Forage First

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Fires, Floods & Forage Fiestas

Peace Country extremes!! Syphon Creek was one of many large scale wildfires in April and May. This was followed by a one in 20 year rainfall event with flooding damage such as to the Ducks Unlimited office near Swan Lake.

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(for paid up members)

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Forage Facts, Friends of Forage, Info of Interest

Inserts: ***(for renewing members)***

2016 /17 Membership Renewal Notice

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Elephants & Members

by Carolyn Derfler

Dave and Linda Armstrong have a hay operation, Drumtochty Farms, in Rolla BC. Together they produce approximately 22,000 high quality small square bales to sell locally, as well as in large quantities, to the Yukon, Vancouver Island and at times even Alaska. “Our market is mostly for horse feed”, says Linda. “The dust on the hay, in the Yukon, is extremely abrasive on the horses’ teeth. One of the most interesting animals that we have supplied hay for is an elephant! He required a diet of pure timothy bales when he came to Dawson Creek with the circus several years ago”. What a special experience that would have been!

The Armstrongs both grew up on farms, Dave on a dairy farm in Chilliwack and Linda, on a beef farm in the Kootneys. They came to Dawson Creek in 1980 but did not meet until 1990 when Dave sold Linda some hay for her horse. By this time Dave had been producing hay on his farm in Rolla for two years. As with so many farms, both Dave and Linda have had to assist the hay operation with off farm income. Dave has worked for Peace Country Maintenance and propane delivery over the years taking the summers off to hay. He hopes to retire soon so that he can devote all of his time to the farm. Linda retired 5 years ago after spending 35 years teaching at Central School in Dawson Creek. Their daughter, Calley, would often help out with the haying production while she was living at home, but she is now in Edmonton and about to enter into her last year at university to become a pharmacist.

Dave and Linda have 450 acres in hay production and 70 acres in wheat this year as they often have one field out of hay production in order to rejuvenate and clean up the fields. Weeds, especially quack grass, are a continual struggle to keep under control and the spraying of them is at times necessary. To maximize the efficiency of their acres a 200lb/acre blend of fertilizer is spread onto the fields each fall as the weather starts to cool, as they find this time of year the best for maximizing its efficiency. Their fields yield between 50-100 bales/ acre depending on the growing conditions and a mixture of bales is produced: straight timothy, brome/ orchard grass/ timothy mix and some alfalfa/ timothy mix. At times the timothy gets too mature to bale and instead gets combined for seed and the straw baled. They also produce some straw bales from the wheat grown.

At first glance one wonders why Dave and Linda are using, what some consider to be, smaller, older equipment. On second glance one realizes that they have found a niche market with small square bales and are maximizing the potential of that equipment to produce high quality hay for their customers.

Dave and Linda Armstrong have been members of the PRFA since 2000. They enjoy learning about what is happening in the forage industry in the Peace country.

An accumulator, pulled behind the baler, stacks bales in groups of eight *(below left).* The use of a tedder helps the hay to dry quicker which helps to preserve colour and quality *(below right).*

“The small square bales can be loaded into trailers for hauling to the Island. Hay cannot be transported on the ferries if any of it can potentially escape so it is great to just close the door after loading the trailer rather than spending hours trying to tarp it down”, says Dave, who speaks from years of hauling experience.

The weather, of course, plays an extremely important role in the production of hay and on a year such as this one, where it seems to shower every day, making hay is difficult. Dave and Linda have found one piece of equipment invaluable in their hay production, the tedder. It helps to shake off and fluff up the cut hay which assists it to dry out quicker, retaining its quality and colour. This is very important in their business and if the hay doesn’t meet with their standards it gets chopped up and spread back onto the field. Another helpful piece of equipment on their farm is an accumulator. It is attached to the baler and collects eight bales on it before it empties its load in the field. Each pile of eight bales is then collected from the field at the end of each day as no day is complete without bringing in all the bales produced to store, out of the weather, in two large sheds in the yard.

Usually by mid August, Dave and Linda are pretty much wrapping up the haying production season and are looking forward to a bit of a holiday. This year, holiday time off has been put on hold as they still have some bales to produce in order to meet their customers’ orders for the year. Those bales that have been produced though are safely stacked high in the sheds to be fed to some lucky animals throughout the long winter months and who knows, maybe even another circus elephant!

Fall Out From Fires

by Charissa Enns

Charissa is one of four of Walter and Dolores Enns' children who farm together on Creek Bank Farms in Clayhurst, BC.

2016 is likely to be remembered as the year of extremes. Various aspects stand out that make this year far from *normal* for the Peace Country, but perhaps the most notable example is the widespread risk of wildfires this spring. As Darryl Kroeker, Deputy Chief of the Tomslake and District Volunteer Fire Department comments, "This was no surprise. We did see this coming. Alberta had fire bans on a month earlier than usual, but in many cases, spring burning was still happening. The other issue we faced was slash piles left over from the winter. Sustained high winds and very little runoff caused many piles that were still smoldering to re-ignite. Fortunately, we were able to control the fires in our area quite quickly, so they didn't get as hot and do as much damage as some of the fires further north."

Julie Robinson from the Ministry of Agriculture says, "This year we saw panic, a lot of producers were caught unprepared and were unsure of how to respond effectively." Robinson herself is in an area that was under evacuation orders and she says that she learned a great deal this spring. The land she lives on is segmented, so many of the fire risks were beyond the ranch's control. She shares, "We had thought about storing feed away from our infrastructure to reduce fire risks, but fire hazards from various directions presented greater challenges and cut off access to some areas." Robinson points to the importance of each farm or family in rural areas having their own plan to address emergency preparedness. Her advice for the future is for producers to, "Know where you can get the most accurate information and know your options and rights. The question producers need to ask is, 'How are we going to function when we are under evacuation orders?' If you call the Peace River Regional District, tell them what is going on, that you are near a fire or in an evacuation area and wondering if you need to start moving your cattle, for example, then they are able to give you accurate and up-to-date information or connect you with someone who can." She also shares that the Ministry of Agriculture is currently planning to deliver a pilot project aimed at assisting Peace River Regional District preparing for AGRI emergency issues. The exercise date is yet to be announced. Robinson also says, "I would encourage producers to participate in any emergency preparedness events that may be happening this winter."

Kroeker says that in the Peace Country, we generally rely on spring runoff, so events like the wildfires this spring may happen only once every 20 years or so, but a few simple steps can go a long way in preventing fires. Kroeker shares, "It's amazing how many people will set a fire and not have any water or even a shovel on hand… Its simple things like having a backpack sprayer like forestry carries with them or making sure your fire extinguishers are filled and working that helps prevent fires from getting out of control. It only takes a small amount of water to put out a little fire or cool a heated bearing, but if you are not prepared, things get out of hand very quickly." In addition, Kroeker says it's important to, "Check slash piles in the spring to make sure the fires are completely out." Spring in the Peace Region is usually a very busy time for producers, so this is an easy step to miss that could cost a great deal in the long run. As Kroeker points out, "We get in a hurry and sometimes we find ourselves having forgotten some very simple, but important steps to prevent emergencies of all kinds."

Planning and prevention is not only good management, but it could save a great deal of financial burden in the long run. As Brent Bye, Senior Protection Officer with B.C. Wildfire Service in Prince George shares, "If you start a fire and it gets out of control, the person who lit the fire is liable for not only damages to private property, but also to crown land as well as firefighting costs." Obtaining a burning permit does not offer protection from liability. Bye says, "A burning permit essentially lets us know that you are planning to burn. It is up to you to make sure that you do so in a way that the fire does not get out of control. If a fire gets away on you, you will still be held responsible, even if you have a burning permit." Bye's advice is simply, "If you're going to burn, you better have good insurance. It doesn't take long to burn up a million dollars in firefighting costs or of someone else's property."

Fall Out From Fires *continued*

by Charissa Enns

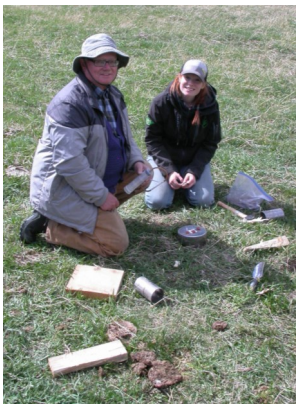
Dave Hauber, Chief Pilot for Wildcat Helicopters based in Kelowna, B.C. also shares his experience with firefighting in Canada as well as Australia. Hauber says that Australians deal with fire risks on a regular basis, so prevention is just part of what they do. He says that in Australia, “Rural properties are more prepared. They all have water tanks and sprinkler systems or something set up to protect their properties. They live with the risk of wildfires all the time, so they have to be prepared.” As far as fire prevention in the Peace Region, Hauber suggests that it is important to act early rather than waiting until it’s too late. He adds, “A lot of people are relying of B.C. Forestry Services to fight fires, but lately, in order to save costs, it is less likely that a helicopter will be on standby. Often, by the time someone reports a fire and we are called, it’s too late. It just takes too much time to get there. Additionally, there is always the issue of whether the fire is on private or crown land. Everybody wants to know who is going to be responsible for firefighting costs - forestry or the municipality? This confusion also delays response time.”

Ron Buchanan at Glenburn Ranch says that he would like to see better understanding and communication between divisions of the B.C. Forestry Service. The north end of Buchanan’s ranch and grazing license was most affected by the fire *(see photo below).* Buchanan shares, “The biggest issue we faced was that a natural range boundary burned, which required a fence to be built in its place. The area that the fence needed to go required a fence line and some surrounding area to be cleared to protect the fencing crew from falling trees. It was a very challenging process to know what permission was needed and receive it in a timely manner. In the end, permission was granted, but there was much uncertainty and inefficiencies that could have been resolved through more cooperation between range staff and other forestry divisions to protect businesses.”

Fire burning near South Taylor Hill , BC on May 3, 2016.

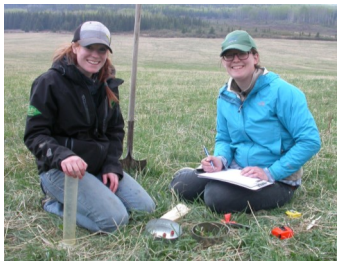
Each operation has its own unique set of challenges, so plans and decisions often take very different forms. It is important to note that cooperation and communication between industry sectors can go a long way in planning to protect not only your own, but neighboring properties as well. Bison producer, Walter Enns says, “We were able to work with forestry as well as members of the community pasture to come up with a plan to disc open areas and create fire guards. People from the oil and gas industry also provided us with information about what was happening with the fires. It never came to that point, but we did have a plan in place to help protect not only our herd of bison, but also the community pasture and neighboring properties.” In this case, it was encouraging to see the cooperation between industries and community members working together.

For those who worked so hard to protect the people and businesses that were affected by the fire, these efforts certainly were gratifying. Kroeker says, “It’s pretty rewarding to be a volunteer firefighter. People really do appreciate it.” Buchanan says, “We realized that we live in a very friendly area. So many people were calling and offering assistance that I finally had to quit answering the phone because I had to get outside to organize the many volunteers that were already there.” Far too many people to mention have echoed similar statements, words of thanks and appreciation for all the effort that so many put forth. As Buchanan said, “It was very heart-warming to see how many people were willing to help out.” The Peace Region is home to many hard working, caring and generous individuals and families who went above and beyond this spring, without any regard for personal gain. Those whose lives were impacted by the wildfires will forever be grateful.



Innovative Management For Resiliency

by Sandra Burton


From left to right: Bill McGill & Cali Seater measure soil biology; Ron Buchanan & Julie Robinson check out soil surface after winter feeding; Cali Seater & Serena Black recording water infiltration; Alex & Rod Strasky join us in the field with their additional questions about soil quality.

Objectives of this project:

1. Optimize the utilization of nutrients such as manure management & timing or placement of fertilizer to minimize losses from the adaptation practice;
2. Work with producers to establish forage & annual crop production that is resilient to weather extremes using economically & environmentally sound practices.

Progress over summer 2016:

Our committed cooperators continued with their demonstrations for a second season. **Ron Buchanan** was enthused that he had made progress improving his field during this project and was able to hay it this summer. He and Julie Robinson collected some field response data. **Rod Strasky** set up another 3 way demo plot of different fertilizer placement and rates. Climate and nitrogen loss data was collected immediately after seeding for 5 weeks, and yield data will again be collected when Rod combines his barley. **Matthias Loeseken** (Blackbird Environmental) was contracted to fly both these demos with his drone and we will integrate his imagery with the field data and ground truthing. **Andrew Clarke** harvested his 3 way birdsfoot trefoil demos and was pleasantly surprised by the results. We have other legume demonstrations with **Bennetts**, **Lazinchuks** and **Schneiders**.

Innovative practices were evaluated with the **Soil Quality Field Kit** with a blitz of field work in May. At each site, we conducted a core of 5 to 6 biological, chemical & physical tests but added additional field tests according to each cooperator's questions.

Bill McGill and Serena Black offered to conduct 2 additional tests at a soils lab at UNBC that are extremely important for a soil's resiliency to climate extremes (organic matter & water holding capacity). Paired benchmarks to evaluate a comparison or innovative practice were done at 12 sites. We have compiled the field data, and will integrate the lab results into the soil quality report cards.

This fall we will include more sites based on interest, innovative practices and requests. The results of this soil quality study will be shared at an event early in 2017. In the meantime, contact me if you would like more information.

Economic cost benefit analysis: During the first week in April, **George Geldart** travelled to the Peace to work intensively with **Julie Robinson** and myself on the cost benefit analysis for this project. We hope to integrate the variable costs of innovative practices with some key soil improvement benefits. **Bill McGill** is helping us integrate organic matter and nutrient cycling information into this analysis.

The highlights of this project:

1. The true collaboration with mutual respect that we have fostered among farm cooperators, researchers, agrologists, economists and agribusinesses.
2. The two way learning and information sharing that is happening through the demos and our events. Aspects of this project have been featured at 7 field days & workshops to date. The next event is on **Sept 22** *(see back page for more information).*

Funding Partners of the Innovative Management Practices for Resiliency Project:
Peace River Forage Association of BC, Peace Region Forage Seed Association, BC Grain Producers Association, Blackbird Environmental, South Peace Grain, University of Northern BC, Ducks Unlimited.

Government Funding for this project has been provided in part by:
Growing Forward 2 a federal-provincial-territorial initiative through programs
delivered by Investment Agriculture Foundation of BC through the BC Farm Adaptation Innovator Program & the BC Business Knowledge Fund

Higher Legume Pasture Project

by Sandra Burton, Fred & Lis Schneider

Our forage association was invited to be part of a large, multi province project evaluating the Mountain View sainfoin variety in grazing systems. PRFA of BC and partners have collaborated and launched a High Legume Pasture Project. Our site is **one of 12** across Alberta and B.C. with support of the various forage and applied research associations and ARECA (Agricultural Research and Extension Council of Alberta).

Livestock producers often shy away from high percentage legume pastures due to the risk of bloat. Incorporating sainfoin, containing tannins, into the pasture mix reduces the incidence of bloat. The new sainfoin variety AAC Mountainview is proving to compete well in a forage stand and has higher regrowth so that it regrows at the same rate as alfalfa. Livestock grazers can now use AAC Mountainview as a natural bloat control and more confidently graze higher percentage legume pastures.

The goal of this project is to provide farmers with the knowledge to establish a higher percent legume pasture (60%+ legumes) and graze that pasture in the second year. These pastures have a greater capacity to withstand drought conditions and are extremely productive.

Fred & Lis Schneider are committed, in spite of the extra work, to try the fit of the new AC Mountainview sainfoin in their intensively managed haying and grazing operation. Unfortunately the extremely dry conditions early this spring prevented them from seeding their plot.

The Schneiders wanted to proactively address some weed issues before fall seeding to give the variety the best possible test. In forage factsheets, Bill Wilson shared the results of various plots evaluating the best timing for successful late season establishment of legumes and grasses. These assessments were completed during PRFA's revegetation project.

Over the 2 years of this project, agronomists will keep record of growing conditions, growth, grazing, incidence of bloat and many other observations. Data from all 12 sites will be available for farmers to evaluate in meetings and field days over the next 2 years.

Over the summer and fall, field days were scheduled for each of the dozen sites with Alberta Agriculture agronomists, field cooperators & grazing mentors on hand to talk about the benefits of using legumes. Information will also be shared at workshops over the winter months and from our BC site so watch for more details on our website and in this newsletter.

Growing Forward 2
A federal-provincial-territorial initiative

Alberta Government

Canada

Priority Setting & Strategic Planning for 2015-2020

by Sandra Burton & Julie Robinson & PRFA Board of Directors

The process: Over a period of 15 months, a diverse group of forage members were invited to give us their thoughts on the types of R & D projects, forage initiatives and events they wanted to see happen. They told us how they wished to receive information as well. We also collected feedback from over 190 event participants over this time. These results were all integrated into a 6 page summary document that was endorsed by the Board of Directors.

The next steps will include:

⇒Setting up an expanded R & D Committee including forage members teamed up with advisors from BC Agri, AB Ag, UNBC, PRRD & BC Range (FLNRO).

⇒Discussing where to next with the list of 30 priorities identified. This includes 14 R & D projects, 10 communication & events priorities & 6 groupings of suggestions under general operations. We will update you as we progress.

O Canada Thistle

by Ann Grover

There exists a long history of alternatives to the "grass and grain" diet we've come to accept as normal for livestock today. Even into the twentieth century, beets, turnips, and potatoes have been fed to livestock on a regular basis. It's not too much of a stretch, then, to incorporate weeds into the diet of cattle, sheep, bison, or goats. "Palatability is in the stomach of the eater," says Kathy Voth, owner of Livestock for Landscapes, from Tucson, AZ. Kathy began teaching cows to eat weeds at the Grant-Kohrs National Historic Site in Montana in 2004.

Canada Thistle, *Cirsium arvense*, or creeping thistle is the target fodder for the Peace River Forage Association of BC's pilot project in the Peace River area of northeast British Columbia. Using and adapting Voth's methods, Sandra Burton (PRFA Coordinator), Kari Bondaroff (Peace River Regional District Manager for the Invasive Plant Program), and Lori Vickers (Regional Agrologist with the Ministry of Agriculture), have been teaching cows to eat the prickly plant since 2015.

Very often the nutritional elements of weeds and undesirables exceeds that of most traditional forage grasses. It's not uncommon for protein values to range from 16 - 22%, even as high as 27%, as in the case of Canada Thistle.

Charlie Lasser, longtime Chetwynd rancher and producer of Certified Organic beef, is one of the six PRFA cooperators in the Peace Region area and in his second year of teaching his cattle to eat thistle.

Lasser plans to reap the advantage of the high nutritional value of thistle by taking the concept a step further, by making silage composed of oats, barley, and thistle. By making use of the thistle throughout its growing season, yield, control, nutrition, and palatability is maximized. Simply, Lasser says, "It's turning a liability into an asset."

Over eight days, averaging 30 minutes to an hour each day, Lasser's 15 heifers were trained. Heifers are chosen because of their likelihood of remaining on site for a longer time. A convenient pasture is selected, where the cattle can be called easily, and in which the target plant is evenly distributed throughout.

Kari Bondaroff says of choosing a suitable pasture site, "Move like a cow. Think like a weed." Where do the cows go for water? Salt? What factor is the weather on their travelling and grazing movements? On the weeds' growing patterns?

Lasser cows and calves during training.

A variety of means suffice for "calling" the cows, from whistles to bells to truck horns, even the sound of a quad. On Day 1, grain, familiar and tasty, is offered in supplement tubs or bunks. Over the next three days, unfamiliar, but nutritious "treats" in a variety of textures, smells, and flavours are presented. Locally procured feed such as peas, beet pulp, cracked corn, alfalfa pellets, and performance cubes were among the feeds used at the Lasser ranch, and ground flaxseed, equine cubes, barley and hay saver cubes are also used.

By the fifth day, the heifers have learned that, though they may not recognize what is in the tub, they know it is going to be something good. When thistle is then introduced on Day 5 and for three more "training" days, the heifers have positive feedback; they carry their knowledge to the pasture, where they teach their calves, and later, their herd-mates.

O Canada Thistle *continued*

by Ann Grover

Sandra, Lori, and Kari monitor three to six "benchmarks," in each cooperator's pasture. The carefully chosen plots (an art-form in itself, says Sandra) are measured and the vegetation within is tallied, taking into account plant residue and desirable grasses, as well as the nibbled thistle plants. Re-growth patterns are observed. Is the plant in "panic mode," trying to set seed? Is there re-growth from the root?

Monitoring grazing effects on thistle plants at benchmark #4 on June 29, 2016 *(above)*. Sandra, Lori and Kari counting thistles at a benchmark in a cooperators pasture *(below)*.

Myths abound regarding the "eating of weeds." It is not a matter of spraying the unwanted herbage with molasses, for then the cattle would indiscriminately eat anything tasting of molasses. Nor is it starving the livestock until they'll eat anything. There is little issue with cattle eating toxic plants, for not only are the animals taught to eat a specific weed, but their rumens have a feedback mechanism which tells them not to continue eating a certain plant. Given enough variety in forage choices, toxic levels can, most times, be counterbalanced without negative effects.

Remains of a Canada thistle plant after grazing

The Peace River Forage Association has a multifaceted goal, with teaching livestock to eat weeds as a primary step. Dispelling myths, observing grazing effects on weed growth, and implementing an integrated approach to weed management are part of the program. With today's environmental concerns, teaching livestock to eat weeds is a feasible alternative to chemical control, which is expensive and often ineffective. Suppression as a goal, rather than eradication, is also considered.

It is the intent of PRFA, with adequate funding, to merge their learnings with the stories of producers to create a publication for Peace River region area ranchers and farmers wanting to implement the program on their own with less Forage Association monitoring and inputs. Such a publication would outline the training methods as well as address the challenges particular to the Peace River region of BC, challenges which include timbered and community pastures. In the meantime, PRFA of BC appreciates the "bridge funding" provided by the Peace River Agriculture Development Fund (PRAD).

Canada thistle is merely the beginning of the cows and weeds venture. Future studies include adding nettles, buck brush, wild rose, marsh bloom thistle, bull thistle, and sow thistle to the menus of local livestock.

Drop by http:/www.peaceforage.bc.ca for more information and exciting videos.

Ann Grover is a writer / photographer who contributes regularly to Beef in BC, Forage First newsletter and other publications. She and Dan Stocking live at and manage South Peace Ranches at Mile 26 of the Alaska Highway.

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Q Fever Awareness Event

by Carolyn Derfler

Dr. Stan Houston, professor of Medicine and Public Health at the University of Alberta, was quick to point out that Q Fever (Coxiella Burnetti) is not the next Ebola or BSE! However, it is an occupational disease that can be transmitted to humans and therefore those people who are most at risk should be made aware of it. Stan, along with his daughter, Dr. Ilona Houston, a vet from Edmonton, and Dr. Christa Harder from the Dawson Creek Veterinary Clinic all spoke at a Q Fever Awareness Event hosted by the Peace River Forage Association at the Tower Lake Hall on June 10, 2016 to a group of about 20 people. Many thanks to our presenters for taking the time to come and speak with us, our participants and also two funding partners, Dawson Creek Veterinary Clinic and Peace River Agriculture Development Fund (PRAD).

Q Fever is a bacterium found in sheep, goats, cattle, dogs, cats, many wild animals, as well as, birds and ticks who are considered natural reservoirs. The bacteria can be transmitted to humans through air born spores from the feces, urine, milk and especially the placenta and amniotic tissues of infected animals. Inhalation of the spores from infected material can cause flu like symptoms in humans, especially producers, abattoirs, vets and possibly even hunters. The spores can be spread through the air for up to 10 km and can survive for long periods of time in dry conditions but only a minority of people infected with the bacteria will actually get sick. In the past 15 years there have only been approximately 1-6 cases/ year in Alberta but those numbers are most likely underestimated since diagnosis is rarely considered by the medical profession as not many doctors are familiar with it. As a result, we really do not know the full extent of the disease in Canada. However there have been several large outbreaks of the disease in the past 7 years, one in Holland in 2009 and another in the United States in 2011.

Kari Bondaroff talks with our guest speaker, Dr. Christa Harder, during a break (above).

Dr. Stan Houston takes blood samples from willing participants which have been sent to a lab to test for Q fever exposure (below).

Symptoms and treatment in humans:

⇒ Headaches
⇒ Pneumonia
⇒ Fever
⇒ Heart valve infection – risk higher in those with a pre existing heart condition
⇒ Liver and other organs can be affected
⇒ Spontaneous abortion if infection occurs during the first 3 months.

The incubation period in humans is on average 20 days. Q Fever is treated with antibiotics and has an extremely low death rate unless heart valve problems arise. A blood test can identify exposure to bacteria.

Symptoms and treatment in animals:

⇒ Decrease in appetite
⇒ Occasional abortion outbreaks in sheep and goats
⇒ Pregnant females can develop placentitis which results in abortion or stillbirth late in gestation

Diagnosis can be done by testing the placenta tissue and/ or by blood tests on the animal. Treatment on an infected animal is done with oxytetracycline every 3 days fro 10 to14 days.

How can we prevent the spread of infection on farms?

Infected spores can remain in the environment for weeks to years, therefore, good biosecurity practices need to put in place to decrease the spread of disease.

⇒ Educate all personnel, especially pregnant women and individuals with suppressed immune systems
⇒ Limit visitors' access
⇒ Provide protective clothing and equipment
⇒ Practice good hand washing hygiene
⇒ Install good ventilation in birthing barns
⇒ Clean and disinfect birthing areas
⇒ Have proper disposal methods for animal abortion material or placenta (burning, burying, composting)
⇒ Use caution during milking and processing of milk
⇒ Take caution using high pressure washers for cleaning (risk of aerosolization)
⇒ Avoid mucking out on windy days
⇒ Keep records on individual animals to document pregnancies etc.
⇒ Contact your vet if you suspect you have an infected animal/s or if there is a sudden increase in abortions/ stillbirths in your herd

Low Stress Livestock Handling Seminar

by Lori Vickers

Dr. Lynn Locatelli

PRFA teamed up with the Dawson Creek Veterinary Clinic to bring in Dr. Lynn Locatelli of Cattle Expressions to host a Low Stress Livestock Handling Seminar. Despite the heavy rain, flooding of Dawson Creek, and lack of power at the venue (good thing for generators!), people came out to learn about a different way to handle, manage and work with livestock. Dr. Locatelli is a stockmanship student of Bud Williams and shared many of his techniques with the group in a seminar full of learning theory and videos to demonstrate principles.

What is low stress livestock handling? Simply put, it means handling livestock in a calm, stress free manner. It means working with livestock without using force or fear. It involves trust, mutual respect, mutual communication between livestock and handler though body language and pressure/release, a positive attitude and leadership. The goal is to make doing the right thing easy for the livestock and the wrong thing hard.

Dr. Locatelli explained that all human contact with livestock shapes their behaviours. Animals are always very aware and attentive and every human/ livestock interaction can shape future behaviours and make a difference. If good behaviours are not being created, difficult behaviours are. Handlers always need to assume responsibility for the outcome of handling.

During the seminar, Dr. Locatelli talked about various techniques including a "Sweeping Z" movement to gently pressure livestock to move in the desired direction. She emphasized that livestock are extremely sensitive to human movements and attitudes.

Those new to low stress livestock handling were also introduced to the "Bud Box", a handling system designed by Bud Williams that allows the handler to be in the correct positions to allow cattle to flow smoothly and easily into alleyways or chutes.

The benefits of adopting low stress livestock handling techniques go beyond calm and efficient livestock movement. Using these principles will lead to calmer, safer animals, which can improve safety around the farm. In addition, low stress livestock handling can lead to better livestock performance and improved meat quality as poor handling techniques can lead to decreased meat quality, such as bruising.

All in all, with the right attitude, training and practice, low stress livestock handling techniques can be successfully implemented on ranches and can benefit both livestock and handlers.

Lessons learned from our participants:

- Take your time and teach your cows to drive.
- Put yourselves in the cows hooves and don't blame the livestock.
- Think like a cow!

"If cattle don't go where you want them to go - and don't do what you want them to do, you haven't asked them correctly" ~ Bud Williams

You too can be a Friend of Forage by advertising in our newsletter. The rates are:

$75	**business card**
$125	**1/4 page**
$200	**1/2 page**
$300	**full page**

You can also be a Friend of Forage by buying coffee or a meal at one of our events. Or call us with your idea at 250.789.6885 or by emailing coordinator@peaceforage.bc.ca

Lively Legumes Tour Highlights

by Heather Fossum

What an eventful and enjoyable day on the annual PRFA Forage Tour! Producers around the Dawson Creek area were highlighted and each stop was interesting and lively.

The day started off with two classroom sessions at the South Peace Grain Cleaning Coop. **Lynn Locatelli** discussed how low stress cattle handling (LSCH) can be used as a vehicle to allow 1 person (on foot, quad or horse) to move the herd through any type of terrain. Teaching cattle to drive is a cornerstone of LSCH – driving gets cattle to take guidance from their handler. Cattle that move when called (aka "chumming" cows) take the leadership position (which results in the handler to playing second fiddle to their cows). Driving is used to bring in singles (e.g. Calving problems), big bunch gathering/moving, but also to keep cattle flowing through handling systems (corrals/squeeze). If too many animals are sorted out of the main bunch and brought into the alley, the cattle will stall out repeatedly before reaching the squeeze. If we inadvertently teach cattle to stall when going through our alley/squeeze (by bringing in too many) then cattle will then add more stalls. Lynn recommends starting with 3 head and if that works good increase in by 1 animal until the flow of animals through the system gets interrupted by stalls.

Diane Knight discussed ways to optimize biological nitrogen fixation. We want our grain and perennial legumes to fix nitrogen (N) because it can provide crops with a fertility boost of 90 to 250 lbs N/ac.

- ◊ Nitrogen fixation is a symbiotic relationship between plant roots and rhizobium that live in root nodules (on root hairs of lateral roots): the rhizobium fix nitrogen from the atmosphere in the soil & the plant provides food energy for the rhizobium.
- ◊ Plants produce flavonoids that attract the right rhizobia, rhizobia attach to the root hairs in a lock & key mechanism and infect the root hairs. The infected areas gets surrounded by plant tissue, swells and produces a nodule. There are LOTS of different rhizobium and no rhizobia can nodulate more than 1% of known legume species.
- ◊ Bigger nodules are not necessarily better; as long as the nodules are pink/red they are active. Nodules do not last all growing season and in fact turn over throughout the year. Plants only keep the number of nodules they can feed because they are an energy draw for the plants; breeding super nodulated plants doesn't work.
- ◊ Anything that negatively effects plant growth (drought, nutrient deficiencies and too much water) will decrease N fixation.
- ◊ The N level of soil also effects nodulation and ultimately nitrogen fixation: seeding into high N soils inhibits lateral roots and root hair formation (which decreases nodulation), seeding into low N soils promotes lateral root and root hair formation.
- ◊ When seeding legumes, inoculants (with very competitive strains of rhizobia) are recommended. Inoculants are a low cost portion of seeding and help increase the amount of root nodules, which provide the "free" nitrogen to the crop.

Once participants boarded the bus, the first stop was at a field of **Kendrews'** where we saw a demo of the 7 day training period involved in teaching livestock to graze weeds. Twice a day animals are fed something different in tubs, which opens their mindset to eating different things including plants with LOTS of protein and pokies (Canada thistle). The group of heifers were on their 5th day of the training and we witnessed them grazing thistle in the pasture after the tub feeding. Three sites are being monitored throughout the grazing season and they have already seen a 25-30% reduction in the number of Canada thistle plants. This is the Kendrews' 2nd year in the "Teaching Livestock to Graze Weeds" project.

Next it was south to **Fred & Liz Schneider's Riverside Ranch** (East Pouce) to look at silage peas and a cocktail cover crop. The field of silage peas/oats had 1 pass with a breaking disc and 2 passes with a Lemken high speed disc and packer before seeding on May 7th to 60 lbs/ac of forage peas and 100 lbs/ac of oats with a zero till drill ($20 peas+ $12 oats = $32/ac). It was so dry that the seed didn't germinate for 10 days. They plan to graze after silaging. Diane Knight discussed how soil fungi attach to the roots of plants and expand the root system to a bigger volume of soil. Mycorrhizal connections below the soil can link oat plants and pea plants and transfer things back and forth between them.

Fred Schneider describes his forage management for tour.

Lively Legumes Tour Highlights *continued*

by Heather Fossum

The cocktail cover crop was seeded to provide summer grazing, high quality fall grazing and increase the organic matter (OM) of the soil. The Schneiders seeded the cocktail cover crop (CCC) at 9 lbs/ac but also added 16 lbs/ac of 4010 forage peas and 60 lbs/ac of oats ($33/ac CCC + $6.40/ac peas + $7/ac oats = $46.40/ac). The cocktail cover crop (Ultimate Blend, $3.66/lb) is composed of kale, turnips, crimson clover, hairy vetch, Italian ryegrass, sorghum and probably some other species I didn't catch. Fred also discussed a field with cicer milkvetch that he was able to let go to seed one year and then graze in the fall, which allowed the cows to help spread/seed it all over the field.

After lunch **Kari Bondaroff** introduced PRRD's Play, Clean and Go strategy for invasive weeds and **Frank Schneider** (Northline Equipment) showed us some rejuvenating equipment options.

We then headed west to fields of **Gordon & Brenda Lazinchuk's** (Mason Rd) to see some birdsfoot trefoil and bale grazing. The hay field with birdsfoot was summer fallowed in 2012, sprayed with Round-up in 2013 and seeded in 2014 with a Valmars broadcaster at 2lbs/ac (birdsfoot trefoil only). In 2015 Gordon took 3 bales/ac off the field. He feels that birdsfoot trefoil produces as well as alfalfa on his fields (pHs 5.8-5.9). Gordon tried bale grazing over the winter of 2015-16 on a field heavily infested with willows. Bales were placed in the fall of 2015 and the strings pulled before it snowed. He laid out nine rows of bales (25 bales/row, 3 ft between bales, 20 ft between rows) and each row lasted 170 animals one week. He feels that it was a great way to hit the willows back and boost the grass.

On the drive **Lori Vickers** went over some simple biosecurity measures that livestock producers can implement such as: stay up to date on vaccines, keep gates at public access points, have a visitor parking lot, keep a visitor log, and put up a sign stating "all visitors must report to the office."

When we arrived at Kiskatinaw River Ranch, **Ernie Nimitz** gave us an overview of the ranch which started in 1980 and grew in the 1990's. They have a mother herd of 300 cows that graze 6 main units composed of 100 pastures and 70 water holes. They buy all of their hay. **Michael Nimitz** started Nimitz Beef in 2012 which sells their own grass fed beef (by the half, quarter and pieces) at farmers markets and direct marketing (website). He hopes to direct market 75 animals off the ranch. Lawrences and H&M Meats does all of their killing, cutting and wrapping. The jerky portion of the business was launched on April 1st/16. He "drained his bank account" and installed a walk-in fridge/freezer ($20,000) and jerky prep shack ($35000) in their shop. He figures the revenue is around $7500 for an animal processed into Jerky (profit margin 50-60%). They produce slab jerky as well as ground beef jerky with a shelf life of 18-20 weeks. Value adding increases their profit margins but it does also come with more labour and a lot more paperwork.

Before heading home we were treated to a delicious BBQ at the South Peace Grain Coop and a tour of the facility with **Shaun Grant**. Throughout the day the transportation was comfortable, the food was great and the content was intriguing – it can't get better than that!

Gordon & Brenda Lazinchuk hosted us at 2 of their fields. Gordon showed us where he had bale grazed to improve the soil and grass *(far left photo).* Julie Robinson showing Carmen Schneider nodules on the birdsfoot trefoil *(middle photo)*.

Photo on right: Michael Nimitz describes the value adding to Nimitz Beef and the beef jerky making process.

The tour organizers would like to thank our hosts, sponsors & funding partners (see pg 15).

International Rangeland Congress

by Sheena Briggs

This July, two of my coworkers, Tyler Morhart, Marika Cameron and myself attended the 10th International Rangeland Congress (IRC) held in Saskatoon, Saskatchewan. The IRC is a conference that is held every 3-5 years with the objective of sharing information on all aspects of rangelands, including: research, planning, development, management, extension and training. The conference is held in a different location each year, and 2016 was the first time that the conference has been held in Canada. Past conferences have been held in locations including the United States, Australia, France, Argentina, India, China, and South Africa.

The theme of the conference changes each year that it is held. This year's theme was "The Future Management of Grazing and Wild Lands in a High-Tech World". The conference included five days of presentations, posters sessions, workshops, and one fieldtrip day. Each day, the presentations were broken into specific topics that fell under the broader conference theme of rangelands and technology. This meant that depending on the day, the presentations could include a focus on the social, biological, or grazing management aspects of rangelands. Each day also included presentations from familiar and applicable North American examples, to international topics that were a very unique learning opportunity. Some of the interesting international examples focused on the nomadic, pastoral societies in countries such as Nepal or Mongolia, and the rangeland ecosystems that support them. Interesting Canadian examples included presentations on the MULTISAR program in southern Alberta, a conservation partnership between landowners, agencies and government, who are working to create Habitat Conservation Strategies and plans for species at risk on interested landowner's private property. A partnership called South of the Divide is completing similar work in southern Saskatchewan. Additionally, there was a focus on Canadian landscapes that are not traditionally thought of as 'rangelands', including arctic ecosystems, caribou herds, and the northern people that they support.

Some examples of the wide range of presentations that I found interesting included:

- ◊ Rangelands of Subarctic and Arctic North America and Europe: Ecosystems, Wildlife and Management by Dave Downing, Canada.
- ◊ Targeted grazing to manage wildlife fuels and alter fire behavior by Karen L. Laughbaugh, United States.
- ◊ A community-based approach to identifying grazing pressure and land use management structures among herders in the Altey Mountains, Mongolia by Brianne A. Altmann, Germany.
- ◊ Multiple approaches to habitat conservation: finding the right fit encourages producers to manage for species at risk habitat by Tom Harrison, Canada.

This conference was my first opportunity to experience the Saskatchewan prairie, and the tour we went on was one of the highlights of the week. We stopped at several native grassland sites that included a bison lease in the Missouri Couteau region *(see photo below)* and an active sand dune site. Overall, the conference was full of great information and experiences. For those that are interested – the next International Rangeland Congress is rumored to take place in 2020 in Kenya!

Sheena Briggs found out about the PRFA when Richard Kabzems invited her to a soils field day. She is originally from north of Edmonton, Alberta and moved to the Peace in 2011. She currently works as a Ecosystem Biologist for BC Ministry of Forests, Lands and Natural Resource Operations.

Thoughts - Ecosystem and Ranching Management

by Ernest Nimitz, Kiskatinaw Ecological Society

In 1999 our Peace River Forage Association of BC won the BC Cattlemen's Association Environmental Stewardship Award for the Province. This really got everyone in the NE British Columbia area thinking about the importance of good grazing management both for the profitability of ranches and the important part ranchers play in the stewardship of the environment. Our ranch is proud to have been associated with the PRFA when they won this award.

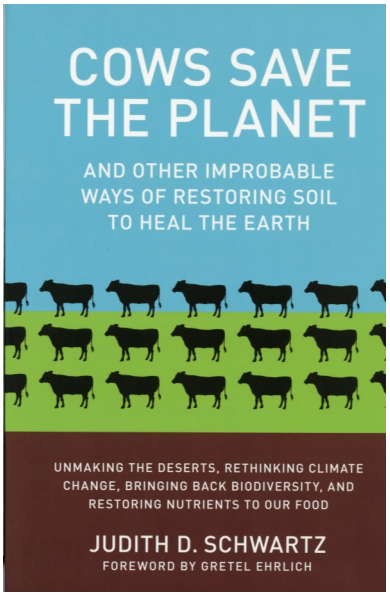
An ever increasing number of modern day ranchers, graziers and livestock managers in western North America are pursuing state of the art grazing, water management and conservation technology in their cattle ranching programs.

We like to consider ourselves and the Kiskatinaw River Ranch, plus other well established cattle operations in and adjacent to the Kiskatinaw Valley, as part of this Group!

Every Day is Earth Day on the Ranch; and, Ranchers – Graziers are essentially the managers of their own little part of the Ecosystem Landscape and are thus tasked with a very important job.

State of the art grazing management is one major key to obtaining sustainable ecosystem management in any given country. A number of people think "you manage your Ranch Ecosystem by judicious use of your cattle herd".

Some techniques employed by those rancher-graziers as they search for state of the art grazing management and increased profitability include: an Environment Farm Plan; involved in Verified Beef Production; use a Time Management grazing rotation (large cattle herds-small pastures – solar water system - short duration graze) ; practice a short breeding season (42 days roughly); utilize a computerized cattle record keeping system; use a veterinary herd health program.



These folks perhaps read such books as:

Cows Save the Planet, "and other improbable ways of restoring soil to heal the Earth", Judith D. Schwartz.

Defending Beef, "The Manifesto of an environmental lawyer and vegetarian turn cattle rancher", Nicolette Hahn Niman.

The Deliberate Corruption of Climate Science, Tim Ball, PHD.

Eco – Fascists, "How Radical conservationists are destroying our Natural Heritage", Elizabeth Nickson.

The AGM of the Kiskatinaw Ecological Society followed by the Mark Nimitz & Steve Nielsen Memorial Trail Rides were held on Saturday, July 30, 2016 at the Kiskatinaw River Ranch. There were so many riders that 2 trail rides were hosted.

Riders pictured above: Cheryl & Kimber Nielsen, Irene Mhe, & Max Kaumeyer.

Whilst in certain segments of Canadian Society there is a lot of talk about: cows tooting and belching and poisoning the environment; plus climate change and "carbon foot prints" due to mankind's activities for the last 50 years. In this group there seems to be a lot of "Woe is us; the world is doomed right now if we don't all start driving an electric car with a solar panel on the roof".

On the other hand, if you are a grazier -ruminant rancher and you have hay fields, pastures and forested land all pumping vast quantities of oxygen into the atmosphere daily, then you have an **"OXYGEN FOOTPRINT"**; furthermore, if your ruminant herd is managed holistically and sustainably, then it is in fact beneficial to the environment never mind the odd toot and burp; and, your ruminant herd also produces high quality food to help feed the world.

Thank You To Our Sponsors & Funding Partners for 3 Events

Peace River Forage Association of British Columbia

June 10: Q Fever Awareness Event at Tower Lake Hall
June 16: Low Stress Livestock Handling Seminar in DC
June 17: Lively Legumes, Grazing & Value Adding Tour

Dawson Creek Veterinary Clinic

BRITISH COLUMBIA Ministry of Agriculture

PRRD

MUDDY CREEK LIVESTOCK

Northline Equipment Ltd.

FBC We make life less taxing

NPARA NORTH PEACE APPLIED RESEARCH ASSOCIATION

UNIVERSITY OF SASKATCHEWAN
College of Agriculture and Bioresources
DEPARTMENT OF SOIL SCIENCE
AGBIO.USASK.CA

Gordon & Brenda Lazinchuk

SPG South Peace Grain Cleaning Co-op

NIMITZ BEEF
Ranch Raised to be Wholesome and Affordable

CONNECTING PEOPLE FARM BOUND WITH ORGANIC & LOCAL FOOD

Kiskatinaw River Ranch

Thank You To Our Government Funding Partners

Peace River Agriculture Development Fund or PRAD
a provincial - Peace Region initiative
Growing Forward 2 Strategic Outreach Initiative Fund
a federal - provincial - territorial initiative
Growing Forward 2 BC Farm Innovators Adaptation Fund
a federal - provincial - territorial initiative

Growing Forward 2 | Investment Agriculture Foundation of British Columbia | ardcorp | Climate Action Initiative BC AGRICULTURE & FOOD | BRITISH COLUMBIA | Canada

Forage Events in Our Region

Peace River Forage Association of British Columbia

Pasture Walk & AGM

Celebrate Fall Equinox with the

Peace River Forage Association

Thurs Sept 22, 2016

Meet to vehicle pool at 1:30 pm
Farmington Community Hall
Farmington, BC

Afternoon in field to include:
Tips for setting up bale grazing & winter feeding options
3D wildlife fencing in response to issues
Demos from Resiliency Project

Return to Farmington Community Hall
4:30 pm Extended Winter Grazing
By Grant Lastiwka, Glenn Hogberg & Ron Buchanan

5:30 pm Hot Supper
6:30 pm AGM & Revisions to Bylaws
7:30 pm Directors meeting to follow

Pre-registration is strongly advised!
For more info or to register please call:
Chris, Carolyn or Sandra at 250 789 6885

Grant Lastiwka

Glenn Hogberg
(with his son Jason)

Ron Buchanan

Government Funding for the Innovative Management for Resiliency Project has been provided in part by:
Growing Forward 2 a federal-provincial-territorial initiative through programs
delivered by Investment Agriculture Foundation of BC through the BC Farm Adaptation Innovator Program & the BC Business Knowledge Fund

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