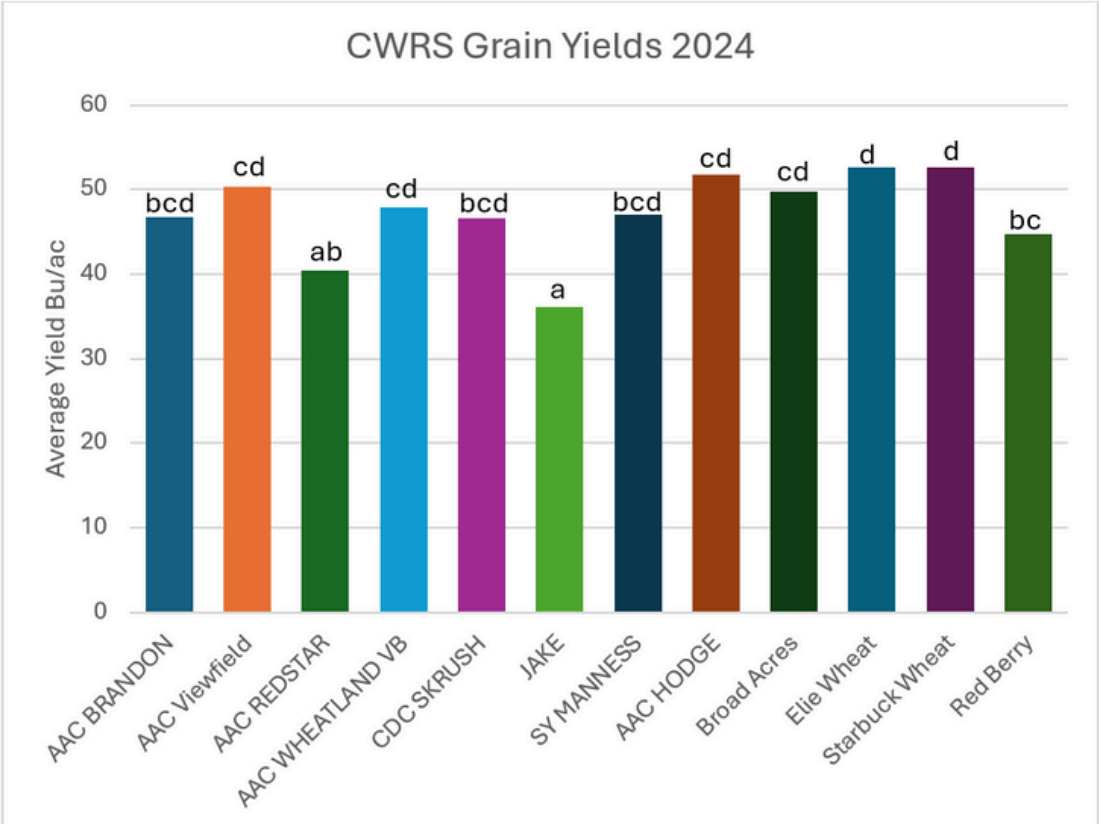


FIGURE 2: AVERAGE YIELD OF DIFFERENT CANADIAN WESTERN RED SPRING WHEAT VARIETIES IN BUSHELS PER ACRE. IF TWO BARS SHARE A LETTER THEN THEY ARE NOT STATISTICALLY DIFFERENT. FOR EXAMPLE ELIE AND SY MANNESS BOTH HAVE AN "D" ABOVE THEIR BAR SHOWING THAT THEIR YIELDS ARE STILL STATISTICALLY SIMILAR.

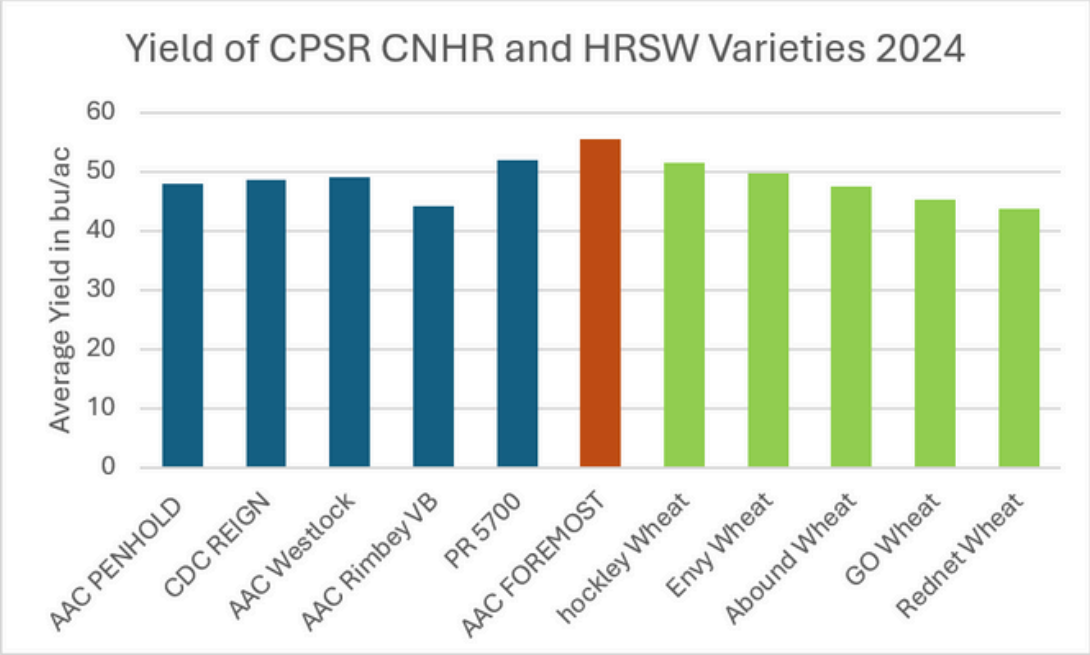


FIGURE 3: AVERAGE YIELD OF DIFFERENT WHEAT VARIETIES IN BUSHELS PER ACRE. THERE ARE NO STATISTICAL DIFFERENCES. WHAT APPEAR TO BE DIFFERENCES IN AVERAGE YIELD ARE DUE TO THE OF VARIATION BETWEEN THE PLOTS OF THE SAME VARIETY AND ARE NOT STATISTICALLY SIGNIFICANT. THE BARS IN BLUE REPRESENT THE YIELDS OF CANADIAN PRARIE SPRING RED VARIETIES, THE RED BAR IS A CANADIAN NORTHERN HARD RED VARIETY, AND THE GREEN BARS ARE HARD RED SPRING WHEAT VARIETIES.

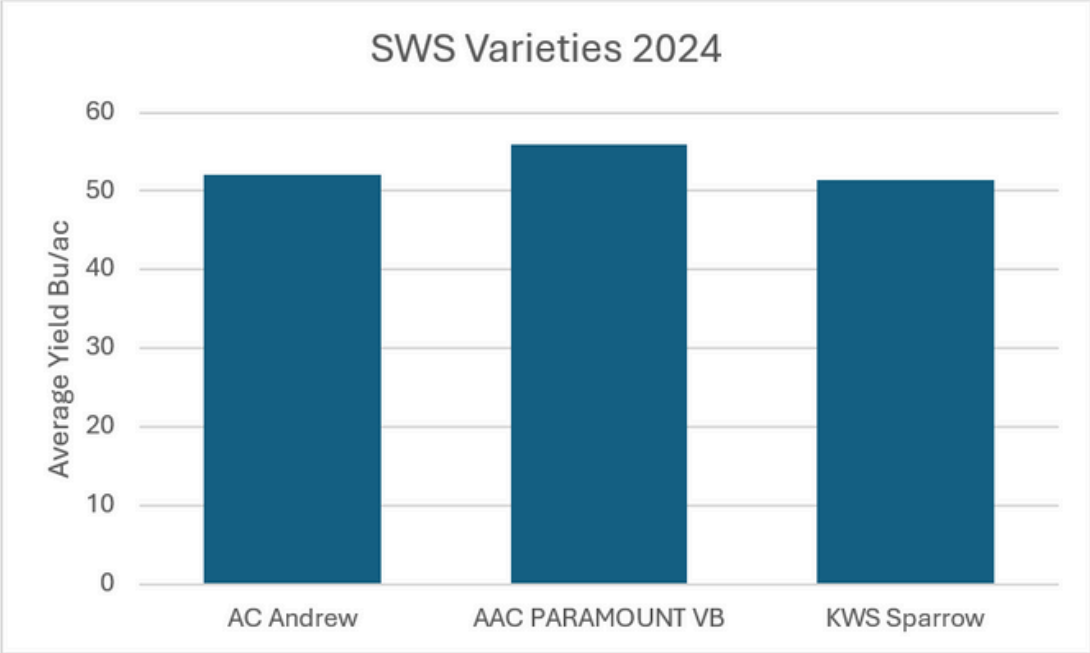


FIGURE 4: AVERAGE YIELD OF DIFFERENT SOFT WHITE SPRING WHEAT VARIETIES IN BUSHELS PER ACRE. THERE ARE NO STATISTICAL DIFFERENCES. THE AVERAGE YIELD OF THESE PLOTS SHOWED THAT IN OUR AREA AAC PARAMOUNT VB HAD A STATISTICALLY HIGHER YIELD THIS YEAR.

Of all the wheat varieties we tried this year AAC Paramount VB was the highest yielding. However it was not statistically significantly higher than others that were close to it. The different variety types are split up in the graphs to help see the differences within the groups. Only figure 2 with the CWRS varieties has statistically significant differences. From this group all but Redstar, Jake, and Redberry shared that top spot.

ANNUAL SILAGE TRIALS

INTRODUCTION

Every year BRRG grows a few types of trials looking at different forages and how they are growing in our area. This can help producers see what kind of forages will perform better and what will not perform as well. These trials are moved around between our collaborating counties so that over the years the results will be representative of our region generally.

HARVESTING WHEAT AND TRITICALE SILAGE AT LATE MILK STAGE. PHOTO BY ALEXANDER OLSON

METHODS

In 2024 we had 6 Silage trials that we tested in collaboration with Chinook Applied Research Association; oats, barley, triticale, alternatives, cover crops and, pulse cereal mixes. Our oats, barley and triticale, were grown on our main site, 4 miles south of Forestburg which received 79.8mm from seeding on June 4 to harvest on August 20th, as recorded by the Forestburg weather station (ACIS.alberta.com 2024). for that same site from May 1st to Sept. 30th the total precipitation was 220.2mm.

The Cover crops, pulse and cereal mixes and alternatives were on Hwy 36. The precipitation, as recorded at the Bellshill weather station, was 285 mm from May 1st to Sept. 30th (ACIS.alberta.com 2024).

For nutrition we put down 245 lbs/ac of Urea and 33.4 lbs/ac of Muritate of Potash (MoP) and well as 34.4 lbs/ac of Monoammonium phosphate with MST (Micronized Sulfur Technology). This fertilizer was used on the oat, triticale, barley, and alternative trials. The Pulse Mix trial received 66 lbs/ac of MAP+MST and 33.5 lbs/ac of Mop. The Cover Crop trial had no fertilizer.

SORGHUM SUDANGRASS BEFORE HEADING ON SEPTEMBER 10TH. PHOTO BY ALEXANDER OLSON

OAT SILAGE TRIAL. RESULTS

Sample ID	Yield ton/ac	Crude Protein	TDN	Calcium	Phosphorus	Potassium	Magnesium
CDC Baler	8.62	10.19	63.64	0.3	0.19	1.98	0.21
Murphey Oats	9.53	8.69	58.73	0.28	0.13	2.06	0.17
CDC Haymaker	8.08	10.56	60.19	0.37	0.13	1.74	0.23
Morgann Oats	7.98	8.31	60.12	0.3	0.13	2.09	0.16
CDC Nasser	8.41	9.31	63.09	0.26	0.14	1.76	0.18
Arborg Oats	8.95	8.31	60.65	0.27	0.14	1.99	0.19

TABLE 1. OAT SILAGE YIELD. YIELD IS OFTEN LARGER ON A PER ACRE BASES IN A SMALL PLOT COMPARED TO A FULL FIELD. YIELD CAN BE READ AS HOW WELL EACH VARIETY PERFORMED RELATIVE TO EACH OTHER.

WHEAT AND TRITICALE SILAGE RESULTS

In 2024 we also had a wheat and triticale silage trial. This trial was planted on the 4th of June and harvested on August 21st. Even with only modest rainfall in our summer season we had enough moisture from the spring rains that we had a fairly good yield in our Triticale and wheat silage. The numbers in table 2 show some variation in yield however there is no statistical difference between the yields.

Sample ID	Yield Ton/ac	Crude Protein	TDN	Calcium	Phosphorus	Potassium	Magnesium
Delight Triticale	6.61	8.94	63.94	0.22	0.19	1.20	0.10
Stampeder	6.58	9.00	62.38	0.22	0.18	1.27	0.12
Sunray	6.19	8.94	66.08	0.25	0.23	1.64	0.11
Taza	6.01	8.25	63.71	0.18	0.19	1.45	0.08
Tyndal	6.46	9.31	60.99	0.18	0.16	1.45	0.08
Awesome Wheat	6.49	8.62	62.05	0.22	0.17	1.10	0.10
Sadash Wheat	6.27	8.62	60.47	0.21	0.17	1.44	0.10

TABLE 2. YIELD AND NUTRITION FOR TRITICALE AND WHEAT SILAGE.

BARLEY SILAGE RESULTS

Crop Variety	Average Yield Tons/ac	Crude Protein	TDN	Calcium	Phosphorus	Potassium	Magnesium
Wrangler Barley	7.57	8	63.04	0.32	0.12	1.79	0.15
Altorado Barley	6.73	7.5	59.87	0.2	0.08	1.68	0.12
Maverick Barley	7.91	8.06	61.49	0.35	0.13	1.36	0.2
Hauge Barley	8.61	8.62	60.54	0.28	0.1	1.71	0.14
Canmore Barley	7.88	8	60.82	0.39	0.09	1.8	0.17
Cattelac Barley	7.73	8.69	59.57	0.39	0.1	1.74	0.18
Advantage Barley	8.16	9.12	66.7	0.3	0.17	1.67	0.18
Claymore Barley	7.36	7.31	60.01	0.3	0.09	1.82	0.16
Cowboy Barley	8.96	6.88	60.31	0.31	0.1	1.6	0.19
Austenson Barley	7.85	7.88	61.15	0.31	0.09	2.09	0.18

TABLE 3. BARLEY SILAGE YIELD AND NUTRITION

COVER CROP RESULTS

With cover crops there is a great variation in yield because the plants in the blend can respond very differently to different seasonal precipitation or other local factors. This year Fall Grazer was the blend with the highest yield but that was only significant ahead of the Finito rape, Double Down and the Custom Blend. The large variation between plots of the same variety means that even though there are large differences in the average yields those differences are not always significant.

Crop Varieties	Average Tons/ac	Crude Protein	TDN	Calcium	Phosphorus	Potassium	Magnesium
Austensen	3.60	4.62	57.41	0.21	0.14	1.18	0.13
Swath Grass	4.15	7.56	64.63	0.31	0.27	1.38	0.19
Double Down	0.99	10.38	61.6	0.88	0.24	1.95	0.42
Custom Blend	2.91	7	57.09	0.46	0.17	1.32	0.21
Fall Grazer (IS)	5.87	4.82	58.75	0.2	0.15	1.49	0.11
TG Extend (IS)	3.26	5.17	59.78	0.2	0.18	1.6	0.14
TG Balanced Silage (IS)	4.60	7.5	58.89	0.39	0.22	1.83	0.22
TG Rejuvinate (IS)	4.91	5.56	59.3	0.22	0.18	1.42	0.1
Dryland (UF)	5.40	7.31	62.97	0.26	0.2	1.52	0.14
Regraze (UF)	4.18	5.74	60.62	0.18	0.19	1.57	0.14
Finito Rape	0.55	6.56	58.89	1.37	0.15	1.6	0.27

TABLE 4. YIELD AND NUTRITION OF DIFFERENT COVER CROPS.

CEREAL PULSE MIX RESULTS

Description	65% Moisture Average ton/ac	Dry Yield Average Yield	Crude Protein	TDN	Calcium	Phosphorus	Potassium	Magnesium
Wrangler	1.71	0.60	9.19	68.47	0.18	0.28	0.9	0.19
Baler	3.97	1.39	6.11	62.38	0.18	0.19	1.18	0.15
Delight	2.02	0.71	7.69	62.61	0.16	0.22	1.12	0.11
AAC Awesome	1.67	0.59	8.06	62.76	0.15	0.24	1.38	0.14
Wrangler/ Lacrosse Pea	1.69	0.79	7.5	60.17	0.46	0.16	1.13	0.22
Baler/ Lacrosse Peas	4.39	1.54	6.44	63.32	0.2	0.19	0.87	0.14
Delight/Lacrosse Peas	1.95	1.54	8.31	60.37	0.39	0.2	1.06	0.18
Awesome / Lacrosse Peas	3.15	1.47	7.88	66.23	0.22	0.18	1.28	0.13
Wrangler / Lentils	2.22	0.78	8.06	67.99	0.36	0.2	1.1	0.16
Baler / Lentils	3.28	1.15	12.69	61.06	0.72	0.2	1.05	0.25
Delight / Lentils	0.91	0.32	8.25	59.47	0.38	0.22	1.18	0.24
Awesome / Lentils	2.99	1.05	8.81	60.93	0.34	0.21	1.27	0.16

TABLE 5: YIELD AND NUTRIENTS OF CEREAL PULSE MIXED SILAGE

ALTERNATIVE SILAGE RESULTS

We have been doing these trials for a few years and many alternatives silages do not have much to offer as a monocrop. The yields can look a lot higher for these crops because we harvest them from a smaller area than a whole plot which results in a higher looking yield than could be achieved in a full field.

Harvested on Aug. 16th 2024							
Crop Description	Average Tons/ac	Crude Protein	TDN	Calcium	Phosphorus	Potassium	Magnesium
Austensen	92.48	9.19	68.27	0.13	0.16	1.16	0.12
Turnips	25.24	16.44	76.7	1.68	0.19	4.17	0.47
Crown Millet	49.87	10	64.15	0.21	0.3	1.79	0.22
Sorghum	22.93	11.62	66.4	0.35	0.21	2.74	0.24
Pearl Millet	23.28	12.38	68.53	0.4	0.28	3.82	0.27
Japanese Millet	36.70	13.56	64.79	0.74	0.22	3.1	0.4
Sorghum Sudangrass	17.50	10.56	64.84	0.42	0.21	2.63	0.21
Radish	35.45	11.69	58.9	1.46	0.23	1.71	0.38
Sunflower	47.17	19.31	76.5	0.96	0.41	4.1	0.48
Phacelia	26.73	13.12	61.04	1.94	0.16	2.44	0.74
Plantain	16.86	15.5	66.5	1.08	0.27	1.63	0.36
Chicory	11.07	17.56	78.9	1.02	0.21	2.8	0.28
Turnip_Bottoms	28.19	14.44	67.41	1.18	0.2	2.91	0.33

TABLE 6: ALTERNATIVES SILAGE YIELDS AND NUTRITION

LEFT TO RIGHT TOP, SORGHUM, CROWN MILLET, BOTTOM; PHACILIA, AND PLANTAIN. PHOTOS BY ALEXANDER OLSON

LEFT TO RIGHT, TOP TURNIP BOTTOMS, FORAGE TURNIP, BOTTOM SORGHUM SUDANGRASS AND CHICORY. PHOTO BY ALEXANDER OLSON

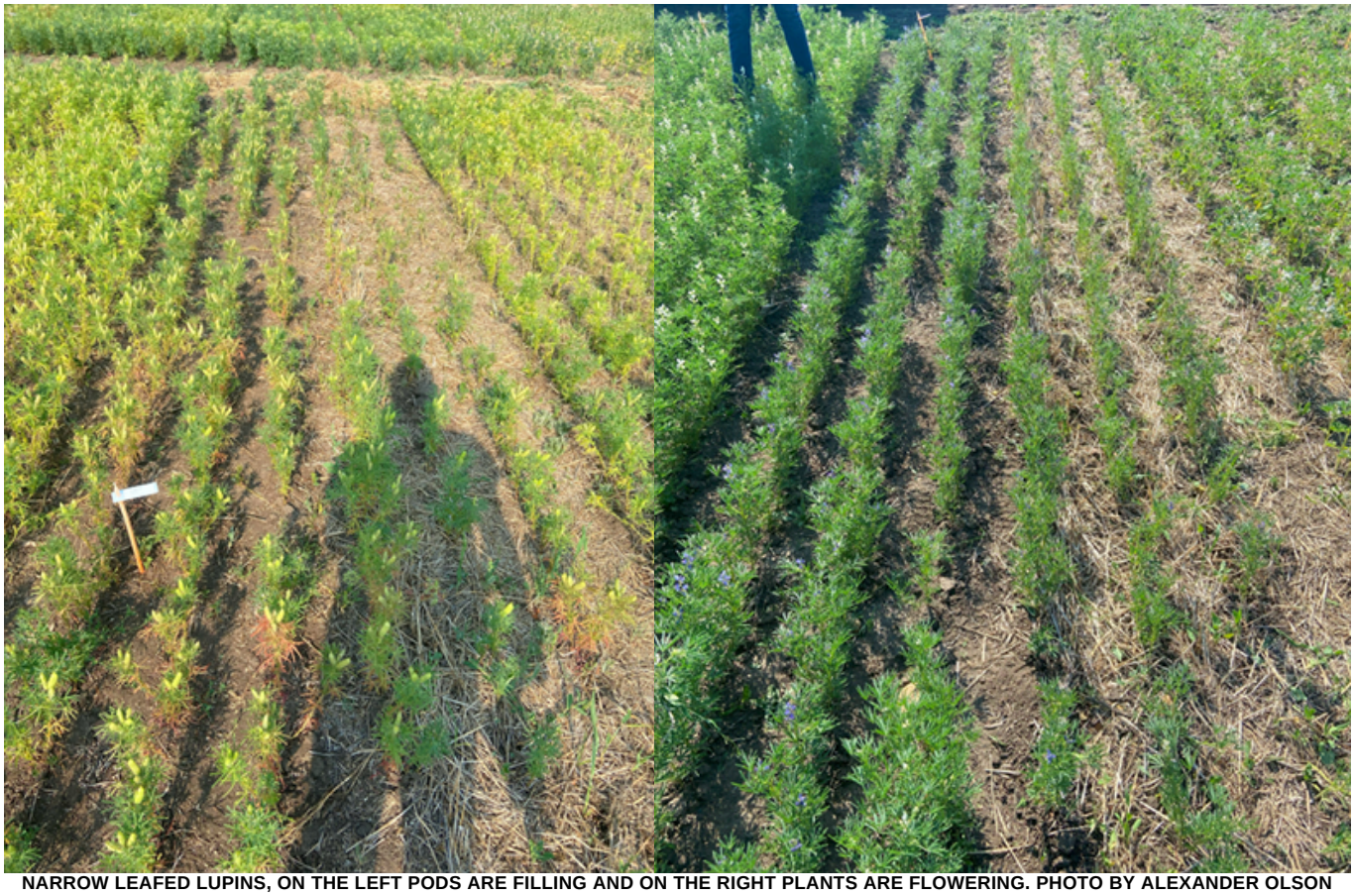
SUNFLOWERS JUST BEFORE FLOWERING ON AUGUST 16TH. PHOTO BY ALEXADER OLSON.

Harvested on Oct. 7th 2024							
second harvest	Average Tons/ac	Crude Protein	TDN	Calcium	Phosphorus	Potassium	Magnesium
Crown Millet	26.82	6.69	61.35	0.18	0.14	1.48	0.18
Sorghum	50.55	6.31	62.17	0.25	0.17	1.37	0.22
Pearl Millet	31.05	7.06	63.89	0.3	0.16	2.47	0.22
Japanese Millet	64.50	9.06	62.08	0.36	0.16	2.35	0.34
Sorghum Sudangrass	62.77	5.65	61.32	0.33	0.17	1.86	0.17
Sunflower	72.40	12.56	70.06	1.05	0.37	3.18	0.5

TABLE 7: SECOND HARVEST OF ALTERNATIVE SILAGES HARVESTED ON OCT. 7TH.

LUPINS

In 2024 we worked with Lupin Platforms Inc. To source lupin seeds that are being developed for use in Alberta regions.



NARROW LEAFED LUPINS, ON THE LEFT PODS ARE FILLING AND ON THE RIGHT PLANTS ARE FLOWERING. PHOTO BY ALEXANDER OLSON

METHODS

To facilitate the maintenance of these crops that are new to Alberta production they were separated by buffers and only randomized within each crop type. There are currently few registered herbicides for Lupins so our preseed spray was very important. There was also the challenge of weather. In June we had a fairly harsh frost that really affected the lupins and crops like faba beans but peas and cereals did better in. We received 220.2mm of rain from May 1st to Sept. 30th as measured at the Forestburg weather station (ACIS.alberta.com 2024).

Plots were planted on May 15th with 66 lbs/ac of MAP+MST and 33.5 lbs/ac of Mop. Only 22lbs/ac of the MAP combo was applied with the seed and the mix of the rest of the MAP and Mop was applied in a sideband. Due to the different rates of maturation of the different crops were harvested at different times. The narrow-leaved lupins and yellow peas were harvested on September 5, the faba beans were harvested on the 9th of September, and the broad-leaved lupins were harvested on September 25th.

RESULTS

The seed sizes for lupins are in-between peas and faba beans and I did not get good data on the volume of the lupins to get a good bushel/acre conversion so the units are still in kilograms per acre (Fig. 1).

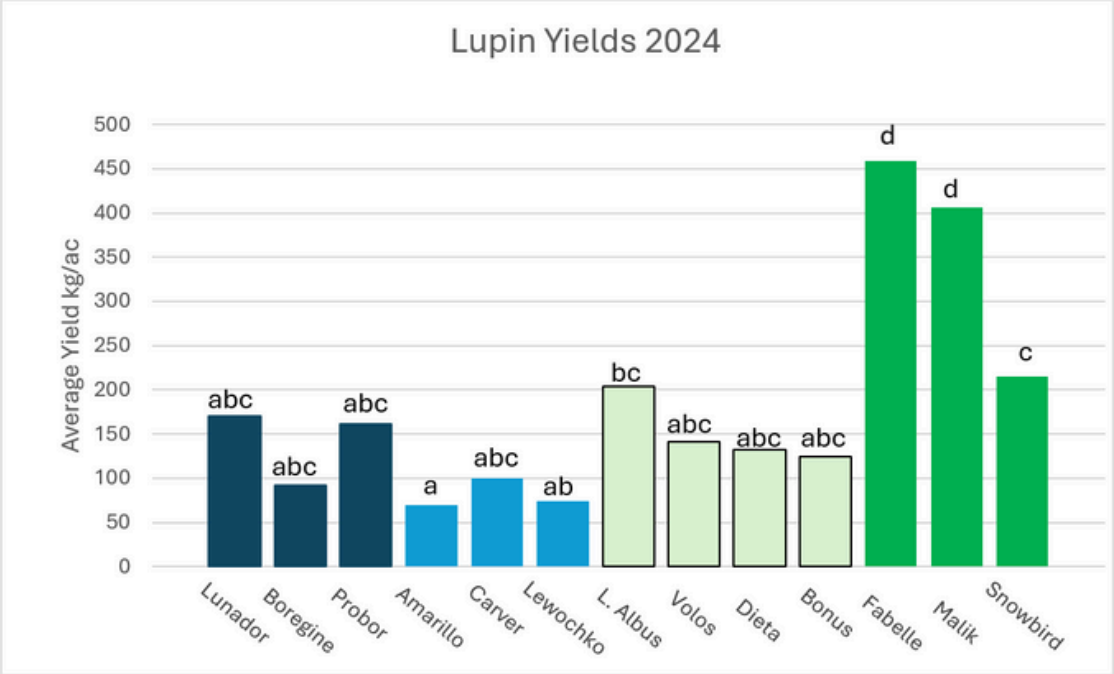


FIGURE 1: AVERAGE YIELD OF DIFFERENT PULSE CROPS IN KILOGRAMS PER ACRE. THE DARK BLUE BARS REPRESENT NARROW-LEAVED LUPINS, THE LIGHT BLUE REPRESENTS YELLOW PEAS, THE LIGHT GREEN IS THE BROADLEAFED LUPINS, AND THE GREEN BARS REPRESENT FABA BEANS. IF TWO BARS SHARE A LETTER THEN THEY ARE NOT STATISTICALLY DIFFERENT. FOR EXAMPLE AMARILLO AND VOLOS BOTH HAVE AN A ABOVE THEIR BAR SHOWING THAT THEIR YIELDS ARE STILL STATISTICALLY SIMILAR.

WHITE LUPINS AFTER FROST IN JUNE. THE FROST SLOWED THE LUPINS DOWN AND MAY HAVE AFFECTED THEIR OVER ALL PRDUCTIVNESS. PHOTO BY ALEXANDER OLSON

HUMALITE

PEAS IN A PLOT WITH HUMALITE APPLIED. PHOTO BY ALEXANDER OLSON

METHODS

In 2024 BRRG collaborated with Dr. Linda Gorim at the U of A on a project looking at how humalite applied to the soil effects the root nodulation in peas and if it can improve yield. This trial was a continuation of the trials that were had done with wheat and canola seeing if humalite could replace some of the nitrogen application in those crops. Our site in 2021-2023 had fairly high organic matter at 5-5.6% and we wanted to see if there was a more pronounced benefit to the use of humalite in more marginal land. Our new site for the pea crop had lower OM at 4.7 % it also had high soil sodium at 131 ppm compared to the 37 ppm at the previous site.

Our peas were planted later due the muddiness of that field. It was difficult to get our small plot equipment out there however we got it done on May 27th. By then the ground had dried up so much and we did not get rain for several weeks so our germination was rather spotty.

ROOT NODULES ON PEA PLANT FROM A PLOT WITH 800 LBS/AC OF HUMALITE APPLIED. PHOTO BY ALEXANDER OLSON

RESULTS

There was no significant benefit to the higher rates of Humalite compared to the lower rates or even the plots with no Humalite (Fig.1).

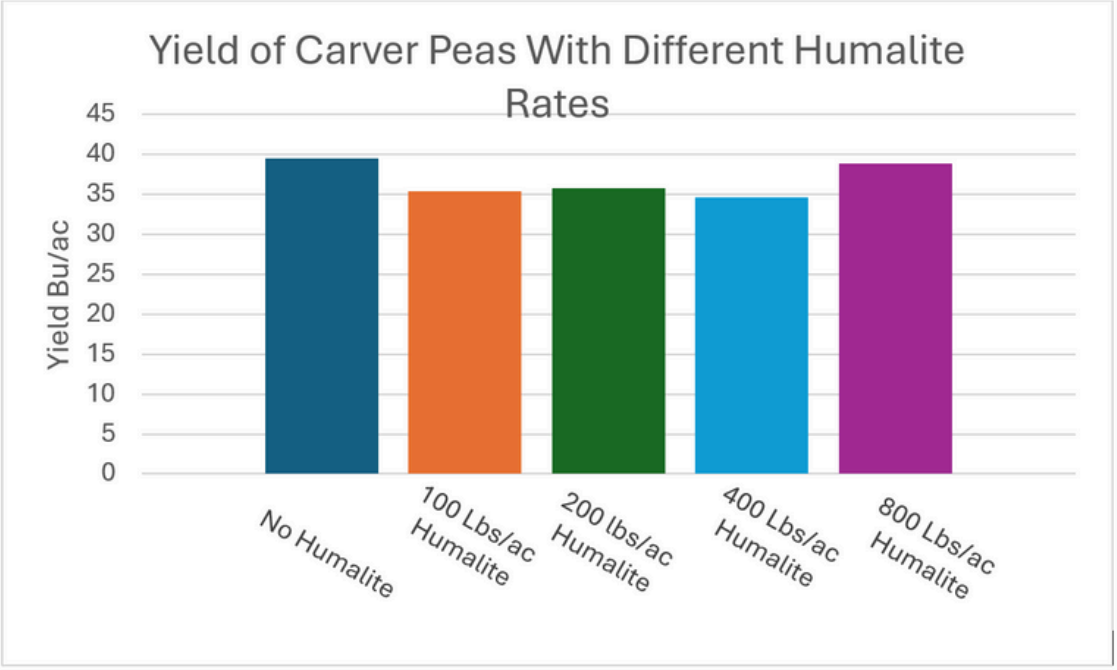


FIGURE 1: THE YIELD OF CARVER PEAS ON DIFFERENT RATES OF HUMALITE.

ROOT NODULES ON PEA PLANT FROM A PLOT WITH 100 LBS/AC OF HUMALITE APPLIED. PHOTO BY ALEXANDER OLSON

ROOT NODULES ON PEA PLANT FROM A PLOT WITH NO HUMALITE APPLIED. PHOTO BY ALEXANDER OLSON

KOCHIA

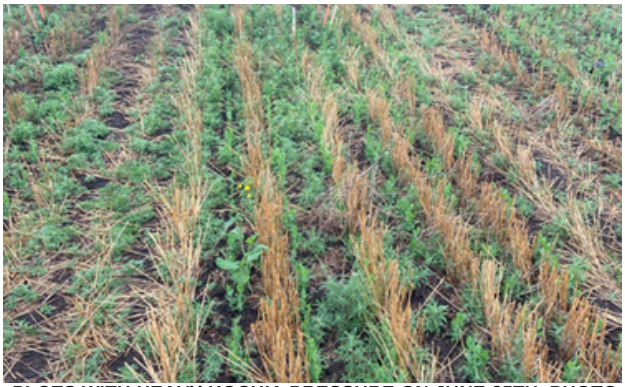
In 2024 we started a project to evaluate the efficacy of pre-seed herbicide mixes on kochia in peas. The range of kochia has been growing in recent hot and dry summers and it is a problem in all prairie provinces especially since kochia populations are becoming more resistant to difference herbicide groups. Kochia does well in salty and alkaline soils and often establishes a foothold in bad patches of a field and spreads from there. There are no reliable in-crop herbicides for peas and even glyphosate as a burndown has been seeing reduced effectiveness against kochia. We hope to provide information on what herbicide combinations can best protect pea crops against kochia encroachment. We are running this project in 2025 as well. This project was started with CARA and was seeded in Paintearth County southeast of Fleet.

KOCHIA OVERWHELMING PEA PLOTS AT HARVEST ON SEPT. 4TH. PHOTO BY ALEXANDER OLSON.

METHODS

Ten different treatments were formulated to test different products with a no spray and a glyphosate only control treatment. The herbicide applications were made directly before seeding. The plots were seeded on May 28th. Fertilizer was 66 lbs/ac of MAP+MST and 33.5 lbs/ac of Mop. Only 22lbs/ac of the MAP combo was applied with the seed and the mix of the rest of the MAP and Mop was applied in a sideband.

Kochia plant density was counted at seeding and often thereafter.



PLOTS WITH HEAVY KOCHIA PRESSURE ON JUNE 25TH. PHOTO BY ALEXANDER OLSON.

RESULTS

Our plots were seeded later than we would have liked and we did not see a long term significant benefit to any of these treatments. The kochia population was overwhelmingly dense in most of our plots. Plots that did have better performance had lower kochia populations earlier in the year. Biomass of the Kochia was measured at the pea harvest. By then it had taken over a lot of the plot so there was a very high mass of kochia plants. Our initial density of kochia was two high to get an any long term control from any of these herbicide combinations. In 2025 the herbicides will be applied in the fall as and will rely on residual action. However the new site should have a more manageable kochia population.

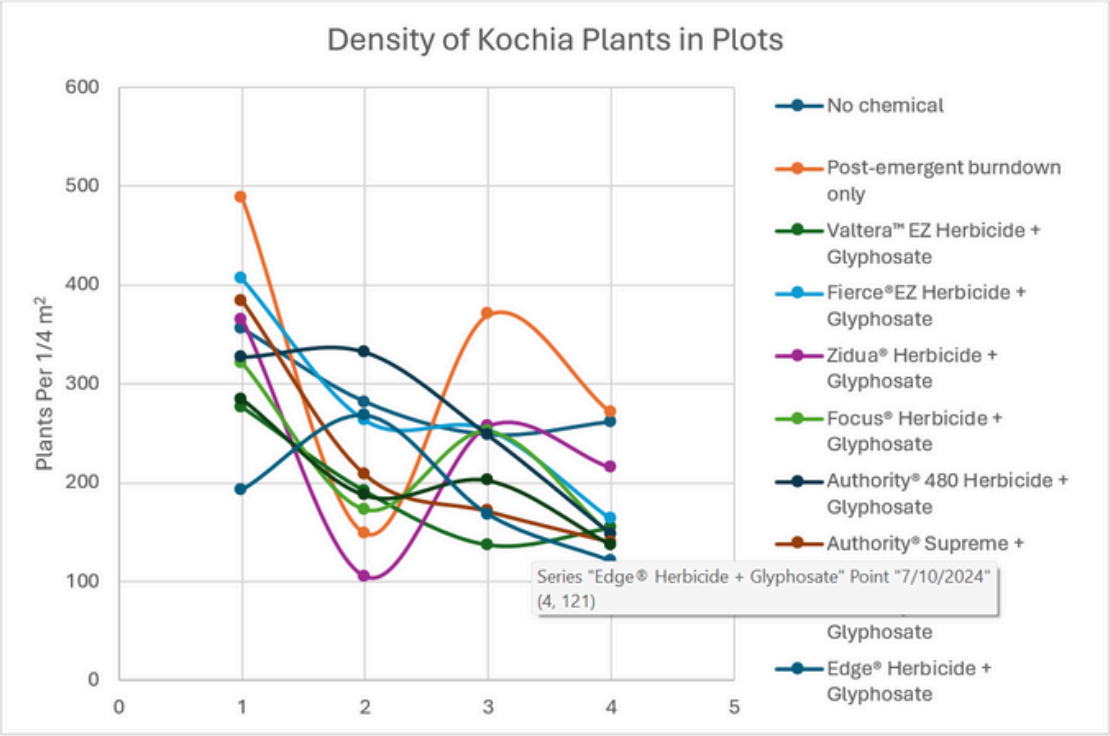


FIGURE 1: COUNT OF KOCHIA PER IN A QUARTER METER SQUARED ON MAY 28TH, JUNE 12TH, JUNE 25TH, AND JULY 10.

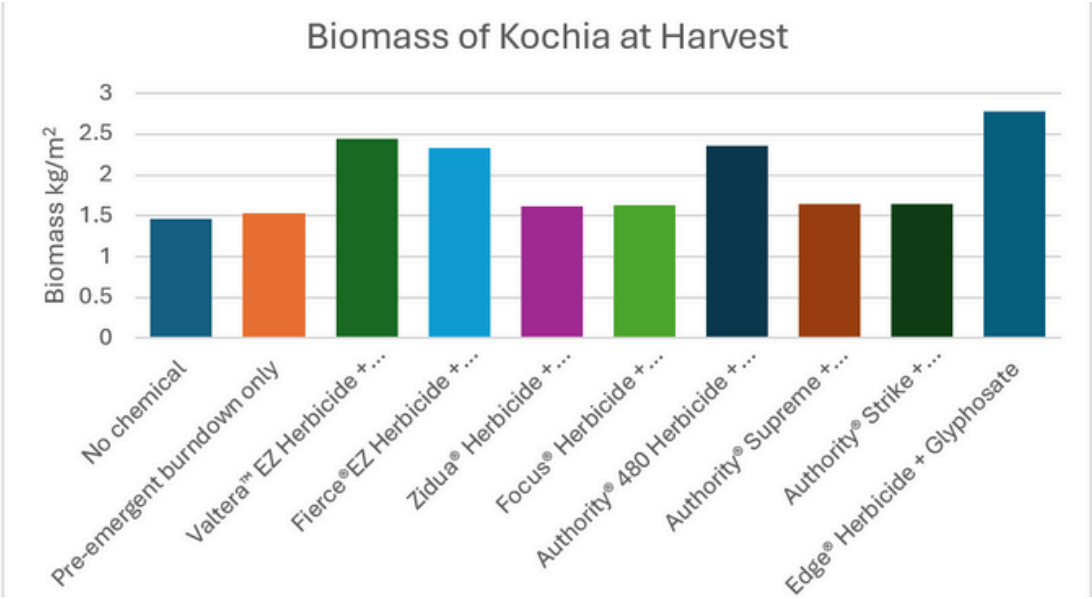


FIGURE 2: AT HARVEST ALL THE KOCHIA IN A SAMPLE AREA WAS WEIGHT TO HAVE AN IDEA OF HOW MUCH OF THE PLOT WAS DOMINATED BY WEEDS. THOUGH THERE ARE SOME TREATMENTS THAT LOOK WORSE HERE THERE IS NO SIGNIFICANT DIFFERENCE AND ALL TREATMENTS HAD SOME PLOTS THAT WERE HIGHER AND SOME THAT WERE LOWER.

EXTENSION EVENTS 2024

Photo's by Kabir Makan

In the fast-paced world of modern agriculture, where knowledge and adaptability are the cornerstones of success, the Battle River Research Group (BRRG) continues to lead the way in providing essential learning opportunities for producers. Throughout 2024, BRRG has delivered an expansive range of extension events, ensuring that farmers, ranchers, and agricultural professionals have access to the latest research, innovative practices, and expert insights.

This year, BRRG organized a diverse array of extension workshops and webinars, covering topics essential to today's agricultural landscape. From forage diversification and climate-adaptive management strategies to advancements in crop production and integrated pest management, our events provided producers with critical tools to enhance their operations.

The year began with workshops focused on sustainable farming practices, including Environmental Farm Plan Workshops that equipped producers with essential knowledge on environmental stewardship. February featured in-depth discussions on integrated pest management and soil health amendments, while March offered hands-on training through Drone School, ensuring participants gained practical experience in agricultural technology.

As the growing season progressed, BRRG addressed emerging challenges with workshops on soil health, drone seeding, and pest and disease management. The BRRG Field Day in July was a highlight, bringing together producers, industry experts, and researchers for a day of field demonstrations, networking, and knowledge-sharing. Further into the summer, webinars on grazing business strategies and managing problem plants provided essential guidance for livestock producers navigating pasture management challenges.

Fall programming emphasized efficiency and preparedness, with sessions on nitrogen use, winter cereal performance, and disease outbreak planning. The Cow Patty Critters workshop offered a unique exploration of soil biology, while the New Technology in Agriculture workshop showcased advancements in precision farming tools and techniques.

BRRG's commitment to continuous learning and producer support culminated in December with an intensive Soil Health Workshop, reinforcing the importance of soil management and regenerative practices in securing a resilient agricultural future.

As we reflect on a productive and insightful year, BRRG remains dedicated to empowering Alberta's agricultural community with the knowledge and resources needed to thrive. Looking ahead to 2025, we are excited to build on this momentum, expanding our reach and continuing to deliver high-impact extension programs tailored to the evolving needs of our producers.

January 15 - Forage Diversification and Management in a changing climate

On January 15th at 10 AM, BRRG hosted a webinar on "Forage Diversification and Management in a Changing Climate," featuring Rocky Lemus from Mississippi State University. With 22 attendees, including producers and agricultural professionals, the session addressed climate challenges affecting forage systems. Lemus emphasized diversification, integrating resilient species, and improving soil health through cover cropping, reduced tillage, and organic amendments. He provided strategies to mitigate drought, extreme temperatures, and erratic rainfall. The webinar concluded with a dynamic Q&A, where participants engaged in discussions. Attendees found the session highly relevant, gaining practical insights to enhance forage resilience and productivity.

January 18 - Environment Farm Plan(Stettler)

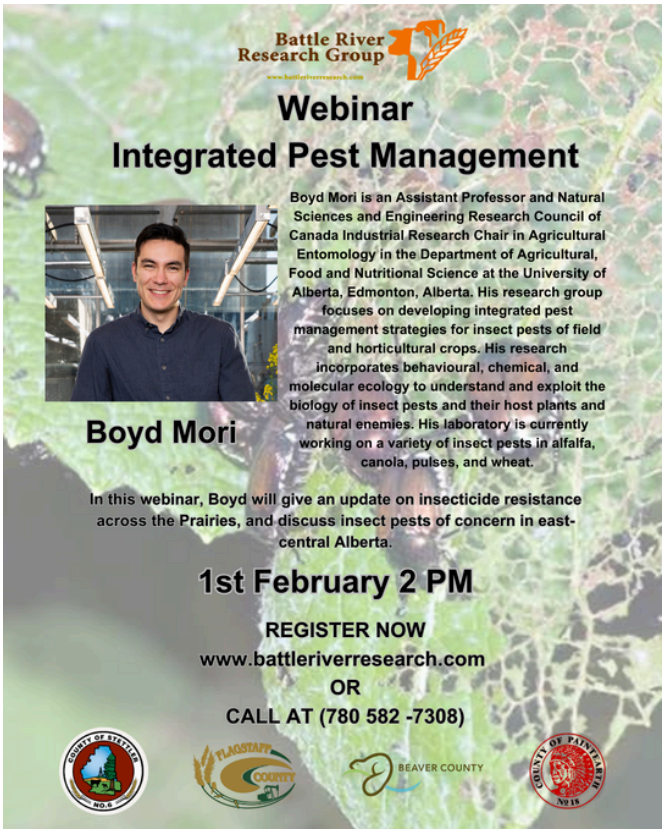
On January 18th, BRRG hosted an Environment Farm Plan (EFP) Workshop at the Stettler Agricultural Society, attended by 18 participants. The session provided a step-by-step guide to completing the EFP application, with expert-led discussions ensuring attendees could confidently develop farm-specific sustainability plans. The interactive format encouraged engagement, making the learning experience collaborative. A Chinese lunch fostered networking among participants. Feedback was highly positive, with attendees appreciating the practical insights. BRRG remains committed to supporting local farmers in implementing environmentally sustainable practices that benefit both their operations and the land.

January 26 - Crop Production

On January 26th, BRRG hosted a successful Crop Production event at Daysland Community Hall, drawing 30 attendees eager to enhance their farming knowledge. Blair Kuefler welcomed participants, setting the stage for insightful presentations. Marissa Robitaille Balog discussed Canola Disease Management and Insect Pests, providing essential scouting techniques. Neil Blue followed with an in-depth analysis of crop markets, offering strategies for maximizing returns. After a lunch of teriyaki chicken and veal cutlets, Dr. Chandra Singh covered post-harvest techniques. Attendees praised the event's valuable insights and networking opportunities, reinforcing BRRG's commitment to supporting and educating local farmers.

February 1 - Integrated Pest Management

On February 1, 2024, BRRG hosted a webinar on Integrated Pest Management (IPM) with Dr. Boyd Mori from the University of Alberta, attracting 25 attendees. Dr. Mori explained IPM as a sustainable pest control approach combining biological, cultural, mechanical, and chemical methods. He highlighted natural predators, crop rotation, intercropping, and targeted pesticide use to minimize environmental impact. Alberta-specific examples illustrated effective IPM strategies. The session ended with an interactive Q&A, where participants received tailored advice. Attendees found the webinar highly informative, gaining practical insights to enhance pest management while maintaining agricultural productivity and sustainability.

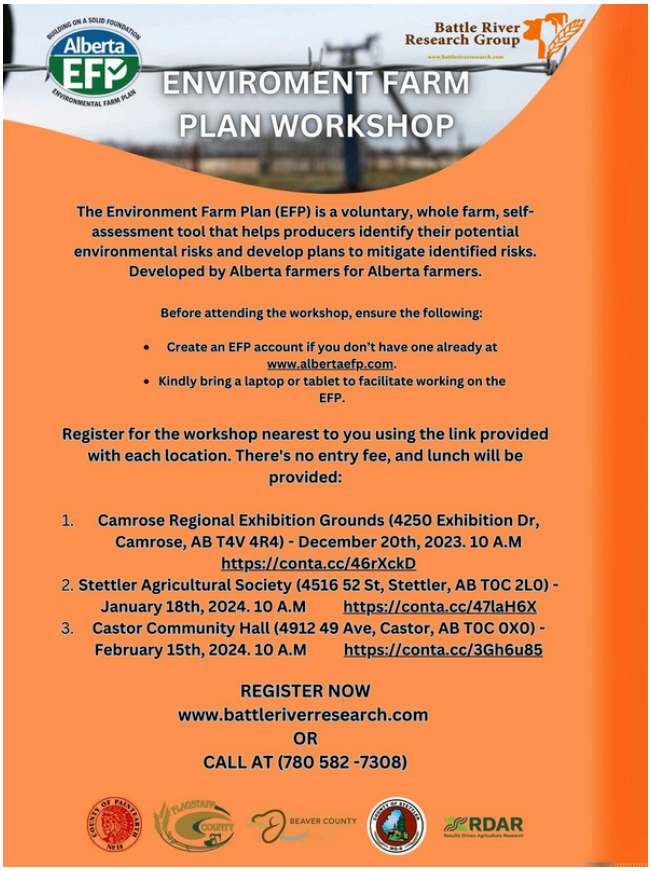


February 2 - Humalite

On February 2nd at 10 AM, BRRG hosted an insightful Zoom webinar on Humalite, featuring experts Danielle Kusner and Clay Williams from WestMET Ag. The event attracted 60 participants eager to learn about Humalite's benefits for soil health. Kusner detailed its composition, highlighting its role in enhancing soil structure, nutrient retention, and microbial activity. Williams shared real-world applications, case studies, and practical integration strategies. A dynamic Q&A allowed attendees to address concerns and explore implementation methods. The well-received webinar reinforced BRRG's commitment to providing valuable agricultural insights and sustainable solutions for improving farm

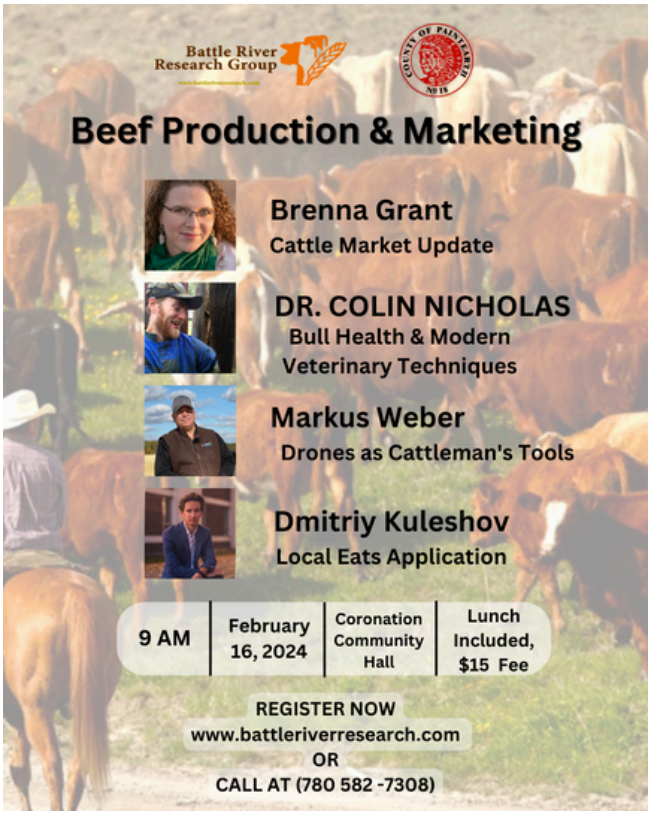
February 15 - Environment Farm Plan (Castor)

On February 15th, the Battle River Research Group hosted a successful Environment Farm Plan (EFP) Workshop at Castor Community Hall, attracting 24 participants. Led by expert EFP team members, the workshop offered a detailed, step-by-step guide on completing the EFP application. The interactive session fostered collaboration, with participants engaging in discussions and gaining practical insights into sustainable farming practices. Emphasizing the importance of environmental stewardship, the EFP team tailored the program to meet individual farm needs. The event included a pizza lunch, offering a chance for networking. Attendees left well-informed and appreciative of the valuable support provided.



February 16 - Beef Production & Market

On February 16, 2024, BRRG hosted a successful Beef Production & Marketing workshop at Coronation Community Hall, drawing 18 attendees.MC by Stan Schulmeister, the event featured expert insights on marketing, veterinary care, and agricultural technology. Dmitriy Kuleshov introduced Local Eats, an app connecting producers directly with buyers. Dr. Colin Nicholas covered bull health and modern veterinary techniques. After a Chinese food lunch, Brenna Grant provided a cattle market update, and Markus Weber showcased drone applications for cattle monitoring. The workshop concluded with a Q&A, leaving attendees with practical strategies to enhance their beef production operations.



March 25-26 - AG Drone School

On March 25-26, 2024, the Battle River Research Group hosted a successful 2-day Drone School at 9 AM, offering an introduction to drone operation for agriculture. Led by Landview Drones, the course covered both practical flying skills and legal knowledge. Participants, including beginners, received hands-on flight training and learned essential techniques like takeoff, mapping, and autonomous flight. The course also included a comprehensive RPAS ground school, preparing attendees for the Transport Canada online test. By the end, all participants earned their Basic Pilot's Certificate and gained insight into how drones can improve farm operations. The event concluded with networking and lunch.

March 27 - Annual General Meeting 2024

On March 27, 2024, BRRG held its Annual General Meeting (AGM) at 10:00 AM, with 50 attendees. The primary focus was to introduce producers to Sustainable Canadian Agricultural Partnership (S-CAP) grant programs. Hosted by Blair Kuefler, the event began with a warm welcome and team introductions.

The meeting officially started with the reading and adoption of the 2024 AGM agenda, followed by the approval of the 2023 minutes. Attendees then reviewed by-law resolutions, and Kuefler initiated the first call for board nominations. Kroeger Joyce Inman, Chartered Professional Accountants, presented an overview of BRRG's financial health, outlining funding sources and expenditures. A final call for board nominations followed, leading to the election of new board members and concluding the formal AGM business.

The meeting then transitioned into a series of presentations on various S-CAP programs. Pervez Sunderani spoke on the Water Program, explaining its role in promoting sustainable water management and outlining the application process. At noon, attendees enjoyed a brisket lunch, providing a networking opportunity for producers and speakers.

The afternoon session opened with Chris Elder from ALUS, who discussed the Resilient Agricultural Landscape Program (RALP), aimed at supporting sustainable farming practices. Trish Budnyk followed with insights into the Value-Added Grant Program, explaining how it helps producers enhance product value and expand markets.

Susanna Bruneau from Battle River Watershed then presented the Riparian Conservation and Restoration Program, emphasizing the importance of riparian zone protection for water quality and biodiversity.The final speaker, Neil Thorsteinson, demonstrated Range Ward products, including Razer Grazer fencing, highlighting its eligibility for government grants to support grazing management. The AGM concluded successfully, providing attendees with valuable grant opportunities and fostering community engagement within the local agricultural sector.

April 11 - Farm Financial Management, Insurance & Succession Planning

On April 11, the Battle River Research Group hosted a successful workshop on Farm Financial Management, Insurance, and Succession Planning at the Stettler Agricultural Society. The event began at 10 AM, with attendees enjoying coffee and donuts before the sessions. Kabir Makan served as the MC, welcoming participants. Leann Kruger from AFSC discussed crop insurance options, while Joel Bokenfohr from Farm Credit Canada focused on succession planning strategies. After a lunch break sponsored by FCC, Julia Ibanescu from Kensian & Associates covered legal aspects of farm succession. The workshop provided valuable insights, helping producers secure the future of their farm businesses.

June 20 - Evaluating and Improving Soil Constraints

On June 20, Battle River Research Group, in collaboration with CARA, hosted a workshop on Evaluating and Improving Soil Constraints at Colin Wager's farm, with 15 attendees. Colin Wager served as the MC, welcoming participants and guiding discussions. The workshop featured expert speakers Dr. Yamily Zavala and Dr. Isbelia Reyes, who provided in-depth insights on soil management strategies, helping producers address soil constraints that affect crop productivity. After the presentations, attendees enjoyed Chinese food for lunch, fostering networking and further discussions. The event was well-received, offering valuable knowledge to enhance soil health and support sustainable agricultural practices.

June 25 - Drone Seeding

BRRG and Younger Cattle & Co. organized a Drone Seeding Workshop on June 25 at Brownfield Community Hall, attended by 16 participants. Shiana Younger hosted the event, with speakers Kevin Elmy discussing cover crops, and Lee Martineau from Terra Preta highlighting soil amendments for sustainable farming. Attendees enjoyed lunch sponsored by Younger Cattle & Co. and Terra Preta before Markus Weber from Landview Drones conducted a live drone seeding demonstration. The event showcased drone technology's efficiency in precision agriculture, offering hands-on experience and valuable knowledge about regenerative farming practices and its economic and environmental benefits.

July 3 - Kochia

On July 3, the Battle River Research Group hosted a successful workshop on Kochia at Colin Wager's farm, with 10 attendees. Colin Wager welcomed participants, setting the tone for an informative session on managing this challenging weed. Shannon Chant, a Crops Extension Specialist with Saskatchewan Agriculture, was the keynote speaker. She provided a detailed presentation on kochia management, covering its biology, herbicide resistance, and control methods. Attendees learned effective chemical and cultural strategies to manage the weed. After the session, participants enjoyed pizza, fostering further discussion and networking. The workshop was well-received, offering valuable tools for controlling kochia on farms.

July 5 - Pest & Disease Management

On July 5, the Battle River Research Group hosted a Pest & Disease Management workshop at Vincett Brothers, attended by 10 participants. Blair Kuefler served as the MC, guiding the discussions. Dr. Hector Carcamo kicked off the event with a presentation on insect pest management, discussing economic thresholds for pests and the use of trap crops. After a BBQ lunch, Dr. Kelly Turkington presented on integrated disease management, focusing on leaf diseases, Fusarium Head Blight, and Sclerotinia Stem Rot. He emphasized crop rotation, host resistance, and fungicide timing. The workshop provided valuable, practical tools for managing pests and diseases on farms.

July 27 - Booth at Watershed

On July 27, the Battle River Research Group (BRRG) participated in the Battle River Watershed Festival, focused on environmental awareness and community engagement. BRRG set up a booth, offering a chance to connect with attendees and share information on research, soil health, crop management, and producer support. Representatives engaged with festival-goers, discussing BRRG's initiatives and promoting sustainable farming practices through educational materials. The festival also facilitated networking with other environmental and agricultural groups, fostering potential collaborations. Overall, BRRG's participation was a success, strengthening community ties, promoting sustainable agriculture, and raising awareness about its contributions to the region.

July 25 - BRRG Field Day 2024

On June 20, the Battle River Research Group hosted its annual Field Day 2024, attracting 55 attendees for a day filled with informative presentations and discussions. The event kicked off at 10 AM with Donald Kroetch as the MC, welcoming participants and setting the tone for the day.

The first presentation was delivered by Steve Cowan from Crop Management Network, who discussed the vital role of lime in soil management. He explained how lime helps improve soil pH, enhance nutrient availability, and ultimately support crop productivity. Following Steve, Linda Gorim took the stage to discuss humalite, a naturally occurring organic material. She highlighted the significant benefits of humalite in improving soil structure, moisture retention, and nutrient efficiency, all of which contribute to healthier soils and better plant growth.

Midway through the event, attendees enjoyed a delicious beef brisket lunch, which provided a great opportunity for networking and further discussions among producers, researchers, and industry representatives.

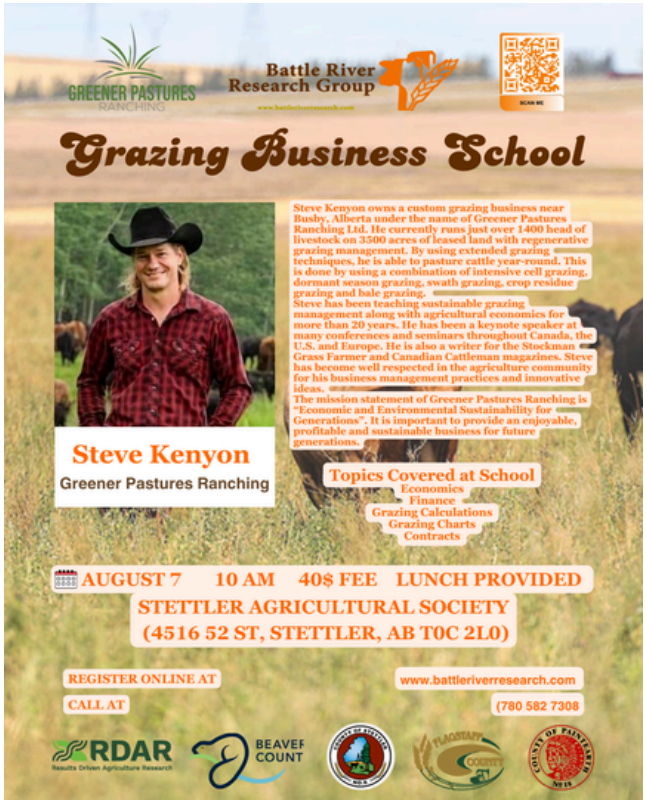
After lunch, Mark Olson delivered the final presentation of the day on lupins. He discussed the potential of lupins as a high-protein crop, their adaptability to various soil types, and how they can enhance crop rotations. Mark's insights gave attendees valuable ideas for incorporating lupins into their farming systems to improve soil health and diversify production.

Field Day 2024 was a resounding success, providing attendees with practical, research-based insights and innovative solutions to improve agricultural practices. The event allowed participants to learn from experts and share experiences with fellow producers.

Battle River Research Group continues to play an essential role in supporting the farming community, fostering collaboration, and offering educational events to help producers adopt sustainable practices and improve their operations.

August 7 - Grazing Business School

On August 7, the Battle River Research Group (BRRG) hosted a Grazing Business School workshop at the Stettler Agricultural Society. Led by Steve Kenyon from Greener Pastures Ranching, the session attracted 15 attendees and offered valuable insights into the financial and practical aspects of profitable grazing systems. Steve discussed economics, budgeting, and financial planning for ranching, as well as grazing calculations and charts for optimizing pasture use. He also covered contracts, helping producers structure lease agreements for stable operations. The interactive workshop provided practical knowledge, followed by a pizza and wings lunch for networking and further discussion.



August 19 - Managing Problem Plants in Pastures & Rangeland

On August 19, the Battle River Research Group (BRRG) hosted a webinar on Managing Problem Plants in Pastures & Rangeland, featuring Cathie Erichsen Arychuk, Director of Agriculture and Environment for the County of Vermilion River. With 37 attendees, Cathie shared her expertise on identifying and managing noxious weeds, brush, and poisonous plants that affect pasture productivity and livestock health. She covered effective control methods, including mechanical, chemical, and cultural strategies, while offering practical advice for maintaining healthy pasture ecosystems. Attendees appreciated the region-specific insights, making the webinar a valuable learning experience for managing problem plants in grazing areas.

August 26 - Pre-Harvest and Desiccation Sprays

On August 26, the Battle River Research Group (BRRG) hosted a webinar on Pre-Harvest and Desiccation Sprays, featuring Tom Wolf from Sprayers 101. The session, attended by 26 participants, provided valuable insights into optimizing spray applications for better effectiveness. Tom covered key factors influencing spray performance, such as travel speed, water volume, and droplet size, explaining how they affect canopy penetration and spray uniformity. He also discussed the importance of spray timing, comparing daytime and nighttime spraying, and explored the role of spot sprays in pre-harvest applications. The session concluded with a Q&A, offering practical knowledge for improved spraying strategies.

September 11 - I.N.S.P.E.C.T. Weed Inspection Program

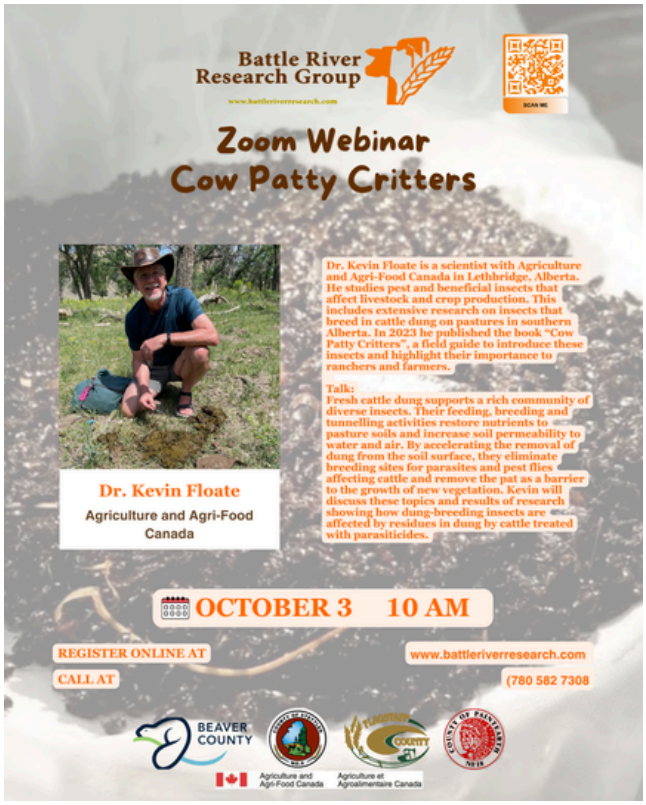
On September 11 at 10 AM, the Battle River Research Group (BRRG) hosted a webinar on the I.N.S.P.E.C.T. Weed Inspection Program, featuring Sebastien Dutrisac as the guest speaker. Sebastien, an Agricultural Fieldman for the County of Two Hills, led the session for 12 attendees. He provided an overview of the Weed Control Act, discussing enforcement, landowner responsibilities, and municipal roles. The webinar also covered the adaptability of the I.N.S.P.E.C.T. program, communication strategies, and best practices for weed notices. A Q&A session wrapped up the event, ensuring participants left with practical knowledge on weed inspection and regulatory compliance.

September 24 - Efficient Nitrogen Use & Winter Cereal Performance

On September 24 at 10 AM, BRRG hosted a webinar with Dr. Tarlok Singh Sahota, attended by 11 participants. Dr. Sahota covered nitrogen use efficiency, discussing best practices for application timing, methods, and fertilizer choices to maximize yields while reducing losses. He emphasized soil health and nutrient balance, presenting research-backed strategies to improve nitrogen efficiency and lower input costs. Attendees gained practical knowledge on optimizing winter cereal performance, enhancing sustainability, and ensuring profitability. The session concluded with an interactive Q&A, where participants received expert advice tailored to their farming conditions, making the event both insightful and engaging.

October 3 - Cow Patty Critters

On October 3 at 10 AM, BRRG hosted a webinar featuring Dr. Kevin Floate, attended by 30 participants. Dr. Floate discussed the crucial role of insects in breaking down cattle dung, improving soil health, and enhancing pasture ecosystems. He highlighted how these insects accelerate decomposition, enrich the soil, and reduce parasite breeding grounds. A key concern was the negative impact of parasiticide residues on dung-breeding insects, which slows nutrient cycling and affects pasture health. The session offered valuable insights for livestock producers and researchers, concluding with an engaging Q&A that helped attendees explore practical applications for better pasture management.

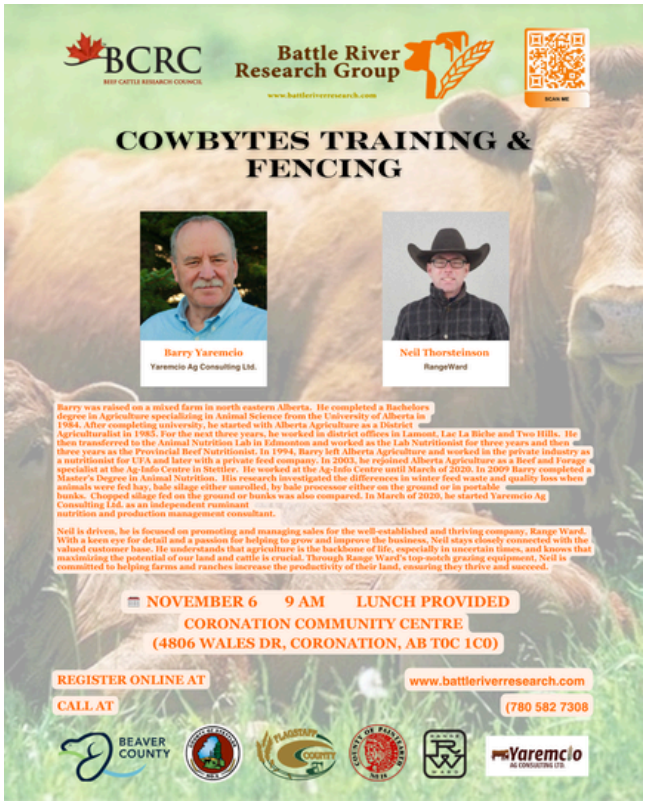


October 4 - Disease Outbreak and Disposal Planning

On October 4 at 1 PM, the Battle River Research Group (BRRG) hosted a webinar on Disease Outbreak and Disposal Planning, featuring Karin Schmid from Alberta Beef Producers and Dr. Keith Lehman, Alberta's Chief Veterinary Officer. Karin discussed disease prevention, early detection, and response measures, emphasizing biosecurity, vaccination, and herd management. Dr. Lehman covered regulatory requirements and best practices for carcass disposal, including composting, burial, and rendering. He also outlined emergency preparedness strategies for managing outbreaks. The session equipped attendees with essential knowledge to mitigate disease risks and implement effective disposal plans, ensuring both livestock health and public safety.

November 6 - Cowbytes Training & Fencing

On November 6 at 9 AM, the Battle River Research Group (BRRG) hosted a Cowbytes Training & Fencing Workshop at the Coronation Community Centre, supported by the Beef Cattle Research Council (BCRC). Barry Yaremcio led a hands-on session on the Cowbytes App, helping producers optimize livestock rations. Neil Thorsteinson from Rangeward presented innovative fencing solutions, offering practical demonstrations. Attendees enjoyed a pulled pork lunch before resuming Cowbytes training, with Barry providing individualized guidance. The workshop successfully equipped participants with valuable skills in feed management and fencing, thanks to the support of BCRC and the expertise of the presenters.



November 8 - Transforming Agriculture with Innovation

On November 8 at 10 AM, the Battle River Research Group (BRRG) hosted the "Transforming Agriculture with Innovation" workshop at the Stettler Agricultural Society, bringing together 11 attendees eager to explore cutting-edge agricultural advancements. MC Kabir Makan opened the event, followed by M. Derek MacKenzie from the University of Alberta, who presented on the DASH project, a soil health database supporting regenerative practices. Logan Skori from AgGene discussed CRISPR gene editing for crop improvement, while Mark Olson from Flokk highlighted digital solutions for livestock management. Markus Weber from Landview Drones wrapped up with insights on drone technology. Attendees enjoyed a networking lunch of pizza and wings, making the event a success.

December 10-12 - Western Canada Conference on Soil Health & Grazing

From December 10 to 12, the Battle River Research Group (BRRG), alongside other non-profit agriculture research organizations, hosted a highly successful three-day workshop at the DoubleTree by Hilton. The event welcomed 650 attendees, including producers, researchers, and industry experts.The workshop featured expert speakers covering soil health, sustainable farming, livestock management, and agricultural technology. A tradeshow showcased cutting-edge innovations, fostering valuable connections. A highlight was the planning committee's introductions, offering insights into collaborative research efforts. This event underscored the power of collaboration in advancing agricultural innovation, sustainability, and producer education.

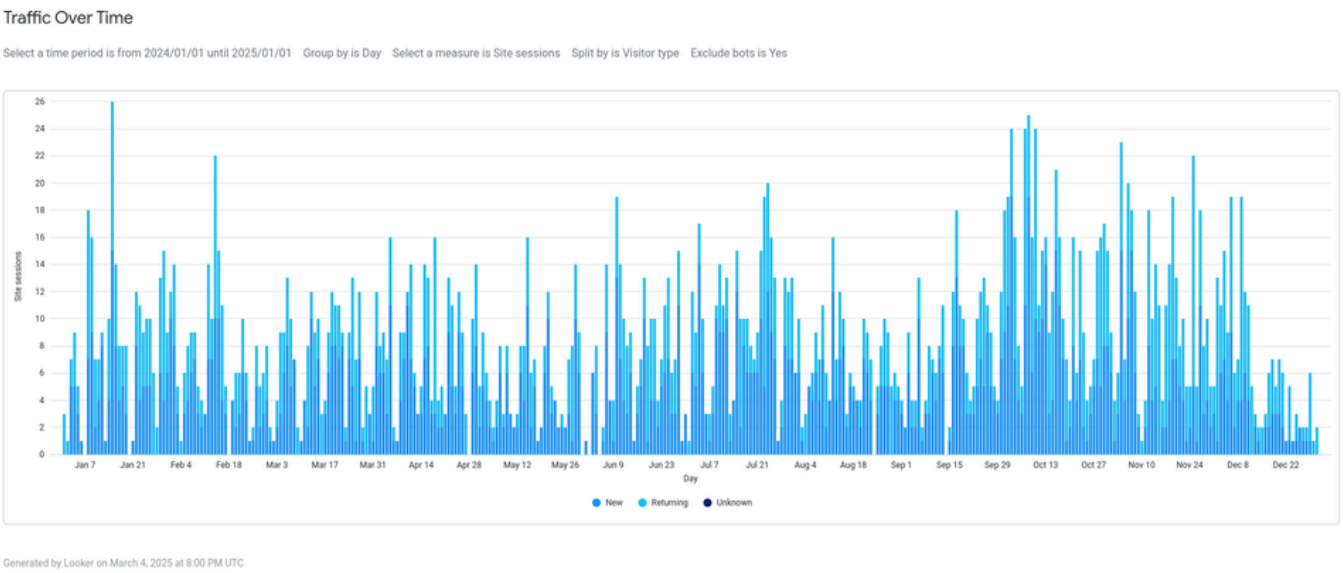
UNIVERSITY OF ALBERTA STUDENTS VISIT TO BRRG

THE YEAR OF TRANSFER OF KNOWLEDGE 2024

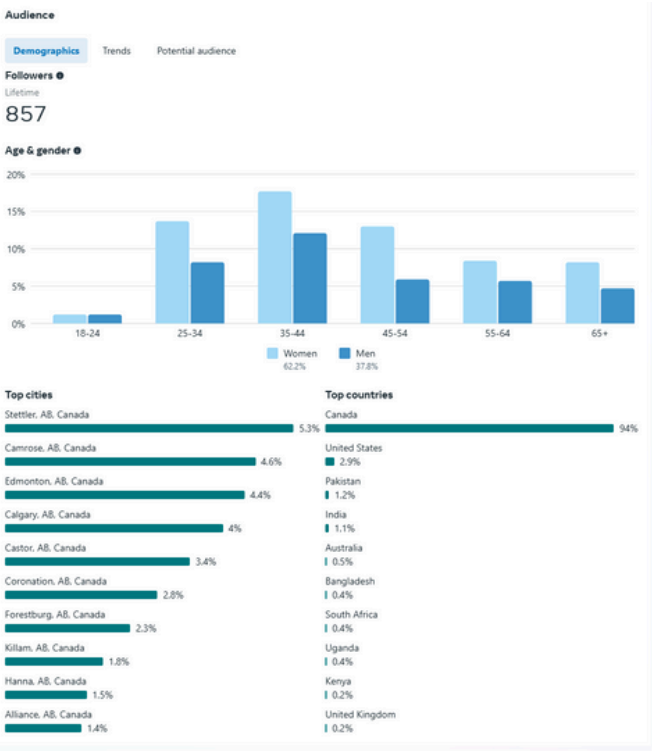
BRRG SOCIAL MEDIA AT A GLANCE

ANNUAL REPORT BRRG publish one yearly report to share the organization's performance and the ongoing research project results with our members and subscriber. The reports are available for the public at our website	**E-NEWSLETTER** BRRG published three newsletters/year. All newsletters are available for the public on our website www.battleriverresearch.com	**YOUTUBE** BRRG started a YouTube channel in 2020. We always shared our live events and webinars on YouTube
TWITTER 1.8K FOLLOWERS	**FACEBOOK** 857 FOLLOWERS	**INSTAGRAM** 260 FOLLOWERS

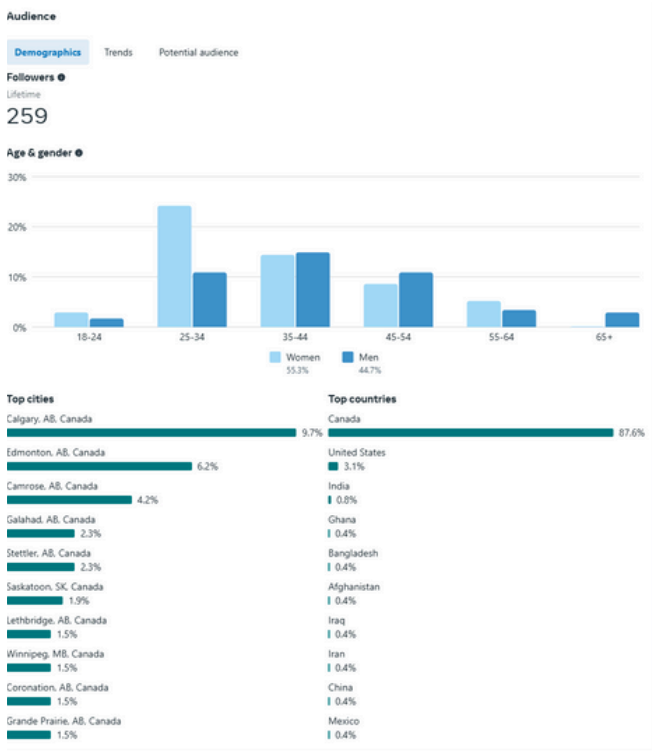
WEBSITE ANALYTICS



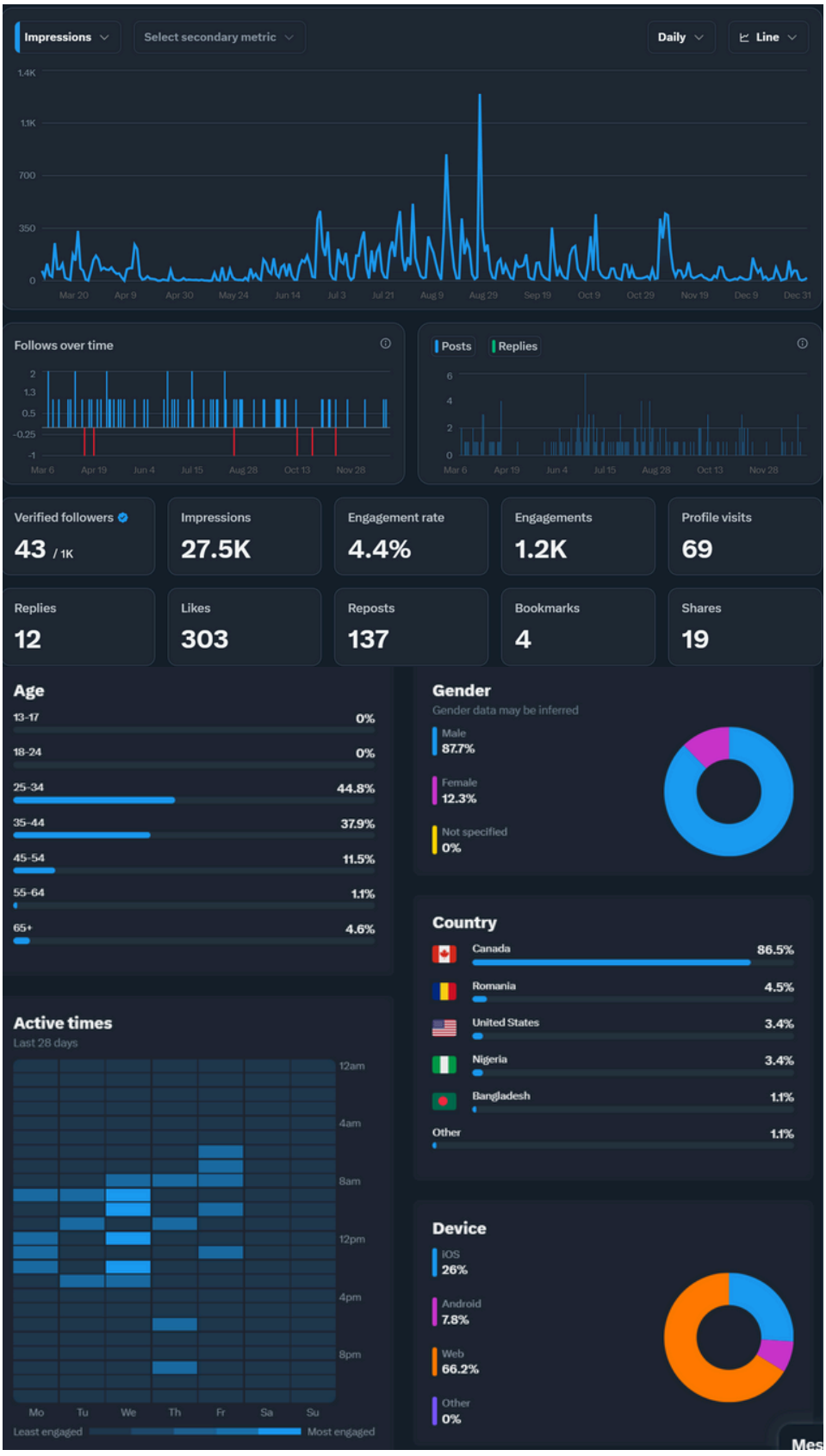
FACEBOOK ANALYTICS



INSTAGRAM ANALYTICS

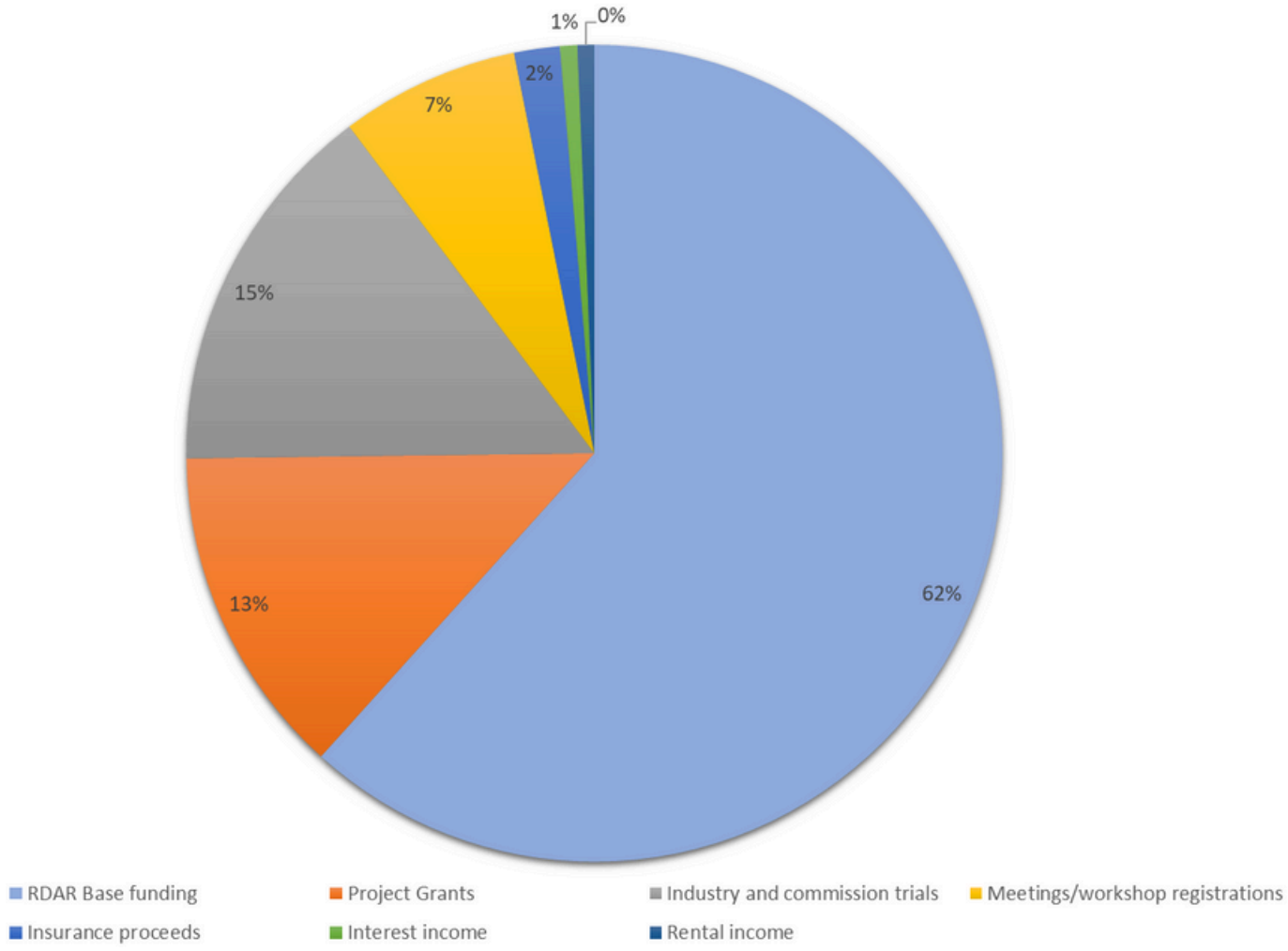


TWITTER ANALYTICS



FINANCIAL REPORT

RDAR Base funding	**$333,333**
Project Grants	**$70,873**
Industry and commission trials	**$80,749**
Meetings/workshop registrations	**$38,329**
Insurance proceeds	**$9,791**
Interest income	**$3,694**
Rental income	**$3,600**



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