FOOTHILLS FORAGE AND GRAZING ASSOCIATION

Sustainable Grazing Solutions

2013 Annual Report

Foothills Forage & Grazing Association

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Foothills Forage & Grazing Association encourages a profitable and sustainable forage industry by providing an information network for southern Alberta producers.

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Mission Statement

FFGA provides relevant unbiased sustainable forage and livestock information to producers in partnership with industry, government and the agricultural community. FFGA is a producer driven volunteer association leading the industry to long term sustainability through research and development.

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Top (left to Right): Alex Robertson, Rod Vergouwen, Stan Wiebe, Blaine Treloar, Travis Lundberg, Brian Rodger, Ian Murray, Phil Rowland, Graeme Finn
Front: Laura Gibney (manager) Wayne Robinson, Chelsea Cunningham

Chairman's Report

What a year it has been. From the June floods, to the dry fall, to a winter that punched us in the face in early November and kicked us in the a$$ nearly every day for four months, the challenges have been numerous. This winter alone has been the hardest to get through that I can remember and many with more winters behind them than me have echoed this sentiment. Our challenge, to quote Doug Wray "In this year round grazing dynamic, we don't just run with plan A, you need a plan B, and C, and maybe a D,E , and F." Well I for one was starting to run out of letters this winter, from deep drifted snow, to iced under swaths, to buried bale rows, to buried fences and falling back to daily "dry lot" feeding because I could at least keep them in at the corrals. The concern here is next winter, in fact the next many winters. There has been repeated talk that the cycle of the weather pattern has brought us back to winters like there were in the 50's and 60's. I have seen the pictures, and though now we have a far better infrastructure system and much better equipment to deal with that type of winter, can we graze through one? Is swath grazing going to be possible going forward for a while? I for one love all the benefits of the practice and would not want to winter cows any other way, but if they can't get to it or you spend more in time and fuel getting to it, is it practical? Is bale grazing the next best option? Baling what you would have swath grazed and grazing it where it comes out of the baler might be the best insurance you have. At least they can get to the bale. I think there will have to be some serious thought going into the plans for next winter. Our Board members have all faced similar issues, as I am sure you have as well. One very positive aspect of FFGA is its knowledge base and wealth of experience within our group. We will continue to share with you what we find working and what isn't to try and help you keep your operations profitable and productive in this ever changing game we are in.

With a renewed sense of optimism and vitality in the agriculture sector, not seen in possibly generations, there is an air of caution around too this year. The beef sector seems poised to ride a wave of good times for the foreseeable future, provided that producers can find ways to mitigate the risks of a volatile market place and record high prices. A little restraint might be encouraged as well; as I have heard it said many times that it is the 3rd good year in a row that gets you in trouble. On that note, the grains and oilseed sector have seen their times of "nothing can go wrong" shift to "nothing can go right" in the span of about 4 months. With a record large harvest, the people marketing this crop are to be commended as they are finding a home for a lot of it. Shipping and logistical issues have been the biggest hurdle depressing prices and now grain farmers are looking at possible fertilizer shortages this spring, and last year's crop still in the bin tying up cash and storage space. Nothing that I have put a plan to has looked very promising, and the underlying thought is that if a plan looks like it might work, is everybody going to do the same and flood the market with the best alternative and kill the market in the process.

Right now I am more thankful than ever for our healthy perennial forage lands. With a stable, zero purchased input (rain and sun are always free) system that will improve with time under the right management, we are not held captive to the rising costs of fuel and fertilizer. Forages have seemingly always been undervalued, seen as waste land that can't be farmed. While the book value of forages might only be what the local rental rate would be, the true value is so

much more. From ecological goods and services, to soil health, water holding, carbon sequestration, biodiversity, wildlife habitat, and not to mention growing a couple of pounds of beef a day at $1.50 per pound. Are we going to see a shift to more forage acres with the depressed prices in the grains sector? One might start to think so until one wonders where the cattle would come from to stock this land base. All things to watch in the coming few years.

With regards to Foothills Forage, we have had another successful year. Our 2 day local food workshop last fall was a huge hit as we brought in a number of very interesting speakers the likes of Joel Salatin and Doug Weatherby, and we even managed to snag Rick Kohut for a couple of sessions. We had 2 highly successful Ag Tours to Argentina, as well as a few local field tours. We are excited about the coming year, as we are going to be bringing in Jim Gerrish, in partnership with other forage associations for a pasture day this summer, and we have Curt Pate booked for some low-stress cattle handling this May. We will also be returning the favour on our Ag tours and hosting some international guests visiting here. There is some planning going into our next international tour, this time traveling to the UK in June of 2015. FFGA is also busy helping to plan the 2014 Western Canadian Grazing Conference being held in Edmonton in December.

Again, I feel very honoured to be named Chairman of this great board. It has been a pleasure to work with such a positive and dynamic group of individuals. I would like to thank Alex Robertson and Rod Vergouwen for their commitment of their time for the last 6 years that they have contributed to the association as they now have to step away for a year. Also, I would like to thank Travis Lundberg for his contribution as well for the last 2 years. All three of these gentlemen have been a huge asset to this board.

I would like to thank our sponsors for their financial and in kind contributions in keeping our association moving forward. Our relationship with the Ag service boards of the counties within our region helps to expand both of our networks and we thank them for their financial contribution. Our corporate sponsors are a very valuable part of our funding, and lastly, our valued partnership with ARECA, and the associations that make up the umbrella organization that helps us all access funding from the Agriculture Opportunity Fund, as well as partner on events like the Western Canadian Grazing Conference and sharing speakers around the province as we are doing with Jim Gerrish this summer.

Continuing with my thanks, Foothills would not be where it is today without the hard work and commitment from our manager Laura Gibney. We are going to lose Laura for a bit this fall, and we wish her all the best in this start of the new chapter of motherhood in her life. We look forward to the day that she comes back to us however that may look.

All the best,
Ian Murray
Chairman, Foothills Forage and Grazing Association.

Manager's Report

2013 will be remember as the year of *Hell or High Water* with heavy rainfall that triggered catastrophic flooding that affected many people in High River, Bragg Creek, Turner Valley, Black Diamond, Canmore, Calgary and many other communities. The damage caused by the flood was devastating and our hearts go out to those who are still dealing with the aftermath of this disaster. We congratulate and appreciate all those people who helped friends, family, neighbours and even strangers in cleaning up and rebuilding communities.

Following all that rain we did get some warm weather which found crop and pasture yields above the 5 year average in the region. Winter hit early with heavy snowfall in November which caused many producers to have to be flexible with their winter feeding programs as many had to start feeding hay earlier in the season than they had originally planned.

FFGA had another productive year which showed further growth and development of the association. 2013 marked the second year of a three year grant agreement with the Agriculture Opportunity Fund, this along with the continued support of our corporate sponsors and several of the counties and MDs in our region enabled FFGA to continue to grow and expand our programs. We also utilized some funding available through Growing Forward 2 and the Agriculture Initiative Fund.

In 2013 FFGA's program included 10 events with an attendance of over 500 producers! Our monthly *GrassRoots News & Views* newsletter, 4 demonstration sites, website, Twitter and Facebook pages have also been an asset in interacting with our members, partners, other producers and even some urbanites. We brought in some great speakers including Nuffield scholar and marketing expert Brenda Schoepp, David Irvine who lead the board through a leadership, teambuilding and succession planning retreat, grazier Jim Bauer, intensive grazing guru Neil Dennis, local marketing specialist Joel Salatin as well as several local producers who are trying innovative practices. Our Winter Bale Grazing and biological control of Canada Thistles with Stem Mining Weevils demonstrations continued in 2013. We wrapped up our tillage radish demo while initiating two CPS forage blend variety sites as well as looking at grazing a variety of kale and swath grazing oats and barley with and without peas.

Thank you to an active, innovative and enthusiastic board of directors! FFGA's board is a major factor in our successes and growth.

Stay connected for another great year!

Laura Gibney
FFGA Manager

A year in review...

Message from the Executive Director

Agricultural Research and Extension Council of Alberta

2013 provided opportunities as we repainted the wagon! We began by evaluating and refining the operational and Board functions of ARECA for the benefit of our Association members, clients and partners. We hired a consultant, John Souman with Can-Europe Consulting, who is an expert in the field of strategic planning to visit each of our Associations. At the same time, the ARECA Board moved to becoming a governance board with the coaching of Graham Gilchrist and revised the policy manual. To support the policy, the Board approved an operational manual for ARECA (these documents are posted on the ARECA information folder that can viewed by all).

Over the past eleven months, we've spent a tremendous amount of effort and resources to address issues of conflict resolution, organizational restructuring and policy governance. We utilized the expertise of John Souman and adopted a new structure recommended by Mr. Souman which provides more transparency, clarity and accountability for our member Associations. With these changes, we expect all aspects of our operations, including communications, succession planning and HR, will be improved to better serve all ARA's and Forage Associations.

The ARECA board has taken training with Graham Gilchrist to improve our understanding and implementation of policy governance. One focus was the separation of our governance and operational policies which has resulted in simplification of the policy manual. A review process has been established in the new policy manual which will help the board to review the manual in its entirety over the next twelve months.

As we move forward with ARECA's new structure, the Forage & Livestock Team, Crops, Environment and Planning Team have put together new Terms of Reference. The team chairs are Lacey Ryan (CARA) Environment, Kabal Gill (SARDA) and Tom Fromme (NPARA) Crops, Morgan Hobin (PCBFA) Forage/ Livestock and Dianne Westerlund (CARA) Planning. The Planning Team consists of Association managers and has worked with the Executive Director to put together the ARECA business plan and budget for 2014.

A special meeting was held last fall at which the ARECA bylaws were changed. The new bylaws have been posted and they expand the ARECA board to include three managers who are voting members on the Board. Currently, these positions are filled by Nora Paulovich with NPARA and Laura Gibney with FFGA. The third manager will be added to the Board at the time of the ARECA Annual General meeting in Leduc on March 5.

Our Chair, David Eaton along with board members Herman Wyering and Association staff Dianne Westerlund (CARA), Ken Coles (FS) and myself were active in telling a great story to government and the opposition. The meetings began with the Minister of Agriculture in February and were followed by a meeting with the Calgary caucus in the spring and the Rural Caucus in November. A brief which was an overview of ARECA and its members was provided at each meeting. Our delegation met with the Opposition and their Agriculture critic in early January to discuss ARECA and Association's impact and outcomes.

The ARECA website continues to about 4000 page views per month while the e-newsletter has about 55% readership. The Twitter (@ARECAResearch) account became functional in August and currently, we have about 367 followers. Please make sure to follow us on @ARECAResearch and get the word out.

Data for crop varieties in Alberta is generated through the Regional Variety Testing trials by a partnership of ARECA Associations, government and industry. RVT's compare different crop varieties side by side in actual field and weather conditions. They allow farmers to decide which variety will perform best in their soil zone, climate and management style. The pulse Regional Variety Trials received significant funding from the Pulse Cluster for the next five years.

Barley 180 What does it take to achieve 180 bus/ac? Researchers evaluated crop management strategies using the cool growing conditions of central Alberta and were successful in achieving 190 bus/ac in 1990. Despite advances in yield improvement, overall barley yield in Alberta has remained relatively low. There is interest to develop a set of Best Management Practices (BMP) and evaluate the concept of maximum yield and maximum economic yield on a field scale basis in Alberta. So far top yields in this project have been156 & 141 bu/ac on 80 acres in central Alberta. BMP's have included plant growth regulators to keep the crop standing and prevent lodging. High nitrogen rates in the spring have been successful in improving yields along with key timing of fungicides to manage disease levels. Funding for this project is being provided by the Alberta Crop Industry Development Fund and the Alberta Barley Commission.

This summer ARECA became involved in delivering the Environmental Farm Plan under the leadership of Fiona Briody. She has been able to engage Commissions, agencies and producer associations with promoting it to their membership.

Our mission is to support member associations as leaders in applied agricultural research and extension in Alberta. As we go forward in 2014, I wish to thank everyone for their contributions and efforts this past year.

Ty Faechner, Executive Director, ARECA

Foothills Forage & Grazing Association Events

Ladies Livestock Lessons Winter Retreat

On a chilly January weekend 20 ladies got together at Olds College to network, learn and share ideas on ranching in Alberta. The enthusiastic group covered a wide range of topics from Sire Selection with ABP's Karren Schmid, a hands on demonstration with Dr. Gord Krebs on Calving Tips & Tricks, Agronomy and soil Health, Pasture management, Business and new ventures, Feed tests: what do they mean and a Mock Auction to practice buying and selling with auctioneer Patrick Cassidy. It was a great opportunity for seasoned ranching women, new entrees into the industry and Olds College students to come together to network, learn and share.

Ranching Opportunities 2013

Ranching Opportunities 2013: *Ideas and Opportunities to Grow Your Business* was a hit with 150 students and livestock producers attending this one day event at Olds College in Februray. Nicole Lamb & Carli Baum kicked off the day with a discussion on locally owned and operated Bite Beef, discussing grass fed and grass finished beef and local marketing within niche markets. This years three breakout sessions started with Julie Robinson who gave a presentation on their 3D Fencing to keep wildlife out of swaths and other winter feed trial in the peace region. Ron MacKay shared insights and suggestions for the use of guardian dogs with livestock. The second breakout session focused on strategies to market beef for producers serving the local food markets by Laura Bodell with Bellaspur. The third breakout session focused on What's Under Your Grass - Increasing Production by Understanding Your Soils with Jack Payen who took a look at types of soil, soil horizons, nutrient cycling and promoting healthy soils. After lunch an innovative producer panel featured three young producers who are supplementing their beef operations by diversifying into other areas. They shared some of their ideas, successes and challenges before opening up the floor to a question and answer session. Doug Wray shared his insights on the economics of grass vs grains with the support *The Value of Alberta's Forage Industry* document put together in partnership by the Alberta government and the Alberta Forage Industry Network. Dr. David Sauchyn wrapped up the day with an intriguing look at Alberta's Natural Capital In a Changing Climate.

a7 Winter Grazing Tour

On a sunny day in February FFGA and 40 of her members were treated to winter grazing tour at John Cross's a7 Ranche. Founded by A.E Cross in 1886 it is one of the oldest Canadian ranches to still be in the hands of the original owners. With a focus on a natural grass-fed beef production land stewardship is a natural fit for the ranch which incorporates conservation of the natural resources in their day-to-day operation. Their cattle operation is nestled in the foothills where they utilize the rolling hills and natural chinooks to graze their cattle year-round by supplementing with pellets. The work they have done on spring development allows them to water all their groups of cattle on a gravity-fed system year round. John Cross and his staff shared many insights into year-round grazing, spring-development and the grazing management strategies they use to maintain their 13,000 acres of open grassland.

Annual General Meeting

Featuring Brenda Schoepp

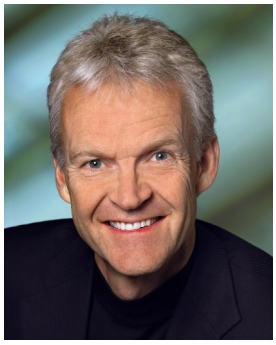
FFGA's Annual General Meeting was held on March 14, 2013 featuring guest speaker Brenda Schoepp. At the AGM the board said good-bye to Morrie Goetjen and Sean LaBrie who had both served two, three years terms on the board. Both Morrie and Sean were instrumental in the exponential growth of FFGA over the past 6 years. When they came onboard FFGA was struggling financially and undergoing some big changes including setting up an office space, hiring a full time manager and getting our finances and government grants back on track. Morrie severed as Chairman of the association for 2 of his 6 years and Sean sat in the position of Treasurer for 5 of his 6 years with FFGA. Thank you to both Morrie and Sean for their ideas, energy, time and leadership over the past 6 years. Brian Rodger and Phil Rowland were re-elected to the board of directors after serving their first three year term. Chelsea Cunningham and Stan Wiebe were both elected to the board and we have enjoyed the new ideas and input they share. Following the AGM the board had a quick board meeting where Ian Murray was re-elected as Chairman, Alex Robertson was elected at Vice-Chairman and Brian Rodger was elected as Treasurer.

Brenda Schoepp, the founder of Beeflink a highly regarded national newsletter on the strategies of beef cattle marketing, now finds herself traveling thousands of miles and speaking to hundreds of people each year. Her heart is in her faith, her family, her farm and her community. Brenda was named as one of Alberta's fifty most influential people and she received the Nuffield Agricultural Scholarship for Canada in 2012. Since being announced as a 2012 Nuffield Scholar she has not only continued to run their yearling grasser operation near Rimbey with her husband Clinton but also maintained BeefLink and embarked on 2 years dedicated to national travel looking at women in agriculture around the world. FFGA is proud to have sponsored her studies and looks forward to her final report in 2014. Brenda gave an enthusiastic and awe inspiring presentation on some of her journeys and *Ten things you need to know about your agricultural world.*

FFGA Board Training & Team Building

The FFGA board has been strong at leading the organization forward in the past several years but felt that while 'times are good' is the best time to plan for the future of the association as well as brushing up on some board governance strategies, and it never hurts to take a look at improving leadership skills. David Irvine is a local speaker, author and mentor based out of Cochrane. Over the years David has developed a reputation for putting on inspiring and thought-provoking programs on authentic leadership, accountability, building strong relationships, and balanced living. He did not disappointed! David spent two days with the board on team building, governance training, building and honing leadership skills, and ways to encouraging engagement in the board and the membership. He also lead the board through some succession planning for the organization and assisted the board in reviewing FFGA's strategic plan to re-evaluate where we are at and FFGA's path forward. David did a great job of making a somewhat 'dry' topic exciting and purposeful. It was great to see an already cohesive group come together, bond, share, debate and learn together. Thank you to the board of directors for all the time and effort they put into this organization and for taking an additional two days in June to work through this process together!

Great leadership cannot be reduced to technique or title.
Great leadership comes from the identity and integrity of the leader. - David Irvine



Acme Grazing School with Jim Bauer

FFGA partnered with Jim & Barb Bauer of the Anchor JB Ranch to host a one day grazing school looking at practical grazing management practices for healthy productive pastures and livestock. Jim started the school with a warm welcome and introductions then had the group set to work learning about pasture inventory. How to measure what you've got; before you can decide how long to let the cows in for you need to know how much is there. Jim walked us through the process of clipping, drying and measuring the amount of the grass. We then went through the process of determining the number of acres we would need of that height and variety of forage to feed his steers for half a day. The group then went out to the pasture and moved the fence for the steers. At the end of the day we went back to evaluate our initial decision. This was a great activity which ties together the knowledge so many of us pick up in bits and pieces at various schools and conferences and how to apply it.

That afternoon we discussed pasture health, grazing strategies, rest time, species, soil types and even dabbled in winter grazing strategies. Rob Davidson with PowerFlex fencing gave a hands on demonstration on electric fencing and how it can be an important tool in grazing management. Jim and Barb provided a comfortable and friendly atmosphere in which people are encouraged to ask questions, share ideas and network. Jim has a wealth of knowledge through years as a cattle producer as well as insight into projects and research from his time as the manager of Grey Wooded Forage Association.

Thank You to our partners Wheatland County, Kneehill County, PowerFelx and UFA for sponsoring this event!

Sainfoin Training and Update

In July I attended the ARECA Forage & Livestock Team annual training. This year we were at the Lethbridge Research Centre (LRC) and this years focus was on sainfoin, including a look at the new Mountain View cultivar.

Driving through southern Alberta in July you will see the occasional field of pretty pink blooms where sainfoin is flourishing and being grazed successfully by those producers. Sainfoin is a hollow stemmed, deep taprooted legume that has been around for many years. Like alfalfa it does not tolerate wet or saline soils well. The trait that makes sainfoin so exciting is that it is a bloat free legume, and not only is it bloat free but it actually reduces bloat rates by 98% in sainfoin/alfalfa pastures that contain 25% or more sainfoin! This is due to the presence of condensed tannins in the leaf of the plant which is unusual in a legume.

Sainfoin is palatable and has a nutritive value comparable with alfalfa. Research has shown that sainfoin/alfalfa mixes can produce the same ADG as straight alfalfa pastures without the risk of bloat. It offers spring and early summer grazing potential because it starts to bloom 2-3 weeks before alfalfa. Nutritionally it does not decline as rapidly with maturity as other forages so it can also be used in stockpiled fall grazing. This offers several options and flexibility in grazing systems.

While Sainfoin offers a lot of benefits there are some disadvantages to consider as well. Currently available varieties, such as Nova and Melrose, have been difficult to maintain in competitive stands because they do not tolerate frequent grazing as well as alfalfa due to their slower re-growth rate. Sainfoin is not efficient at fixing nitrogen in the soil and is less winter hardy than alfalfa. This along with high seed costs and difficulty getting the appropriate rhizobium inoculant in Canada has reduced its appeal as a practical option for many producers in our area.

On this training excursion not only did we visit the plots at the LRC but we also visited Bill Newton near Spring Point who has had great success with grazing sainfoin. Bill toured us through some waist high sainfoin pastures, some of which were seeded 36 years ago and today are still vigorous and healthy. The key to the longevity of these pastures is providing adequate recovery time after grazing to allow the sainfoin to re-seed itself. When allowed to set seed every few years the existing varieties of sainfoin have proven themselves to be a viable option in southern Alberta.

Dr. Surya Acharya, the Senior Research Scientist and forage breeder at the LRC, has spent the last 15 years developing a new cultivar of sainfoin, thus the Mountain View Sainfoin. This new cultivar has shown promise under research conditions of increased longevity in alfalfa stands and improved re-growth after the first cut, making it more competitive in mixed stands.

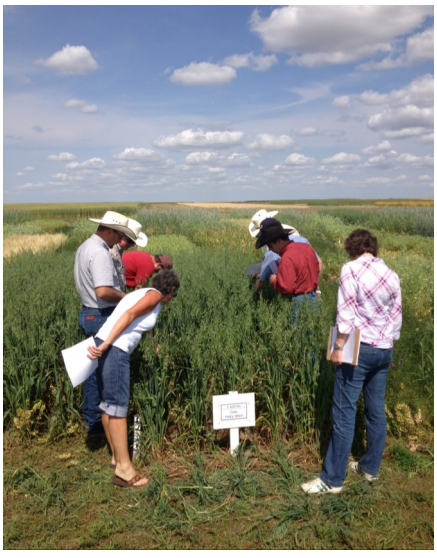
FFGA is excited to be one of the ARECA Forage & Livestock associations working with Surya on setting up some field demo sites in conjunction with producer cooperators when seed comes available! Mountain View has shown potential to prevent bloat in alfalfa stands without loss in animal productivity as well as improved competitiveness to maintain itself longer in mixed stands. We are looking forward to seeing how it does in real-life grazing operations and investigating which grazing management practices best suit the new cultivar.

Neil Dennis Bus Tour

The Foothills Forage bus tour to Neil Dennis' operation was enjoyed by all who took in the adventure. After leaving Strathmore on a spacious air-conditioned bus, it was decided to stop at the Semiarid Prairie Agriculture Research Centre in Swift Current, to look at some of their forage trials. Researcher Dr. Jillian Bainard and Technician Russ Muri were drafted on short notice to share their knowledge as they toured us through the plots for an hour that quickly turned into two. We saw a polyculture trial involving various salad bar-looking combinations of corn, millet, sorghum, triticale, oats, barley, hairy vetch, peas, turnip, radish and kale. Different sainfoin varieties were being tested for their suitability to the Swift Current climate. Biomass production was being assessed for switchgrass and several other forages. A vividly coloured stand of native purple prairie clover, a plant that has shown some promise in reducing Ecoli sloughing in cattle, was being used in a grazing trial. The whole SPARC tour gave us firsthand insight into several legumes and forage species. Our next scheduled stop was Kenosee Inn, in picturesque Moose Mountain Provincial Park Saskatchewan, which we found after some searching in the dark.

The following day Neil and Barb Dennis were our hosts. Neil started off by showing us how he trains cattle when they first arrive. The training area had multiple hot smooth wires on the perimeter and a zigzag lane to teach them how to move around slowly. After a day or so the yearlings were ready to be in the main pastures.

The property was divided into paddocks with a 28 foot wide fenced lane—any wider and the cattle got by you too easily, any narrower and the quad couldn't turn around efficiently. In the paddocks he installed moveable fences with Batlatch gates so the cattle could move themselves. For water he had a shallow-buried pipeline to various tanks in the lanes. Neil has developed his fence and waterers so



that it only takes about 2 hours a day to feed the herd. After demonstrating how easy it was to move them with his alley system and quad, he showed us how to set up the timers for the Batlatch gates, which enables him to make several moves a day without missing any episodes of Judge Judy.

Neil showed us the results of his deep soil massage that has been gradually changing his land from grey wooded to black loam. The soil was alive with earth worm activity and the root hairs held the soil together very well. His goal has been to leave the soil in a better condition than it was in when he took over the farm.

The day concluded with Barb Dennis serving us a delicious barbeque beef supper followed by a campfire circle complete with tall tales. Neil and Barb were wonderful hosts, appearing to enjoy what they were doing. It made for a most interesting tour. Our very capable driver, Chris, found the Inn in the dark again!

The next morning we were off to the Termuende Research Ranch near Lanigan, which is part of the Western Beef Development Centre. The ranch was donated by the Termunde family for our benefit and that of the beef industry, and came complete with a very old scenic round barn. Senior Research Scientist Dr. Bart Lardner gave us a rundown on the extended grazing trails they were doing, then took us though their cattle handling facility and testing labs. We toured some plots of trials for different crop rotations, and a very healthy stand of grazing corn. We got to see the same sainfoin trial we had looked at in Swift Current which doesn't seem to be doing as well in the Lanigan area due to their harsh winter conditions. It was interesting to compare the two different sites and how well its done at the Lethbridge Research Centre. There was also a multi-spices wind break that was being assessed for effectiveness. Bart mentioned that we could log onto the Western Beef Deveiopment website to get more info on all the factsheets, field days and e-newsletters about their work at www.wbdc.sk.ca.

That was the last stop before an overnight stop in downtown Saskatoon. It seemed the nite life in urban centres is similar everywhere. On the way home the next day, Chris gave us a tour through the Badlands east of Drumheller as well as through the Wintering Hills, which added nicely to the variety of topography we had seen on the trip. A big Thank You to our very capable and flexible tour guide/manager, Laura Gibney, for doing such a great job of making everything run smoothly on this very enjoyable tour through southern Saskatchewan.

Wayne Robinson

FFGA Fall Grazing Tour

On a chilly day in October we got together to look at some fall and winter grazing options. Graeme Finn, an Australian ex-pat who is ever thinking outside the box, has seen brassicas as successful dormant season grazing options for cattle in Australia and New Zealand and thought it might be worth a try here in Alberta. In June he seeded 7acres near Airdrie to a Crusader rye grass and kale mixture beside his oat and barley swath grazing site. The site is a distance from where he summer grazes his cattle so he saved the site and swathed the mix in early September. The swathes provided to be highly nutritious with a crude protein of 16.2% and the cattle loved the kale! The kale did hold a lot of moisture and did regrow after swathing so in the future might be better grazed periodically throughout the growing season or swathed a bit later in the year. Despite the high moisture the cell structure of the kale hadn't broken down or deteriorated even with some –30 nights later in the fall. It was certainly neat to see and Graeme is looking at using more kale in the coming year!

	Kale, Rye Grass, Barley & Oats	Oat & Barley Swathes
Dry Matter %	29.1	76.3
Crude Protein %	16.2	9.6
Ca %	1.53	0.38
K %	2.9	1.8
Mg %	0.31	0.16
Na %	<.1	<.10
P %	0.38	0.4
Cu ppm	7	6
Mn ppm	45	23
Zn ppm	20	16
Nitrate NO3	1720	367

After a bag lunch provided by Rafter 8 we headed over to Brain Rodger's place near Acme to look at some oat and barley swath grazing with and without peas. The swathes with peas had both a higher protein and a higher yield at about 7 Tonnes/ace dry matter as compared with about 3.5 tonnes/acres on the swathes without peas.

	Oat & Barley	Oat, Pea & Barley
Dry Matter %	51.2	80.4
Crude Protein %	11.6	12.9
Ca %	0.33	0.56
K %	2.2	1.9
Mg %	0.16	0.17
Na %	0.11	<.10
P %	0.31	0.46
Cu ppm	9	7
Mn ppm	57	40
Zn ppm	23	21

Local Food Workshop
with Joel Salatin

In late October we partnered with Mountain View County and the Grey Wooded Forage Association to put on a two day workshop with three keynote speakers, ten breakout speakers, an evening banquet and a tradeshow with 13 exhibitors! The workshop was an overwhelming success with over 100 people attending including local producers, students and industry.

Keynote speaker Joel Salatin passionately spoke about his farm and how he has increased productivity and soil fertility by adding different animals from rabbits, cows, chickens, hogs, turkeys and then marketing them locally with great success. Joel also shared insights into how he has managed to grow his business through local marketing and community strategies. The Soil Doctor, Doug Weatherbee talked about soil fertility, plant diseases and carbon sequestration, making a difficult subject fun, exciting and more easily understood. He expressed how much we do know about soil but also how much science is still learning. Local farmer Rick Kohut, and past FFGA director, spoke on his corn project, and how he markets his corn at local food stores and other venues throughout the area. Other speakers spoke on specific areas of their operations from grass finished beef, grass-fed poultry, local produce businesses, challenges of going organic, livestock processing regulations and a variety of marketing strategies from farmers markets to direct sales and online strategies.

Thank you to all of the sponsors who came out and supported this event and all of the people who put a lot of time and work into making it such a great couple of days. The excitement and enthusiasm of getting a group of like-minded producers interested in the local market together could be felt in the room and the passion for the industry and the people in it was phenomenal.

Joel Salatin

Doug Weatherbee

Rick Kohut

Cow CalfEnomics 2013

Cow CalfEnomcis is championed by Alberta Agriculture in partnership with AFSC and the Alberta Beef Producers. The ARECA Forage & Livestock Team also helps in planning and delivering this provincial event. This year there were five events, the one FFGA was involved in was in Lethbridge in November and had a great turnout of over 100 produces! The day was spent hearing from various speakers on Transitions, Tools and Technology, Risk and Opportunity in Today's Markets, Measuring and Managing Calf Price Risk, Introduction to Futures, Options and Cattle Price Insurance, Handing over the Reins - Transition on the Ranch, Accessing Capital - Yours and the Banks, The Future of Alberta's Beef Sector.

Canadian Forage & Grassland Association Conference & AGM

FFGA was a proud supporter of the Canadian Forage & Grassland Association Conference and Annual General Meeting held in Olds this year. The focus was *Taking Forages Mainstream - Challenges, Pitfalls and Opportunities* and kicked off with a full day tour of either the export hay industry in Alberta or the forage & livestock industry tour. The tour kicked off on a blizzardy December day at Doug & Linda Wray's. Doug is the current Chairman of the CFGA and has a long and successful history with FFGA. They did a great job of showcasing cattle winter grazing on swathes and the FFGA guys only had to push the bus out of two snow drifts!

The tour set the tone for a great conference which included speakers from across the country speaking on various areas of the forage world and what it means in Canada. Many researchers were included and it was great to see that while there is still much work to done in forge research there are people across the country doing this good work. FFGA was honoured to be a part of this national movement and awareness of the importance of forages. We look forward to the future of this organization as it gains momentum and traction.

Winter swath grazing tour at Doug & Linda Wray's

Foothills Forage & Grazing Association Demonstration Projects

Winter Bale Grazing Demonstration 2011 - 2015

Producer Co-operators: Sean & Holly LaBrie

Background:
In 2011 FFGA and producer co-operators Sean and Holly LaBrie initiated a bale grazing demonstration near Didsbury Alberta. Sean and Holly purchased this land about 10 years ago and the pasture had been grazed heavily and it was not as productive as they felt it could be. In an effort to increase the pasture health and productivity in a low-cost practical way they decided to bring in hay, green feed and straw bales and feed them on the pasture during the winter months.

Objective:
To look at the effects of winter bale grazing on plant community, productivity and soil quality of the pasture over several years.

Methods:
Sean feeds bales of hay, green feed and straw in the pasture throughout the winter months while marking their location in the pasture by GPS. There are three treatments in this trial, the control which has had no bales fed on it, the high quality feed areas where hay is fed and the low quality feed areas where the straw is fed.

In the summer FFGA takes forage clipping of the three treatments to measure the yield as well as doing feed tests on the three groups for analysis on forage nutrients. At this time the plant community in each area is assessed to watch for changes in the plant species over time by bringing in the bales. Soil samples are collected annually to look at the soil nutrient content as well as the microbes and biological components of the soil.

Results:
Table 1. Pasture Forage 2013

Dry Matter Basis	Control	Hay 2011	Hay 2012	Hay 2013	Straw 2011	Straw 2012	Straw 2013
Average Yield (lbs/ac)	1,817	3,277	2,743	1,746	3,313	3,028	855
CP (%)	11.80	10.60	8.70	9.10	11.30	13.60	17.10
Ca (%)	0.59	-4.31	0.52	0.28	0.47	0.92	0.79
P (%)	0.33	0.32	0.20	0.19	0.33	0.31	0.41
K (%)	3.03	2.93	2.30	2.40	2.91	3.07	3.23
Mg (%)	0.23	0.18	0.11	0.14	0.17	0.25	0.26
ADF (%)	35.60	40.20	34.90	36.30	39.80	39.10	33.10
NDF (%)	54.80	63.40	54.20	56.20	65.10	55.30	50.20
TDN (%)	60.20	56.50	55.70	57.40	56.50	57.10	62.00
Relative Feed Value	103.8	84.4	83.6	86.2	82.8	98.3	117

*The year refers to the winter the bale was fed, the 2011 bales had 3 growing seasons (2011 - 2013) since the bale was fed there, whereas the 2013 bales have had only one growing season (2013)

Observations:
In 2013 135 cows bale grazed through the late winter and spring in this pasture and were removed after calving in mid-May. The clippings were collected on July 31, 2013 and there had been about 14inches of rain since the spring, it was a high rainfall spring. Which could impact the high yields and slightly more dilute nutrients as compared to the clippings taken last year. Mineral was fed on the straw sights which may have helped increase the breakdown of the straw in the first year. Table 1 shows that all of the areas that have been bale grazing 2 years ago have an increased

yield as compared to the control which has not had any winter bale grazing done on it. The sites that were grazed this year had lower yield which is due to the large amount of litter left on these sites. The sites that were bale grazed 2 and 3 years ago had higher yields than those grazed over the past winter and the control. This is attributed to the time it takes for the nutrients to break down and become available to the plants in the soil.


Soil sampling

When the samples were collected it was noted that there were more and healthier alfalfa and clover plants than either the control or the sites that had bales on them over the winter past. It is possible, though unlikely, that much alfalfa is coming into the pasture from the hay as most hay is cut before alfalfa is mature enough to go to seed, however it could be that the alfalfa plants have been there for several years and are flourishing now that they have better growing conditions and are able to utilize the nutrients in the soil from the bale grazing 2 and 3 seasons past. It was also noted that the straw sites had more litter and matting the first year after the bale was fed, in some areas it was heavy and thick enough that plants were not breaking through in the first growing season after the bales were grazed. However worms and beetles were found in that area which leads us to believe that there is an increase in nutrients in the area but that they are being released more slowly into the soil. The cattle cleaned the hay up better than the straw so there was less litter left from the bales. Less litter and higher quality litter (hay vs straw) causes the waste to break down more quickly allowing the nutrients to become available to the plants sooner. Timing of when the bales are fed also affects how quickly the waste will break down, bales that are placed on top of ice or snow pack insulate the ground which takes longer to thaw and for biological processes to begin. In growing seasons with more moisture the litter breakdown happens more quickly than in drier years.

During the summer most cows have a calf at their side so are lactating as well as re-breeding for the following year. During this time a mature lactating cow requires about 11% crude protein, 62-65% TDN, 0.45% Ca and 0.3% P in their daily dry matter intake. While some of these treatments are low in one area or another over all the field is providing adequate nutrients for the cattle at this stage in lactation. Forage clippings In Table 1 were taken without a consideration of animal selectivity. If adequate residual forage is left, the quality of forage animals select would be upgraded from the sample quality stated.

Bringing in outside feed increases the potential of introducing undesirable plants species to the pasture. It was noted that the straw sites contained the most litter the first year after feeding. All of the sites had meadow brome grass as the main species present however dandelions and quack grass did show an increase in the initial years after the bales had been fed. With multiple years after bale grazing the grasses and alfalfa have more time to re-establish themselves and were more prolific as the balance returns to a more desirable mix at the bale locations. There was a visible area of darker green, lush growth in a perimeter around where the bales had been fed. Manure, urine and smaller amounts of litter would be been distributed further out around the bales causing an accumulation of available nutrients for plant uptake.

Sean and Holly are working towards pasture improvement in a low-cost management system. They are finding that by bringing in feed (hay, green feed and straw) and feeding it on their pasture land they are capturing the nutrients from this feed stuff through waste that is trampled to the ground as well as recycling the majority of the nutrients back to the soil through manure and urine deposits. Bale grazing can be a viable option for maintaining and improving the quality of pasture land. However it does need to be monitored through soil testing because nutrient build up can become a problem if bale grazing is done heavily in a concentrated area or on a slope where nutrients can be moved with spring runoff.


2013 Straw litter - home to earth worms!

CPS Forage Blend Sites - 2013

Producer Co-operators:
Phil & Pam Rowland
Brian & Theresa Rodger

In June 2013 two sites were seeded in test strips with six forage blends provided by CPS. Producer Co-operator Phil Rowland seeded Ranch Master, Saline Master and Flood Master at 11lbs/acre into cultivated land seeded with an oat barley mix. Phil direct seeded the Dual Master, Beef Master and Graze Master blends into existing pasture, also at 11lbs/acre. The varieties were seeded in strips over about 7 acres. Brian Rodger seeded all six varieties directly into pasture, using the Saline Master and Flood Master in a lower lying area.

We toured the sites in October and it was clear that the seedlings had come up and establishment was well on its way. Because all the varieties were seeded into a situation with some competition the plants were relatively small but we will watch the sites over the next few seasons to see how they do and which species thrive best at their given sites.

Beef Master: 45% Meadow Brome, 30% Orchard grass, 10% Timothy, 10% Creeping Red Fescue, 5% Alfalfa

Graze Master: 45% Meadow Brome, 15% Knowles Hybrid Brome, 12% Cicer Milkvetch, 10% Rocket Smooth Brome, 7% Alfalfa, 6% Creeping Red Fescue, 5% Timothy.

Ranch Master: 50% Meadow Brome, 25% Wheatgrass, 15% Tall Fescue, 5% Wheatgrass, 5% Alfalfa

Dual Master: 55% Knowles Hybrid Brome, 20% Wheatgrass, 15% VR Total, 10% Tall Fescue

Saline Master: 40% Flatlander Green Wheatgrass, 30% Tall Fescue, 20% Smooth Brome, 10% Wheatgrass

Flood Master: 40% Tall Fescue, 30% Reed Canary, 20% Timothy, 10% Alsike Clover

Biological Control of Canada Thistle 2012 - 2015

Producer Co-operators:
Rod & Beth Vergoweun
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 re-

search. 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%).

FFGA is participating in a province wide project, coordinated by the ARECA Environmental Team.
Objectives of the project are:

a) Determine if the weevils work, and if native populations can be established in Alberta.
b) Determine if weevils are a cost effective method of Canada thistle control.
c) 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.

Two sites were selected, one near Strathmore the other near High River. Both had a minimum of 50 Canada thistle plants. On September 7, 2012 five dishes of weevils each containing 105 weevils were released at each site. 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 in June 2013 the presence or absence of weevils was inconclusive. No actual larvae or adults were observed yet at the High River site the thistle under the weevil treatment did not look as tall and healthy as the control thistles. Stem rot was observed at both the control and weevil sites, however it appeared to be more prolific in the thistles which had weevils applied to them. One thought is that the weevils have played a part in weakening the plant by the larva mining down to the root collar making it more susceptible to disease, however we can't be sure that what we observed was caused by the weevils. We will continue to monitor the site for larvae, weevils and the health of the thistle stand over the next few years.

Releasing the weevils, Sept 2012

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