FOOTHILLS FORAGE AND GRAZING ASSOCIATION
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GRASSROOTS NEWS & VIEWS
OCTOBER 2021

Director's Note - Ryan Scott

Howdy folks!

What a whirlwind year! Is it just me or is time moving faster?

It has be challenging to say the least on our dryland operation northwest of Stavely; all we can do is hope for the best. My neighbor commented that it has been the "greenest drought" he's ever seen as were fortunate enough to get a shot of rain every time it looked like the grass and any grazing crop we had planted was about to give up the ghost. The same can't be said throughout the province though, and it was difficult to watch our neighbors take of their crops, eerily reminiscent of the '80s.

This will be our third year incorporating swath grazing into our winter feeding program. Every year it is a little different, but it continues to prove one of the best decisions we've made. The variety of plants make it great for variable weather, which is why it seem to be a win year over year.

Good moisture in the spring leads to a strong cereal stand which can carry you through nicely if there is little moisture to get the forages (forage rape, turnips and radish) through the summer months. Last year the Flea Beetles decimated the forages, and the only thing in the swath was oats. This year, with the exceptionally warm spring weather, the cereal didn't do too well overall, but once we windrowed what was there, the green carpet came springing through!

We added Winter Triticale to the mix and despite the frost, everything under the oats is continuing to flourish and grow. We were excited to have sunflowers in the mix, but so were the gophers who selectively pulled every seed out of the ground. Where one species isn't growing, another one is, and the forages are doing better than I have ever seen! We are hitting the bale yard less and less each year also, which is a bonus this year as there was hardly anything to wrap up.

I'm excited to see what next year brings, as we've taken a run at rejuvenating a poor performing quarter of grass near Willow Creek. It was farmed in the early 1900's through the '50s. This couldn't have been easy as it is some of the rockiest ground around, and the soil is less than ideal. We blew out some Milk Vetch and covered it with a light dusting of old straw bales to provide some mulch/moisture retention. I may run a few bales out there depending on what the weather does and attempt to bale graze until freeze up. Water would be the only hold up.

It is all about continual learning to regenerate and buildup our soil to sustain what we have for the generations ahead. Since joining the FFGA and attending the events, we have much more confidence in our approach to grazing and growing our cow calf herd. FFGA has been busy planning fall events including the Feed What You Need workshop in Pincher Creek on October 20 (page 3) and the EFP & CAP workshop at MD Willow Creek on October 28th (page 7). Stay tuned for more great events being planned this fall & winter.

Ryan Scott

Ryan and his helpers moving electric fence

IN THIS ISSUE

Canadian Agricultural Partnership Farm Technology program

CANADIAN AGRICULTURAL PARTNERSHIP
Innovate. Grow. Prosper.

This new program supports the adoption of innovative technology and best management practices in farm technology and security.

The new Farm Technology Program supports the adoption of innovative technology that minimizes agricultural waste, optimizes farm efficiency, and encourages the adoption of best management practices in farm security. This program provides financial incentives on new technologies that are commercially available and already demonstrated under Alberta conditions.

There are two streams available to producers under the Farm Technology program: farm technology and farm security. To be eligible for funding, the program targets technology that is proven, but not yet widely adopted within an applicant's farm type.

The **Farm Technology stream** supports the adoption of innovative technology that minimizes agricultural waste and optimizes farm efficiency, including:

- digital sensors that contribute to greater precision and more accurate matching of inputs with requirements
- wands and panel readers for electronic livestock ID tags that enable livestock producers to log weights digitally
- devices that boost internet coverage on the farm

The **Farm Security stream** supports producers in their efforts to secure business assets. This program will help farmers and ranchers protect their operations by supporting investments in farm security best management practices, including:

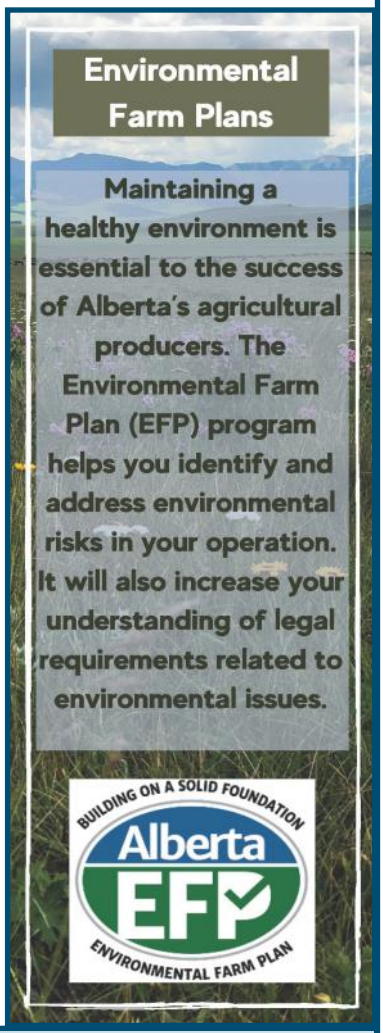
- GPS equipment trackers that can monitor equipment locations
- remote monitoring cameras for rural security

To be eligible to apply for this program, the applicant must be a primary producer and have a current Environmental Farm Plan, or complete one before the end of the project term.

Eligible expenses for approved projects are funded to a maximum of $48,000 per applicant for the Farm Technology stream over the course of the program, and $2000 per applicant for the Farm Security stream over the course of the program. Eligible expenses will be cost-shared at 50% grant and 50% applicant.

The Canadian Agricultural Partnership is a 5-year, $3 billion federal-provincial-territorial investment in the agriculture, agri-food and agri-based products sector that began in April 2018. In Alberta, it represents a federal-provincial investment of $406 million in strategic programs and initiatives for the agricultural sector.

For more information about the Canadian Agricultural Partnership in Alberta visit cap.alberta.ca or email cap.farmtech@gov.ab.ca



On the Cover: GWFA Staff Greg Paranich & Dr. Kris Nichols fill soil into a cylinder for a soil aggregate demonstration at the Build Soil Carbon Through Regenerative Agriculture event at Eagle Hill on September 14th. Photo: Sonja Bloom

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Tour Description

Winter feeding options, cattle nutrition and drought; a whole systems approach.

Agenda

- Feed tests - sampling & analysis with Adam Shreck
- Cocktail mixes, perennial pastures & drought management (indoor and outdoor presentations) - Graeme Finn
- Genetics - Virgil Lowe
- Winter feed & drought management in-field demonstration - Jim Lynch-Staunton

Details

- Wednesday October 20, 2021
- Meet at the Maycroft Hall
- 9:30am to 3:30pm
- Cost - $20.00 FFGA Member, $25.00 Non-Member (plus GST, includes lunch)
- We will be outdoors in the afternoon. Please dress for the weather.

Please note that we are offering this workshop under the Restriction Exemption Program. You must provide proof of vaccination or a negative COVID-19 test (within the last 72 hours) to attend

Register before October 15 at
https://feedwhatyouneed2021.eventbrite.ca

M.D. of PINCHER CREEK

FOOTHILLS FORAGE AND GRAZING ASSOCIATION

MD of RANCHLAND NO. 66

UNION FORAGE

Got livestock feed with high nitrates? Here's how to manage it

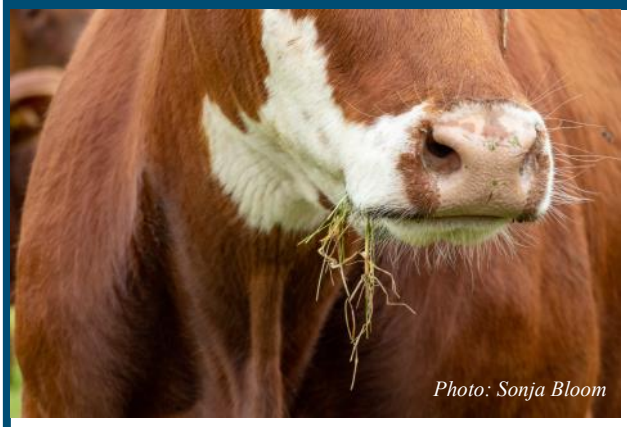
Photo: Sonja Bloom

Hail, drought, spray drift or frost can all disrupt the normal growth of plants, causing nitrate accumulations that can lead to nitrate poisoning. This year, depending where you're from, had them all.

The number of animals affected by acute nitrate poisoning on the Prairies is usually low, but when losses occur, they occur suddenly and can be devastating. As long as the feeding program is managed correctly, high levels of nitrate need not be a problem, states "Nitrate Poisoning," a Manitoba Agriculture fact sheet.

Sheep and cattle are more susceptible to poisoning than non-ruminant species because ruminant microbes favour the conversion of nitrate to nitrite, which is normally converted to ammonia. The ammonia then is converted to protein by bacteria in the rumen.

But if cattle rapidly ingest large quantities of plants that contain high nitrate levels, nitrite accumulates in the rumen, crosses the rumen wall and is absorbed into red blood cells where it combines with hemoglobin (an oxygen-carrying molecule) to form methemoglobin. Methemoglobin can--not transport oxygen as efficiently as hemoglobin and animals suffer from oxygen deprivation. Heart rate and respiration increase, the blood and tissues of the animal exhibit a blue to chocolate discolouration, muscle tremors often develop, animals become uncoordinated and eventually die from suffocation.

The majority of nitrate poisoning cases across the Prairies occur with drought and frost-stressed oats, corn and barley. The list of common plants known to accumulate nitrates is fairly extensive and includes wheat, sweet clover, flax, canola, rye, Sudan grass, sorghum-Sudan hybrids and millet. Common weeds known to accumulate nitrate include Canada thistle, dock, kochia, pigweed, nightshade, Russian thistle and wild sunflower.

Fertilized plants have higher nitrate levels than plants that aren't fertilized. The abnormal accumulation of nitrate can also be influenced by moisture and soil conditions.

Producers should test stored feed for the presence and amount of nitrate. Frequent intake of small amounts of a high -nitrate feed increases the tolerance to and total amount of nitrate that can be safely consumed, states a Saskatchewan Agriculture factsheet titled "Nitrate Toxicity." Cattle in good condition may be able to maintain normal growth while consuming feeds with nitrate levels of one per cent or higher if rations are balanced and the transition to higher-nitrate feeds is gradual.

But animals should not be allowed to consume feeds containing more than 0.5 per cent nitrate if they have not been previously exposed. To help animals safely make the transition to high-nitrate forages, mix them with low-nitrate forages so that the overall nitrate level remains less than 0.5 per cent.

Remember that the feed must be physically mixed. This is easier to do when grain is fed and forages are chopped and mixed, such as in feedlot rations. Saskatchewan Agriculture warns producers not to offer one bale of high-nitrate feed beside one or more bales of low-nitrate feed, as some animals may only eat from the high-nitrate bale. Introduce questionable feed over a period of one to two weeks and avoid an on-and-off pattern of feeding high-nitrate feed. If mixing is not possible, feed low-nitrate feed first.

Balanced rations lower the risk of nitrate poisoning. Feeding adequate levels of energy, vitamins (A and E) and trace minerals helps prevent toxicity, Saskatchewan Agriculture notes. Producers can also feed grain along with high-nitrate feeds, as energy from the grain seems to complete the conversion of nitrate to bacterial protein in the rumen. Make sure livestock always have access to clean water.

Nitrates in both the feed and water must be considered because they are cumulative. Nitrate toxicity is unlikely to occur from water containing less than 443-ppm nitrate (NO3).

Ensiling tends to reduce the nitrate content of forages. Forages high in nitrate can lose from 40 to 60 per cent of their nitrate content during fermentation, notes Manitoba Agriculture. However, ensiling doesn't guarantee that excessive nitrate will drop to safe levels. Harvest forages suitable for silage at the stage of optimal quality and quantity. Then test the feed if high nitrate levels are a possibility. Harvesting other crops, such as oats, closer to maturity may be a consideration if nitrate levels are high.

If hay dries quickly, it loses very little nitrate. However, as Saskatchewan Agriculture points out, bad weather has destroyed more hay than nitrates. Cut when the weather is favourable, test after baling and manage accordingly. Nitrate concentration in dry hay bales doesn't change much over time.

Saskatchewan Agriculture also warns producers to avoid feeding damp hay, straw or fodder that is also high in nitrate. This feed is especially toxic because some of the nitrate has already been converted to nitrite. High-nitrate feeds piled in mounds and allowed to heat before feeding are also very dangerous to livestock for the same reason.

Saskatchewan Agriculture also offers advice to producers facing nitrate poi-

(Continued on page 7)

What everyone should know about low-stress cattle handling


Photo: Rachel McLean

Low-stress cattle handling is easier for all animals and people involved, and leads to increased productivity, safety, and a healthier economic bottom line. When implemented correctly, low-stress cattle handling uses natural animal behavior instead of force to ask cattle or other livestock to move where you want them to go.

The only cost associated with low-stress cattle handling is the time required to learn the techniques. Experts throughout the world advocate for low-stress cattle handling. In fact, many ranchers use these techniques without realizing it.

Terms such as point of balance, flight zone, and pressure zone are frequently used when discussing low-stress cattle handling. This guide offers a definition of each, and tips for implementing it on your cattle operation.

LOW-STRESS CATTLE HANDLING TERM 1: POINT OF BALANCE

The point of balance can be used in low-stress handling of cattle, sheep, and pigs. As cattle have wide-angle vision with a blind spot directly behind them, their point of balance is usually located at the shoulder.

When a handler stands behind the point of balance, the animal moves forward. Therefore, if you were to stand near the rib cage of an animal, they would move forward. If you were standing parallel to the neck of the animal they would move backward.

A common mistake in cattle working systems is for handlers to stand in front of the point of balance to move animals forward through the alley and into the chute. This is counterintuitive to cattle. If the handler backs up behind the point of balance, the animal continues moving forward.

LOW-STRESS CATTLE HANDLING TERM 2: FLIGHT ZONE

Flight zone is defined as the area around the animal that a human, or predator, can approach and have the animal move away. When approached in their flight zone, cattle turn to face you. Animals want to maintain their personal space and will move away if you enter the flight zone.

The flight zone distance varies depending on the species of animal. For example, the flight zone on cattle is a shorter distance than the flight zone on deer. Fear and negative experiences increase the flight zone; hence, another reason low stress handling is beneficial.

LOW-STRESS CATTLE HANDLING TERM 3: PRESSURE ZONE

The pressure zone on cattle expands and contracts based on the location of the handler. It is the area just beyond the flight zone. To effectively move cattle with low stress handling principles, the handler works in the pressure zone and flight zone, applying enough pressure to move the animal, without causing them to become distressed, and progress into flight mode.

Cattle facing a handler head on have a larger pressure zone. When the handler moves to the side of the animal, the pressure zone is smaller, and the point of balance causes the animal to move forward or backward, depending on handler location.

APPLYING LOW-STRESS CATTLE HANDLING TECHNIQUES

If you watch cattle move as a herd on their own, they always maintain eye contact. Animals follow the leader in a line, usually only a few cattle wide. Each animal is just behind the point of balance of the one in front of them. Stockmen and women can use these same principles when working large groups of cattle in an open field or large pen. By alternating between slowly entering and exiting the collective pressure and flight zone of the herd, two handlers can move cattle in a low-stress manner.

Cattle tend to move in the opposite direction of the handler. Moving cattle is more efficient if you walk in the direction opposite of where you want them to go. As you pass an animal's point of balance, it moves forward. Moving towards the direction you want animals to go will only slow them down, along with the rest of your cattle operation.

In a pasture or large pen, the point of balance shifts forward on cattle, closer to the eye. Herd dynamics, and the size of the group will influence the point of balance on an animal. As you begin incorporating low stress techniques into your handling practices, you will notice the shift in different locations. The more time a handler spends implementing low stress handling techniques, the easier it becomes, further reducing stress on cattle.

CATTLE EQUIPMENT MATTERS

Chutes and facilities are one area where changes can be implemented on an operation to incorporate low stress handling. Cattle want to see people and will keep handlers in sight as they move through the tub, alley, and chute. When designing your system layout, consider creating a flow for cattle to move easily through the cattle working system. Cattle equipment used should be as quiet as possible and excess movement should be avoided in the system. Additionally, taking note of the capacity of your cattle working system prevents overcrowding from happening.

Release of pressure is key to effectively using the point of balance and flight zone when handling cattle in a low-stress manner. Simply moving a few steps in a small area may work the cattle through a chute or gate.

Understanding and using animal behavior concepts helps us work cattle and lower stress levels for both humans and animals. With practice, you will be able to predict the behavior of your cattle when applying low-stress handling techniques.

Author: Aleeya Laureola. Original article can be found at https://arrowquip.com/blog/livestock-handling/what-everyone-should-know-about-low-stress-cattle-handling


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Stand on Fertile Ground

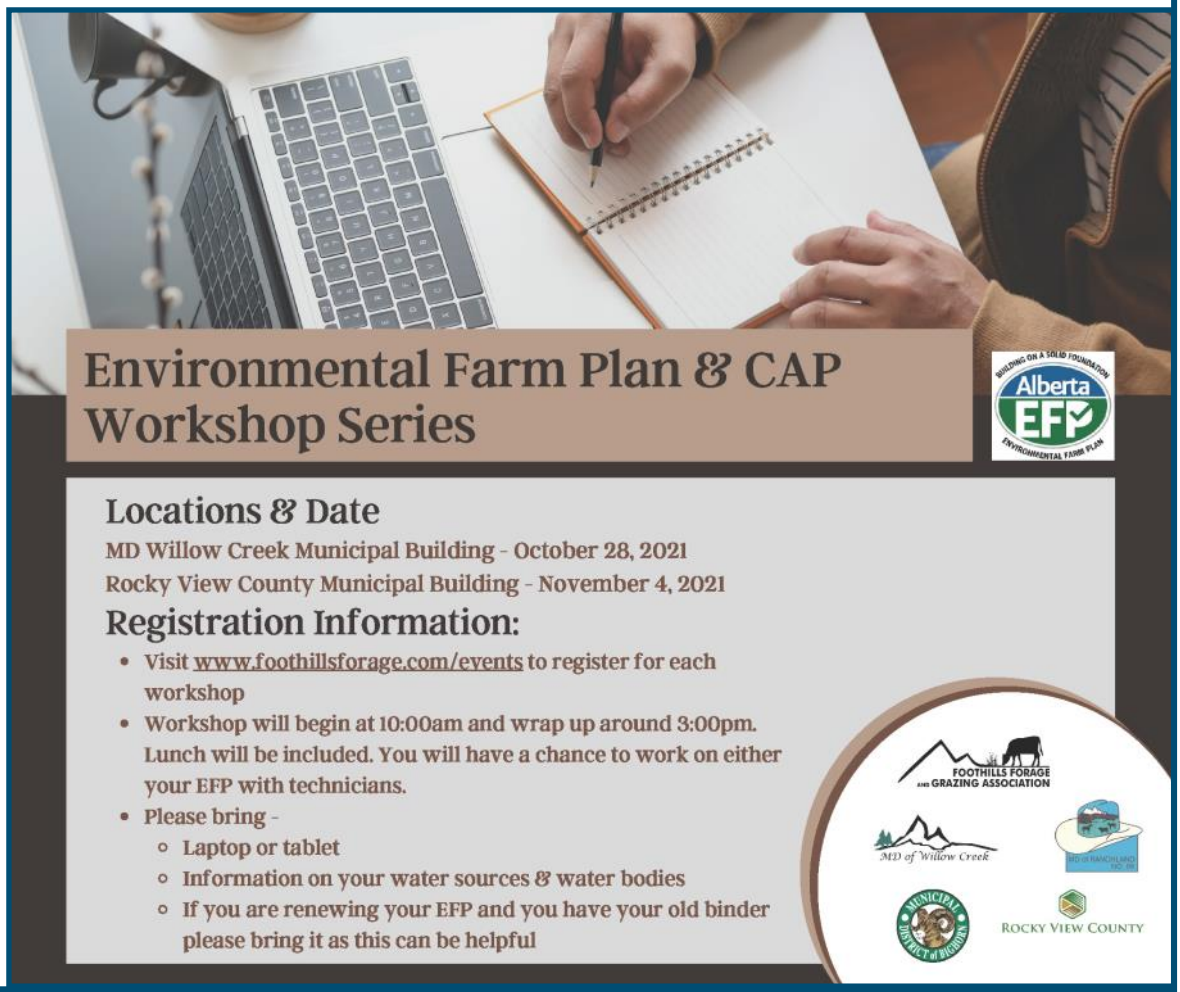
(Continued from page 4)
soning. Remove the suspect feed and call a vet immediately, as nitrate poisoning turns fatal quickly. Veterinarians treat nitrate poisoning by administering methylene blue solution intravenously. Provide a high-energy feed to help reduce the nitrate's effect. If you have to handle the affected cattle, do so as quietly as possible, and handle as little as possible, to avoid exacerbating the effects of oxygen deprivation.

Proper sampling and feed testing gives producers an opportunity to develop a safe strategy with nitrate-contaminated feed. Your nutritionist and veterinarian need to be in the formula.

Author: Dr Ron Clarke, Columnist with Canadian Cattlemen. Original article can be found at https://www.canadiancattlemen.ca/vet-advice/got-livestock-feed-with-high-nitrates-heres-how-to-manage-it/.

Looking for additional resources on nitrates in livestock feed? Check out this handy resource titled "Nitrate poisoning and feeding nitrate feeds to livestock" from Alberta Agriculture. If clicking on the link scroll to the "Resource" section and click download. If you are reading this from a hard copy, type the title into your web browser and click on link from https://open.alberta.ca/dataset/2389916 and scroll to the "Resource" section and click download.

For more information on how to collect feed tests check out this handy resource from Beef Cattle Research Council called Feed Testing & Analysis for Beef Cattle. Link is https://www.beefresearch.ca/research/feed-value-estimator.cfm, (if reading this from a hard copy type the above URL (the blue text) into your web browser).



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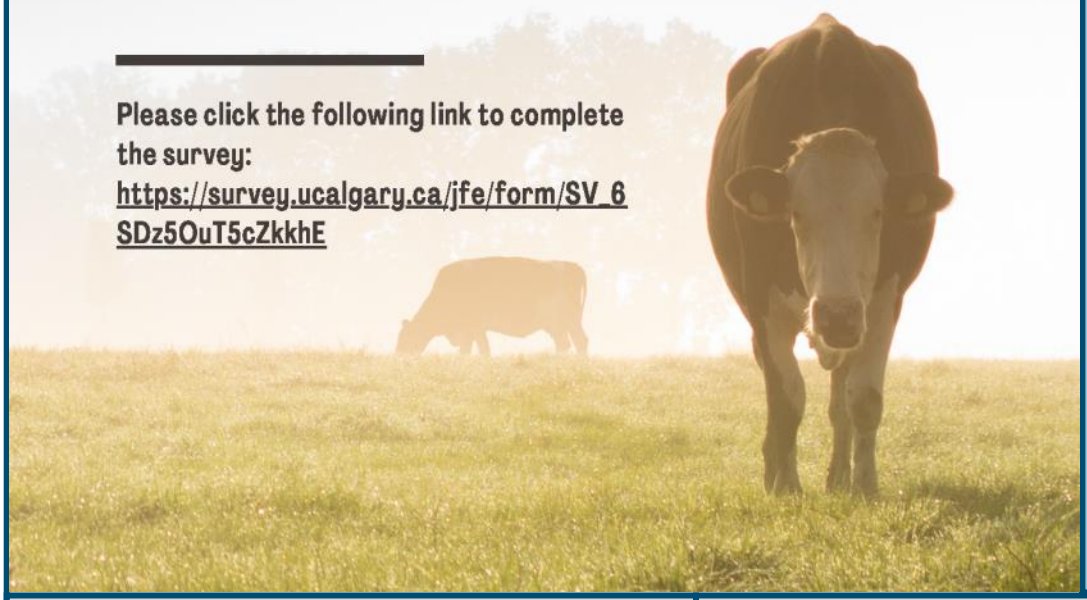
WATER & AGRICULTURE POLICY RESEARCH SURVEY

Water is critical for successful farming and ranching, but too much or too little can create problems as is well known in the water scarce region of Southern Alberta. With climate projections predicting more severe drought and flood events in the future, it is clear that both water and agricultural policy and management may need to change to support a thriving farm and ranch community.

A research team from the University of Calgary wants to understand what farm and ranch practices or policy changes may provide more stable and effective agricultural futures. By taking the time to complete a short survey (10-15 minutes), you will not only help this study, but will raise awareness about the needs and opportunities for long term agricultural success in southern Alberta.



Please click the following link to complete the survey:
https://survey.ucalgary.ca/jfe/form/SV_6SDz5OuT5cZkkhE

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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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