



GREY WOODED *FORAGE ASSOCIATION*



2023/2024

ANNUAL REPORT

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MESSAGE FROM THE PREMIER OF ALBERTA

On behalf of the Government of Alberta, it is my pleasure to send greetings to the Grey Wooded Forage Association 40th Anniversary Dinner and Celebration.

For four decades, the GWFA has been a source of information and support for members—the hard-working producers who have helped make our province one of the best places in the world to live, work and raise a family.

I appreciate your long-standing commitment to exploring the uses of forages and improving grazing practices in Alberta. Your efforts contribute to our prosperity, and play an important role in ensuring our province can continue to help feed the world.

Congratulations as you gather to celebrate this milestone. Best wishes for many more years to come.



Danielle Smith

Honourable Danielle Smith, Premier of Alberta



BOARD OF DIRECTORS

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Brianna Gratton, Sundre

Dallas Jenson, Bluffton (ARECA rep)

SherryAnn Hoogland, Ponoka County

Annika Peckham, Bowden

Grant Smith, Bentley

Logan Thevenaz, Bentley

Ken Trout, Rimbey



LETTER FROM THE CHAIR

As we look back on 2023-2024 membership year, it's fair to say that we didn't slow down a bit in the last 12 months. I'm pleased to share some highlights on behalf of Board of Directors.

Our year started off with an election at the AGM. At our first organizational board meeting, I assumed the position as Chair, Sheldon Mehlhaff as Vice Chair. DJ Formanski and Carah Leacock were appointed Treasurer and Secretary, respectively. The group of committed volunteers set the tone and goals for 2024. It has been my utmost privilege to work with our Board to meet key objectives outlined in our 2023-2027 Strategic Plan.

Our number one key objective is to be renowned regional forage and grazing advisors. We hosted and participated in 26 knowledge transfer events, most notably a field day with Greg Judy, our annual Soil Builders Field School at the Ellis Bird Farm, and a two-day Livestock Roundup: Designer Cows for Your Ranch. Folks traveled from neighbouring provinces to participate in our events. Our regularly scheduled 'Third Tuesday Tailgates' have been well attended and have allowed us to host small scale events on a wide variety of topics. Grey Wooded also collaborated with several organizations and municipalities to organize regional events such as Ladies Livestock Lessons and Ranching Opportunities conference.

We set out to launch a field trial service in 2023. To dip our toes, the board approved a fertilizer trial at Ken Trout's farm to take place over the summer. The purpose of this project was to demonstrate the in-field use of alternative soil amendments vs. commercial fertilizer to facilitate soil health improvements and fertilizer cost savings. Ken took on the leadership role in the project, while we worked to recruit a Field Demo Coordinator for future projects.

In spring of 2023, GWFA was approached by Aspen Ranch Canada in Clearwater County to assist with seeding 4.21 acres to cereal crop to be used in ag educational programs. As a first step, staff worked with the ranch to focus on terminating the weedy species present onsite prior to establishing an annual forage cover crop. A cover crop mix was seeded to help improve the soil and microorganism health and biodiversity prior to the establishment of plots in 2024.

Also in the spring of 2023, GWFA Board approved a donation of fencing materials to Aspen Ranch Canada to establish rotation grazing on the ranch. The fencing materials were purchased at a significant discount and were donated to the Aspen Ranch in honour of one of GWFA's founding members, Paul Pritchard.

GWFA was invited by University of Alberta as a collaborating partner on a research project to reduce greenhouse gas emissions from the Canadian Beef Industry.

Throughout the year, GWFA participated in meetings with Minister Sigurdson and Government of Alberta to provide feedback on programs and raise awareness of the challenges faced by producers in our area.

Our second strategic key objective is to maintain a thriving organization with dynamic, engaged board, staff and members. To thrive an organization needs to have a strong financial position. In 2023, Results Driven Agriculture Research (RDAR) approved a significant increase in base funding, allowing Grey Wooded to expand its activities. Our five-year financial forecast allows for stable and sustainable growth over the next few years. On behalf of Grey Wooded, I would like to express a sincere thanks to our corporate sponsors and partners for financial support over the last year.

The Board of Directors has actively participated in all aspects of leadership and stewardship. Hundreds of cumulative hours were spent on reviewing bylaws and policies, budgeting, strategic planning, hosting and attending events and board meetings. The board is supportive of and responsive to the office to ensure the staff have the tools and direction to perform their jobs for the benefit of our producers.

November 2023 marked a five-year anniversary for our Ag Field Specialist, Greg Paranich. Greg joined GWFA in 2018 and was behind many activities and events put on by GWFA over the past five years. Shortly before Christmas, Greg was diagnosed with cancer and considering the situation has retired from a job he loved to focus on his treatment and recovery. Greg and his wife Faye, continue to be part of the GWFA family and we wish them the best as they start a new chapter in their lives.

Even though GWFA faced the challenge of operating with half the staff, the association was well positioned to continue business as usual. This was a true test of commitment for our directors and my fellow board members passed with flying colours! Directors have stepped up to help host events, make connections and be available to lend a helping hand.

Our third key objective is to be experts at measuring our impact and telling our story. This story began some 40 years ago! Decades later it continues with just as much vigour. To ensure that GWFA remains relevant and reflects our growth, the members voted to change the name of the association to Central Alberta Forage and Livestock Network. This is an important milestone in GWFA's history and not something are taking lightly. GWFA is working with a professional communications firm to ensure that rebranding is successful and honours the past as we look forward to the future.

Thank you to all the members, volunteers and staff who have contributed to this story over the last 40 years!



Abby-Ann Redman

EXECUTIVE DIRECTOR'S REPORT

It continues to be a privilege to collaborate with and serve the members of the Grey Wooded Forage Association in my capacity as the Executive Director. Throughout the past year, our efforts remained steadfastly aligned with our strategic priorities. These objectives encompass establishing the association as a distinguished authority in forage and grazing practices, fostering organizational growth, and rigorously evaluating our impact.

With generous financial backing from the Alberta Agriculture and Irrigation, RDAR and corporate partners, substantial strides were made towards achieving our goals set forth in February 2023. Working closely alongside the Board of Directors, our team facilitated numerous events, provided support for regional agricultural gatherings, and actively participated in initiatives benefiting producers and the broader industry.

The GWFA conducted workshops and training sessions focused on optimizing management practices, including pasture enhancement, rotational grazing methodologies, soil fertility enhancement, and livestock management.

Grey Wooded continued its pivotal role in providing soil sampling services to support the Impact Verification project led by the Chinook Applied Research Association (CARA).

Collaboratively, with Regenerative Alberta Living Labs, the GWFA organized local and regional workshops aimed at empowering participating producers and promoting the six principles of soil health.

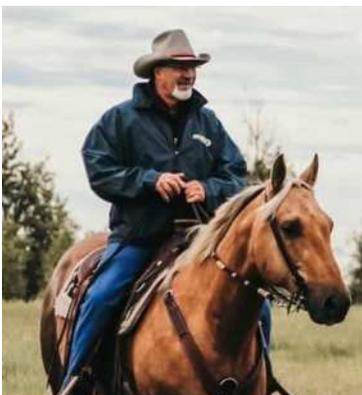
During the summer of 2023, our team members contributed to the CFGA National Grassland Inventory initiative by engaging in ground truthing. This national endeavor seeks to comprehensively map Canada's native and cultivated grasslands, ensuring ongoing monitoring of their evolution. Over the season, GWFA submitted over a hundred samples from central Alberta, furthering the project's objectives.

Through its membership in the Agricultural Extension Council of Alberta (ARECA), we actively interfaced with policymakers at local and provincial levels, advocating for measures that bolster support and raise awareness of the importance of grassroots organizations such as GWFA.

Although the office experienced a minor setback when Greg was undergoing treatment, the Association functioned at top capacity under the circumstances. It's been quite an adjustment not to have Greg around but our team is once again fully staffed with our 2023 summer student, Reid Caukill coming on board as our Field Demo Coordinator and Dakota Harper taking on responsibilities of an Extension Coordinator.

Looking forward to 2024-2025 membership year, GWFA is committed to promoting sustainable agriculture and strengthening the resilience of farming and ranching communities in Central Alberta. Our plan involves increasing educational efforts, enhancing research partnerships, and supporting policies that promote agricultural sustainability and environmental care.

Tatyana Irodenko



Greg Paranich
Ag Field Specialist



Dakota Harper
Extension Coordinator



Reid Caukill
Field Demo Coordinator

ARECA REPORT

My compliments to GWFA for the excellent extension work you do for ranchers and farmers in your area. Having the capability and expertise of GWFA in your “back yard” is a treasure. The leadership and hard work that GWFA Board, Tatyana, Greg and staff do serves you well. We certainly wish Greg well on his recovery and in his retirement.

One of the key responsibilities of ARECA is to provide needed support services to GWFA and other Associations who are a part of ARECA. Over the past few years ARECA has struggled to provide strong support services. GWFA and other Associations set up ARECA a couple of decades ago to provide support to member Associations. It is a great feeling here at ARECA to be on the upswing again.

Each Association appoints a representative to ARECA Board of Directors. Currently ARECA has eight member Associations and thus an eight-member Board. In the past year both Farming Forward (west of Edmonton) and Chinook Applied Research Association (Oyen/Hanna area) have joined ARECA. ARECA Board and Association Managers regularly meet together to guide ARECA’s efforts. Wolter van der Kamp is the current Chair of ARECA Board. Wolter ranches southwest of Calgary. GWFA representative, Dallas Jenson has been a wonderful addition to the ARECA Board. Dallas brings a lot of experience and know-how to the table, is a pleasure to work with, and provides strong leadership in helping ARECA meet the needs of our member Associations.

Over the past two years there has been a lot of effort put into improving and stabilizing a level of base operating funding for GWFA and other Associations. ARECA, RDAR and Alberta Agriculture & Irrigation worked together with Associations. The result is we have successfully doubled the annual base funding for Associations. A huge thank you to Minister, RDAR and Alberta Agriculture & Irrigation for their continued strong support.

The job is not finished yet as we are working to move to 5-year agreements for base funding rather than the annual agreements that have characterized the past. This will provide improved financial stability and hopefully reduce the rate of staff turnover that some Associations are experiencing. Through the renewal of the federal/provincial Ag Policy Framework funding programs and RDAR; GWFA and Associations have continued access to multiyear project funding that is over and above the base funding.

This improved financing coupled with other revenue sources that Associations have, is enabling Associations like GWFA to be able to step out with continued confidence in working with Commissions, ASBs, universities/colleges, research organizations like Ag Canada, and the ag business community to take on joint development and financing of projects and extension activities ranchers and farmers in your area want to see happen.

ARECA will be continuing to help with fundraising for Associations. GWFA, our other Member Associations and ARECA with strong support from RDAR, have over the past year developed well thought out 5-year plans for continued growth

and delivery of research, on ranch/farm projects and extension services to targeted priorities producers have. Out of this several new member support services have been identified that ARECA is developing to provide and assist GWFA and other Associations in providing their programs, projects and services to producers. These are currently being jointly developed with our members associations like GWFA.

These include assessing impact and value of the research and extension producers feel they are getting, enhanced marketing of programs, projects and services to producers in your area, training and coaching for Association staff and others around conducting research and extension, recruiting students and staff, assist in delivery of producer grant programs, fundraising, strengthening our partnerships/collaborations with Commissions, ASBs, Colleges/Universities, funders/investors, and securing specialist support. All of these will help Associations and GWFA in meeting the expectations of the producers they serve.

The other side of ARECA business is we manage and deliver the Environmental Farm Plan (EFP) service, the AgKnow service that is focused on getting ranchers/farmers help in dealing with stress that at times leads to mental health issues; and OFCAF/Grazing Mentorship which is the producer grant program focused on helping farmers and ranchers implement advanced grazing system practices in their operations. Currently there are over 4,000 farmers with an EFP, and because of supply chain interest, Commissions interest, government producer grant programs requirements, and help from Associations/ASBs, we are anticipating this doubling over the next 3-5 years.

Currently AgKnow is providing support to producers dealing with farm succession, depopulation of livestock due to disease outbreaks, coping with stress/resiliency, and breaking down barriers to “I am not alone” with my struggles. This includes individual farmer confidential access to therapists who have farm/ranch backgrounds. The other part of AgKnow is focused on helping the mental health professionals and service providers to understand ranchers/farmers thus enabling them to more effectively build their relationship and credibility with producers in need. This has been a very popular aspect of AgKNOW. Busy days ahead!

I close by again complimenting GWFA on the excellent work they do and the service they provide. It is an absolute privilege and pleasure to be able to work with GWFA and assist in any way we can.

Alan Hall, Executive Director



Events At A Glance

April 1, 2023 – March 31, 2024



Spring

- Forage Finished Livestock Producer Panel
- Grazing Field Day (Bergen)
- Aggie Days – Mountain View County
- Educational Agriculture Tour
- Digital Land Mapping Webinar
- Watering Systems Tailgate (2 locations)



Summer

- Greg Judy Grazing Workshop and Pasture Walk
- Technology & Forage for High Performance Field Tour at Olds College
- Annual Soil Builders Field School
- ALUS Western Hub Conference
- Cover Crops Field Tour (2 locations)



Fall

- Alberta Sheep Breeders Association Symposium
- Learning station at Organic Alberta conference
- Clearwater County Cattlemen's Day
- RALP Information Workshop
- Pasture Rejuvenation vs Pasture Renovation Field Tour
- Forages for Horses Webinar



Winter

- Ladies Livestock Lessons
- Ranching Opportunities
- Overcoming Challenges in Weed Management in Regen Ag
- Livestock Roundup: Designer Cows for your Ranch
- AFSC Programs and Research Webinar
- Grazing, Goats and Guardians Webinar
- Weed Free Forage Program Webinar

EVENT HIGHLIGHTS

2023 AGM & DINNER

On June 22, 2023, the Grey Wooded Forage Association (GWFA) hosted its Annual General Meeting (AGM) at the Heritage Centre in Cremona, Alberta. The AGM began with Chair Dallas Jenson summarizing his tenure and presenting the GWFA 2023-2027 Strategic Plan. Dr. David Chalack from Results Driven Agriculture Research (RDAR) conveyed greetings on behalf of RDAR, showing support for the network of 12 applied research and forage associations in Alberta.

Also, a Forage Finished Livestock Producer Panel featured two Alberta families who shared their journeys to transition to regenerative farming. The Blosky and Ziola families were part of the panel, offering insights and experiences. This panel was made possible by the generous sponsorship of CWB, Frostfree Nosepumps Ltd, and Ducks Unlimited Canada.

During the AGM and dinner, a producer panel focused on the intricacies of forage finished livestock. Shayne and Shelby Blosky from Double S Ranch Cattle Co, and Kevin and Roxanne Ziola from Iron Kreek Ranch were the featured speakers. The Bloskys shared their experiences in regenerative farming, emphasizing practices to improve land health and increase profitability. The Ziolas discussed their holistic management approach and the benefits of year-round grazing, reducing feeding costs and increasing profits.

The interaction with the audience was engaging, with thought-provoking questions and discussions comparing management practices between farms. The panel was well-received, reflecting the audience's deep interest in forage finished livestock and its comparison to traditional animal rearing methods.

The day concluded with a record number of guests enjoying a speaker and a dinner catered by GWFA member, Tom Jackson. Tom and his team at Kodiak BBO treated the guests to a delicious steak BBO dinner and a selection of desserts. YouTube personality, Quick Dick McDick, entertained the guests and kept the crowd laughing well into the evening. The event was graced by the presence of the Honourable Jason Nixon and Clearwater County Deputy Reeve, Gennifer Mehlhaff.

Overall, the AGM and producer panel were deemed a tremendous success, supported by the presence and participation of various sponsors and attendees, all showing dedicated support for GWFA's initiatives.



EVENT HIGHLIGHTS

GREG JUDY GRAZING WORKSHOP

On June 29, 2023, the Greg Judy Regenerative Grazing Workshop and Pasture Walk was hosted by the Grey Wooded Forage Association with support from the Canadian Grassland and Forage Association (CFGF). The event was well-attended by 54 producers eager to learn from the expertise of Greg Judy and John & Donna Reid.

Greg and Jan Judy of Clark, Missouri, shared their experience of turning their near bankruptcy in 1999 into a successful grazing operation that led them to own and lease several farms. They graze South Poll cattle, St Croix hair sheep, guardian dogs, and Shitake mushrooms on their farms. Greg is an author and speaker on regenerative agriculture and grazing, with extensive experience in the field.

John & Donna Reid, who farm near Leslieville, Alberta, shared their principles and innovative grazing management strategies. Through their Solar Harvest Farm, they have implemented a successful grazing operation guided by principles such as animal well-being, environmental protection, and sustainability.

The morning workshop delivered by Greg Judy included presentations on various topics such as "How to Think like a Grazier", "For Maximum Profit Focus on Animal Production", and "Fencing and Water Techniques". The interactive session provided valuable insights and takeaway nuggets for the attendees.

After lunch, the group visited Solar Harvest Farm, where John and Donna Reid shared their philosophies, flexibility, and adaptability in managed grazing. They also discussed grazing management innovations and shared valuable insights on soil health, grazing principles, and herd management.

The event facilitated valuable interactions between attendees, Greg Judy, and John Reid. The knowledge and lessons shared during the day left a lasting impact on all participants.



EVENT HIGHLIGHTS

DESIGNER COWS FOR YOUR RANCH

On March 1 and 2, 2024, the Grey Wooded Forage Association hosted the Livestock Roundup Symposium at Olds College. The event featured a producer panel and presentations from industry experts such as Steve Campbell of Tailor-Made Cattle, Dr. Bart Lardner from the University of Saskatchewan, Dr. John Basarab from the University of Alberta, and Dr. Désirée Gellatly from Olds College.

Producers from Alberta, Manitoba, and Saskatchewan gathered to learn about the latest research and application of genomic tools for herd management. Steve Campbell's presentation on genetic selection for herd management was particularly well received, and other speakers provided valuable insights into selection criteria and performance tracking for animal selection.

The symposium also included live demonstrations of cutting-edge (or innovative) technologies such as Livestock Gentec's "hidden" hybrid vigor score and One Cup AI technology for identification and tracking for replacement selection.

Despite challenging weather conditions, the symposium was well attended, with 78 registrants. Thanks to the hard work of Grant, Brianna, Dallas, Abby, and Sheldon, the event broke even with a small profit. Attendees and speakers provided positive feedback, and the event was considered a success.

Overall, the event provided valuable resources and information for producers to make informed decisions for their operations.



REGENERATIVE ALBERTA LIVING LAB REPORT

We have had a busy year two (2023-2024) of the Regenerative Alberta Living Lab! The proposal “Maximizing Agricultural Solutions through Integration of Beneficial Management Practices” has grown into Regenerative Alberta Living Lab (<https://www.regenlivinglab.org>, @regenlivinglab). The program continues to be funded through Agriculture Agri-Food Canada (AAFC)’s Agricultural Climate Solutions-Living Labs program.

The project has 111 producers from Mackenzie County in the North to the Montana Boarder in the South who will be working with the science and socio-economic team to collect data on whole-farm soil carbon sequestration and ecological goods and services. The overall goal is to better understand mechanisms involved in soil health, reduce costs of production, and improve soil organic matter and function. Focused around the 6 soil health principles, we are following real life successes and challenges to advance on-farm and ranch systems both for the 111 core producers and hopefully the broader farming community.

Soil Sampling and Lab Analysis. A big part of the project includes three rounds of soil sampling (years 1/2, 3 and 5). The sampling plan guiding the sampling is generated through machine learning using over 50 layers of data to inform where we take the points. Currently, we are completing the last 4 farms in the first round of soil sampling across the project. We are sampling to a depth of 1 metre and are dividing the samples 0-15cm, 15-30cm, 30-60cm and 60-end of the core or 100cm. Across the province this year we sampled on 82 farms and ranches, took 1397 cores resulting in 4956 samples.

Core and layer data was collected for all of these samples including bulk density, root length, concentrations of significant roots and gravel, soil horizon color and depth, and temperature and moisture levels at sampling. Total organic carbon, carbon, and nitrogen are being measured. Macro- and micro-nutrients were extracted and analyzed using weak and strong acid extracts are also in process. Phosphate was analyzed using the Olson methodology and ammonium and nitrate with potassium chloride on these samples.

In addition to working tirelessly to process samples for carbon and nutrients our partners at AAFC in Lethbridge are extracting DNA so that we can deliver data to core producers on the bacteria and fungi in the microbiome of their soil sometime in year three (2024-2025) of the project. It is A LOT of samples to process! Both the FWWF and AAFC Team are working at full capacity to get data out to core producers and to our mapping team as quickly as possible.

Soil Mapping. All of the soil characteristics will be mapped once all the results have been analyzed to create farm-scale soil maps for the core participants. We are in the process of a series of co-development sessions with core producers to determine how their results and package of soil maps will be presented.

Knowledge Transfer. Across the project our partners at the applied research and forage associations hosted 6 field/tailgate sessions that featured the operations of some the RALL core producers. GWFA was gracious to host two at Ellis Bird Farm and John Reid’s. The FWWF/RALL soil processing lab team hosted an Open Lab Day on August 21 at the lab in Olds. This winter our partner groups hosted a workshop series on overcoming weed management challenges in regenerative ag with 5 sessions across the province.

Plant and Grazing App. to collect useful data related to grazing management and plant communities, the RALL team is developing an integrated plant community and grazing app that will enable each producers’ unique conditions and management practices to be gathered and studied in relation to their soil and carbon sequestration data. It is also being designed to be a management tool.

We have designed a prototype of the grazing app which has two distinct modes, historical records for those who have a multi-year set of past grazing charts; and a field application that will facilitate the recording of herd moves in real time. The field data gets transferred into a desktop platform to interface with that year’s grazing plan. Past years’ grazing charts from several ranches already have been recorded in the application, which deliver seasons’ total consumption data, recovery periods, herd density, etc. The field mode of the application will be tested in a few ranches this coming 2024 growing season.

The plant aspect of the app is being developed in parallel and training data was collected by our soil sampling team over the 2023 sampling season, again we hope to have the app functional for testing on farms during the 2024 growing season.

Socio-Economic and GHG Data Collection. Olivier LaRocque from FWWF has been focused on collecting management data from grazing operations to inform the function of the grazing app to maximize the usefulness of the app to core producer operations. Keri Sharpe from FWWF is continuing to gather management data from producer participants that will enable estimation of GHG emission reductions throughout the project.

The FWWF team is developing a report on producer perspectives to barriers of adoption and will sending out a new type of survey called a “One-on-one” to collect more data on this subject in the near future.



GWFA PROJECT REPORTS

Varied Alternative Soil Amendment Project

The purpose of this project was to demonstrate the in-field use of alternative soil amendments vs. commercial fertilizer to facilitate soil health improvements and fertilizer cost savings.

To compare these values, a study site was set up on Ken Trout's (producer/cooperator) property in the spring of 2023. A selection of various amendments was applied to nine different plots, each measuring approximately one acre in area. Across these plots the crop composition was kept constant to provide a baseline vegetative community for comparison. This site was seeded with an oat/forage pea mix inter-seeded with a Union Forage Ultimate Cover Crop Mix for the purposes of livestock swath grazing. Below, Table 1 details the different amendments per plot.

Plot #	Treatment # and Type
1	Negative Control (No Treatment)
2	100g Dormant Calcium
3	Positive Control (Nutrien Fertilizer)
4	HiBrix Basic Mix with applied Dormant Calcium at 400g pre-growing season
5	HiBrix Basic Mix with applied Dormant Calcium at 200g pre-growing season; Pigerator Tea at 40 gal/acre
6	HiBrix Basic Mix with applied Dormant Calcium at 300g pre-growing season; Pigerator Tea at 200 gal/acre
7	HiBrix Basic Mix with applied Dormant Calcium at 300g pre-growing season; Pigerator Tea at 40 gal/acre
8	Fabian Seed Eco-Tea applied at 10L/acre with applied Dormant Calcium at 100g pre-growing season
9	Fabian Eco-Tea at 10L/acre

Over the course of this project, measurements were taken for soil health, as well as for feed quality and analysis. The initial pre-treatment soil results showed that all nine plots were rated "medium" in terms of their physical, chemical, and

biological health. This, along with a consistent mid-range pH and a clay loam texture, ensured that the plots had a good baseline to develop from.

Areas that required improvement, however, include issues surrounding excessive magnesium levels leading to chemically induced compaction, as well as a deficiency in phosphorus and an unequal balance of bacteria vs. fungi in the soil. Unfortunately, due to time constraints, post-treatment soil sampling was not able to be taken at the end of the growing season and so there was no soil analysis for comparison.

In order to analyze the soil structure, soil compaction and water infiltration measurements were taken throughout the growing season. Soil penetrometer readings showed that on the treated plots, the depth to 300 psi (300 psi - level at which roots cannot penetrate soil structure) was approximately 40% deeper than that found on the control plots. This can be correlated with the infiltration results, in that the treated plots took on average under 3 minutes for the first inch of water to infiltrate and under 8 minutes for the second inch. In comparison, the control plots required 5 minutes for the first inch of water to infiltrate and up to the mid teens for the second inch. These values suggest that the treated plots have a healthier soil structure than the control plots.

To assess the impact the treatments had on the crop, forage samples were taken and used to estimate the tonnes/acre of each plot area. These samples were also subject to a feed analysis, the results of which can be seen in Table 2. The colour coding relates to the relative favourability of the results, with dark green being more favourable and red being less favourable.

Table 2 below shows Yield Estimate and Forage Analysis by Plot. By tracking these values, correlations can be drawn between the amendments and their relative impact (positive or negative) on the soil health and overall forage quality and production. For 2023, results show an overall benefit to using the various amendments, however, continued trials will be needed to make decisive conclusions.

Yield estimate 2023 Plots - Forage Analysis								
Plot	calculated		Analysis			Net Energy		Simple Sugar
	tonnes/acre	TDN	Crude Protein	Calcium	Phosphorus	Lactation		
1	2.8	64.5	9.4	0.61	0.24	1.47	4.3	
2	2.8	68.0	8	0.88	0.23	1.41	4.8	
3	3.3	63.0	7.5	0.68	0.2	1.44	2.6	
4	3.1	61.0	9.7	1.05	0.2	1.3	4.5	
5	5.1	63.0	9.6	0.89	0.2	1.4	4.8	
6	3.9	65.0	6.2	0.65	0.23	1.34	5.7	
7	2.6	67.4	7.9	0.88	0.2	1.54	6.6	
8	2.6	68.0	7.1	0.71	0.21	1.45	2.8	
9	2.8	66.0	6.1	0.64	0.22	1.42	3.9	

Aspen Ranch Crop Demo Plot

In 2023, the Grey Wooded Forage Association was approached by Aspen Ranch Canada to collaborate on a plot trial for the purpose of demonstrating the agricultural practices surrounding the planting, growth, and harvest of forage and cereal crops.

This site also serves to showcase these species in their various growth stages, as well as to highlight the impact these species can have on soil and microorganism health.

This site encompasses approximately 4.21 acres and has a history of weedy encroachment. For 2023, our focus was on terminating the weedy species present onsite prior to establishing an annual forage cover crop mix.

To do this, Aspen Ranch personnel sprayed Grazon XC early in the spring, thus terminating the weeds prior to seeding the cover crop. The selected Full Season Cover Crop Mix (Covers and Co.) was aimed to help improve the soil and microorganism health and biodiversity prior to the establishment of plots in 2024.

This warm and cool season plant mix also ensured that regardless of climatic conditions throughout the summer of 2023, there were species capable of handling both warm and dry (warm season) or cool and moist (cool season) conditions.

Following successful establishment of the plot, a Third Tuesday Tailgate Event was held in August to showcase the benefits of using cover crops for soil regeneration. This event was well attended and served to inform producers on the usefulness of cover crops for improving soil health, while also showing the opportunities for harvest/grazing that annual cover crops can have.

Taking advantage of the biomass produced on the plot, Aspen Ranch Canada cut and baled the plot over the last week of August. Shortly thereafter, the plot and surrounding pasture was grazed by the ranch's small cattle herd. The plot was then left unworked to keep the root mass in the soil and thus promote a healthy soil system for establishment of trial plots in 2024.

Soil Health Impact Verification

For the 2023 year of this project, Grey Wooded Forage Association staff visited 5 producers and conducted soil sampling at 2 locations per producer. These samples will serve as comparison points to the earlier benchmark sampling, allowing for technicians and producers to assess the results of management practices on the soil health over a two-year timeframe.

In mid May of this year, the Grey Wooded Forage Association received the soil health reports for the 2023 sampling and returned them to the respective producers. Efforts are being made to include producers in a discussion with the Chinook Applied Research Centre (project owner/manager) to interpret the results of these reports in order to better inform on-farm management decisions.



SOIL HEALTH BENCHMARK

DR. YAMILY ZAVALA AND DIANNE WESTERLUND, CARA FEBRUARY 2024

The final report for the Soil Health Benchmark Study was submitted in 2023 to Alberta Agriculture and Irrigation's Natural Resource Management Branch. The project was designed to promote a better understanding of soil health and to develop a provincial database of physical, biological and chemical soil indicators, all of which contribute to an overall measure of soil health. A biological and physical baseline for provincial soils will provide a framework which can help define strategies for managing and improving the productive capacity, and sustainability, of our soils.

Understanding and managing for a diverse micro-biological functional group underground may contribute to an overall healthier soil by improving soil aggregation, soil water infiltration and storage, as well as improved carbon sequestration. The improved aggregation stability will also contribute to enhanced carbon sequestration levels in the soil.

Healthy soils produce healthy plants resulting in a higher quality food product. Knowing their soil health constraints will give Alberta producers a valuable tool for use in making strategic management decisions, and monitoring those practices, on their farms and ranches.

The database will also be used to develop regional scoring functions for assessing, interpreting and understanding soil health status and management responses. The overall soil health benchmark will contribute to target, monitor and adjust soil health constraints not only at the provincial level but also in each region represented by the 11 Alberta Applied Research and Forage Associations involved in this project.

During the course of the project, soil samples were collected from over 1800 sites across Alberta by partnering organizations. Soil health indicators for physical (soil compaction, water infiltration, texture and wet aggregate stability), biological (active carbon, soil microbial respiration, total fungal and bacteria biomass) were done under the guidance of Dr. Yamily Zavala at the CARASHLab using protocols adapted from Cornell University as well as the Canadian Soil Food Web Protocols.

Total carbon, organic and nitrogen levels were analyzed in partnership with the University of Alberta and chemical characteristics (soil minerals and fertility) were evaluated at a commercial laboratory. The database and regional scoring curves are continually evolving as information from benchmark analysis from samples outside the project are added. Soil health reports were initially generated using the Cornell Comprehensive Assessment of Soil Health (CASH) framework.

Dr. Zavala has observed a few trends from samples. Compaction, soil wet aggregate stability and poor water infiltration are common concerns at many sites and are often associated with lower biological components. She has found a great diversity of beneficial soil creatures and predatory species.

Some of the sites sampled in 2019 were re-visited in 2022 for collection of on-site compaction and infiltration measurements as well as a full analysis. Any changes observed in soil parameters will be correlated to management practices at these sites during the past three years. Evaluation of the data from site re-visits will be a highlight of the project. The information is intended to be a working tool that helps managers better understand soil health, how various management practices impact it and those which might contribute to improving land resilience.

Funding for further monitoring was received from RDAR for a verification of management on soil health at specific sites during 2022 through 2024. The verification project is a collaboration of all groups who have been working with producers across Alberta. Most of the soil health reports have been shared with regional associations and their producers. Additional meetings are planned for discussion of individual site information.

Participating groups included soil health information in many events and activities during the year. Several methods of sharing information were utilized, including one-on-one consultations, seminars, workshops, field tours, webinars and more. Dr. Yamily Zavala has met with several producers to discuss their benchmark reports as well as strategies for remediation of identified constraints.

An update on the Soil Health Benchmark project was made by project lead Dr. Zavala at the Western Canada Conference on Soil Health and Grazing held in December 2022 in Edmonton to over 500 conference attendees. The project received attention as the first submission for the Cattlemen magazine's new research update column early in 2023. Dr. Yamily Zavala participated in RDAR's January 2023 Research Review with a poster presentation of the project.

Figure 1 shows an example for Soil Microbial Respiration (MResp), one of the soil health indicators' scoring functions for the 3 depths of soil samplings. The scoring functions for the province as well as for Grey Wooded Forage Association (GWFA), were developed using the data base of information collected during the length of the Benchmark project. There were not enough data points for the soil textural class (fine) at different depths, however, to generate their specific curves.

These reports were initially generated using the Cornell Comprehensive Assessment of Soil Health (CASH) framework, but they are being replaced by the soil health indicator scoring functions developed from the data collected in Alberta through the Soil Health Benchmark and other projects. Additional data needs to be collected in some areas of the province for generation of more accurate scoring curves that are representative of the soil health status at the local level.

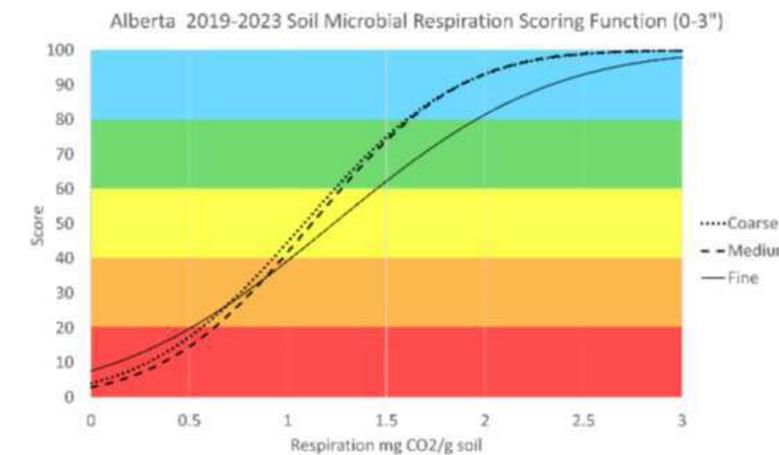
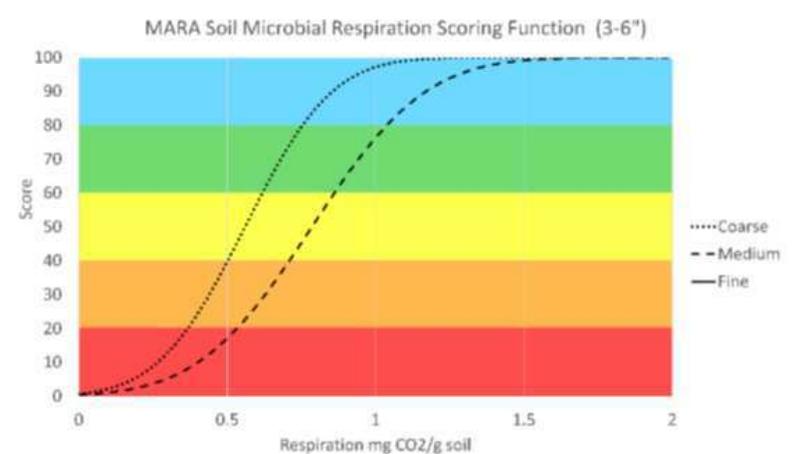
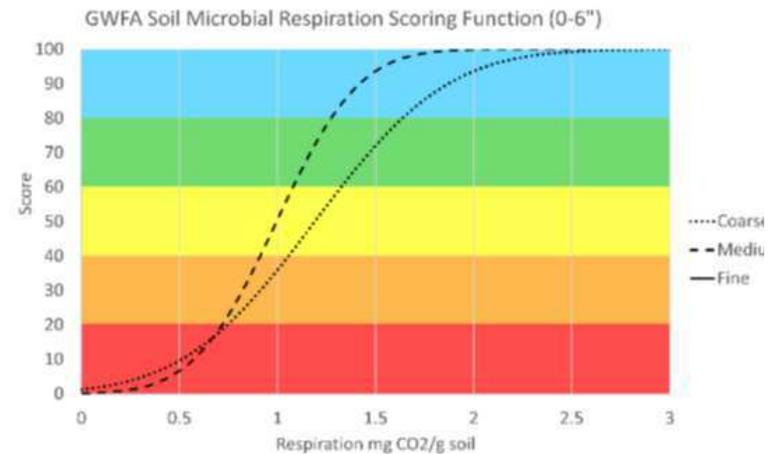
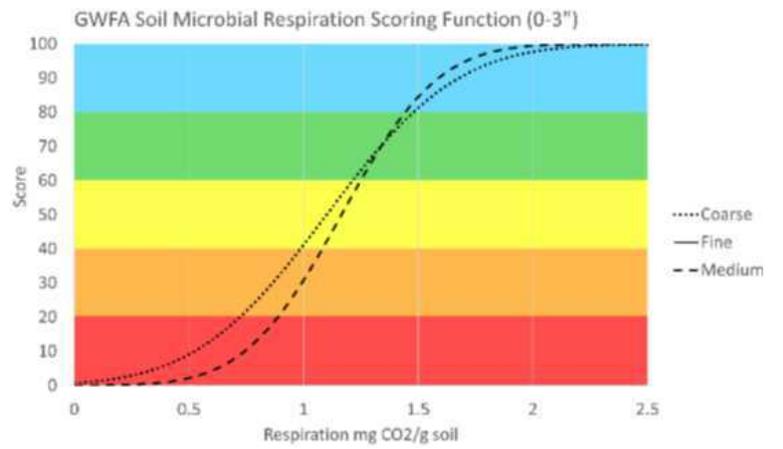
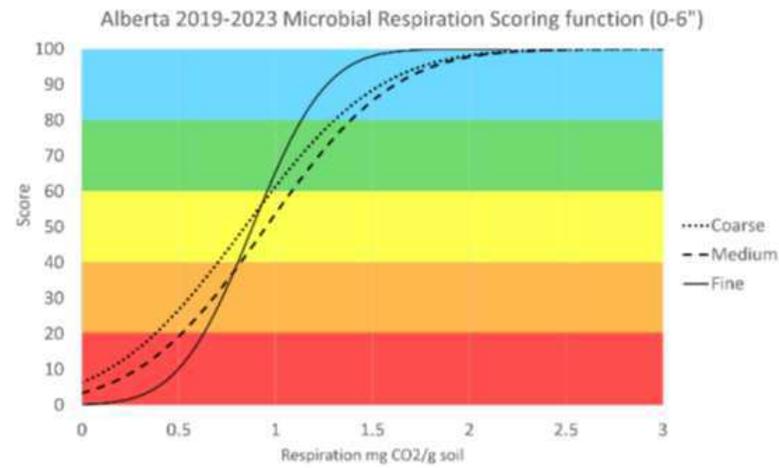
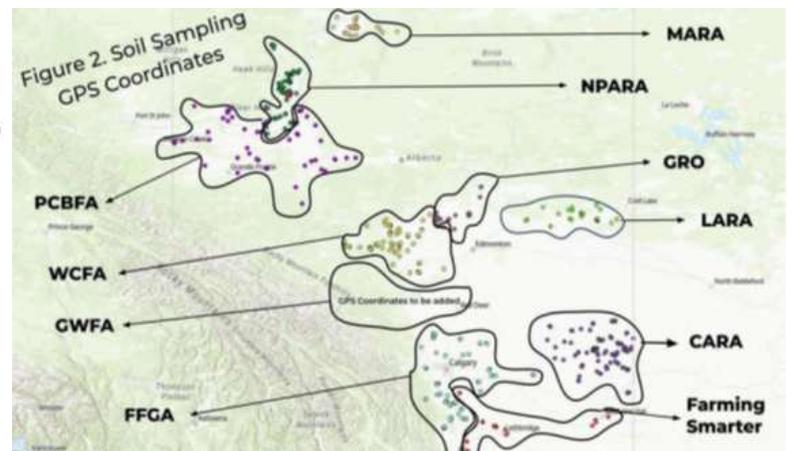
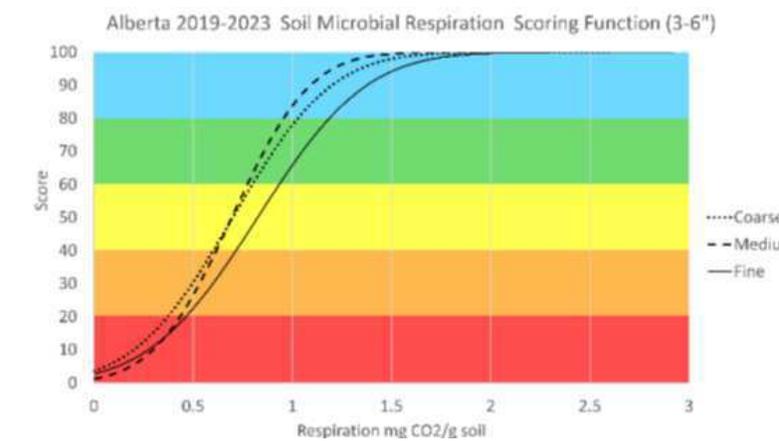


Figure 2 shows few of the GPS sampling areas for 10 of the associations.



Key Initiatives

Renowned Regional Forage & Grazing Advisors

- Re-establish and expand key association partnerships to improve delivery impact
- Host impactful, relevant, well-attended events
- Host meaningful community engagement events
- Support significant agriculture industry events
- Launch field trial service

Experts at Measuring our Impact & Telling Our Story

- Share strategy with Key Funder stakeholders
- Build impact measurement capacity and capability
- Implement testimonial program
- Increase GWFA brand exposure at every opportunity

Thriving Organization with Dynamic, Engaged, Board, Staff & Members

- Develop 5-year financial forecast and funding plan
- Implement ongoing strategy progress reviews
- Develop Board orientation and training program
- Develop organization decision authority guidelines
- Confirm value proposition and execute membership drive
- Expand GWFA Activity Planning Committee

STRATEGIC PLAN

Success Measures

- Sustained, increased annual funding
- Sought after by local producers, funders, partners, and respected elders
- Profitable, sold-out events with well-known, highly respected speakers
- Increased number of collaborative partner events
- Increased invitations to speak at or host notable conferences
- Strong, enduring community support and community engagement

- Consistent, compelling communication with key stakeholders
- Sustained, increased annual funding
- Increased number of multi-year funding agreements
- Increased number of member testimonials
- Increased external GWFA brand references (community, members, funders, partners, and industry telling our story)

- Financially sound, with a positive outlook
- Vibrant, growing membership
- Increased % young members (18-35)
- Full Board, with competition for Board seats
- Highly engaged, diverse, supportive, responsive Board
- Empowered, stable, and healthy long-term staff (5+ years)

Our Mission

To provide knowledge, tools, and resources that build and support a thriving farming and ranching community.

Our Vision

Farming and ranching is successful through progressive and innovative production methods.

Special Thank You to our Supporters for their commitment to agriculture, environment, education, and community!

Platinum



Gold



Silver



Industry Partners

