

# FORAGE FIRST

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## An Extra Special Soil Pit



*Photo caption: How wonderful to have so many people passionate about soils during our field day on October 4, 2014.*

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R & D Projects / Member Services  
Marketing Your Beef  
Soils, Forages & Water Feb 7

**Inserts: (for renewing members)**  
**Membership Renewal Form 2015**

## Meet Our New Directors

*by Sandra Burton*



At the AGM of the Peace River Forage Assoc. on Dec. 1, 2014, we welcomed 2 new directors to the board.

The Peace River Forage Association wish to thank out going directors. Rick Kantz served as president for several years and put incredible energy into forage related issues. We also appreciated that Dennis Gellings filled a vacated director's term on short notice.

Thank you !



*Darryl Kroeker  
(left photo) & Ron  
Buchanan (right).*

### Darryl Kroeker

**Tell us about your family?** I married Stephanie in 1988 and we have 2 daughters. Mallory, 22 yr, is an animal health technician working in a small vet practice in Nelson, where her boyfriend grew up. Kelly, 20 yr, and her boyfriend followed them to Nelson to check out the possibilities but may be returning to the Peace. Stephanie enjoys working as a support worker for the school district at Canalta School.

**Describe your background. How did you get involved with the Forage Association?** Two aspects of forage led me to the PRFA. The first was through my employment with Ducks Unlimited. With the Prairie Care programs of the 1990s & 2000s, I was involved with agriculture in both Manitoba and BC. DU focussed on grazing management, delayed haying incentives, purchase/lease of habitat lands and extension with ag producer groups. When we moved here 10 year ago, we found the Forage Assoc. without a doubt, as the most active group in the area. In recent years, the focus for DU has shifted to maintaining 70 projects that we have initiated of habitat mitigation. My wife and I own a 1/4 section with 50 ac of hay and 110 ac of bush pasture, so my forage management interest continues.

**What would you like to see during your term on the board?** I would like to see us examine the whole issue of forage longevity and the economic trigger points for decisions like when and how to rejuvenate. Forage producers are price takers but could we expand the seeding web tool or design another tool to get us more actively involved in price making?

### Ron Buchanan

**Tell us about your family?** Karen and I have been married for 44 years. We have 3 children, 2 girls and a boy. Our daughter, Brandy is married to a chiropractor and is very active in an international chiropractors association. Our second daughter, Suzanne, is a Registered Nurse, who teaches the practical component of the LPN course in Edmonton, as well as working in Emergency at the hospital in Fort Saskatchewan. Our son, John lives in Calgary.

**Describe your background & ranch?** Karen and I were both at Olds College, where I learned a lot about Agriculture Mechanics from Pat Burton, Sandra's father. We were living in southern Alberta, and moved to our current ranch north of Fort St. John in 1987. We liked the isolated location so that we could try new things on our cow calf operation, without too many people watching what we were doing. We recently reduced our herd to 250 head of cattle. We own 4700 ac & lease 4500 ac.

**What attracted you to join the Forage Association?**

We have had a membership on and off since this association was formed, because we appreciated the enthusiasm of the group and the work that they were doing.

**What would you like to see during your term on the board?** My priorities would be to try to strengthen the involvement of our membership base. I think this association is going in the right direction. I would like to see us take a stronger role in being advocates for raising the public's awareness and knowledge base about the importance of forages to agriculture and the environment.



*Eva as a young woman with that unforgettable smile.*

# Remembering Eva Kruse

*by Amber Lindley & Others*

**Obituary:** Eva (Lindley) Kruse passed away in the Fort St. John hospital December 3, 2014 after a lengthy battle with cancer. She was 76. She will be lovingly remembered by: her husband of 56 years Donald Kruse; her son Jim and his wife Mary; her daughters Elaine and Janet; her son Stuart and his wife Anita; and her son Allan and his wife Sherri, as well as, 10 grandchildren, 1 great grandchild and 6 surviving siblings.

Eva was born in Fort St. John, BC on July 22, 1938. She was the oldest of 8 children born to Edward Harley Lindley and Florence (Marshall) Lindley. She is predeceased by her parents and brothers William (Bill) and Harley.



*Eva accompanied Don to directors meetings.*

Eva married Donald Kruse February 22, 1958 and together they moved to their farm in the Wonowon area in the spring of 1962 where they raised their 5 children. Eva drove school bus for 22 years.

Eva enjoyed gardening, sewing, painting and drawing. She was also keen on learning more of her family's history and connected with many members of her extended family through a shared love of genealogy.

The family would like to thank the staff in the Palliative Care Unit at the Fort St. John Hospital for their compassionate care and support.

If so desired expressions of sympathy can be made to the Fort St John Hospital Foundation.

**Tribute by Eva's niece, Amber Lindley:** Thank you all for joining us here today to celebrate the life of such a wonderful lady, Eva Kruse.

I am honoured to say a few words about my Auntie Eva. She was a cheerful, fun loving lady who was full of life. Her smile could light up a room, especially when added to that mischievous twinkle of trouble she often had in her eye. She made everyone around her feel loved and important. Whether it was a funny story, her positive attitude, or her infectious smile, she was a delight to be around.

I will always cherish my parents telling me about my first meeting with Auntie Eva. Mom and Dad brought me home from the hospital on Christmas day, just three days old, and we went out to Auntie's farm to pick up my big brother Tyrone. Eva was Dad's favorite sister and they had a special bond, so it made sense that when mom went into the hospital, they had entrusted Auntie Eva with Tyrone.

As I got older, Auntie always made the effort to stay in my life. She was at my graduation party, family events and made sure I knew she was there for me when my Dad passed. She often called and wrote letters when she was missing him, just understanding that I was missing him as well. We would talk and tell stories, sometimes for hours, just remembering the good times with Dad.

The last couple months showed her true strength and spirit. Every time I would leave after a visit, I would hug and kiss her and tell her I loved her, to which she would reply. I Love you SO much. She had the ability to say those precious words with every ounce of her being and I truly felt loved.

I know we lost a great lady and it seems that the world is a little darker because of it. If we let her light shine in us, with our shared memories and stories, the world will be a brighter place because she was in our lives. I know that she has touched so many people, in so many different ways, and I am hopeful that you all find it in you to share those stories.

"People will forget what you said, will forget what you did, but people will never forget how you made them feel."  
*Maya Angelou*



# Environmental Farm Plans

*By Kari Bondaroff*

## For More Info Contact:

Kari Bondaroff, P.Ag,  
EFP Planning Advisor  
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### What is an Environmental Farm Plan (EFP)?

Through direct consultation, I will assist you in identifying any environmental risks on your farm within your Environmental Farm Planning workbook. This workbook is confidential and yours to keep. Choose to voluntarily address these risks to receive an EFP Sign.

### Why would you want to do this?

Some of the key objectives of the program are to: Improve the sustainability of B.C.'s agricultural industry, recognize producer efforts to manage land sustainably, enhance marketing opportunities for B.C. farmers, improve relationships with environmental agencies and improve the response to environmental incidents. This program is also beneficial to new land owners starting their journey into agriculture to deepen their awareness of potential environmental impacts and to assist in the planning of new projects.

### Who can complete an EFP?

Farmers who have an EFP are serious about learning how to reduce agriculture's impact on the environment. B.C. farmers and ranchers who engage in the program enjoy peace of mind knowing their farm operates in harmony with current environmental standards. You do not have to have farm status to complete an Environmental Farm Plan. You may be a new landowner, developing producer, hobby farmer, or seasoned agriculture producer; everyone has the potential to learn something new or initiate a better management practice to reduce any potential impacts to the environment.

### When can you complete an EFP?

Farm Plans may be completed at any time of the year. In fact, the winter season is the best time to plan for future projects. Farming sustainably is good for everyone and it can also be profitable. Many EFP participants enjoy increased profitability as a result of reduced water use, decreased waste, increased productivity and new consumer confidence. Show you care by completing an Environmental Farm Plan.

### Where do you complete this plan?

I will come directly to your farm to assist you in completing your plan. The EFP program is confidential, voluntary & FREE. Not only that, if general requirements are met, such as farm status is current and has been maintained on the property since 2008, funding is available to help improve on-farm environmental sustainability.

### What types of funding is available for on-farm projects?

Some projects that have been funded in the Peace for the 2014 / 2015 season are:

- ◇ soil and riparian integrity,
- ◇ water quality improvements, and
- ◇ improved plans for riparian use as well as grazing management.

### How do you started to obtain an EFP?

It is so easy! You are invited to call or email me, Kari Bondaroff, Planning Advisor, to request more information, and to book your appointment to complete your Environmental Farm Plan today!

## Readings & Browsings

**John Kendrew** suggested we start a column for good reads that might be of interest to other forage members. John's pick was **The Time It Never Rained** by Elmer Kelton. One of many unforgettable lines is "Rain was as scarce as shepherders at a cowboy convention."

**Richard Kabzems** is enjoying **The Dogs of Bedlam Farm** by Jon Katz. Jon describes life with 15 ewes, a ram named Nesbitt and 2 donkeys while training 3 border collies.

**Marilyn Carroll** recommends **A Ever-Changing Sky** by Doris C Lee. This author tells us of the journey from a school teacher to a caribou rancher. Marilyn also really enjoys a blog by Arlette Seid called **Ranching with Sheep**. Recent **Crooked Fences** issues describe grazing stockpiled vetch, millet & other species into Dec near Watrous, Sask. <http://www.ranching-with-sheep.com/ranching-newsletter.html>

**Ernie & Joanne Nimitz:** This is what we have read in December and will be reading in January thanks to Santa Claus. We think anyone who reads will be interested in these books:

1. **The Homesman** by Glendon Swarthout
2. **Catherine The Great** by Robert K.Massie
3. **Command Authority** by Tom Clancy and Mark Greaney
4. **13 hours: the inside account of what really happened in Benghazi** by Mitchell Zuckoff with the Annex Security Team
5. **The Last Hero** by Peter Forbath
6. **Salad Bar Beef** by Joel Salatin
7. **Killing Patton** by Bill O'Reilly
8. **Stonehenge** by Bernard Cornwell
9. **Rise to Greatness, The history of Canada from Vikings to the Present** by Conrad Black

We really do not have much time to go anywhere as we read all the time.





# Soils, Forages & Water Dynamics Course

By Lisa Belleville

Sept 13th was the first day of a 5 day series of a new round of courses that the Peace River Forage Association is partnering with UNBC and Shell Canada to organize. The new course title is Soils, Forages & Water Dynamics and there are new topics and resource people for those that want to continue learning with us at these very interactive field days.

Day 1 of the new course posed the question: Can we make pipelines disappear or blend into the landscape? The chilly morning began with hot coffee while we registered at the Thomson's Farm at Mile 23 on the Alaska Highway. From there, we car pooled to the Shell Pipeline Site located along the Stewart Lake Rd. A number of Shell representatives from different departments joined the course and led the morning orientation and discussion. Jim Chramosta, Regulatory and Environmental Specialist, explained Shell's interest in the day's question and its relation to each of their 8 principles. Abe Garcia, Project Construction Advisor, gave an overview that included the site's history and construction practices used.

At this site, the topsoil and upper subsoil were salvaged in separate lifts to maintain the land's agricultural capability for reclamation purposes. Each phase of the pipeline construction posed varying challenges for its final reclamation. Dan Webster, an environmental consultant, shared his experience with topsoil storage and hydro-seeding at the site. After some time, a section of the buried topsoil was moved, spread and seeded with care. However, there was little success with re-vegetation. Research proved that the aerobic microbes were dormant approximately 1 m below the surface of the large topsoil stockpiles.

The participants discussed mitigation strategies that included mixing topsoil piles during storage and adding inoculations to kick-start the microbes prior to spreading.

There were 4 stations or approaches that spoke to the question of the day each located at various spots within the pipeline site and led by wise station masters. The first station led by Bill Wilson asked two ancillary questions: What have we learned about fall seeding, techniques and mixes? What about seeding rates and fertilizing? The groups walked along the pipeline right-of-way where, during the fall of 2012, different seed mixes and fertilizer rates were used within sample plot areas. Participants compared the composition and health of each area and discussed factors that contributed to the success or failure of the plots. As an interactive demonstration, Bill displayed the seeds in glass jars to show the size and weight of the different seeds. We experienced bridging effects of the seeds by tipping the jars over to encourage the seeds to fall through our fingers. Then, participants took turns seeding over a large white sheet spread on the ground where it was clear how techniques and seed mixes affected the rate. It was noticeable that optimal seeding rates were achieved by using a combination of different seeds as well as a fertilizer.



Bill Wilson shows Bess Legault and David Miller how different seeds flow or bridge in seeders & broadcaster seeders.



Bill Wilson illustrates the important difference between % of seeds in a mixture by weight vs. % by seed count.



Lori Vickers, Lynn Norman, Pat Sutherland, Cali Seater, Jim Little and Carmen Schneider learn about weed control strategies from Kari Bondaroff.

The second station led by Kari Bondaroff asked an additional question: What are the plants telling us? As a proactive measure, Kari put up a canvas tent to display an array of resources and nuisance plants found in our region. As an exercise, the participants used the available resources to identify each sample exhibited within the tent. As Invasive Plant Program Manager for the Peace River Regional District, Kari offered extensive resources for identifying, locating and managing nuisance plants while referencing places for additional information. *(continued next page ...)*



# Soils, Forages & Water Dynamics Course cont'd



Bill McGill demonstrates how to measure water infiltration and soil moisture (*photos left & above*). He shows Kristin Kendrew how to measure soil compaction and take bulk density samples (*right*).

At Kari's station, each group played a fun golf game where we received a management scenario involving nuisance plants. The end score was determined by the number of strokes each person received. The more positive management strategies we had, the better the score! One of many interesting management techniques was training cattle to eat the heads of Canada Thistle.

The third station led by Bill McGill asked a compounded question: What are the soils telling us in terms of infiltration, compaction and soil health indicators? To prepare for the dynamic exercise, Bill installed metal rings into the surface soil within the pipeline site and added a known amount of water. A participant from each group added a specified amount of water to the soil within the ring while Bill recorded the time it took for the water to completely disappear. As a group, we discussed the factors that affected water infiltration including soil moisture and compaction. We took turns using Bill's clever instruments that measured soil moisture, compaction and bulk density. It became evident that water infiltration decreased with increased soil moisture and bulk density due to compaction. The groups discussed how compaction may reduce vegetative cover by restricting root growth, decreasing porosity and increasing erosion.

The fourth (& last) station led by Richard Kabzems and Sandra Burton asked a subsidiary question: What can soil and plant indicators teach us about water dynamics? To add to the quality of the discussion, Richard pre-dug a soil pit in the upland forest and Sandra classified the soil series as Moberly. Moberly soils are loam to clay loam and occur on hilly topography where stones and gravel are common, especially where the underlying bedrock comes close to the surface. These facts came true to life as we hit bedrock at about 80 cm deep. As a group, we looked at the many indicators surrounding us such as vegetation type, canopy cover, surface soil type and depths to discuss the water dynamics in the upland forest compared to the pipeline site. It was apparent that deep, dark topsoil created the best medium for retaining water while reducing opportunities for nuisance plants to flourish.



Richard Kabzems demonstrates what soil texture and native indicator plants tell us about water dynamics.

## Thank you to our funding partners:

UNBC, Shell Canada, Encana,  
Peace River Agriculture Development Fund,  
Investment Agriculture Foundation/AAFC

## Thank you to our enthused station masters:

Bill McGill, Dan Webster, Bill Wilson,  
Kari Bondaroff, Richard Kabzems, Sandra Burton

## Thank you to our knowledgeable mentors:

Darryl Kroeker, Carmen Schneider,  
Julie Robinson, Talon Johnson

## Thank you to our panel discussion participants:

Abe Garcia, Jim Chramosta, Dan Webster

## Sponsors: (that tried to find us)

Douglas Lake Equipment, NorKam Vacuum Services

## Photo Credits: Sandra Burton



# Soils, Forages & Water Dynamics Day 2

by Victoria Kress

On a beautiful autumn day, on October 4<sup>th</sup>, 2014, a diverse group of people traveled to the Glen Burn Ranches (Ron & Karen Buchanan) in Upper Cache. We were attending the second day of the Soils, Forages, and Water Dynamics course hosted by the Forage Association and UNBC and coordinated by Sandra Burton. After a brief introduction by Sandra at the base camp in the field, we drove the short distance to the Buchanan's barns, where Lori Vickers & Carmen Schneider led us all in a fun group mixer activity, involving a race to identify an assortment of cattle handling and processing tools. Ron Buchanan told us about the size of his ranch (4700 ac owned; 4500 ac leased), with 250 head of cattle. He then discussed his goal of having a long-term, sustainable ranch.



Ron Buchanan describes his ranch and long term goals for it.



Julie Robinson and Ron Buchanan illustrate the difference in soil between ungrazed (Julie's) and bale grazed (Ron's) fields.

After snacks back at the base camp, Bill McGill and Sandra Burton introduced us to the course and explained how the day would proceed. We split up again into our groups and spent most of the day rotating between field stations, learning about the range management issues that presented a challenge to the Buchanans. There were four stations, each manned with specialists in the topic being discussed. The station topics were on managing plants and livestock for forage longevity, winter feeding and nutrient distribution, soil landscapes and profiles, and soil erosion. Each station was an hour in length. Two stations were held before lunch, and two stations after lunch.

At the field above the camp, Julie Robinson and Ron Buchanan led a lively discussion on how management of livestock and plant species can influence longevity and health of forage. Ron showed samples of soil profiles from a control field and the bale grazed field, showing a much thicker organic horizon on the grazed field. Julie emphasized that in addition to nitrogen, the presence of phosphorous,

potassium, and sulphur are also important for fertility. Phosphorous contributes to root development while potassium is important for drought tolerance. We learned that enhancing phosphorous availability can be effective in spring, when soils are still cold, and overall fertility can be enhanced by alternating between a hay field and pasture.

An entertaining and educational tailgate party in the field below the camp was hosted by Bill McGill and Bill Wilson. They led us in demonstrations of how winter feeding re-distributes nutrients, and can improve longevity of forages and quality of feed. We were treated to a miniature ranch where group members participated by placing the "manure" on the field. We learned that nutrients can be lost from manure through water logging, leaching, and runoff. There are a variety of ways to re-distribute the nutrients through winter feeding and strategically placing water and feed. Bill and Bill showed a soil sample with no feeding that had a very poor organic horizon, while a sample taken 20 years after only one year of winter feeding had a thick, rich organic horizon.



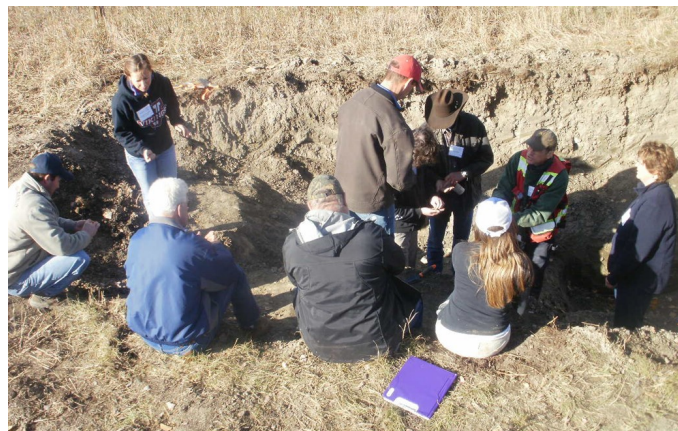
Group members distribute the manure on a snowy field around the hay bales at Bill Wilson & Bill McGill's tailgate party.

## Soils, Forages & Water Dynamics Day 2 cont'd



As attendees inspected the erosion gully carved into a field next to a creek, Marten Geertsema and Sandra Burton discussed water movement and causes of erosion. We learned that once erosion gullies start, they continually worsen because of the concentrated drainage. Water will either infiltrate down into the soil or travel as sheet, rill or gully erosion, depending on the power of the water. Marten talked about erosion from a landscape perspective, while Sandra discussed the importance of vegetation in intercepting water, and how conifers and tall vegetation are more effective at rain drop interception. Water movement and infiltration also depend on the soil type. There was much animated discussion among the groups about how to slow down erosion. Some key conclusions were that although certain factors can't be controlled, there are still effective ways to control erosion. Examples include avoiding haying or grazing in the immediate area, putting in check dams to slow down the water, or diverting some of the water upslope.

From the depths of a huge soils pit, Richard



Kabzems kept everyone engaged as he explained how soil landscapes, properties and profiles can tell a story about the health of the land. We observed how the high clay content in the upper horizons of the soil was hindering water movement and limiting the rooting depth. Richard talked about how plowing may not be the solution to increase rooting depth for plants such as alfalfa, as it could bring up the poor soil of the B horizon. Groups were given opportunities for some hands-on soil sampling, including the very messy hand-texturing test. Richard demonstrated tests for pH and carbonates.

When the final station was finished, everyone went to the base camp for more refreshments and a group discussion led by Bill Wilson and Bill McGill. We talked about what we learned at each station and some of the bigger overall lessons, and attendees offered some practical solutions for Ron and Karen Buchanan and their ranch. These suggestions echoed those that had come up during group discussions at the stations.

After a group photo in the giant soil pit, there was an optional field tour, where we travelled through Buchanan's ranch. We talked about poor crop performance due to lack of fertilizer, problems with grazing and grass health, controlling willows, and reclaiming gullies. Ron asked attendees to offer suggestions on how to remedy the situations, presenting a diversity of thoughtful viewpoints on the best courses of action.

Overall, it was a full day of educational and stimulating activities and discussions, punctuated by delicious food, good company, and beautiful weather.

### **Thank you to our funding partners:**

UNBC, Shell Canada, Encana,  
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Investment Agriculture Foundation/AAFC

### **Thank you to our enthused station masters:**

Ron Buchanan, Julie Robinson, Bill McGill, Bill Wilson,  
Richard Kabzems, Marten Geertsema, Sandra Burton

### **Thank you to our knowledgeable mentors:**

Darryl Kroeker, Carmen Schneider,  
Lori Vickers, Jim Chramosta

**Photo Credits:** Victoria Kress

**Meal Credits:** Chris Thomson & Shepherds Inn



# BC Farm Women's Network Seminar

*by Diane Kitt*

I took the opportunity to attend the BC Farm Women's Network (BCFWN) annual fall seminar and AGM, held in William's Lake on Oct 2&3. This organization was formed in 1987, as a non-profit society dedicated to farm families and exists to provide a forum for BC farm women to network and speak with an integrated voice. Each year the seminar is held in a different city to offer a chance to showcase that area's unique settings and opportunities. Fort St John hosted a successful workshop in 2011, bringing many BC farm women to the city.

This year's seminar and tour addressed the concerns of industry and the agronomics involved to maintain a healthy environmental reclamation of work sites. The first stop of the tour day, was at the Gibraltar mine in central BC, where we donned all manner of safety paraphernalia deemed necessary by WCB---steel toed footwear, safety vests and glasses and a hard hat, and we boarded a bus for a visitor's tour of the mining sight. We saw the drilling of the cores for blasting, to free the rock to be loaded into off highway trucks at the rate of 280 Tonnes per load, loaded by electric shovels--four scoops will top a load in just under 4 minutes. These loaded trucks were driven to crushers, reducing the size of the particles and the results were dumped onto huge conveyor belts that went to the mill where a number of procedures extracted copper and molybdenum and small amounts of other minerals. Then off to the tailings ponds, which we did not see. Their attempts to reclaim and re-establish the mined sights for wildlife use and cattle grazing is going to be a slow process at best. Thwarted by weather conditions and trying to grow brush, grass and trees on rock piles covered by 6" to 1 meter of the original over-burden removed at the beginning of the mining process, will last far past my lifetime and that of my grandchildren.

Continuing our tour, quieter with our thoughts about what we had just seen, we stopped for lunch, conversation, and stories from Ralph Phillips and Marium Schilling at the Xats'ull (Pronounced 'Hatsul') Shuswap Heritage site. From the village we continued to Soda Creek Farms. Family owned and operated, this fertile, diverse farm grows table corn for many Save-on-Food stores from Prince George to Abbotsford. The farm has a large beef cattle operation and is venturing into U-pick gardens, to avoid the strict regulations in place by the health board for selling produce at Farmers Markets.

At the end of our tour day, we again donned safety gear for a look at the Tolko Sawmill, a very modern, mechanized, efficient mill. Though indirectly related to daily farming procedures, you cannot deny the involvement of agronomics in this forestry based industry. From grazing issues to carbon reduction support, logging and milling is big industry in our Province. Addressing environmental concerns, there

is nothing wasted in the milling process any more. The hog fuel, chopped bark, is burned to create the lighting structure for all of William's Lake; the sawdust is compacted into pellets, shipped and used to heat many homes and businesses. All sizes of building lumber is cut and anything too small for standard sizes is finger jointed into bigger, more usable dimensional lumber.

On the seminar day, Oct 3, we drank lots of coffee, while we heard more about Taseko's environmental plans for the Gibraltar mine from Katherine Gizikoff and Sonja Miele, good PR people, promoting the importance of sound agronomic practices in the reclamation process, as well as the importance of women employees in the mining process.

Reg Steward from FRASHA, treated us to a lively slide show and talk on farm safety. His message is so important to all farming operations and those involved in the business. Introduce children to safety practices at a young age, so it becomes a way of working, and living, once they enter the work force.

There were presentations by Rick Jones from 105 Mile, on large scale composting, and how the process benefits your soil, thus your farm, and plays a big role in green procedures to maintain a healthy environment. And lastly from Catherine Allen, we saw her family farm business, grow, harvest, store and preserve home grown produce for sale or future use.

The 2014 conference ended with Canim Lake Indian Band singers and dancers. These people compete at festivals through-out western North America.

The two day conference packed lots of agronomic information from a slightly different perspective into brains, giving us lots to think about as comments from the speakers surface for contemplation during our busy lives.

For further information about this society, its agricultural mandate, its bursaries, and its activities, please visit the web site at [www.bcfwn.100mile.com](http://www.bcfwn.100mile.com).





Lori Vickers assisting Eckbert & Peter Wietzel.

# Cowbytes & Feed Rationing

by Talon Johnson & Lori Vickers

*"Ration balancing is often economical, it can identify any over-feeding or underfeeding"* Lori Vickers, Cattle Nutritionist & BC Ministry of Agriculture Regional Agrologist.

The above quote from our local expert spurred another set of cattle nutrition and ration balancing sessions in the fall of 2014. One session was held at the Northern Light College in Dawson Creek on November 12th and another at the Beaton Building in Fort St John on November 13th.

As part of the Healthy & Vigorous Forage Stands project, the PRFA of BC worked with Lori to host these sessions for local producers. Both events had a successful turnout composed of past CowBytes graduates and users, as well as new faces to the program.

Lori has a solid background in cattle nutrition and a wealth of knowledge about mineral supplementation. She provided an overview of nutritional needs, body condition scoring, feeding methods, wastage & using CowBytes. Besides her quote above, Lori's key messages are:

- ◇ Feed testing is necessary to properly balance a diet.
- ◇ Ensure minerals and vitamin supplements match the forage source. Generally 1:1 for legumes and 2:1 for cereals, grass hays (but utilize forage testing to determine).
- ◇ CowBytes is an effective tool to balance diets and is available from Alberta Agriculture at:

[http://www1.agric.gov.ab.ca/\\$Department/deptdocs.nsf/all/agdex12486](http://www1.agric.gov.ab.ca/$Department/deptdocs.nsf/all/agdex12486)

At both locations there were valuable discussions unique to each group dynamic. In the South Peace there was a lengthy discussion regarding nutrient deficiencies and visual clues. Lori and veterinarian Mike Ross confirmed that the only deficiencies that are immediately obvious are selenium deficiency and grass tetany.



Talon Johnson with Rebekah & Ernie Wiebe.



Josh & Jackie Thiessen with Julie Robinson.

Everything else results in a gradual loss of production over time (similar to a subclinical disease). The North Peace group spent time on body condition scoring (BCS) and identifying ideal conditions of cattle during different times of the year. Lori tied BCS to overwintering costs, reproductive performance and producers overall bottom line.

If you have any further questions about cattle nutrition or building rations please contact Lori Vickers by telephoning 250 784 2559 or by emailing her at [lori.vickers@gov.bc.ca](mailto:lori.vickers@gov.bc.ca)

The Peace River Forage Association is considering hosting a Sheepbytes workshop. If you are interested please contact Talon at 250 219 3944 or any one of us through 250 789 6885 or by emailing: [coordinator@peaceforage.bc.ca](mailto:coordinator@peaceforage.bc.ca)

## Cowbytes & Feed Rationing Course Proud Graduates

### North Peace

Josh Thiessen  
Jackie Thiessen  
Ernie Wiebe  
Rebekah Wiebe  
Eckbert Weitzel  
Peter Weitzel

### South Peace

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Pat Sutherland



# Pasture Weeds & Forage AGM

By Keith Carroll



Pasture weeds, especially Canada (aka creeping) thistle, was a focus of the annual meeting of the Forage Association Dec. 1 2014. Professor Edward Bork from Univ. of Alberta presented findings from their work in central Alberta on yield loss, herbicide efficacy/ wiping, grazing systems and biocontrol.

**Yield loss:** While the impact of thistles on forage yield is variable, it is significant, peaking at 2:1. So an increase in thistle biomass of 1 kg/ha reduced forage yield by 2 kg/ha. This relationship was validated when removal of thistle increased forage yield the following year.

**Efficacy:** 4 herbicides (2,4-D ester 700 at 2.5 l/ha, Lontrel at 0.6 l/ha, Grazon at 3.7 l/ha, and Dyvel DS at 3.25 l/ha) plus a one-time mowing and a check were compared. All treatments were applied in early July when root carbohydrates were deemed to be at a minimum. Each treatment was examined with and without annual fertilization designed to eliminate all macronutrient deficiencies based on soil tests. Initial levels of control were similar for all herbicide treatments, ranging from 84 to 93% mortality. In the absence of control, fertilisation resulted in a marked increase in thistle biomass. Mowing (one time) increased thistle density. Other studies have indicated repeated mowing (e.g. 3 times annually over 2 years) will control thistle.

Residual effects were observed for 2 subsequent years. Thistle biomass and density continued to be lower within the herbicide treated plots. The combination of fertiliser and herbicide clearly resulted in a greater reduction in thistle, likely a result of increased vigour of the forage stand.

**Wiping:** Wipers have 2 potential advantages over broadcast spraying: less herbicide used and retention of desirable forbs like alfalfa. Wiping with glyphosate (the only herbicide with label specifications for applying with a wiper) was applied bi-directionally on pastures that had been grazed so the thistles were taller than the forage base. Wiping resulted in a marked reduction in thistle density and biomass. This continued to be apparent the following year. However, there was a reduction in grass biomass and an increase in forbs, mainly annual weeds like flixweed and stinkweed. The reduction in grass appeared to result from the application of herbicide to grasses that had escaped from grazing and were thus exposed to herbicide.

A second trial was done wiping Roundup and selective herbicides Lontrel, Grazon, and Dyvel DS. Herbicide concentrations were relativized on a cost equivalency basis, resulting in concentrations of 33, 2, 20, and 24% respectively. All herbicides effectively reduced thistle. One year after application, the Roundup treatment had the lowest biomass of grass and again underwent an increase in annual forbs, a trend not seen with the other herbicides.

**Grazing systems:** Weakened forage plants in over-grazed areas are poor competitors against weeds such as Canada thistle. And increased bare soil associated with overgrazing creates microsites for weeds to become established. A clipping study was done to attempt to mimic selective behaviour exerted by livestock : continuous (clipping every 2 weeks to 2 cm stubble height) High intensity low frequency (HILF – every 4 weeks to 2 cm) and short duration (SD –every 2 weeks to 10 cm ) along with a deferred treatment (clipping at maximum biomass in August). Forage yields were greatest within the deferred treatment, followed by HILF, SD, and continuous. Fertilization resulted in a greater positive response in accumulated forage within the HILF treatment. This trend suggests (no surprise to most readers of Forage First) that defoliation intensity is not as important as frequency for maximising forage production. That is, most tame grasses are well adapted to relatively intense defoliation, provided it occurs quickly and they receive a long (minimum 4 weeks) rest period.

Notably, the thistle data displayed the opposite trend, with the greatest thistle density and biomass within continuously defoliated plots. The HILF and deferred treatment had the lowest thistle, with fertilization resulting in a further decline in thistle abundance.

**Biocontrol:** These clipping results were confirmed in 4 trials using cattle, with HILF grazing once again resulting in the greatest decline in thistle stem densities. Each grazing period within the HILF rotation caused an additive decline in thistle abundance through time. Canada thistle plants are non-toxic and relatively high in quality (e.g. crude protein).

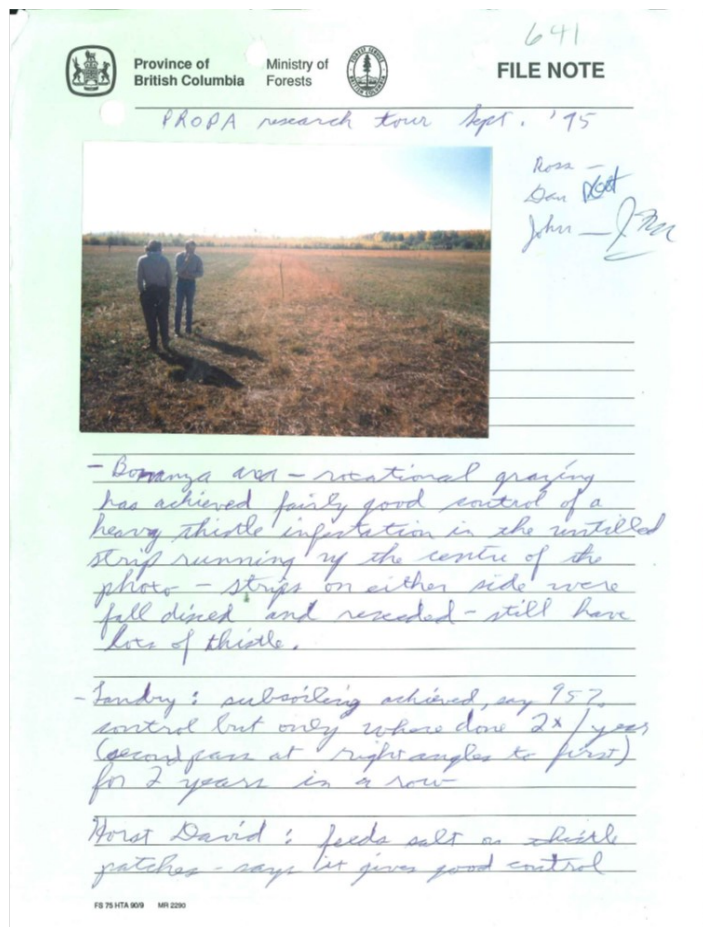
# Pasture Weeds & AGM *continued*

**Peace region experience:** In 1995 the Peace River Organic Producers Association ran a trial in the Bonanza area comparing options for thistle control. Rotational grazing achieved fairly good control of a heavy infestation, compared with fall discing and reseedling. Subsoiling at Landry achieved some control but only where done in 2 passes (at right angles to each other) for 2 years in a row.

Horst David commented during the tour that he got good control of thistle by feeding salt on thistle patches. Of course this would have been under the high intensity low frequency grazing that Horst is a champion of. My experience feeding salt on thistle patches with unmanaged grazing is that it does some damage to the thistles but obliterates any forage that might otherwise compete with them.

Talon Johnson showed how she and her fiancé had successfully got cattle to eat thistles using rotational grazing.

**Prioritizing weeds:** Kari Bondaroff led small group discussions on prioritizing weeds. There was lots of diversity just among our group of 3. Deryle Griffith suggested we consider first what weeds tell us about our soils and management. Chuck Sutherland expressed concern about pigweed (lambs quarters) which I don't normally consider a problem in forages.



Keith Carroll's field/ file notes and photo from Peace River Organic Producers Association (PROPA) tour in 1995.



A smiling Edward Bork (right hand side facing camera) adding his experience to the small group discussions at the Healthy & Vigorous Forages station led by Talon Johnson.



Kari Bondaroff leading a lively discussion of setting priorities for weed control during the break out sessions. Kari also led the whole group in an entertaining exercise with M&Ms that demonstrated how easily weeds spread.



During the AGM, Sandra Burton presented Ron Buchanan with a small gift as our Co-operator of the Year "for his efforts above, beyond and below" with two of our R & D projects.



# Western Canadian Grazing Conference

by Rob Larson, Jackie & Josh Thiessen, Talon Johnson & Sandra Burton



Judith Schwartz opened the Grazing Conference with "How Cows Save the Planet". Her focus was "Make Soil - End Global Warming."

What do nitrogen fixing legumes, storm chasing, tillage radishes, water cycles, livestock grazing, pasture rejuvenation and weed control have in common? **The Western Canadian Grazing Conference!** On Dec 9-11, a cohort of members from the Peace River Forage Association (Josh & Jackie Thiessen, Rob Larson, Sandra Burton & Talon Johnson) travelled to the WCGC in Edmonton, AB. The theme "Going Beyond Sustainability" showcased a fantastic line up of speakers, and tradeshow booths. There were 275 people attending from all across Canada and the U.S. Below are highlights and take home messages for our PRFA contingent's perspective.



Greg Johnson: the Tornado Hunter

## Climate Change

"One of the themes of the conference seemed to be the water cycle and whether or not our soils were "spilling or drinking" water they did receive. Climate change is a hot topic and instead of focusing on how much it rained, focus on how well the soil used the water it got." *Talon Johnson*

"The banquet speaker was Greg Johnson, the Tornado Hunter from Regina. I had heard him speak to the Agritrend conference last year in Saskatchewan. He is a fantastic photographer and very entertaining speaker. Greg is a bit of a crazy man for getting that close to tornadoes, but he was definitely worth hearing again." *Sandra Burton*



Josh Dukart: Thinking Regeneratively

## Josh Dukart: Thinking Regeneratively... Beyond Our Own Borders

"My biggest take home messages were from the holistic management sessions with Josh Dukart from North Dakota. We need to analyze what we are doing, rather than just working through tasks and keeping ahead of the 8 ball. When planning what we need to do with our land base, we need to take the longer term view, rather than always focusing on short term goals. Thinking about these sessions since the grazing conference has made me realize what my biggest challenges are. I need to focus on the human side and work with people more. I tend to focus on the jobs that need to get done, instead of getting their input on what we are doing.

I have always worried the employees would get the wrong message that we sit around and talk all day and don't accomplish much. If I tried to change my approach, we might have happier more productive people feeling a part of the operation." *Rob Larson*

"I found Josh's holistic management approach to be very thought provoking. Josh pushed us to think beyond sustainability as we most likely do not want to maintain what we currently have. He pushed us to always ask ourselves why we are doing something before asking when, where, what and how we were going to do it. By asking why we can determine if we need to proceed with an action." *Talon Johnson*

# Western Canadian Grazing Conference *continued*

“**Josh Dukart**, one of the speakers from the States, gave two very interesting sessions. The first one was “Thinking Regeneratively Beyond Our Own Borders”. Josh presented a lot of material to think over and to apply to our lives in regards to management and conservation of the land and our lifestyle.

One of the highlighted quotes from this session was: “If you want to make small changes, change how you do things. If you want to make big changes, change how you view things”. This applies in all areas of life and when we focus on the views that we take in life it truly changes how we do things. When we understand the purpose behind our decisions it gives us purpose and ultimately changes our decisions. Which in turn can give us greater efficiency.”

*Jackie & Josh Thiessen*



*Graeme Finn, Foothills Forage & Grazing Association*

**Diane Knight:** “When it comes to nitrogen fixing nodules in legumes, bigger is not always better. Plants regulate the size & number of nodules they have because they are energetically expensive to the plant. Nodules can form deep in the ground and can be very tiny so it is difficult for us to see them when we dig up the roots.” *Talon Johnson*

“From Diane Knight I learned that effective inoculation is really important and very complex. It was interesting that alfalfa fixed 4x more nitrogen than red clover on clay soils.” *Rob Larson*

“I enjoyed **Graeme Finn and Duane McCartney** on pasture rejuvenation & weed control in mixed legume pastures. We have to be careful transferring practices between regions, but I found it very interesting when they said that no matter what you start with, a grass legume mix will eventually become 60:40. Another point that sticks in my mind was that 1 kg of carryover at the end of the grazing season = 20% more production in the following season. The events before grazing are more important than what happens during the grazing event. In other words, the period of rest is more important than the all other factors we carefully manage.

Graeme talked a lot about sod seeding and I would like to learn more about that.” *Rob Larson*

“Always leave a solar panel there; was the advice from Graeme Finn. Just like Rob, I was also amazed that forage stands balance themselves to 60:40 grass legume mix. Graeme has also been successfully grazing yearlings on pure alfalfa stands with minimal losses to bloat by limiting their access to avoid overconsumption. He also manages the areas so the yearlings don't overgraze what they do have.”

*Talon Johnson*

“**Vicky Horn's** session on their sheep operation was really great. She showed us how a small operation on a ¼ section could eventually be viable & self-sufficient. She has isolated herself from the highs & lows of markets by networking through Twitter & Facebook & direct markets all their lambs. I think this can be done anywhere if we network/ educate/ interact with the public. From the grazing side, she had managed her flock of 150 ewes and lambs so well, that she had too much grass and brought in cows to keep up.” *Rob Larson*



*Vicky Horn on challenges of raising sheep.*

“This past Dec my brother Josh and I had a very exciting opportunity to go to the WCGC. It was a big highlight for both of us and we came home with some new and exciting ideas. The trade show was definitely a highlight! It was a great opportunity to be able to meet and talk with many knowledgeable people about their products. From cover crops, waterers, electric fences to mineral programs, there was a lot of information! One of the last sessions that I went to was a producer panel, presented by two different producers, from two different areas. These two ranchers discussed managing weeds, rotational grazing, and bale grazing. It was a very practical and hands on type of a session. You left the room having gained information that you could immediately begin to use. In conclusion we learned a lot in those few days, and we're very excited to begin to implement the ideas that are listed on our idea and goal list that we came home with. The conference would definitely go on the list of highlights from the year 2014.” *Jackie & Josh Thiessen*



*Trade Show at the Grazing Conference.*

**Photo Credits:** Vicki Heidt, Battle River Research Group

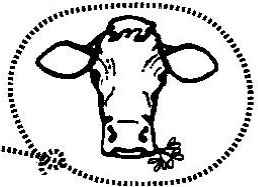


# Upcoming Forage Events

**Please Note: Friday Feb 27, 2015**  
New date for **Marketing Your Beef**  
with guest speaker **Brenda Schoepp**  
See enclosed agenda & details.  
Pre-registration strongly encouraged!

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Next  
Up

**Feb 7,  
2015**  
8 to 5 pm

What are the tools & constraints  
for establishing forages &  
reclamation?

**Soils, Forages & Water  
Dynamics Course**  
Involving Real People with Real Issues

Limited  
spaces !  
Please  
pre-register.

Credits  
available for  
UNBC, CCA  
or P.Ag PD

**June 6, 2015**

What role do manure and  
nutrients play in happy  
forages lasting forever?

All activities  
hands on &  
interactive !

**July 4,  
2015**

How can we control  
erosion on lease sites?

**To Register:**  
In the Peace:  
Sandra Burton  
at 250 789 6885  
coordinator  
[@peaceforage.bc.ca](mailto:@peaceforage.bc.ca)  
For university credits:  
Bill McGill  
at 250 960 5308 or  
[bill.mcgill@unbc.ca](mailto:bill.mcgill@unbc.ca)

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