



Innovation, education and regenerative agriculture

Unit 4A, 710 Centre St. SE, High River, AB T1V 0H3
Phone: (403) 995-9466 ~ www.foothillsforage.com

GRASSROOTS NEWS & VIEWS

September 2022

Vice Chairman's Note — Daryl Chubb

Hello,

Happy September! Where has the time gone? It feels like spring was yesterday. This year presented another set of challenges in our area. While we were thankful for the rains in June, we received very little in July and August. September is looking to be very dry too resulting in very little growth since July, especially on the light soil we have. With this, we are trying to figure out our carrying capacity for winter and next spring and setting up bale grazing for this coming winter. Our winter feed plan was for swath grazing, but mother nature had different plans and it was wrapped up and will be prepped for perennials next spring.

It's quite amazing how ranchers and farmers are eternal optimists, while being eternal pessimists. We hope and pray next year will be better, sometimes it is, and it all seems to work out. Once the harvest starts or the calves come in off pasture, last year is quickly forgotten. The challenges presented this year have proven again that our focus needs to be on soil cover, improving organic matter/carbon, and grass species improvement. We struggle to store moisture in our soil for the long, hot stretches during the summer and our grazing species mature too quickly and now lack desirable grazing, but I have great ground cover and will catch lots of snow this winter! We all know it, but without rain the improvement process is slow. We just need to work with the

environment presented to us and be ready to shuffle and pivot when needed.

I would like to send out a big thank you to Laura, Kayla, and Morgan for their hard work this past spring and summer with all the field days and everything else they do on a daily basis. They have also been working on some upcoming events including a Prescribed Fire Workshop, Ag Drone School and Ranching For Profit School (currently sold out). If your interested in these events, get onto the website or call the office to register.

Coming December 13-15 will be the Western Canada Conference on Soil Health & Grazing in Edmonton. This will be another great learning and social event with a great line up of speakers and trade show. Registration is open!!

Daryl

Swath grazing turned greenfeed. Photo: Daryl Chubb



IN THIS ISSUE

Soil Health Institute Announces Recommended Measurements for Evaluating Soil Health	3
Ergot in Crops, Hayfields and Pastures	4
Satellite tracking of cows still a work in progress	5
Plant diversity on Alberta rangelands is minimally affected by management intensive cattle grazing, study finds	7
Keep an eye out for drought-caused nutrient deficiency in your cattle	9

Looking for producers to participate in Nitrate Tests Project

Looking for producers who have:

- Dry Hay
- Standing Forage (Barley, Triticale, Oats, Corn, Grasses, Sweet Clover & Alfalfa)

The project will include two rapid in-field nitrate test kits.

Interested producers will need to provide contact information to Olds College.

Producers will receive results of analysis at no cost.

Contact: Laio Silva Sobrinho. *Research Associate*
Technology Access Centre for Livestock Production
Olds College
Phone: (403) 556-8352
Email: lsobrinho@oldscollege.ca

On the Cover: Moving cows in the Porcupine Hills. Photo: Kayla Minor

Thank you for your support!



Soil Health Institute Announces Recommended Measurements for Evaluating Soil Health



Photo: FFGA

The Soil Health Institute (SHI) announced on August 12, 2022, that its recommended measurements for assessing soil health. These recommendations answer the No. 1 question about soil health that farmers, ranchers, and their advisers have been asking since the soil health movement began.

With support from the Foundation for Food & Agriculture Research, The Samuel Roberts Noble Foundation, and General Mills, the Soil Health Institute led a 3-year, \$6.5-million project to identify effective measurements for soil health across North America. SHI partnered with over 100 scientists at 124 long-term agricultural research sites in the U.S., Canada, and Mexico where conventional management systems were compared with soil health-improving systems.

“This allowed us to evaluate over 30 soil health measurements at each site where they had the appropriate experimental design to allow us to come to the appropriate statistical conclusion about the effectiveness of each measurement,” said Dr. Wayne Honeycutt, President and CEO of the Soil Health Institute. “Evaluating each measurement across such a wide range of climates, soils, cropping systems, and management practices also provided the scientific rigor we needed to identify which measurements could be widely used.”

The concept of soil health is basically about how well a soil is functioning. Such functions include cycling water, carbon, and nutrients. Whether a heavy rain infiltrates into the soil or runs off the soil reflects how well that soil is functioning. Soil health can be improved through management, but farmers need practical, effective measurements for assessing the current status of their soil and evaluating progress at improving its health.

The Soil Health Institute found that many measurements are effective for assessing soil health from a research perspective.

“While this is good news for the science, we also wanted to identify a minimum suite of measurements that is practical and affordable for all land managers” said Dr. Cristine Morgan, Chief Scientific Officer of SHI, “so we also evaluated these measurements through the lens of cost, practicality, availability, redundancy, and other filters.”

Based on these results, SHI recommends a minimal suite of three measurements to be widely applied across North America (and likely beyond). Those measurements include: 1) soil organic carbon concentration, 2) carbon mineralization potential, and 3) aggregate stability.

Soil organic carbon is a key component of a soil’s organic matter that influences available water holding capacity, nutrients, biodiversity, structure, and other important soil properties. Carbon mineralization potential reflects the size and structure of microbial communities in soil, thereby influencing nutrient availability, soil aggregation, and resilience to changing climatic conditions. Aggregate stability describes how strongly soil particles group together. This influences whether a heavy rainfall will infiltrate into a soil or run off a landscape, taking with it valuable nutrients that become detrimental to water quality. Soil aggregates also influence erosion, aeration, root growth and, therefore, nutrient uptake by plants.

While these three metrics provide a minimum suite of widely applicable measurements for assessing soil health, additional measurements may be included depending on the landowner’s or researcher’s objectives. “We have found that adding soil texture to this list of measurements allows us to calculate a soil’s available water holding capacity,” said Dr. Dianna Bagnall, Research Soil Scientist with SHI. “We can then show a farmer how much more water they can store by increasing their organic carbon and improving soil health.” Because management does not change soil texture (sand, silt, and clay), it only needs to be measured once.

“Providing a scientifically rigorous, yet practical approach for assessing soil health should increase adoption of regenerative soil health systems because farmers and their advisers can now measure the

impact of their management choices with confidence,” said Dr. LaKisha Odom, FFAR’s Scientific Program Director for Soil Health.

“This will in effect bring more on-farm and environmental benefits to scale for agriculture and society”

To facilitate use of these measurements, details on SHI’s recommended protocols for sampling and analyzing soils are described on its website. Specific details on the underlying research and data analyses are described in several peer-reviewed publications and interpretive summaries. Additional manuscripts are currently in peer-review.

About the Soil Health Institute

The Soil Health Institute is a global non-profit with a mission of safeguarding and enhancing the vitality and productivity of soils through scientific research and advancement. Our vision is a world where farmers and ranchers grow quality food, fiber, and fuel using soil health systems that sustain farms and rural communities, promote a stable climate and clean environment, and improve human health and well-being. Accordingly, the Institute brings together leaders in soil health science and the industry to conduct research and empower farmers and other landowners with the knowledge to successfully adopt regenerative soil health systems that contribute economic and environmental benefits to agriculture and society. The Institute’s scientific team holds doctorates in various soil science and related disciplines, with specialties in carbon cycling, nutrient cycling, water cycling, nutrient management, soil microbiome, farmer/adviser education, ecosystem services, soil-plant relationships, on-farm economics, and others. The team follows a comprehensive strategy for advancing adoption of regenerative soil health systems.

Healthy soils are the foundation for restoring our land. Together, we can create a secure future for all, mitigate the effects of climate change, and help farmers and organizations meet production and environmental goals at scale.

Author: Soil Health Institute

Original Article: [https://](https://soilhealthinstitute.org/news-events/soil-health-institute-announces-recommended-measurements-for-evaluating-soil-health/)

soilhealthinstitute.org/news-events/soil-health-institute-announces-recommended-measurements-for-evaluating-soil-health/

Ergot in Crops, Hayfields and Pastures



(Photo: Kayla Minor)

Ergot is a fungal disease that can infect open pollinated grass species. It is commonly found in cereal crops such as rye, triticale, wheat, oats and barley. Grass species such as brome, wheat grasses, orchard grass, quack grass and bluegrasses are susceptible. The main concerns are reduction in crop yield and the negative impact on animal health and performance.

Early in the growing season, there is no method to determine if ergot will be a problem. It will depend on growing conditions, temperature, and humidity. If the disease was present last year, and moisture levels are good, the risk increases. Ergot bodies (sclerotia) that were in the seed heads and not captured during harvest, over winter on the surface of the ground. In the following growing season, these sclerotia produce mushrooms. When the mushrooms mature, ascospores are released into the air and infect seed heads when the growing crops are in the flowering stage. Instead of pollen fertilizing the seed embryo, it is infected by the spores. Cool conditions and high humidity cause the plants to have a longer pollination period and a greater risk of infection. Rye has a longer pollination period compared to oats or barley putting it more at risk for infection.

It is common for brome and timothy found in ditches to be the first plants to be infected. The disease is then spread into pastures and cropland. Once seed is infected, honeydew (a liquid), develops in the seed head. This liquid can be spread and infect more plants by the wind, bees or other pollinators, and wildlife walking through the pasture, hayfield or cereal crop. Wind can spread the disease by 100 meters in a year.

If cattle graze pastures with ergot, the ingested ergot can impair sperm motility and reduce cow fertility due to the high estrogenic content in the honeydew or infected seed. The alkaloids also reduce blood flow to the limbs, ears, tail, and outer regions of the body. In hot conditions, this reduces the animal's ability for heat loss which results in panting. The alkaloids will also reduce feed intake due to the resulting heat stress.

Ergot alkaloids, the toxic compounds form at the honeydew stage. The toxins remain in the infected seeds as they mature. The enlarged banana shaped seed becomes visible over time. New research conducted at the University of Saskatchewan has determined that the 4 strains of ergot found in Western Canada are 2.5 to 3 times more toxic than strains reported in the southern USA. Animal type, stage of production, environmental conditions, duration of exposure, and alkaloid concentration in the feed all need to be considered when determining if problems will occur. Intake limits are much lower than previously reported. Alkaloid levels above 100 parts per billion (ppb) will reduce blood flow to the mammary glands resulting in lower milk production. It will also impair reproduction at 200 parts per billion. The number of abortions can also increase.

Previously, recommended safe levels for ergot contamination in grains was 1 ergot body per 1000 kernels of grain. This is not an acceptable method considering the University of Saskatchewan results. They have reported cases where 4 ergot bodies per 10,000 kernels of grain have caused hooves to slough off. It is recommended to send in a representative grain sample to a lab that tests for ergot alkaloid content. There are 40 different alkaloids that can be present; but the main concerns are seven alkaloids that are commonly tested for.

One of the first symptoms of ergot toxicity is a dramatic reduction in feed intake within 3 to 4 days of high exposure. Feed intake can be reduced by 35 to 50%. Noticing a reduced feed intake is relatively simple when confined

animals are fed grain or a TMR in a bunk. It is difficult to notice this on pasture. Along with the feed intake problems, there could also be respiratory concerns that appear to be shipping fever or atypical interstitial pneumonia. Consult with your veterinarian if the respiratory problems exist. In many situations, a reduced calf weaning weight in the fall may be the only indication that ergot was a problem on pasture.

The impact of ergot on animals is long lasting. The animal can detoxify the alkaloids in 12 hours, but the impact can last two weeks. In cold conditions, an alkaloid concentration of 500 ppb can cause hair loss. If ergot is fed continually, sloughing of hooves occurs 4 to 6 weeks after the start of the feeding period. The gangrenous effects are not reversible and animals need to be euthanized.

If ergot is a problem, the sclerotia that remain in the field after harvest are viable for one year if left on the soil surface. With annual cereal crops, tilling the land and burying the sclerotia to a depth of 2 inches prevents germination of the sclerotia the following year. Plant canola, peas, or other non-grass crops in these fields. With pastures, use rotational grazing to prevent the grasses from reaching the pollination stage. Preventing the seed heads from reaching the pollination stage is necessary to stop the spread of the disease.

*Author: Barry Yaremcio
Ruminant Nutritionist*

Yaremcio Ag Consulting Ltd.
403-741-6032
bjyaremcio@gmail.com
<https://www.beefconsultant.com>



Satellite tracking of cows still a work in progress



Photo: Lakeland College

Oyen producer Heather Mundt has been keeping an eye on her eight high-tech heifers since fitting them with GPS-enabled smart tags last September.

Despite some setbacks, she remains excited about what the technology has to offer, she said.

Mundt and husband Brenton are part of a pilot project testing the Australian-made Ceres Tag. Unlike other tracking technology, the tags don't require any extra infrastructure because the data they generate is tracked by low-orbit satellites (which means they can even transmit data through tree cover). Alongside GPS location data, the tags also monitor ambient temperature and animal activity levels.

Mundt said that the mapping data (accessed through an app called Aglive) has been the most useful for her 150-head cow-calf operation — despite the herd staying in the home pasture all winter.

"We can set a fence perimeter on the software so that, should the tag cross the physical fence and a cow gets out, it sends us an alert," said Mundt, adding she's keen to see how the location data will also save on time and fuel costs once the herd moves to larger summer pastures.

Because the cows were kept close to home, the Ceres Tag's cold-weather limitations weren't an issue. Designed in Australia (where the coldest temperature ever recorded was -23 C), the tags are designed to shut off and conserve battery power at -21 C. However, the cold snaps didn't kill them, said Mundt, and the tags came on again without problems when the weather warmed up.

Tagging was also a bit of an issue as the dual-pin tags contain delicate technology and require a special applicator and a gentle touch.

"You can't just crunch it as hard as possible," she said. "As experienced as we are at tagging cattle, I guess there's maybe just a bit more for us to learn here."

The tags also only upload data every

four hours, which is less than Mundt would like — although since each one uploads independently, the gap between herd-locating pings isn't that long.

"Even though we only had such a small sample of our herd tagged, it was really interesting to notice where they went, because that did seem to be generally where the herd was going to," she said.

But the biggest barrier is cost.

An intro kit — 10 tags and an applicator — goes for US\$2,999, although the Canadian Agricultural Partnership's Farm Technology Program (www.tinyurl.com/bp99f86u) covers GPS tags and trackers.

"And that really makes a big difference because if you didn't have this government funding available, then I would say that it's probably out of reach for quite a few ranchers," said Mundt.

Cost is definitely an issue, agreed Susan Markus, a livestock research scientist at Lakeland College.

"All these technologies, they're expensive," she said. "We're trying to see, is there some other value-added components to these tags besides just knowing where the animal is?"

Because the tags measure movement and temperature, they have been described as a "fitbit for cows" and in her study, Markus wanted to see if they could monitor breeding activities — specifically, what was happening when a bull was close to a cow.

But again, the four-hour upload interval didn't offer frequent-enough data points to get that picture.

Still, monitoring cows via direct-to-satellite GPS has a lot of potential, she said.

"The whole GPS concept is extremely promising because ranchers don't want to have other infrastructure and towers and other things set up to capture that data," said Markus, adding the Ceres Tag might suit producers who require less frequent location data.

While this particular tag didn't have what Lakeland researchers were looking for, they will continue to study GPS cattle tags, and other monitoring technologies.

For example, they are currently studying a smart Rumen Bolus from a Hungarian company called Moonsyst International. It can detect heats, monitor calving events and track changes in behaviour that indicate health troubles. It can even track water intake via an animal's temperature.

"If they're not drinking water over a period of time, we don't get those spikes in the decrease in the temper-

ature," said Markus. "And in the one case, the water had frozen up and there was no water to be drank. And they're in a pen and there's no snow to be licked. So they obviously had no water for the day and so just to know that was extremely useful."

However, the Moonsyst bolus is not GPS enabled, and so cattle must be relatively close to a base station (which the company says has a range of 500 metres).

And it's the tracking capability of the Ceres Tag that intrigued Mundt, who noted it would be particularly useful for ranchers who have issues losing animals or grazing them in hard-to-reach areas.

Author: Brittany Ekelund

Original Article: [https://](https://www.albertafarmexpress.ca/livestock/satellite-tracking-of-cows-still-a-work-in-progress/)

www.albertafarmexpress.ca/livestock/satellite-tracking-of-cows-still-a-work-in-progress/

Albarta Environmental Farm Plans

Maintaining a healthy environment is essential to the success of Alberta's agricultural producers. The Environmental Farm Plan (EFP) program helps you identify and address environmental risks in your operation. It will also increase your understanding of legal requirements related to environmental issues.

BUILDING ON A SOLID FOUNDATION
Albarta EFP
ENVIRONMENTAL FARM PLAN

To update or start an EFP, visit:
<https://www.albertaefp.com/>
or
Contact enviro@foothillsforage.com



OUR READERS ARE YOUR CUSTOMERS!

Advertising dollars must be effective and targeted directly to your customers.

Your customers are our readers and we give you them in spades! In fact, between Alberta Beef Magazine and Beef Illustrated, we give you over 20,000 qualified beef producers. With our publications, 100% of your advertising expenditure is effectively reaching a potential buyer or one of your previous bull buyers. There are many cattle producers who utilize and benefit from our extensive coverage of the beef industry in Alberta and Saskatchewan because we are 100% beef. Shouldn't you be one of them too?

- Targeted only to beef producers
- No wasted circulation to farm homes **NOT** in the beef business
- Well read and respected beef publications
- Delivered by addressed mail **ONLY**

Call today, or visit www.beefnews.com
for special advertising rates for both publications.

#230, 6025 – 12 Street SE, Calgary, AB. T2H 2K1
Ph 403-250-1090 ■ Fax 403-291-9546 ■ www.beefnews.com

Plant diversity on Alberta rangelands is minimally affected by management intensive cattle grazing, study finds



Photo: FFGA

The way ranchers graze their cattle doesn't make much difference in plant diversity on the land, according to a U of A study.

That's important because plant diversity is a useful metric to gauge the resilience of a landscape, including rangeland used by cattle producers, says Jessica Grenke, first author on the study.

Researchers compared adaptive multi-paddock grazing, called AMP, with other grazing systems more common in the northern Great Plains. AMP is a specialized rotational grazing practice that's intended to emulate historical grazing patterns of large herds of animals moving rapidly across the landscape, leaving a long recovery period before being grazed again.

AMP is more management intensive, employs higher inputs such as fencing and labour, and uses much higher densities of livestock relative to ranches that use regionally typical management.

"Adaptive multi-paddock grazing has been studied and experimented with in more controlled settings for many years, and the scientific community has been left with contradictory results on what its impacts are ecologically," says Grenke, a PhD candidate in the Department of Biological Sciences.

"In this study we've been able to see what's actually happening on the ground." The findings suggest that AMP grazing is not an ideal solution to promote plant diversity.

Plant diversity is only one piece of the puzzle when it comes to rangeland (and ranch) management. Complementary studies by U of A researchers in this project have found ranches using AMP grazing practices lead to higher water infiltration and thus may help grasslands resist drought. Additional studies have focused on the diversity of soil microbes and the presence of carbon deposits in soil, all adding crucial context to the pros and cons of various grazing practices on various ecosystem goods and services.

AMP grazing has been around since the 1950s, according to Grenke. However, many studies looking at its ecological effects have had limitations, such as a lack of control ranches for comparison or concentration to a small locality not offering conclusive information.

There are many practical and cost challenges to taking the broader approach this study used, says Grenke, who worked with Edward Bork, Cameron Carlyle, Mark Boyce and her supervisor, James Cahill on the project.

"It's really logistically difficult. Being able to travel to all these operational ranches, sample these ranches in an equivalent way, within the same season, using the same methodologies and screening procedures, requires a ton of work," says Grenke.

A grant from Agriculture Canada provided the opportunity to conduct the work. The team travelled nearly 30,000 km to visit ranches across the Prairie provinces within a single season. The study examined 18 ranch pairs. One ranch in each pair used AMP grazing while the other used regionally typical grazing practices to serve as a control.

To gauge plant diversity, they sampled vegetation in pastures with at least 10 years of stable grazing practices, using 15, 0.25 metre squared areas per ranch. They also carefully screened areas where the samples were taken, ensuring the soil type was the same, there weren't any bodies of water nearby, and there

wasn't anything that could potentially act as a fertilizer, such as bale grazing.

"It was just another step we took to make sure that our findings were the results of management and not the underlying ecology of the sample site," says Grenke.

Grazed lands cover about half of the Earth's land area and are crucial sources of a wide variety of ecological goods and services, Grenke explains.

"There are so many services that they provide and they are the least protected ecosystem in the world — and they're declining at an alarming rate."

Research from this team has demonstrated AMP grazing can be a useful tool in reaching other ecological goods and services targets, such as soil carbon sequestration and water infiltration. The most recent results indicate these goals may be reached with little impact to overall plant diversity. The lone negative effect was a small reduction in the total number of native plant species found within each ranch, which may reflect an intolerance of endemic plant species to AMP grazing.

Studies like this provide critical information about how grazing systems and other ranch management practices may potentially affect these grasslands ecosystems and offer clues to what might be done to conserve these areas for the future.

"We're going to have to increase the sophistication of how we use these landscapes in order to satisfy the plethora of different goods and services that we need from these lands," says Grenke.

"A better, more fine-tuned understanding of how grazing management impacts the landscapes is key to getting there."

Author: Adrianna MacPherson

Original Article: <https://www.ualberta.ca/folio/2022/05/plant-diversity-on-alberta-rangelands-minimally-affected-by-management-intensive-cattle-grazing-study-finds.html>

Thank you to our Corporate Sponsors

Gold Sponsors



Silver Sponsors



Conserving
Canada's
Wetlands



Prescribed Fire Workshop



WHEN

Tuesday October 4, 2022

WHERE

Tongue Creek Ranch at the shop
482251, 208 St. W
We will be 100m North of this sign

AGENDA

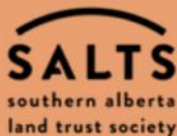
9:00am Coffee & Registration
9:15am - 12:00pm Indoor Presentations
Noon - Lunch (provided)
1:00pm - 4:00pm Hands on Burn at Tongue Creek Ranch
(weather permitting)
4:30pm - Wrap Up

*For those interested in participating in the hands on burning component, clothing made of all natural fibers is required (100% cotton, leather, wool or FR coveralls; work boots and leather gloves). Clothing with synthetic fibers have a low melting point and are not permitted. *

Please dress appropriately for the weather as we will be outside for the afternoon



Canadian Prairies
**PRESCRIBED
FIRE EXCHANGE**



COST

FFGA Members: \$25.00
Non-Members: \$30.00

REGISTRATION

<https://www.foothillsforage.com/tcrprescribedfire>

Keep an eye out for drought-caused nutrient deficiency in your cattle



Photo: Kayla Minor

Feeding cattle through last year's drought was tough enough — but for some producers, its impact on the health of their cattle isn't over.

"The biggest challenge for producers through the drought was finding good-quality feed for a feasible price. A lot of low-quality fibre like straw was fed," said Courtney O'Keefe, ruminant nutritionist at Blue Rock Animal Nutrition.

"A lot of guys were feeding unusual diets — pulling together what they could — and the cattle weren't getting enough out of those lower-quality feeds if they weren't being additionally supplemented. A lot of times, those cattle would be fairly deficient in quite a few nutrients.

"I'd say a lot of guys were able to get their herds through the season, but they could see future issues in those animals."

For most producers last year, their feeding problems were twofold. The first was the sheer lack of availability for certain cattle feeds or ingredients, which resulted in rations deficient in certain nutrients.

"The biggest challenge from this last winter was feed availability — trying to find the cheapest ration possible that still meets the cattle's needs," said Janelle Smith, ruminant nutritionist at the Coaldale Veterinary Clinic. "For my clients, that's been the biggest challenge. They still want to meet their cattle's needs, but they may be using some unusual feeds that have required a bit more attention to balance the minerals."

But droughts can also impact feed quality, and that's what many producers found last year.

Drought can affect feed quality in a host of ways — from grain heads that don't fill to tame pastures that quickly mature and lose quality, says Janelle Smith, ruminant nutritionist at the Coaldale Veterinary Clinic. photo: Supplied

"In a drought situation similar to what we had last summer with such extreme heat, the heads of the crop won't fill, so you might have a little lower energy content in your silage than you would normally have," said Smith.

"On the pasture side, native pasture is a little bit more adapted to the drought situations we have here. But tame pasture will just simply mature and lose quality faster than it normally would in a good year. So for cattle on pasture, there could be the potential for deficiencies following a drought.

"But if you're not testing your feeds, there's no way to know what you have for sure."

Producers may notice that their animals are leaner this year than they have been in previous years as a result of these nutrient deficiencies.

"If producers weren't adequately supplementing with protein or energy, the biggest thing you'll see suffer is the body condition score of those animals," said O'Keefe, adding that body condition score can also affect the animal's ability to be bred back.

"The biggest thing I've seen in herds across the province is that cows are definitely a little leaner than they have been in previous years."

Getting feed tests

"Especially with minerals, you sometimes won't actually see any issues until it's clinically presenting itself when you have cows go down due to, say, calcium deficiency," said O'Keefe. "Sometimes it's hard to see just by physically looking at them, so that's why I recommend testing your feed and seeing what you have."

Generally, vitamins A, D, and E will be low following a drought, while the most common trace minerals that cattle are at risk of deficiency are selenium, copper, zinc, iodine, cobalt, and manganese. Deficiencies can present in many different ways, but typically, producers will see lower-than-average weight gain, poorer immunity, a higher pull rate, lower-than-average pregnancy rates, delayed puberty in heifers, and a decreased ability to be bred back.

"If you are trying to cut costs in some way and minerals are what you choose to cut out of your rations, you run the risk

down the line that that could lead to lower-than-average pregnancy rates, immunity, and gain on your calves," said Smith.

Any vitamins or minerals that are low will need to be supplemented, particularly for bred heifers, said O'Keefe.

"The thing to remember with bred heifers in comparison to mature cows is that they're still growing themselves while also growing a calf. So their demands are higher in comparison to that mature cow," she said.

"You want to have longevity in that heifer and make sure she stays with the herd. She already has enough working against her, so if you can, that's a group of animals that I would focus on making sure you're meeting their requirements."

Beyond the poorer health and lower performance producers can expect to see, these deficiencies could also impact cow retention in the herd as well.

"If they're short now and it's affecting their body condition score, or if they're deficient in certain nutrients and it affects their ability to be bred back, they probably wouldn't be staying in the herd," said O'Keefe.

That's also why it's so important to have the feed tested, she added.

"That's going to give you information on exactly what you have and whether you're deficient in anything," said O'Keefe.

"That way, you can balance those rations so that you're not over- or under-feeding nutrients. More isn't necessarily better — extra protein can cause an increase in energy loss. So you want to optimize what you have.

"Even on a good year but especially in a drought, farmers should utilize a nutritionist and a veterinarian to make sure you're meeting those requirements before you run into a problem."

Author: Jennifer Blair

Original Article: [https://](https://www.albertafarmexpress.ca/livestock/keep-an-eye-out-for-drought-caused-nutrient-deficiency-in-your-cattle/#_ga=2.254507208.1955583347.1661456901-1556566192.1644943898)

www.albertafarmexpress.ca/livestock/keep-an-eye-out-for-drought-caused-nutrient-deficiency-in-your-cattle/#_ga=2.254507208.1955583347.1661456901-1556566192.1644943898

WESTERN CANADA CONFERENCE ON SOIL HEALTH & GRAZING

WESTERN CANADA

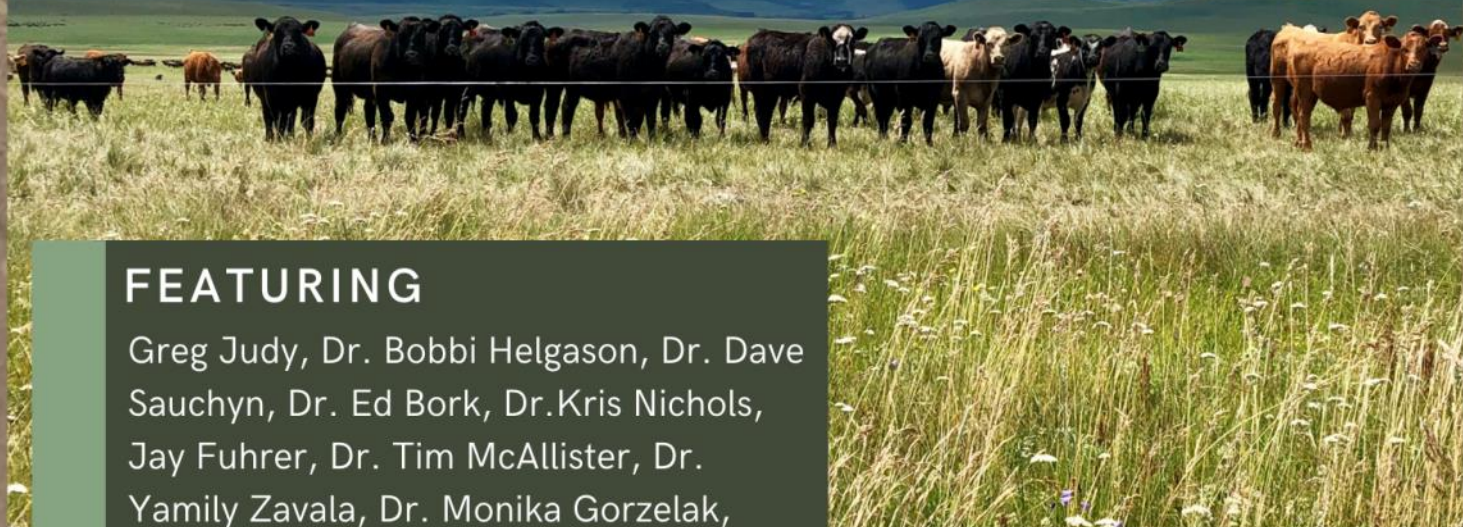


Conference on Soil Health



Western
Canadian
Grazing
Conference

Presented by 10 Alberta Forage & Research Associations



FEATURING

Greg Judy, Dr. Bobbi Helgason, Dr. Dave Sauchyn, Dr. Ed Bork, Dr. Kris Nichols, Jay Fuhrer, Dr. Tim McAllister, Dr. Yamily Zavala, Dr. Monika Gorzelak, Daryl Chubb, Kim Cornish, Stuart Chutter, Dr. Yvonne Lawley, Kristine Tapley, Producer Panelists and More

BANQUET & KEYNOTE SPEAKER:

James Rebanks, an English sheep farmer and award-winning author from the UK.

Early Bird Pricing until October 31, 2022

Producer	\$475.00
Farm Unit (2 people)	\$900.00
Producer One Day	\$250.00
Student	\$375.00
Student One Day	\$175.00
Banquet Ticket	\$60.00

Tickets do not include Banquet Ticket which **MUST** be purchased separately

SOIL & GRAZING: BIOLOGY NOT GEOLOGY



DECEMBER 13, 14 & 15, 2022



DOUBLE TREE BY HILTON
WEST EDMONTON

16615 109 Ave NW
Edmonton, AB
T5P 4K8



REGISTRATION &
DETAILS VISIT:

<https://www.absoilgrazing.com/registration>

Cattle Drone School



Claresholm, AB
November 1 - 2, 2022



**See your ranch
in a new light**

Drone School for Ranchers

Fly Safely

- Flight training suitable for complete beginners
- From first takeoff to autonomous mapping
- DJI Tello included, to keep practicing at home

Fly Legally

- Basic ground school: air law, drone systems, theory of flight, human factors, meteorology, navigation
 - Take the Transport Canada online test, leave with your Basic Pilot's Certificate

Save Time & Make Money

- Hosted by FFGA with focus on livestock uses, but also suitable for forage and crop producers
- Special guest instructor:
Dr. John Church, Thompson Rivers University
- Demystifying the remote-sensing jargon:
NDVI, multispectral, thermal, LiDAR
- Hands-on practice & real-world farm uses

Register at www.landview.com

\$590 includes lunches and your own Tello drone
Register at www.landview.com
or call us at (780) 448-7445

Brought to you by



**FOOTHILLS FORAGE
AND GRAZING ASSOCIATION**



MD of Willow Creek

Biological Control Option for Canada Thistle: Stem-Mining Weevils

Canada thistle (*Cirsium arvense*) is a competitive noxious weed that is widespread across Alberta and much of North America. This perennial herb can grow up to 4 feet tall, has prickly leaves and urn-shaped purple flowers. It causes intensive crop losses from its extensive, horizontal creeping root system. Canada thistle is attracted to sites that have had disturbance and moisture, either by overgrazing, tillage and/or earthmoving. It is prevalent in many locations such as riparian areas that do not allow for chemical or mechanical control methods. Biological control agents, such as the weevil are of interest in controlling Canada thistle in sensitive areas.

There are 4 beetles that are considered potential bio-control agents for Canada thistle including the Stem-mining weevil, scientifically known as *Hadropontus litura* (formerly *Ceutorhynchus litura*). *H.litura* has one generation per year with 3 distinct stages of life: larva, pupa and adult. The adult lifespan is approximately 10 months as they overwinter in the soil and leaf litter, emerging in the spring to feed on rosette leaf foliage and stem tissue. Eggs are laid in May and June in the mid vein of the leaf and hatch 9 days later. The larva tunnel down the stem into the root collar consuming plant tissue and when several larva are present the stem

turns black from tunneling and dies several days later. Early summer, once fully fed, the larva will emerge from the thistle shoot. This is the where the main damage happens to the thistle because it opens up holes to where secondary invaders, such as nematodes, parasite and fungi enter and further damage the stems. They then enter the soil, and the pupal stage begins, in which they transform into adults. A few weeks later (late June and July) these new adults emerge from the soil and feed on the thistle foliage until heavy frost occurs in fall.

CARA has released Stem-Mining weevils in the MD of Acadia Valley and Special Areas 2 and 4 with the intention of observing establishment, survival, and the impact on Canada thistle infestations. Technicians released weevils in September of 2012 and again in September 2014, one in the MD of Acadia and the second in Special Area 4. Weather conditions and thistle stand qualities were recorded. The two sites were re-visited in June 2015 and every June after to investigate winter survival rate of the weevils. Although no stem mining weevils were observed there was damage was found with in the plants at the MD of Acadia site in 2015. At our Special Area 4 (Altario area) weevil location we have noticed a

greater impact as the weevils have almost eradicated the Canada thistle patch where they were initially released. They appear to be slowly eating away at the rest of the Canada thistle patches that remain.

CARA will be ordering more Canada thistle Stem-Mining weevils from Montana this fall for producers and applied research organizations in Alberta. A tray contains 100 weevils and each patch of Canada thistle in an area should be exposed to one tray. The weevils are released with the intention of colonizing and overwintering as a biological control agent for Canada thistle.

Please contact Karin Roen at the CARA office at (403) 664-3777 or car3@telus.net to discuss ordering stem-mining weevils or other biological control agents.



Board of Directors

Chairman:

Daniel Doerksen
(403) 633-0530

Vice Chairman:

Daryl Chubb
(403) 836-2202

Treasurer:

Justin Blades
(403) 336-5952

Directors:

Jerry Baerg
(403) 826-2016

Ryan Scott
(403) 682- 8377

Sarah Green
(403) 603-8772

Wolter van der Kamp
(780) 335-3249

Dave Sammons
(403) 934-7614

Tanis Cross
(403) 652-0954

Emily Lowe
(403) 990-4548

Morrie Goetjen
(403) 863-7484

Staff

Manager:

Laura Gibney
manager@foothillsforage.com
Cell: (403) 998-4687

Environment & Communications

Coordinator:

Kayla Minor
enviro@foothillsforage.com
Cell: (403) 700-7406

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.

This Publication is made possible by our major funder -
Results Driven Agriculture Research



FFGA is a proud member of

