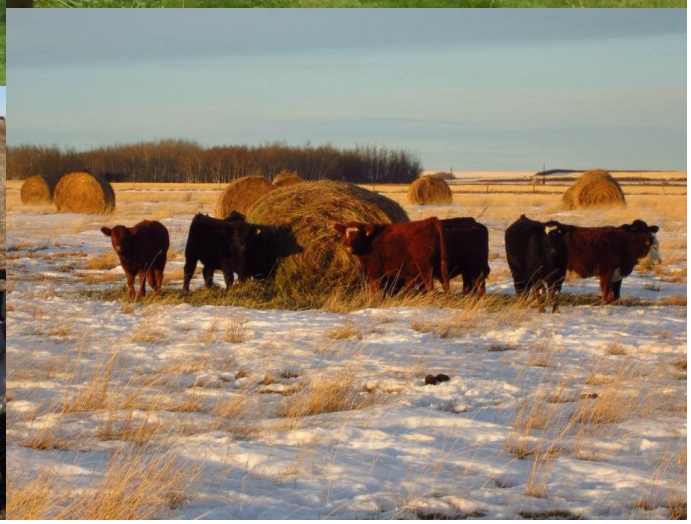
FOOTHILLS FORAGE AND GRAZING ASSOCIATION

2015 Annual Report

2015 International Year of the Soils



Foothills Forage & Grazing Association

2015 Annual Report

PO Box 5145 High River, Alberta T1V 1M3
Office: Upstairs at the Highwood Auction Mart
Phone: (403) 652-4900 Fax: (403) 652-4090
Website: www.foothillsforage.com

Mission Statement

Assisting producers in profitably improving their forages and regenerating their soils through innovation and education.

Vision Statement

We envision a global community that respects and values profitable forage production and healthy soils as our legacy for future generations.

Table of Contents

Board of Directors 2015

Chairman	**Sean LaBrie** Didsbury, AB Cell: (403) 999-3089	**Director:**	**Morrie Goetjen** Didsbury, AB Cell: (403) 863-7484
Vice Chairman:	**Andy Hart** Claresholm, AB Cell: (403) 625-0180	**Director:**	**Alex Robertson** Longview, AB Cell: (403) 888-1517
Treasurer:	**Brian Rodger** Acme, AB Cell: (403) 710-8387	**Director:**	**Ben Campbell** Black Diamond, AB Cell: (403) 803-9190
Director	**Graeme Finn** Crossfield, AB Cell: (403) 312-2240	**Director:**	**Steve Yule** Gleichen, AB Cell: (403) 934-7855
Director:	**Phil Rowland** High River, AB Cell: (403) 650-2287	**ARECA Rep:**	**Ian Murray** Acme, AB Cell: (403) 860-8592
Director:	**Stan Wiebe** Linden, AB Cell: (403) 888-7797		
Director:	**Tamara Garstin** Longview, AB Cell: (403) 333-0376		

Staff

Manager:	**Laura Gibney** High River, AB 403-652-4900
Interim Manager:	**Cassie Kirkpatrick** High River, AB
Environmental & Communications:	**Rachel McLean** High River, AB Cell: (403) 700-7406

Chairman's Report

2015 was the International Year of Soils. A year entirely dedicated to Foothills Forage and Grazing Association's mission.

"Assisting producers in profitability, improving their forages and regenerating their soils through innovation and education."

Since I became a member of FFGA, back when it was still called Foothills Forage, the message has been; if you take care of the soil and what is on top, it will take care of you and your family. A word has been coined out of this expression that is now a mantra for this generation, sustainability.

The FFGA board, staff, and contributing producers are working to share the knowledge and experiences that they are encountering on their operations. We have access to information from on-farm demonstration trials relating to cover crops, forage cocktails, bale grazing, swath grazing, extended grazing and corn grazing. These real life experiments are conducted with a focus to building soil health while keeping an eye on the bottom line, or if you like sustainability.

Other on-farm environmental projects that are being implemented are; riparian management, solar watering, grazing management, livestock handling and corral design. The emphasis of these projects is toward building soil health through animal management. Alternatives to watering cattle in the creek, distribution of organic nutrients, overgrazing and stress free cattle handling are being studied.

We have brought to you Dr. Christine Jones, who put the science behind what we are applying on our farms and ranches. Our trips to Gabe Brown's ranch in North Dakota and the varied operations in Scotland showed us that saying, "It can't be done here," does not apply to operations that are thinking outside the box while keeping an eye on the science.

On the home front, we are pleased to welcome back Laura Gibney as the Manager of FFGA. She returns to us from maternity leave and many of us have enjoyed watching Laura, her husband and daughter during an amazing first year! Rachel McLean has been added to our staff as the new Environmental & Communications Coordinator. Rachel will help spread our message through social media and deliver in-person assistance with Environment Farm Plans. Welcome Rachel! Cassie Kirkpatrick has left to pursue other business opportunities. Thank you for your time Cassie and all the best!

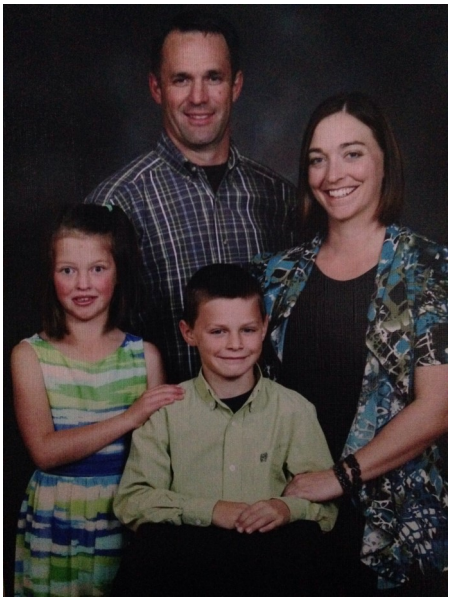
Foothills Forage and Grazing Association's major financial support is through the Agriculture Opportunity Fund whose increase in financial support, unfortunately, did not occur this year. We will be working closely with the AOF managers as well as ARECA to ensure agriculture is not forgotten about in Alberta. Through thoughtful budgeting FFGA has been able to bring our producers the most up-to-date information in a variety of ways while maintaining the healthiest of balance sheets.

In spite of the challenges that loom with the implementation of Bill C-6, FFGA will be working hard to provide our members with information, advice and a voice. Please let us know how we can help you!

Lastly, Foothills Forage and Grazing Association would like to thank all of our sponsors, Counties and industry partners. Our ability to work together and support each other is the reason we succeed!

Cheers,

Sean LaBrie



Manager's Report

Spring came early in which found much of the provinces seed in the ground in good time. However the dry conditions continued; limiting pasture and forage growth during the peak of the growing season. The lack of moisture had producers continuously monitoring their pastures and adjusting their grazing programs accordingly. Near normal rainfall in the fall helped to improve soil moisture reserves across much of the region and an Indian summer provided late season grazing for those with the stockpiled reserves to do so. Winter temperatures above normal and a low snow-pack has made it an ideal winter for winter grazing strategies like stockpile forage, swath grazing, bale grazing and more. The dry conditions heading into spring are worrisome but being Alberta wet spring storms are a very real possibility to turn things around.

It was exciting to come back to the association in September after a year at home with my little girl. Cassie Kirkpatrick, FFGA's interim manager, kept FFGA hopping while I was away. Juggling between 1 and 2 staff over the past year and half allowed us to grow our program in several directions and take on additional activities, boasting fourteen informative and exciting events with over 1,000 attendees in 2015! Cassie left FFGA at Christmas to pursue her own small pet services business, we wish her the best of luck with the dogs, cats and chickens she enjoys! To build on the momentum Rachel McLean has joined the FFGA Team in the capacity of Environmental & Communication Coordinator. In 2015 we initiated the delivery of the Environmental Farm Plan and will continue to do so in 2016 through workshops and one-on-one assistance for producers working through their EFPs as well as applications for Growing Forward 2 funding.

This growth was supplemented by additional funding from the Agriculture Opportunities Fund. We took the opportunity to put some of these additional funds towards a multi-media project. FFGA produced 4 videos in 2015 on the value of the association, grazing legumes, soil health and managing drought that can be found at www.foothillsforage.com. We will carry this initiative forward by continuing to grow our online presence and connecting with the next generation of forage and beef producers. A portion of the additional AOF funding was for capital expenditures which we spent on office supplies to support a second staff person, an FFGA truck and a spectrophotometer that measures a broad range of minerals (ex. nitrates, ammonium, phosphorus, magnesium, etc.) in soil and plant material. The spectrophotometer belongs to FFGA but will be housed at the Chinook Applied Research Association's lab where they have the facility and expertise to perform soil and feed analysis for FFGA samples.

2015 was the International Year of Soils which was a great fit for FFGA as we'd seen producers focus on soil health at a whole new level over the past 18 months. There was an emphasis on caring for our soils as a key component to everything agriculture; moisture retention, drought mitigation, erosion and compaction reduction, plant establishment and healthy pastures which results in more productivity for grazing livestock.

In July we brought back Dr. Christine Jones from Australia for a day dedicated to Building Soil - Creating Land Part 2. The day started in the classroom with a presentation on soil health basics. After some background information we headed out to two pasture sites to learn about assessing root depth, forage/pasture condition and soil microbes. This stimulated a lively discussion on the importance on healthy soil and practical ways to build and regenerate soil.

Three events on soil health in the past year were only the beginning. In August we loaded up a bus and headed down to Bismarck North Dakota to Gabe Brown's renowned Brown Ranch. This 5,000 acre operation has been zero-till for 22 years and uses no synthetic fertilizers, pesticides, and fungicides. Their focus has been on building healthy soil through multi-species cover and companion crops and grazing livestock. It was truly inspiring to see the change in the soil over the past several years and see the operation in action. Gabe's partnership with the Menoken Research Farm adds a dimension of science, record taking and analysis to show that what is obvious in the pasture is a result of healthy soils rich in organic matter and diverse microbial life.

The excitement around soil resonated through the ARECA groups and the Soil Team was initiated. The collaboration of this team made possible not only the field days with Dr. Christine Jones and the Soil Pits that several groups had but also the first ever Western Canada Conference on Soil Health. We wrapped up the International Year of Soils with a two day conference on defining, assessing and building soil. We had scientists to producers from across North America speaking on grazing for healthier soils, cover crops, living soils and how healthy soils create healthy farms and healthy communities. This conference brought together 425 dedicated and innovative people to focus on the literal base of our agriculture operations and communities. The journey on understanding and improving soils has only just begun, we are excited about the future of soil health!

Other events we held in 2015 included Ladies Livestock Lessons in Strathmore, a New Year's party, Ranching Opportunities in Olds, Intensive Beef Production on Pasture Systems with Dr. Flavio Santos from the University of Sao Paulo, Brazil, an EFP Workshop in Vulcan, an International Agriculture Tour to Scotland, the Southern Alberta Women's Grazing School and a Facility Design Workshop.

Thank you to an active, innovative and enthusiastic board of directors that keep this association current and relevant!

Stay connected for another great year,

Laura Gibney
FFGA Manager

A year in review...

Message from ARECA

ARECA Report 2015 by Janette McDonald, Executive Director

ARECA is the provincial body for FFGA. The ARECA Board is made up of representatives from our 9 member organizations, one of them being the FFGA. ARECA's goal is to help the FFGA serve farmers and ranchers. FFGA's ARECA rep is Ian Murray of Acme. For 2015-16, Ian has also provided strong leadership as Chair of the ARECA Board.

Highlights in 2015:

- ARECA worked with our team (9 associations province wide) to deliver a Soil Health Initiative with the Alberta Crop Industry Development Fund. This initiative enabled our members to deliver over 20 meetings and programs across Alberta.
- It also funded the website: www.albertasoilhealth.ca. On this site we added articles about soil quality and soil health in Alberta. This was in conjunction with the 2015 International Year of Soils.

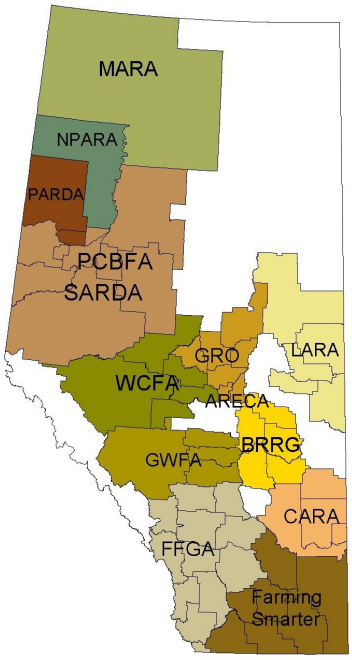
- We also interviewed 13 producers across Alberta and created Producer Highlights. FFGA featured Ben Campbell of Black Diamond and Sean LaBrie of Didsbury (pictured left).
- The Alberta Crop Industry Development Fund Ltd. (ACIDF) funds supported FFGA's trip to North Dakota to visit Gabe Brown's farm (see below). The trip focused on soil health for productive pastures.
- ARECA also enabled the delivery of successful Regional Variety Trials across Alberta. Together, we tested 78 new cereal varieties and 76 new pulse varieties.
- ARECA enabled the delivery of the Provincial Pest Monitoring program funded and operated by Alberta Agriculture and Forestry. Together, ARECA associations monitored 9 insect pests.

ARECA Report

ARECA
Agricultural Research and Extension Council of Alberta

- ARECA delivers the provincial Environmental Farm Plan in conjunction with associations such as Foothills and counties throughout the province.

- We also started a Connections newsletter, designed to "connect" our 9 member organizations. Each month, we develop a highlight sheet of one association and distribute to each Board member of each association.
- ARECA team worked in partnership to host the Western Canada Soil Health Conference in Edmonton. This was attended by 425 people and was sold out! Soil health has become a hot topic across North America. FFGA, through ARECA, is delivering this information to farmers in the field.
- ARECA enabled the inagural Verticilium Wilt Survey, funded and operated by the Canadian Food Inspection Agency, in co-operation with the canola industry. Together, ARECA associations surveyed 83 fields.
- The ARECA Board developed a new process that aims to differentiate provincial programs from local programs. Our goal is to develop over-arching programs that fit for all or most of our 9 member associations; while supporting the independent, local programs of each individual association. So far, the process is working well and will be reviewed in 2016.



Janette McDonald, Executive Director

FOOTHILLS FORAGE AND GRAZING ASSOCIATION EVENTS

New Year's Party!

A delay in our Christmas party due to weather resulted in our first event of 2015 being a New Year's Party on January 9.

Members enjoyed a night of socializing, networking, and fellowship. The event featured cocktails and supper at the Highwood Auction Mart with guest speaker and Nuffield Scholar Cheryl Hazenberg. Cheryl is a world traveller who specializes in traceability in beef.

Intensive Beef Production on Pasture Systems

January also featured an exciting day with Dr. Flavio Santos. **Dr. Flavio Santos** is a professor of Ruminant Nutrition and current chair of the Department of Animal Science in the School of Agriculture at the University of Sao Paulo, Brazil.

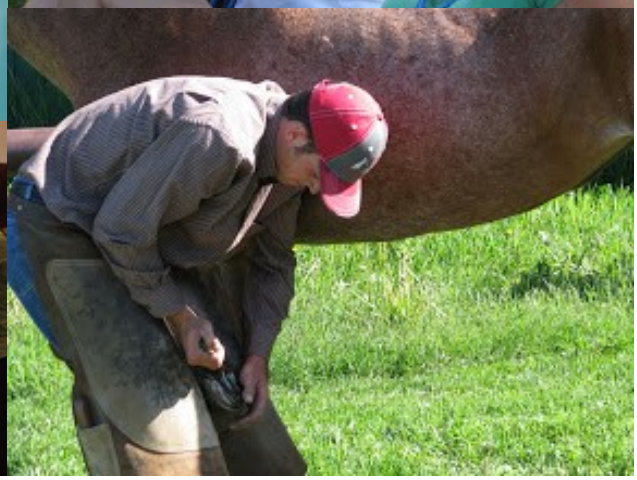
His research focuses on the areas of protein metabolism of dairy cattle, grain processing, and starch utilization by ruminants, grain supplementation of cattle grazing tropical pastures, and feedlot nutrition.

Dr. Santos has published 72 scientific papers in the areas of ruminant nutrition and forage conservation and utilization.

The year kicked off with LLL in Strathmore. The ladies had an exciting agenda featuring Brenda Schoepp on “The Canadian Market Update & Taking Your Beef to Market” and “Emergency Preparedness & Response” with Jennifer Woods.

The 25 gals also freshened up on their Weed ID with Nicole Kimmel from Alberta Agriculture, caring for injured livestock with Stathmore Animal Health
Clinic, and BIXS (Beef InfoXchange System).

The day was great for seasoned ranching women as well as new faces and provided a good opportunity for networking and the sharing of information. This year even featured wine tasting, entertainment and an optional morning yoga class!



Managing Information for Profit in Your Cow Herd

The workshops held throughout the province provided training for cow/calf producers and students.

The focus was managing and analyzing herd information to make informed business decisions in order to increase profitability in cow herds.

It also provided training on current and future genetic tools which can improve profitability further.

Topics included:

- BIXS 2 Update
- Beef Herd Management Options
- Genetic Selection Tools and Designing Breeding Programs
- Animal Health and Welfare Best Practices
- Nutrition—How to use Cowbytes to meet cattle requirements and save on feed costs
- Profiting from Info Management and Genomics

This series of workshops is lead by Alberta Ag & Forestry, Alberta Beef Producers and the Canadian Cattlemen's Association with collaboration from the ARECA groups and many other partners and supporters.

RANCHING OPPORTUNITIES

The annual "Ranching Opportunities" at Olds college was another success story with attendance exceeding 180. The conference works to:

Discover new ways to manage your livestock, explore options for marketing your product and learn about the challenges and achievements of successful ranchers.

This year the event in Olds had main sessions on sustainability in beef and marketing strategies with Sean Royer (Executive Director of Environmental Stewardship Division). Sean discussed how the beef industry is inherently sustainable and how we can work to spread this information. The two other main speakers were Gordon Krebbs on BSL Surveillance and Genomics with Dr. Mike Coffey, a Professor of Livestock Informatics.

Break-out or "hands-on" sessions featured corn and swath grazing demos by Olds College, feed efficiency, and watering systems. The watering systems discussed featured new ideas and innovations such as Sundog Solar, Promold, Cap Solar, and FrostFree Nosepumps. Attendees could choose to attend 2 of the 3 options.

The day wrapped up with a Producer Panel on the effectiveness of off-site watering systems which followed with an engaging discussion and a question/answer period.

FFGA's Annual General Meeting

FFGA's Annual General Meeting was hosted in March at the Highwood Auction Mart and featured a Year in Review and the annual business meeting.

Foothills also hosted speakers Brenda Schoepp, Blain Hjertaas, and Jonathan Small.

Brenda Schoepp

Blain Hjertaas

- Brenda is an international mentor, inspirational speaker, and agricultural writer. She discussed her Nuffield research on market outlook.

- Blain is a Certified Holistic Management Educator and producer from Redvers, SK., he featured his talk on Regenerative Agriculture.

- Jonathan Small is a Farm Management Consultant and gave an interesting speech on succession planning.

Jonathan Small

Sustainable Agriculture

Environmental Farm Plan Workshop

In May, FFGA in partnership with ARECA, Vulcan County, ARD, and Alberta EFP, hosted an EFP Workshop in Vulcan, AB. The aim of the workshop was to:

- Introduce the Environmental Farm Plan Workbook
- Discuss Growing Forward 2 Funding Incentives
- Provide direction for the completion of the Environmental Farm Plan

Agricultural Tour to Scotland

In July, FFGA hosted an agricultural tour to scenic Scotland! The group featured 28 travellers from ages 19 to 77.

Scotland has a rich history of ranching. The current population of Scotland is 5.3 million with moderate temperatures. Generally, the country has a temperate climate with temperatures generally lower than the rest of the UK. Certain areas of Scotland can receive up to 118" of rain annually. The main breeds of cattle include Highland, Angus, Galloway, Belted Galloway, and Shetland.

Upon arrival in Edinburgh, the group enjoyed a four course meal complete with Scottish entertainment including singing, highland dancers, and fiddling. On the second day, they toured a beef and sheep research centre at SRC. The tour featured 6 locations in total and the focus of the research is to produce moderate, efficient, fertile, long-lived cows. Most of their funding for these projects comes from their government. Current projects they are currently working on include a methane measurement system, carcass and meat quality characteristics, and animal sensor systems.

On Day 3 the group attended a Royal Highland Show in Edinburgh. The show featured 1,000 exhibitors, 4,500 head of livestock, and up to 190,000 visitors annually. The show started in 1822 and features animals, food and drink, show jumping, machinery, and equipment.

After a free day in Edinburgh the group took a Royal Yacht Britannia. Once in West Linton, they toured Mossdale Farm which hosted Highland cattle and a sheepdog demonstration. On the same day they visited Whitmuir the Organic Place. The place has a 300 year history and has been certified organic since 2000.

Scotland

On Day 7 and 8 the group toured Upper Nisbet Farm and Netherton Aberdeen Angus Farm. Upper Nisbet featured 300 Limousin X Fiesian cow and Netherton featured the oldest recorded herd of any breed in the UK (Angus). The Netherton Farm also boasted great show success, competing at 123 shows and receiving first in the Royal Highland Show 4 times. They are also a part of the international embryo transfer program.

Sightseeing then followed with Inverary Caste, a Loch Ness Cruise, Fort William, Ben Nevis, Battle of Culloden, Inverness Botanic Gardens, and the Grantown 250 Years Festival.

Day 14 followed at Aberdeen where the group checked out the Scottish Dolphin Centre and Cruickshank Botanic Garden University. The 11 acre garden was created in 1898 and is used for research, learning, and public engagement.

The next day the group went to Aberdeen Campus and James Hutton Institute. The research institute has been farmed since 1904 and is a hub for research for land, crops, water, and the environment. For the past 15 years it has been managed organically with a focus from production to environmental goods. They are currently focusing on re-planting woodland areas and looking into biomass heating systems.

On the last day, they headed to Perthsire to visit Strathisla Farms. The farm has 882 partnerships with 2268 acres total. They have an impressive cattle handling facility built in 2005 and host 230 Pedigree Simmental and Charolais Enterprise. Along with cattle, they also have many other enterprises such as grain, potatoes, peas, contract work, and rental cottages.

Overall, the trip was a great success and Scotland proved to be an educational and fun trip.

Photo and information credit: Cassie Kirkpatrick

Building Soil Part 2 with Dr. Christine Jones

Dr. Jones is an internationally renowned groundcover and soils ecologist who works with landowners to implement regenerative land management practises that enhance biodiversity, maximize photosynthesis, increase soil biological activity, sequester carbon, activate soil nutrient cycles, improve water holding capacity and infiltration, increase productivity, and create new topsoil. Dr. Jones presented in Rycroft and Olds College in 2014 and came back in July 2015 by popular demand. This year's session took place in Olds and Crossfield and included a classroom session on soil health basics and two field sites. At the field sites, Dr. Jones explained assessing rooting depth, forage/pasture condition, and soil microbes. For more information visit Christine's website at: www.amazingcarbon.com

Facility Design Workshop

FFGA hosted a facility design workshop in September. This workshop focused on facility design considerations, equipment, and animal behavior. Ranchers brought in an aerial photo or drawing of their farm and worked with Graeme Finn, Jack Nester, and Jason Williams.

The workshop also hosted Shannon Argent with Verified Beef Production on the implications of proper injection techniques and Brent Difley with AgriClear on cattle marketing. Alberta Farm Animal Care also provided Kristen Hall on "Livestock Emergency Response Trailers & AFAC Programs". The workshop even had a livestock emergency response trailer on site!

Southern Alberta Women's Grazing School

The Southern Alberta Women's Grazing School offers a unique opportunity to learn grazing principles, range health, plant ID and the stories of other women involved in ranching and agriculture.

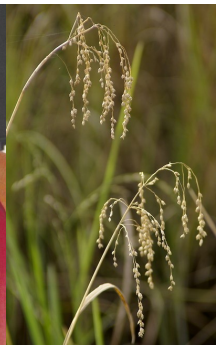
"Dinosaur Provincial Park and Mattheis Ranch played as host to the 12th annual Southern Alberta Women's Grazing School. On the agenda for the two day education sessions were grazing practices, range health, plants and weed identification, riparian health and grazing, as well as integrated pest management.

On Wednesday participants heard from Kelsey Beasley of Integrity Ranching. Beasley offered a glimpse into their ranch culture, including principles and practices used for working the landscape, optimizing ecology and land stewardship, as well as strategic planning for a triple bottom line: the land, the people, and the profitability of systems.

Jennifer Woods spoke on Fitness to Transport and Euthanasia. Woods, who has more than 20 years in the animal welfare business, said important work is being done on the animal welfare front.

On Thursday, the ladies travelled to the U of A Rangeland Research Institute. They went over Mathias Ranch history and stewardship, range and riparian health.

Overall the school provided valuable information and networking for women of all ages and experiences." - *Rob Brown, Brooks Bulletin*



North Dakota Agricultural Tour

In August FFGA headed down to North Dakota to visit Brown's Ranch (Gabe Brown), Menoken Farm, and Blackleg Ranch.

Brown's Ranch, owned by the Brown family, is near Bismarck, ND. The tour group spent a full day on their farm with a focus on soil health. Brown's Ranch has been 100% zero-till for 22 years. They also don't use any synthetic fertilizers, pesticides, or fungicides and herbicides are reduced by over 75%. In addition, the ranch utilizes multi-species cover and companion crops on their 5,000 acre, 350 cow/calf, and 400-800 stocker and grass finishers operation.

These cattle are moved daily in a planned grazing management system and most pastures have a recovery period of greater than 360 days. The cattle are direct marketed under the "Nourished by Nature" label.

The group then spent a half day at **Menoken Farm**. This 150 acre educational farm has been owned and operated by the Burleigh County Soil Conservation District since 2009. The goal of this farm is to restore soil health and move towards eliminating fungicides, insecticides, GMO's, and commercial fertilizers. The farm also has a half acre garden with produce which is donated to local food banks.

The final stop of the tour was a half day at **Blackleg Ranch**. This fifth generation farm was established in 1882 and is owned and operated by the Doan family. The large operation features 10,000 acres with 3,000 cows.

Western Canada Conference on Soil Health

The excitement about soil resonated through the ARECA groups and the Soil Team was initiated. The collaboration of this team made possible not only the field days with Dr. Christine Jones and the Soil Pits that several groups had but also the first ever Western Canada Conference on Soil Health in December. We wrapped up the International Year of Soils with a two day conference on defining, assessing and building soil.

We had scientists to producers from across North America speaking on grazing for healthier soils, cover crops, living soils and how healthy soils create healthy farms and healthy communities. This conference brought together 425 dedicated and innovative people to focus on the literal base of our agriculture operations and communities. The journey on understanding and improving soils has only just begun, we are excited about the future and development of soil health!

Healthy soils —> Healthy farms —> Healthy Communities

"Essentially, all life depends upon the soil ... There can be no life without soil and no soil without life; they have evolved together."
- Charles E. Kellogg

The event featured world renowned experts in their field as listed below:

Speakers:

Dr. Yamily Zavala	*What is Soil Health?*
Dr. Harold van Es	*Soil Health Assessment and Building Soils for Better Crops*
Gabe Brown	*Healthy Soils, Healthy Farms, Healthy Communities*
Dr. Jill Clapperton	*Healthy Plants Grow in Healthy Soils*
Dr. Allen Williams	*Adaptive Grazing Leads to Reduced Inputs & Improved Profitability; Grazing for Soil Health*
Dr. Jeff Battigelli	*Soil Biodiversity - Exploring the World Beneath Your Feet*
Dr. Martin Entz	*Ecological Farm Management to Improve Health of Prairie Soils*
Neil Dennis	*Grazing to Healthier Soils*
Dr. Odette Menard	*Earthworms, Soil Conservation, Soil Health...Getting to the Roots of It*
Jay Fuhrer	*Cover Crops and Living Soils*
Producer Panel	*How I Improved the Health of My Soil*

Banquet Speaker:

Blake Vince	Nuffield Scholar *"Multi-species Cover Cropping Around the World"*

Cow-Calfenomics

In November, FFGA teamed up with Alberta Beef Producers, AFSC, FCC, Alberta Agriculture, and ARECA to bring you Cow-Calfenomics. The tour took place in Vermilion, Westlock, Olds, and Lethbridge. The information session contained the economics of ranching and the cattle industry. This year the agenda topics included:

- ***What is Social License?*** - Sustainability of Cattle Industry
- ***Time to Beef up the Herd?*** - Marketing Outlook
- ***Grazing the Bottom Line?*** - Economic Grazing Solutions
- ***Have you Considered Leasing?*** - Financial Considerations for cows and pasture
- ***Are you Covered?*** - Human Resource Strategies
- ***What Does You Neighbor Think?*** - A Beef Producer's Perspective

Overall marketing outlook, economic grazing solution, financial considerations for cows and pasture were the major topics which brought in a crowd of 30 in Olds this year.

FFGA Christmas Party

Members enjoyed this year's Christmas Party on December 18. The night featured supper, refreshments, and fellowship. Don Evans gave a recap on the Scotland agricultural tour and Ian Murray reviewed the North Dakota tour to Gabe Brown's. FFGA also premiered our FarmOn Videos now available on Youtube!

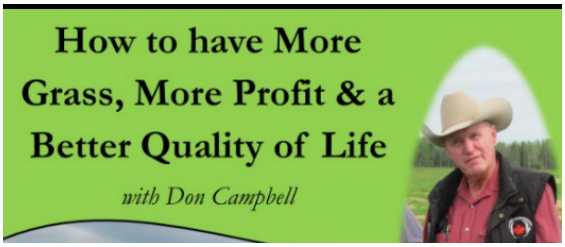
Other Events FFGA Supported

- ⇒ Business Management Skills Development Program

- ⇒ Managing Information/Genomics for Profit
- ⇒ Livestock Care Conference

- ⇒ Enhancing your Grazing Profitability and Sustainability
- ⇒ Low Stress Cattle Handling Workshop
- ⇒ Business Management Skills Development Program

- ⇒ Managing Land, Wealth, and People for Success
- ⇒ Riparian and Range Workshop
- ⇒ Monitoring and Evaluation Progress and Success



- ⇒ Stockmanship with Curt Pate
- ⇒ How to Have More Grass, More Profit & Better Quality of Life
- ⇒ Graze for Clean Water

- ⇒ Holistic Management Course
- ⇒ Soil Carbon Challenge with Peter Donovan

- ⇒ Planned Grazing Management Workshop
- ⇒ Sanfoin Training
- ⇒ Soil Health Producer Highlight Series

FOOTHILLS FORAGE & GRAZING ASSOCIATION DEMONSTRATION PROJECTS

LaBrie Bale Grazing Project Summary

For cow calf producers in the prairies overwintering of cows is a major cost to the production system. Time and machinery costs are a major component of those overwintering expenses. Many attempts to reduce those costs have been successfully used by producers, bale grazing being one of those techniques and the focus of this project.

If one is thinking about implementing a bale grazing program there are a few considerations that should be part of the planning process.

- The species in the pasture mix should have at least one rhizomatous grass present, such as smooth brome, quack grass, Kentucky bluegrass. Rhizomatous species have a greater ability to grow through the mat of forage residue remaining on the soil surface.
- Zones of productivity can vary throughout any give pasture. One of the objectives should be to improve the nutrient and organic matter content of the soil in these least productive areas. Bales should be concentrated in these area.
- Water courses and riparian areas should be avoided in order to minimize nutrient leaching and or run off during snow melt.
- Cattle should not be allowed to take shelter in riparian areas.
- Are wind breaks necessary?
- A 30 – 40 foot separation of bales is considered ideal for nutrient distribution.
- Fiberglass or rebar speared into the bales is an alternative to drilling holes into frozen ground for electric fencing.

The most definitive research on the subject of bale grazing was done by Paul Jungnitsch for his Master's degree and published in 2008. He compared bale grazing with cattle fed in a dry lot. He looked at nutrient distribution, nutrient recovery in soil and forage, pasture forage response, cattle performance and economics.

His results showed:

- The system by which cattle were overwintered had little influence on cattle weight and condition.
- Economic calculations favored winter feeding on pasture by 25% over dry lot, and by 56% when the value of additional nutrients were included.
- Soil distribution patterns of nitrogen and potash in the pasture feeding system were highly variable, with N varying from 10 to 558 lb./a. and K from 640 to 5644 lb./a.
- The average gain over the unmanured control was 104 lb/a. for nitrogen and 1078 lb./a. for potash.
- Soil phosphorous level did not increase significantly.

Plant nitrogen (N) which is almost totally in the form of protein, is highly digestible by the cow. Over 80% is initially absorbed by the cow. The non-digestible N is excreted in the dung. The N that is absorbed is used to make meat or milk protein and a small amount is re-routed to feed microbes in the gut, with the balance being excreted in the urine.
Dry lot feeding of cattle over winter can result in very high losses of N. A research project in Nebraska showed only 9 to 19% of the excreted N remained when the manure was removed. Low temperatures will limit volatilization until spring. N losses from winter feeding of cattle has not received much attention from the research community.

Phosphorous (P) has many functions in livestock. These include cellular energy transfer and mainly teeth and bone structure which also act as a reservoir in times of deficiency. The phytase enzyme, produced in the rumen, aid in the digestion of phosphorous. Proper P utilization depends on an adequate supply of vitamin D. The remaining P is excreted 98% in the dung with remainder in urine. P does not volatilize and therefore remains in the manure.

Potassium (K) is required in the diet of beef cattle at about 0.6% being the major cation in the intracellular fluid and playing a major role in several bodily functions. It is involved in the acid-base regulation, osmotic pressure maintenance, nerve impulse transmission, muscle contraction and oxygen and carbon dioxide transport. Excess K is 91% removed from the body in the urine. It does not volatilize and moves slowly through the soil.

Calcium (Ca) is the most abundant mineral in the body and is an integral part of bone and nerve tissue. Most forages are a good source of calcium although some cereal forages and corn silage can be marginal to low. Grain is a poor source of Ca. The calcium to phosphorous ratio is important and should not be less than 1:5 to 1 and no greater than 7:1.

Sulphur (S) is found in adequate supply in most local feeds. Where there is high sulphate content in water, it can interfere with the absorption of other nutrients. Copper and selenium are particularly of concern.

Copper plays a role in the functioning of the immune system and **selenium** deficiency can result in white muscle disease in calves. It can also reduce reproductive efficiency in cows, and lower the quality of colostrum available to the calf.

Project Description

This project took place on the farm of Holly and Sean LaBrie west of Didsbury in the black soil zone. Prior to beginning this project, the LaBries had been winter feeding their cows on pasture by take bales out to the cows on a one or two day program. The cows transitioned to the bales as the pasture grass became less palatable. This trial involved four permanent paddocks with the bales being placed out approximately every 21 days using a tractor and bale wagon. Hay, greenfeed and straw were utilized in the proportion of 1/3 each with a 15% molasses protein tub and loose mineral/salt mix available free choice. Water was about ¼ mile away.

On average 100 pregnant cows were involved, with bale feeding starting late November and finishing mid-June. Cattle condition was monitored on a regular basis with the ability to change the ration as needed. Cost based on a 1300 pound cow including yardage was calculated at $1.27/cow/day. When asked about future winter feeding plans the LaBries replied "We have moved to a more traditional bale grazing system where all bales are placed in the fall and a single hot wire is moved every few days to provide access to the allotted amount of feed. We have also moved the bale grazing site to other pastures that were in need of rejuvenation. Bale grazing has given us control of our winter feeding just like our cell grazing has given us control of our summer grazing. Bale grazing is a time and money saver as well as an effective way to increase the productivity of our summer pastures. We will continue to utilize bale grazing in the future."

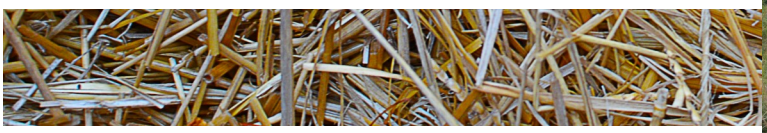
FORAGE ANALYSIS – SEPTEMBER 2015

Dry Matter Basis	Control	Hay 2011	Hay 2012	Hay 2013	Green Feed 2011	Green Feed 2012	Green Feed 2013
Average Yield (lbs./ac)	1,104	1,888	1,389	1,603	2,245	1,389	1,960
CP (%)	9.60	9.30	10.50	13.40	11.30	9.10	9.00
Ca (%)	0.69	0.62	0.57	0.84	0.45	0.69	1.00
P (%)	0.08	0.08	0.13	0.12	0.15	0.13	0.10
K (%)	1.13	1.11	1.36	1.24	1.14	1.36	1.01
Mg (%)	0.20	0.16	0.16	0.20	0.13	0.15	0.17
ADF (%)	41.10	37.10	41.00	39.00	40.50	39.10	39.70
NDF (%)	68.90	62.90	66.60	64.70	64.90	64.90	66.00
TDN (%)	57.00	58.00	53.00	55.00	55.00	57.00	56.00
Relative Feed Value	107.00	110.00	95.00	103.00	101.00	107.00	110.00

Forage Analysis Comments

- The crude protein content of the hay is indicative of late cutting. From the ideal harvest time 1% C. P. per week is lost as time advances.
- Availability of soil nitrogen, mineralized organically or provided by fertilizer, will affect the crude protein of hay.
- Straw was also used in the ration. One would expect a C.P. of 4.5 to 5.0%.
- The phosphorous numbers are low, should be 0.18 to 0.2%. This again could be reflective of low P availability from the soil.
- The greater than desirable ADF is indicative of late harvest. Sometimes we have to take what the weather allows us. Ideal ADF for an alfalfa grass hay would be 32 -35%. Cereal silage or greenfeed should have ADF levels between 35 and 40%
- On best quality forage one would expect an ADF to NDF spread of 15 points. The grater spread in this hay indicates an insufficient supply of nitrogen and sulphur. (Adequate soil Sulphur allows nitrogen to be used more efficiently.)

It is not our intent to imply that this hay was of poor quality, obviously the cows did well on this ration. We are attempting to demonstrate what the feed analysis can tell us.



Soil Analysis Oct 2015

0-6 inch depth

	Control	Hay 2011	Hay 2012	Hay 2013	Straw 2011	Straw 2012	Straw 2013
Organic Matter (%)	7.60	7.40	8.10	8.90	7.70	10.20	10.70
Nitrate (ppm)	<2	<2	<2	<2	<2	<2	<2
Phos (ppm)	<5	<5	<5	8.00	7.00	7.00	8.00
Potassium (ppm)	184.00	223.00	330.00	311.00	319.00	287.00	308.00
Sulfate (ppm)	5.00	4.00	4.00	5.00	4.00	6.00	10.00
Copper (ppm)	0.50	0.40	0.60	0.60	0.40	0.70	0.90
Iron (ppm)	67.00	30.00	49.00	49.00	41.00	37.00	63.00
Manganese (ppm)	5.60	3.60	6.70	5.50	4.40	4.90	7.40
Zinc (ppm)	3.80	2.20	2.70	2.40	2.80	2.20	2.30

6-12 inch depth

	Control	Hay 2011	Hay 2012	Hay 2013	Straw 2011	Straw 2012	Straw 2013
Organic Matter (%)	5.00	5.90	4.70	5.80	5.80	6.80	7.80
Nitrate (ppm)	3.00	<2	<2	<2	<2	<2	2.00
Phos (ppm)	<5	<5	<5	<5	<5	<5	<5
Potassium (ppm)	100.00	112.00	119.00	133.00	131.00	134.00	129.00
Sulfate (ppm)	3.00	3.00	2.00	3.00	4.00	8.00	13.00
Copper (ppm)	0.40	0.40	0.50	0.50	0.30	0.60	0.60
Iron (ppm)	54.00	28.00	30.00	24.00	37.00	25.00	23.00
Manganese (ppm)	3.90	2.70	3.80	2.80	3.70	2.70	3.00
Zinc (ppm)	2.10	1.00	0.90	0.80	2.10	1.00	1.00

Soil Analysis Comments

- The soil tests were taken each fall after the soil had started to cool down and bacterial mineralization of nutrients had slowed.
- Soil organic matter (SOM) is the cornerstone of soil health. SOM has been increasing for all treatments even to the extent that we are seeing a modest increase in the 6 – 12 inch profile. This is the means by which carbon is sequestered in our soils. Improved SOM content results in an increase in the ability of the soil to hold water and nutrients, (cation exchange capacity) and helps prevent those nutrients from leaching. Each 1% of SOM can be relied upon to supply 5 -10 pounds of nitrogen per year through the process of mineralization. As much as half of this will be tied up by the microbes in the soil.
- Nitrogen, according to Jim Gerrish, is usually the first limiting nutrient for plant growth in pastures. N is essential for plants to achieve optimum yields. It is also a critical component in the formation of protein by the production of amino acids. Nitrate nitrogen has been consistently low throughout the sampling each fall. It is a concern that yield and protein production are reduced due to an inadequate supply. NO_3 is the composition of N that plants access through their roots. There is also a certain amount of nitrate nitrogen tied up in the bacteria as they break down the organic matter to release the nutrients into the soil. In a previous article, the need for an ideal C: N ratio was discussed. It will take 35 – 45 pounds of N to produce one ton of grass hay. A nitrogen deficiency can be indicated by a reduced crude protein in the forage. An adequate supply of nitrogen will also improve plant phosphorous uptake.

- Phosphorous (P) is essential for normal plant growth and maturity. P plays a role in photosynthesis, respiration, energy storage and transfer, cell division and cell enlargement. A lack of soil P can manifest itself as reduced digestibility of the forage.
- Potassium (K) is an essential nutrient and is taken up in significant amounts. There is no other nutrient that can replace it. K plays a vital role in photosynthesis, is essential in the manufacture of proteins, improves winter hardiness, activates over 80 enzyme systems, controls cell turgor and influences water use efficiency by controlling the stomata in the leaves. It also has a role in strengthening the plants natural resistance to diseases.
- Sulphur (S) is a constituent of proteins and is an enabler of nitrogen uptake. S also helps develop enzymes and vitamins in plants and promotes nodulation in legumes. It is also essential for chlorophyll formation although it is not a constituent of chlorophyll.
- Copper (Cu) is essential for the formation of chlorophyll and also acts as a catalyst for several enzymatic reactions.
- All other micronutrients have roles to play in the growth and health of plants, often essential at low rates and toxic at higher levels. It has been our attempt to focus on the nutrients that are most important to the health and production of forages.

In consultation with a forage and beef specialist and another plant nutrition professional we have produced an ideal soil nutrient profile for comparison with the actual results (see below).

Nutrient	Reported /Actual	Recommended /Ideal
Nitrogen	2 to 3 ppm	25 to 45 lbs. / acre
Phosphorus	< 5 ppm	30 to 35 lbs. / acre
Potassium	100 to 300 ppm	Adequate
Sulphate	3 to 10 ppm	15 to 25 lbs. / acre
Copper	0.4 to 0.8 ppm	8 to 20 ppm
Iron	30 to 60 ppm	Adequate
Manganese	2.7 to 5 ppm	40 to 80 ppm
Zinc	0.8 to 4 ppm	25 to 50 ppm

Future considerations could include:

- The addition of fertilizer that would bring the soil analysis up to approaching the ideal levels. Nitrogen would improve pasture protein production and phosphorous would support legumes which have a tendency to diminish if nodulation is not supported by adequate phosphorous levels.
- Cicer milkvetch and Sainfoin could be added to the pasture as non bloat legumes to help add additional protein to the grazing program and additional nitrogen to the soil. There are several non-invasive techniques that could be used to accomplish this, one of which would be adding untreated seed to the mineral mix another being the use of a hand held spreader in bale grazed areas.
- In the first year of a legume stand most if not all of the N that is fixed will be used to support the legume. Mature legumes will fix more N than needed and contribute to the non legume component in the pasture.

"Using legumes in pastures can provide significant amounts of nitrogen to the total pasture ecosystem. This will contribute to lower operating costs by increasing the production of protein per acre. Legumes can also lead to increased animal performance." *Jim Gerrish*

Researched and written by Dennis Laughton with consultation of B. Yaremcio

Oat, Barley, Snow Peas and Brassica Swath Grazing

Producer Co-operators: Brian and Theresa Rodger

Acme, Alberta

Swath Grazing Forage Blends

Blend 1: Oats, Barley, Peace Diverse Annual Mix. Seeded July 1, 6459.

Peace Diverse Annual Mix - GRAZA Forage Radish, WINFRED Forage Brassica, HUNTER Forage Brassica, CORRINE Ethiopian Cabbage, Sorghum, Millet, Ryegrass, Hairy Vetch and Crimson Clover.

Blend 2: Oats, Barley, Snow Peas, Peace Diverse Annual Mix. Seeded May 23, 2015.

Blend 3: Peace Diverse Annual Mix.

Table 1: Swath Feed Samples - September 2015

	Blend 1	Blend 2	Blend 3
Dry Matter %	18.2	72.1	15.7
Crude Protein %	19.80	11.2	19.8
Ca %	0.56	0.5	0.87
P %	0.28	0.26	0.38
Mg %	0.19	0.17	0.26
Na %	0.18	0.045	0.088
K %	2.39	1.35	3.16
Iron ppm	588.00	102	180
Cu ppm	8.00	4	4
Mn ppm	45.00	41	42
Zn ppm	31.00	22	38
Nitrates %	0.59	0.14	0.98

Understanding Nitrate Levels

% Nitrate	Comment
<0.44	Safe to feed
0.44 - 0.66	Safe for non-pregnant animals. Limit to 50% of ration dry matter intake. Animals may go off feed, experience a slow drop in mild production or abort in some cases.
0.66 - 0.88	Limit to 50% of ration dry matter. Above symptoms, some death.
0.88 - 1.54	Limit to 35-40% of ration dry matter. DO NOT FEED TO PREGNANT ANIMALS.
1.54 - 1.76	Limit to 25% of ration dry matter. DO NOT FEED TO PREGNANT ANIMALS.
>1.76	TOXIC - DO NOT FEED

Table 2: Soil Samples

	May, 2015	October, 2015	October, 2015	October, 2015
0-6"	**Blend 1**	**Blend 1**	**Blend 2**	**Blend 3**
OM (%)	7.6	11.4	8.9	14.3
N (ppm)	44	29.0	8	10
P (ppm)	27	>60	24	>60
K (ppm)	482	>600	293	>600
S (ppm)	7	14.0	452	11
Ca (ppm)	2400	2090.0	4820	2170
Mg (ppm)	245	358.0	652	524
Fe (ppm)	140	150.0	24	120
Cu (ppm)	0.8	0.9	0.5	1.2
Zn (ppm)	3.2	5.9	2	11
B (ppm)	1.2	1.5	1.8	1.7
Mn (ppm)	50.1	28.2	3.5	14.5
Chloride (mg/kg)	11	12.0	5.1	8.6
pH	5.4	6.4	7.7	6.6

Soil Quality

Soil is a living system that represents a finite resource that is essential to life on earth. It forms a thin skin made up of mineral and organic matter on the earth's surface. It develops slowly and is influenced by parent materials, time, climate, and living organisms.

Soil quality is mainly an indication how well it performs the functions that we want it to. Soil quality can be influenced by the land use decisions made by its stewards. In agriculture our thoughts immediately turn to crop production. Some of the key functions include:

- Water holding capacity
- Water and air movement
- Providing nutrients for the crop
- Nutrient cycling
- Hosting the biological life forms that aid nutrient mineralization

Soil organic matter is a very important to soil quality since it affects both the physical and chemical properties of the soil. It improves soil quality by influencing water and air movement, water infiltration rate, water holding capacity, soil structure, bulk density, tilth and nutrient holding ability. Organic matter provides nutrients as well as binding them as a reservoir for future use. It also helps bind soil particles together, reduces surface crusting, stabilizes soil aggregates and reduces both water run-off and soil erosion.

Providing the crop with a complete and balanced nutrient package, according to its needs, not only improves the yield but also has a direct effect on the soil organic matter component. As the root grows it is a continuous process of shedding dead tissue as new cells grow. The root tip consists of specialized cells, containing glomalin, which sloughs off to make the movement through the soil easier. This material adds to the organic content of the soil. Old roots die as new roots are established. In a swath grazing scenario both the plant material left behind and the manure from the animals add to the organic content and the nutrient of the soil.

Water and air movement through the soil is accomplished through the channels caused by decaying roots as well as those caused by burrowing insects and worms. Worms through their castings help bind smaller soil particles into larger stable aggregates.

Soil Compaction can deprive crops of water and nutrients even in a situation where moisture and nutrients are in adequate supply. Roots cannot absorb water and nutrients if air is not available to them. Compacted soil also make root penetration more difficult, limiting their ability to access, phosphorous, potash and certain micronutrients that are immobile and must be sought out by the roots. **To prevent soil compaction swath grazing animals should be removed when the ground starts to thaw.**

Nitrogen: after swath grazing it is not unusual to see an increase in soil test N. If a single urine spot is included in the sample an increase in soil test N is expected. With peas, fixed nitrogen goes to the production of protein and only after the peas are mature (physiological maturity) does any residual N remain for the next season. Another benefit of peas is that their fibrous root system which can leave the top soil in a rich condition.

Phosphorous in soils moves between three, perhaps four pools of varying availability. The numbers in all soil tests are moderately low with 40 ppm a desirable working number. Phosphorous serves as the instrument of energy exchange in plant, animal and human cells.

Potassium activates protein synthesis and is required for enzyme activation. It also acts to make plants more water use efficient and resistant to freezing. Alfalfa is a heavy user of potassium.

Sulfur is required for protein synthesis. N + S = protein. Sulfur is also instrumental in the efficient use of nitrogen. It is also highly variable in soils due to sulfate being water soluble and very mobile. At the Acme site sulfur is extremely low in 3 of the 4 samples.

Calcium is essential for cell wall development and the structure that binds cell walls together. It also controls the rate of water uptake and transpiration. Our soils are calcareous in nature and large amounts are naturally present.

Magnesium is the nutrient at the center of the chlorophyll molecule and directly governs the rate of photosynthesis. This activity also translates into CO_2 fixing and the control of several respiratory enzymes. There seems to be a slight reduction between September 2013 and May 2014, more likely a soil variability issue due to the time period as soil biological activity has been at a minimum.

Iron is essential for the formation of chlorophyll and photosynthesis. It is also the activating element in several enzyme reactions. Alfalfa and forage grasses have a significant need for iron. Iron is usually present in the soil as a sulfate and has a lack of uniformity in the soil as seen particularly in the May O/B sample.

Copper is another important enzyme activator and has an important role in plant reproduction. Lack of copper is associated with ergot. Copper from plant source also has an effect on the animal's immune system. Low soil copper is considered to be 0.4 – 0.8.

Zinc is involved in the transformation of carbohydrates into sugars and regulates sugar consumption in the plant. This soil has adequate amounts of zinc.

Boron is a non-metallic element that plays a major role in plant reproduction. It plays a role in cell differentiation and development in the meristematic tissue. The boron content is considered adequate.

Manganese plays a role in carbohydrate consumption for energy as well as the use of nitrogen in the production proteins. The soil test numbers show an adequate level of manganese.

Biological Control of Canada Thistle 2012 - 2017

Producer Co-operators:

Rod & Beth Vergouwen

Phil & Pam Rowland

Also known as *Hadroplontus litura*, the stem mining weevil was introduced from Europe to Canada in 1965 and to the USA in 1970 to feed on Canada thistle. It is a biological control agent that attacks Canada thistle stems and rosettes. The weevil restricts its feeding to this weed and a few close relatives. It attacks rosettes of Canada Thistle in early spring, before the thistle bolts.

The weevil has a single generation each year. The adults spend the winter in the soil (generally in the upper 5cm). They emerge in early spring as the first thistle rosettes begin to appear. The adults are present for several weeks, mating and feeding on young foliage of the Canada thistle; unfortunately, adult feeding appears to have little adverse effect on weed vitality. Even at high densities, the adults are difficult to find in the field, as they fall off the host plant when disturbed and remain motionless on the ground where they are well camouflaged.

They also spend much of their time on or near the ground. When ready to lay her eggs, a female weevil chews a hole (1/10" in diameter) in a thistle leaf on a young rosette, generally in the main vein. She turns around and lays one to five eggs in the hole. When the larvae hatch a week or so later, they tunnel through the leaf in the lower stem and root collar; when several larvae are present, the main vein turns black from the tunnelling and, several days later the leaf dies. In the stem and root collar, the larvae mine the pith; they avoid the vascular bundles, however, and hence generally do not cause the stem to die during the growing season.

In early summer when they have fed fully, the larvae emerge from the thistle shoot through small exit holes that they chew near or just below ground level. They work their way into the soil, and enter the pupal stage in which they transform into adults. After two to three weeks, adults emerge from the soil in late June and July and feed on the thistle foliage until heavy frost occurs in fall. They may feed intensely at high densities, with attacked leaves bearing many small feeding punctures.

The weevils tend to aggregate in dense patches of Canada thistle and upon release at new locations they spread slowly and at the same time, level of infestation at the sites of release

slowly increase. Larval mining does not prevent vigorous growth of attacked thistle stems under favourable conditions for the weed. Female weevils tend to lay their eggs in early developing stems; and these stems generally grow taller than those developing later in the season. Consequently, under otherwise favourable conditions for thistle growth, stems mined by weevils are generally taller on average at the end of the growing season.

When attacked by only one or two weevil larvae, vigorous thistle stems are often able to kill these larvae by surrounding them with gall tissue. But when the weevil attacks a Canada thistle growing under less favourable conditions, the weevil can adversely affect weed vigor during the growing season.

Initial field studies in Canada suggested that weevil feeding may also aid in the spread of the thistle rust, but this was not confirmed in subsequent research. However, weevil feeding may allow a variety of other micro-organisms to enter the thistle stem, with adverse consequences for the thistle: field studies in Montana indicated that underground parts of stems are much more subject to winter kill if the aboveground stem is attacked by weevils during the growing season.

It is presently unclear how effective the weevil will be in causing decline in thistle densities. Fluctuation in thistle density could not be consistently associated with varying levels of weevil attack in field studies performed in Canada. But ranchers in Montana have reported sharp declines in Canada thistle in some instances, apparently associated with release and subsequent population build-up of weevils. Research to date suggests that population reduction of the thistle is unlikely until the weevil reaches high numbers and infest a very high percentage (90-95%).

Continued...

FFGA is participating in a regional trial set up by ARECA. In 2012, 58 dishes (each containing 105 weevils individuals) were released into controlled sites from Lethbridge up to the Peace Country.

Objectives of the project are:
Determine if the weevils work, and if native populations can be established in Alberta.
Determine if weevils are a cost effective method of Canada thistle control.
Determine if additional weevils need to be added to a site in consecutive years following initial release.

The success of ***Hadropontus litura*** on suppression of Canada thistle will demonstrate:

a) Use of biological control as an alternate means of pest control
b) A possible reduction in chemical use
c) Weed control in sensitive areas where other traditional methods are not able to be utilized.

FFGA has been working with producers Rod and Beth Vergouwen and Phil and Pam Rowland since the release of the weevils on September 7, 2012, to determine whether the weevils are developing local populations or not. One site is located near Strathmore and the other near High River. Both had a minimum of 50 Canada thistle plants. At both locations there is a control site with no application of weevils several feet from the weevil site for comparison.

When monitoring the sites throughout 2015, the presence weevils was determined at the Vergouwen's near Strathmore. The site near High River was inconclusive. It can take years before an insect can catch up with an exotic weed species, with Canadian field studies indicating a spread on average of 90 m in 6 years with results varying regionally. Infestation can be slow to expand in the first few seasons. Further training to identify damage and presence of the weevils would be beneficial.

We will continue to monitor the sites for larvae, weevils, and the health of the thistle stand over the next few years.

Thank you to our 2015 Sponsors

Agriculture Opportunity Fund

Alberta Agriculture and Forestry

FFGA is a proud member of ARECA

FFGA's Corporate Sponsors:

TRU-TEST GROUP

Unique Financial Services AFSC INSURANCE • LENDING • INCOME STABILIZATION

UFA

RAWEST IN Agriculture, Automotive & Short Line Equipment Distributor

UNION FORAGE

Western CPIP CATTLE PRICE INSURANCE PROGRAM

BrettYoung

County Sponsors:

Mountain View COUNTY

M.D. of FOOTHILLS No. 31

MD of RANCHLAND NO. 66

MD of Willow Creek

WHEATLAND COUNTY

Vulcan COUNTY

Kneehill County

ROCKY VIEW COUNTY Cultivating Communities

And All Our Event Sponsors!