Photo: Rachel McLean

FOOTHILLS FORAGE AND GRAZING ASSOCIATION
Innovation, education and regenerative agriculture

PO Box 458 Okotoks, AB T1S 1A7
Phone: (403) 995-9466 ~ www.foothillsforage.com

January 2018

Director's Note

As I sit to write this note, the sun is just about to rise on a beautiful November morning. It's a rare occasion this fall as there isn't a breath of wind and it is a balmy +2˚C outside. By the time this is published we will have packed away the Christmas decorations and broken some, if not all, of our New Years Resolutions. From our house to your house and on behalf of the Board of Directors of FFGA, we offer our sincere wishes for a prosperous, healthy and Happy New Year in 2018.

It is a time to reflect on years that have passed behind us and look forward to the promise of the new year ahead. Yesterday I stumbled and hit my shins on a stand-by generator purchased in anticipation of Y2K, eighteen years ago that I thankfully never needed. I also took time to watch a very satisfied group of dry pregnant cows out swath grazing. A few short years ago I would have been mixing a total mixed ration of silage for those cows as I prepped them for a November breeding season to calve in August. It occurred to me that every operation has made decisions it both regrets and celebrates. Some decisions give us pride, others give us an education.

One decision I have never regretted is buying a membership with the Foothill Forage and Grazing Association. Each year we host a wide variety of events to further the exchange of ideas and advancement in our member's learning opportunities. I won't list all the events we hosted or were a part in organizing this year for fear of missing some, but I will touch on those which were highlights for me.

FFGA, in conjunction with the MD of Willow Creek, hosted the Nicole Masters Soil school in May at Claresholm. It was a sold out event both days and was very well organized by Jennifer and Rachel. It was my pleasure to host the outside demonstration site portion of the school. For me it was a real eye opener to dig two open trenches on two sites, literally over the fence from each other but exposed to significantly different management. One irrigated, the other dryland, one growing legumes and swath grazing , the other long-term overgrazed perennial grass. The soil analysis verified what the eye saw. The irrigated side growing legumes was visually darker to a greater depth and almost double the soil carbon and organic matter. We learned much about the inter relationship of fungi and bacteria and other components involved with soil health.

In June FFGA, in conjunction with the County of Newell, hosted a Jim Gerrish grazing school in the Gem Hall. The outside portion was hosted by Arno Doerksen (Thank you for that Arno!). Once again it was a sold out event and the exit survey results indicated that the attendees were very positive in their comments. It seems the appetite for this type of extension education is insatiable and growing as the message of Regenerative Agriculture continues to spread. I plan to continue seeking new ways to reduce the role of equipment in my operation as I find the price of a new electric fence energizer much less "shocking" than the price of a new tractor, baler or discbine.

At the time of this writing we have not yet attended the Western Canada Conference on Soil Health and Grazing (WCCSHG), but I am eagerly anticipating attending this sold out event. The wealth of information can be overwhelming, like drinking water from a fire hose, but every time I get the opportunity to hear speakers of the calibre of Gabe Brown, Ray Archuletta and Dr. Alan Williams to name a few, I am all ears. It always serves to recharge my batteries ahead of a new upcoming spring growing and grazing season. There are always new ideas to implement.

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It is with some sadness that FFGA says goodbye to a young lady who has been an enormous positive influence on our organization. Two years ago we welcomed Rachel McLean to our team to fill the newly created post of Environmental and Communications Coordinator. Our membership has nearly doubled and our profile has grown exponentially in that time. No small part of the credit is due to Rachels expertise in social media and her own effervescent personality. Rachel's attention to detail has helped many of our events run like clockwork.

However, she has accepted a position that allows her to move back closer to her home and family. That is a draw we can all sympathize with but it comes with great regrets as far as FFGA is concerned. Our loss is her new employers gain and we wish you great ongoing success Rachel.

That's it for me this month. We are on the downhill slide to spring. I wish everyone a successful wintering, calving, seeding etc. We will see you at the FFGA AGM on March 20 in Strathmore or some other event in 2018.

Happy Trails To You!

Andy Hart

FFGA 2018 Bursary

Accepting applications!

Are you a post secondary student pursuing a career in the forage & livestock industry? Looking for some extra cash for school?

You may be eligible to receive one of the FFGA $500 Bursaries! The bursaries are available to post secondary students in the FFGA region who can make a short (1 page) and compelling case of how their education will help to improve the forage and livestock industry in Western Canada.
Visit: www.foothillsforage.com/bursary to determine your eligibility and apply!

Deadline January 31, 2018!

Thank you for your support!

IT'S TIME TO RENEW!!

2018 Foothills Forage Membership!

For just **$30.00/year** you can become a part of the innovative network of Foothills Forage! FFGA members receive our monthly newsletter, attend our events at discounted rates, have first access to FFGA events and much more! FFGA currently provides workshops within our region in Southern Alberta.

FOOTHILLS FORAGE AND GRAZING ASSOCIATION
Innovation, education and regenerative agriculture

Payment & Renewal Forms Available ONLINE at:

www.foothillsforage.com/membership

We hope you join us!

*Memberships are valid from January 1 to December 31 of the respective year
** FFGA Membership covers one farm business unit or family and 1 vote at the Annual General Meeting

PARTNER EVENTS

Farm Succession and Tax Planning with Tracy Hanson & Merle Good

Wednesday January 24 (9:00—4:00pm)
$50/person
Crossfield & District Community Centre

Register Online:
https://farmsuccessionandtaxplanning.eventbrite.ca

Mountain View COUNTY

ROCKY VIEW COUNTY
Cultivating Communities

Septic Sense — Solutions for Rural Living

Monday January 22 @ 7:00 pm
(Priddis Community Hall) - FREE

Wednesday January 24 @ 7:00pm
(Davisburg Community Hall) - FREE

Monday February 12 @ 7:00pm
(Highwood Memorial Centre) - FREE

Register Online:
http://www.mdfoothills.eventbrite.ca/

M.D. of FOOTHILLS No. 31

Connect with the FFGA on social media!

FOOTHILLS FORAGE AND GRAZING ASSOCIATION

Annual General Meeting

Featuring a Market Update with Canfax's Brian Perillat

"More Cattle, More Meat, Now What?"

Brian Perillat, BSc. MSc. P.Ag

Manager/Senior Analyst – Canfax

Brian Perillat has been the Manager at Canfax since April 2010. Brian grew up on a mixed farming operation near Duck Lake, Saskatchewan and continues to be involved with the family farm. Prior to working at Canfax, Brian worked as a livestock production economist with Alberta Agriculture and also spent over 4 years working with MNP as a farm management consultant. Brian has had the privilege of travelling and working on farms and stations in Australia and New Zealand, as well as visiting farms in north and west Africa.

10:00am Registration
(start at 10:20am)

$30/person
$30 annual membership
Lunch Included

Also Featuring:

- Barb Archibald, Growing Forward Extension Specialist, Agriculture & Forestry
  - CAP Program Update
- AgSafe Program Information Update

Register online at:
https://ffga2018agm.eventbrite.ca

March 20, 2018

Travelodge Strathmore, AB

CALL FOR NOMINATIONS

Elections for **five** seats on the FFGA Board of Directors will be held at the AGM on March 20th. (2 vacant & 3 Directors up for re-election of 2nd term). Elected Directors are eligible to serve up to two consecutive three-year terms and must be an FFGA Member in good standing.

If interested, email nomination to **manager@foothillsforage.com**
Please include a short description of candidate, which will be read prior to election

RANCHING Opportunities

OLDS COLLEGE ALUMNI CENTRE
Thursday February 8th
8:30 AM to 4:15 PM
(8:30-8:50 Registration, 8:50 Start)
*** Free Parking**

CRAFTING A FARM NARRATIVE
Tools for earning public trust
Crystal Mackay,
Farm & Food Care Canada

CHUTE AWAY
Hands on presentation on how different cattle handling systems work and how to design your own.

FOCUS ON THE FEED
Learn how to take and read feed analysis samples

THE BEEF IS HUNG, NOW WHAT?
Processing Facility Technology
Harmony Beef Plant

SMOOTH RIDE
Tips for transporting cattle
Karen Schwartzkopf-Genswein
AAFC

ENVIRONMENTAL HOOF-PRINT
Tim McAllister
AAFC

PRODUCER PANEL:
Consumer Verification Programs
*** Verified Beef**
*** Canadian Round Table for Sustainable Beef**
*** Environmental Farm Plan**

REGISTER AT
RO2018.EVENTBRITE.CA

FEBRUARY 8, 2018

REGISTRATION
Registration closes February 2, 2018
$45 registration fee includes lunch, coffee, and tradeshow

Questions? Contact Daniela at Mountain View County
Ph: 403-335-3311 Ext. 204 or dlemus@mvcounty.com

HOSTING PARTNERS
Olds College, Kneehill County, M.D. of Bighorn, Rocky View County, Alberta Agriculture & Forestry, Wheatland County, Mountain View County, Foothills Forage & Grazing Association, Red Deer County
Twitter: #RanchingOpportunities

Texas Ranches Manage Cattle to Improve Habitat and Watershed Health

The following is an edited excerpt from Replenish: The Virtuous Cycle of Water and Prosperity by Sandra Postel, published by Island Press.

Few animals get as bad a rap these days as cattle do. They are blamed for soil erosion, water depletion, overgrazed rangelands, greenhouse gas emissions, and, when eaten, human heart disease. Often missing from such indictments of the mooing, tail-wagging, and, yes, methane-emitting bovine, however, is our role. How we choose to manage cattle determines their environmental impact, not the animals themselves.

"Ninety percent of people think cattle are bad," said Robert Potts, president of the Texas-based Dixon Water Foundation. "But grasslands need well-managed grazing to stay healthy. We need to educate people about that."

Potts is on a mission to do that educating, as well as to advance graz-ing techniques that will benefit both the watersheds of Texas and the bottom lines of ranchers. The foundation operates seven working cattle ranches, four in North Texas and three in West Texas. The Mimms ranch spans 11,000 acres (4,450 hect-ares) in the northeastern corner of the Chihuahuan desert, a gorgeous landscape of high-elevation grasslands surrounded by rocky volcanic mountains. Rainfall averages about 15 inches (380 millimeters) a year, but can swing wildly from one year to the next, a pattern of extremes climate change is likely to amplify.

Potts views improvements in soil health as crucial to building climate resilience. "It matters less how much rain you get and more how much rain you keep," he said.

At the Mimms ranch, Potts and his ranch managers are running both an economic enterprise and a scientific experiment. They've divided the land into three parts: one where cattle graze continuously to replicate how most Texas ranchers operate; another where no grazing is done in order to demonstrate what happens when the land simply rests; and a third that's dedicated to rotational grazing, or what Potts prefers to call high-intensity, short-duration grazing.

Casey Wade, vice president of ranching operations for Dixon Water Foundation, maintains a detailed plan of how many animals will be grazing in which locations based on the amount of grass available and its rate of growth. The plan is never set in stone, however, because adap-tation is a core principle of managed grazing. As rainfall, forage avail-ability, and other conditions change, Wade adjusts the plan. It sounds laborious—and it is—but the goal is to boost profitability by growing more grass, rejuvenating lands previously overgrazed, and raising more cattle per acre.

"Bare ground is really the enemy," Potts said. "If you have one-third bare ground, your ranch is one -third smaller."

Currently, the Mimms ranch supports 200 "animal units" (roughly equal to 133 cow–calf pairs) of purebred Hereford and red Angus. Most of the cattle raised for sale graze for 24–28 months and are then sold to the Grassfed Livestock Alliance, which in turn supplies beef to Whole Foods Markets throughout Texas.

While cattle raised on irrigated pasture get the prized "grass-fed" label as well, those raised on natural rangeland under holistic manage-ment techniques offer a suite of other potential benefits. As we tour the Mimms ranch, I learn that the land is alive with birds—quail, west-ern meadowlarks, kestrels, vesper sparrows, and savannah sparrows, to name a few. The ranch's 270 different species of grasses and plants cre-ate a rich variety of habitats for birds and wildlife.

For the nonprofit National Audubon Society, a conservation organ-ization focused on bird conservation, ranches like Mimms that are man-aged for a synergy of ecosystem benefits and economic profits present a great opportunity. Native grasslands are among the of...

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most altered and imperiled ecosystems in the world—and one of the least protected. With 85 percent of grasslands in the United States privately owned, Audubon hopes to motivate more grassland conservation by offering a "bird-friendly beef" certification for ranches that meet its habitat criteria.

Despite numerous examples of the successful use of rotational grazing by ranchers in the United States and many other countries, the mainstream range-science community remains skeptical of its benefits. In part this is because a proper evaluation would require a geographic scale of whole landscapes and a time frame of many years, which most scientific grants do not support. In addition, rotational grazing's core principle of adaptive management—adjusting grazing plans as conditions change—makes it hard to study using conventional scientific methods. Or, as Potts put it, "It does not lend itself to a reductionist research approach."

The Dixon Water Foundation has supported the work of Richard Teague, a research ecologist at Texas A&M Agrilife research in Vernon, Texas, who has conducted long-term trials on the foundation's ranches in North Texas. Teague's nine-year studies of grazing methods in Texas tallgrass prairie found that, compared with neighboring ranches where cattle grazed continuously (the conventional approach to western ranch-ing), rotational grazing improved soil health, grass quality, nutrient availability, and water-holding capacity. His team also modeled effects on the watershed and found improvements in the quality and flow of local streams due to greater water infiltration and more than 30 percent reductions in the runoff of sediment, nitrogen, and phosphorus. With the land acting more like a sponge, there would be less risk of harmful flooding downstream.

Teague's research also shows that, in contrast to the popular view of cattle as climate destroyers, they can actually help mitigate climate change. He and his colleagues found that on rangeland previously degraded by heavy continuous grazing, intensive rotational grazing increased the carbon content of the soil by an average of 3 metric tons per hectare (1.3 tons per acre) per year in the top 90 centimeters (3 feet) of soil over a decade. Managed in this way, cattle can help sequester enough carbon in the soil to more than offset their methane emissions. Despite its many benefits, rotational grazing won't be easy to scale up.

The capital costs for water troughs and fencing can be substantial. It also takes time to learn how to cre-ate detailed plans, regularly move the animals, and monitor forage and land conditions.

As ranch overseer Wade said, "You can't be a rowdy cowboy and make this work."

Among the biggest barriers, though, are federal, taxpayer-funded farm subsidies that incentivize landowners to plow up prairies and plant crops rather than bear the risks of raising cattle on the range. Between 2007 and 2012, the US area in rangeland dropped by about 1.5 million acres (607,000 hectares). While a number of factors drove that decline, government programs played a role.

We're losing "huge amounts of grasslands due to these federal subsidies," said Potts. "If you're going to have farm programs, they've got to be weighted toward those that sup-port good ecosystem practices."

Excerpt from: Replenish: The Virtuous Cycle of Water and Prosperity can be purchased from Island Press, Amazon, Barnes and Noble, or a local independent bookseller.

Source: https://foodtank.com/news/2017/11/replenish-sandra-postel/

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Winter Watering: What Are My Options?

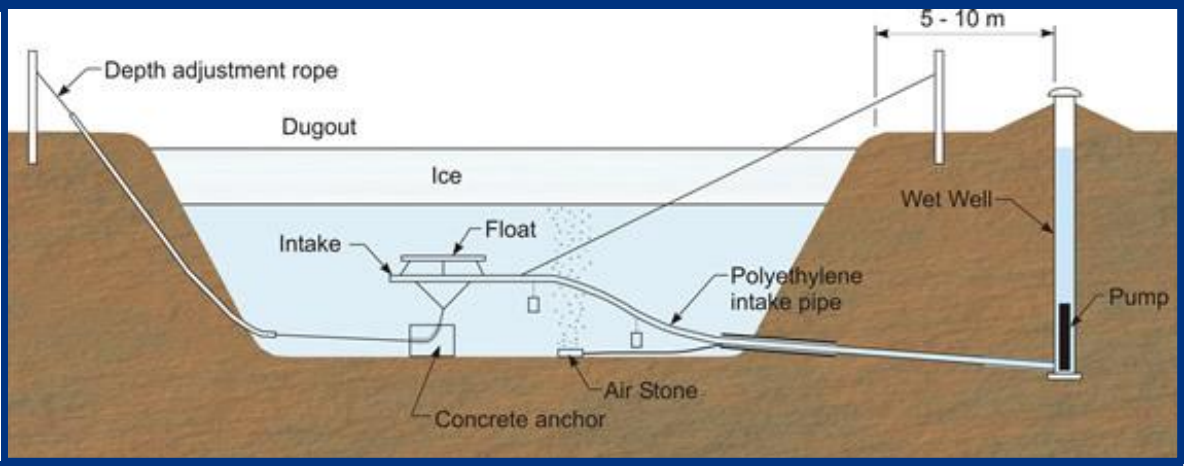
Winter watering

Direct access can lead to animal safety and water quality concerns.

For years, producers have been watering cattle and other livestock throughout the winter months by cutting holes in the ice. Even though livestock receive water, there are a number of long term problems associated with this watering practice. Livestock death by drowning or exposure can be a significant problem. Losing an animal through the ice can result in considerable profit loss, as well as enormous stress on the animal if it should survive.

Direct access winter watering also causes manure loading which leads to poor water quality. As the ice melts in the spring, animal excrement introduces disease-causing organisms such as bacteria, viruses, and parasites into the water.

Excrement also introduces nutrients into the water, which in turn can cause excess algae and plant growth during summer months.



A winter watering system showing a dugout with a layer of ice. Under the ice the water intake system is held in place by a float and a concrete anchor and can be adjusted with a depth adjustment rope that attaches the system to a post on the bank of the dugout. The intake is connected to a pump at the bottom of the wet well by a polyethylene intake pipe. This pipe also connects to an air stone that sits at the bottom of the dugout and releases air into the water. The wet well is 5-10 meters from the edge of the dugout.

Benefits of a remote winter watering system

Remote winter watering systems allow producers to provide water to livestock during the winter outside of the traditional confinement yard while lowering costs and improving field fertility. Such systems decrease potential for leg injuries, fatalities, competition and water quality risks that are found with uncontrolled access to surface water.

The essentials of a remote winter watering system

A winter watering setup will differ from location to location.

Choosing a suitable location for a remote watering system is critical. Since most off-site water sources are permanent, some manure accumulation is unavoidable, so it is important to assess and control any runoff potential to ensure that quality of the water is maintained.

Besides the availability of quality water, other factors to consider when choosing a watering site include: distance from the water source, elevation, and shelter.

The overall design of the system will depend on personal preference, reliability, herd size, remoteness, and site location. Other factors to consider are optimum pumping rate, distance between pump and outlets, height difference between outlets and source, and maximum daily water requirement.

Most winter watering systems available on the market today have a common set-up. The main components are an intake water line from the dugout, wet well, power source and pump. Wet wells are installed next to surface water supplies to provide a quick and convenient method for housing a water distribution pump.

The creation of an elevated mound around the wet well is recommended. This gentle sloping mound will act as an insulator and aid in the prevention of frost build-up. The mound could also assist with local surface drainage ensuring a dry, clean, safe watering site. A floating intake system is recommended to remove the best quality water from the source.

Before freezing, the float should be lowered below the expected ice level.

Water flows by gravity from the dugout, through the intake, and into the wet well.

Pumping system options

Technological advances in the use of natural energy sources such as geothermal heat and solar and wind power allow producers many options for pumping the…

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Lee Gunderson

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for pumping the water from the wet well and protecting the water from freezing.

Every system has its strengths and weaknesses. Descriptions of a few of the most common types follow:

- Door switch
- Motion detector water pump-up system
- Air circulation
- Solar portable ice-free waterer
- Portable ice-free waterer
- Mining tire geothermal waterer
- Geothermal ice-free waterer

Door switch

Livestock activate the pump through a switch located on the door frame. A self draining basin returns water to the wet well. This system is set up directly over a wet well. When an animal pushes open the trough door a switch is activated which runs the pump located near the bottom of the wet well. Water is then moved up to the trough. Situated near the back of the trough is a screened overflow return line.

The water level in the trough is regulated by the height of the overflow return line. A time delay is built in to avoid pump cycling. The pump will run for a preset time after the door is closed. This allows the second animal to follow and receive a drink of water. After the animals have finished drinking, the pump shuts off. A series of small drain holes are located at the base of both the discharge and overflow return lines. These holes allow the water to drain back into the wet well so that no water remains in the trough to freeze.

Producers who use this type of system have found that livestock will adapt to it in a couple of days.

Motion detector water pump-up system

This motion detection watering system pumps water into a basin as livestock approach.

This system uses a motion sensor to activate the pump. A double walled round watering bowl is located on top of the wet well.

When an animal walks up to the drinking bowl, an electronic motion detector turns on a pump that fills into the bottom of the bowl.

The water level rises in the basin to a set of overflow holes that return excess water back into the wet well.

These holes are located near the top edge of the trough to prevent overflow onto the ground.

The pump will run as long as there is motion within the range of the motion detector. To prevent the pump from starting and stopping, a delay is built in to allow the pump to continue running for a preset time.

This delay allows the next animal to approach the basin and get water before the pump shuts off.

Water remaining in the basin will return to the wet well through the bottom of the trough so that no water remains in the basin to freeze.

A filter prevents debris from going back down into the pump with the water. Motion detection systems are adaptable to a variety of setup configurations.

The filter must be cleaned regularly to ensure that water can drain back and prevent freezing of the bowl and supply line. If kept in good condition, these pump-up systems work very well and do not freeze.

Air circulation

This water system circulates water (by air or water) in an insulated trough.

In this system water is pumped water from the wet well into an insulated, doughnut-shaped trough. A small air compressor operates continuously to prevent the water from freezing. The compressor draws warm air from the wet well and injects it near the access hatches and float switch.

The float switch signals the pump when the water level is low to keep the trough full.

Livestock drink water through access hatches in a fitted, insulated lid that sits atop the wet well. The air circulation system takes advantage of the ground's natural warmth so no additional heat is required. Other benefits to the air circulation system include the facts that the addition of air improves water quality, more than one animal can drink at a time, and no water returns to the source.

On extremely cold nights all but one of the access hatches may have to be covered to prevent heat loss.

Solar portable ice-free waterer

All of these above-mentioned systems can use solar energy. Solar energy is an efficient, environmentally friendly, relatively inexpensive way of providing power to remote locations. The direct-current (DC) storage batteries that run the wet well pump must be protected from the cold. Warm batteries charge easily and give more power when needed.

A discarded household chest freezer makes an excellent battery storage compartment and will protect the batteries when buried in the ground and covered with straw and/or snow.

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Executive Director - Agricultural Research & Extension Council of Alberta (ARECA) - Leduc, AB

The Agricultural Research & Extension Council of Alberta is a not for profit, producer-run umbrella organization that represents applied research and extension member associations across Alberta. Our member associations are leaders in agricultural innovation and technology transfer to producers across the province. Our system goal is to proactively provide research and extension supports to producers contributing to a modern, sustainable and prosperous agricultural industry in Alberta.

We need a bold and professional **Executive Director** to act as an ambassador and connecter for all ARECA member associations, and bolster their success. As the Executive Director, you will develop an intimate knowledge of all member associations, understanding their strengths, focus and direction. Working with and alongside member associations you will then facilitate relationships with government, funding agencies, and stakeholders, and seek out opportunities, network and advocate on their behalf. You will develop strategic plans for advocacy and communications, as well as an annual budget.

We've got a great health insurance plan and provide some travel opportunities. The basic equipment necessary to be successful will be provided. This position is currently based out of Leduc, Alberta.

The ideal candidate will:

- Have a minimum of a BSc. or equivalent
- Demonstrate initiative and have the ability to work independently in a multi-task environment.
- Be a team player
- Be skilled in communications and marketing
- Conduct themselves in a manner that is professional and respectable at all times
- Have excellent interpersonal and networking skills.
- Have excellent written and oral communication skills.
- Excel at public speaking
- Have advanced computer skills, including programs utilized for design and media (including website design and social media)
- Have the ability to anticipate, understand and respond to the needs of customers, stakeholders and associations.
- Work cooperatively and effectively with others to support progress toward ARECA and all member association goals .
- Have budgeting and financial management training and/or work experience.

The following would be considered an asset:

- Experience working with a board of directors and on committees.

Salary will be based on individual qualifications and will align with competitive industry positions.

ARECA

If you're interested, please send a resume to **mcmillan@areca.ab.ca** , along with a short description (350 words or less) of why you believe you are the visionary who can lead our groups to success.

Application Deadline: Feburary 10, 2018

www.areca.ab.ca

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Portable ice-free waterer

In this system, a small, highly-insulated, portable building encloses a poly tank that holds hundreds of gallons of water, several degrees above freezing. Animals drink from a water trough which only has a small area situated outside the building. The buildings temperature is moderated by the latent heat of the water.

This system works best if most, if not all, of the water in the tank is exchanged daily. If all of the water is not consumed and exchanged with new water, it will cool and the system will begin to freeze, starting with the drinking area.

This system works very well when the building is well insulated, as the overnight temperature dip will not affect the indoor temperature significantly. This system should have enough animals drinking so that at least 1,300 litres (300 gallons) of water are consumed and replaced daily. Fresh water each day will overcome the cooling effect from the drinking holes and building temperature losses.

Some ice may need to be cleared from the drinking tubes on very cold days, but generally no other maintenance is needed. The best part of this system is that the interior of the building stays above freezing, and batteries, and/or gasoline powered generators located within the building work more efficiently. In addition, this small building can be hoisted onto a bale mover and hauled to other well locations as required.

Mining tire geothermal waterer

In this system, livestock drink from a water trough made from a used industrial mining tire.

Water is provided through a buried supply line from an existing water system. The tire pit is buried below ground level which allows for geothermal heat to rise, which helps to keep the supply line thawed and the bottom of the drinking trough warm.

This process works best with very thick rubber tire faces. As rubber thickness increases, the R-insulating value of the trough also increases. In cold weather, the float will freeze into a layer of ice which will need to be cleared daily. But if this system is built properly, the geothermal warmth will keep the supply line below the trough free of ice during the coldest weather.

However, where the supply line passes up through the frost line in the soil is the most likely place the system will freeze.

The mining tire trough will generally have a layer of ice each morning which will need to be cleared. Once the ice is cleared, livestock drinking activity will keep the trough free of ice for the remainder of the day. There must be enough animals drinking from the trough to completely replace all the water every day, otherwise the water will get colder and eventually freeze solid.

This system is well suited for deep-burial pipelines that travel great distances underground - too far to carry electricity lines for heaters.

Geothermal ice-free waterer

In this system, livestock drink directly out of a drinking tube located at the top of a 1.2 metres (m) (4.0 feet (ft)) diameter insulated galvanized culvert. The 3.0 m (10 ft) culvert is installed vertically with 2.4 m (8.0 ft) buried below ground level. Geothermal heat and the latent warmth of the water helps keep the small diameter drinking tube free of ice, even in cold weather.

The water supply pipe enters the bottom of the culvert below the frost line, and rises up the middle of the culvert under an insulated lid. A float valve controls the water height which needs to be within 7.6 to 12.7 centimetres (cm) (3.0 - 5.0 inches) of the top of the culvert so that livestock can easily reach the water.

These units work well with minimal management and are ideal for long-run underground water supply pipelines. In some situations, deep pipelines have been installed running over 1.61 kilometres (km) (one mile) from the water supply.

The major advantage of these units is that once they are set up, there is minimal upkeep cost, no electricity bills and no heaters required to keep the water clear of ice. The largest limitation is that under exceptionally cold weather, the drinking tube may develop an ice plug in the drinking hole which will need to be cleared.

These units can also be adapted to DC-powered deep well pumps and drilled well situations with little modification.

By: Alberta Agriculture & Forestry
Source: http://www.agr.gc.ca/eng/science-and-innovation/agricultural-practices/water/livestock-watering/winter-

Ladies Livestock Lessons

2018 LLL

Saturday, January 20th
Acme Community Hall
9:00 AM - 4:00 PM
(8:30-9:00 Registration)

Succession Planning
Shauna Feth, Alberta Business Family Institute

Riparian & Grassland Management
Kelsey Spicer-Rawe, Cows and Fish
Fawn Jackson, Canadian Cattlemans Association

From Farm to Plate & Social Licence
Shannon & Danny Ruzicka, Natures Green Acres

Breakout Sessions:

1. Calving Clinic
Dr. Gord Krebs, Didsbury Veterinary Services

2. CowBytes (beef ration balancing software)
Barry Yaremico, Alberta Agriculture

3. Plant Identification
LLL Committee

LLL Online!

#ladieslivestocklessons
www.facebook.com/pages/GrazingSchools4Women/

Thank you to our Sponsors!

UFA, Red Deer County

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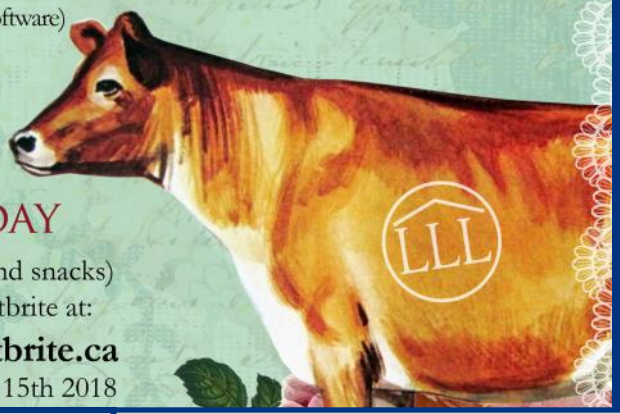

Register Today

$50 (Includes lunch, coffee, and snacks)
Pre-Register online on Eventbrite at:
https://2018LLL.eventbrite.ca
Registration Deadline: January 15th 2018

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FFGA MISSION & VISION STATEMENTS

Mission: Assisting producers in profitably improving their forages and regenerating their soils through innovation and education.
Vision: We envision a global community that respects and values profitable forage production and healthy soils as our legacy for future generations.

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