Photo: Sonja Bloom

# GRASSROOTS NEWS & VIEWS

# SEPTEMBER 2018

FOOTHILLS FORAGE AND GRAZING ASSOCIATION

*Innovation, education and regenerative agriculture*

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## Director's Note—Justin Blades

*Greetings FFGA Members*

As the leaves start to turn colour to indicate the change of the seasons, I hope this finds you all prepared for another winter. We are faced with very high feed prices that are due to the short supply from a combination of the minimal amount of surplus feed from previous years, and the lack of rain this summer.

We here at the Rocking P Ranch are implementing our drought management plan in two ways. We are planning to take advantage of what sounds like some pretty respectable calf prices this fall and sell some calves we would regularly feed through the winter. The ranch will also be downsizing the cow herd as we retained fewer breeding heifers and are selling some cows whose best years are behind them. I will get this done in the next week as I am probably not the only one with this plan. Cull prices dropped ten cents at our local auction market and probably will continue to do so until we work through the glut of cull.

The bulls are for the most part pulled. We will pregnancy check the cows and heifers that are accessible as early as possible. With ultrasound technology you can accurately determine pregnancy thirty days plus. It may be more work but with the cost of feed it may pay in the long run to pregnancy check early. This will allow us to graze longer and feed less. For us, if we can market 50-60 head of open cows a month sooner our grazing season is stretched, reducing purchased feed required.

These are my thoughts only. They are not backed by any factual data. This sharing of information is what draws me to FFGA. If you are a member and have not been to a field day this year I strongly recommend you challenge yourself to attend one or two by this time next year. There are a lot of elite producers involved with FFGA that are willing to share their ideas and experience with you. As I find the time to attend hard to come by I always find the knowledge shared to be well worth the time.

Cheers

*Justin Blades*

*A Sussex Bull watches over the pasture on the Rocking P Ranch—Photo by Justin Blades*

## IN THIS ISSUE

# Have You Had Your Feed Tested?

Photo—Lee Gundersen

As a nutritionist, feed testing is a fundamental tool that I rely on to assist beef producers with their feeding programs. This is true whether I am dealing with feedlots or cow-calf operations. Accurate knowledge of feed quality, particularly the operation's forage base allows one to **develop feeding strategies** for specific production scenarios and **minimize the over- or under-feeding of nutrients**. By so doing, one is able to **achieve desired production targets** and **save on supplemental feed costs**.

While feed testing seems like a "no brainer", it is surprising how many cattlemen skip this critical management tool. It seems many would rather rely on visual appraisal (i.e. colour, plant species, and leaf content) or knowledge of cutting time to judge quality. While these are all indicators of forage quality, they **do not substitute for a feed test** particularly when it comes to the energy and protein content of that forage. For example, the protein content of brome hay can range from as low as 5 to 6% up to 18% depending on stage of maturity at cutting. While visual appraisal may help separate the good from the poor quality hay, it is not going to help you decide how much protein supplement, if any, you need to background calves when feeding this hay. Only a feed test can accurately help you make this decision.

With respect to **energy** content, a feed test will give you values as total digestible nutrients (% dry matter) or as digestible energy (Mcal/kg dry matter) and depending on the laboratory used for testing, you may also get net energy values for maintenance and gain (Mcal/kg dry matter). These energy values can be used to determine the amount of forage allotted in bale or swath grazing situations or can help you determine how much grain you need to supplement when backgrounding calves.

The feeding value of a given forage is often based on its **fibre** content. A feed test can generate two fibre values that reflect either its relative energy content or feeding value. These include acid (ADF) and neutral detergent (NDF) fibre. High ADF values indicate that the hay was cut at a late stage of maturity and as a result it will be poorly digested by the cow. This late cut hay will be lower in energy content than the same hay cut at an earlier stage of maturity with a lower ADF value. High NDF levels also indicate a more mature forage at harvest and more importantly is indicative of the degree to which cattle will consume the feed – high NDF values limit forage intake! Again, visual appraisal will not help you accurately identify the energy content nor the feeding value of your hay.

As indicated above, accurate knowledge of the energy and protein content of your feed can allow you to target economic feeding strategies for various classes of cattle. For example, when feeding the pregnant beef cow, a basic principle is to adjust your feeding program to match her requirements as she moves through the second and third trimesters of pregnancy with the appropriate quality and quantity of feed and to

*(Continued on page 3)*

## Thank you for your support!

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do so in a cost effective manner.

**Pregnancy requirements**, particularly for nutrients such as energy and protein, increase dramatically in the last 6 to 8 weeks prior to calving. This concept is illustrated in Table 1 below for both a mature cow as well as for a bred heifer. Note that for the mature cow, energy requirements at the end of the third trimester are 20% higher than 2nd trimester requirements. This is true whether you use total digestible nutrients (TDN) or net energy for maintenance as an energy reference. The increase is even higher for the bred heifer, as she not only needs to meet requirements for pregnancy but also has to continue to grow to mature weight. With respect to nutrients such as protein, calcium and phosphorus, similar increases are evident for both animals as pregnancy advances.

Meeting these increased nutritional needs by feeding a balanced ration is critical to **maintaining a normal pregnancy** and to **prevent weight loss**. It will also influence the **success of your subsequent breeding program**. Inadequate nutrition will cause cows to lose weight and body condition. This is true regardless if the issue is feed quality or quantity. Cows that lose weight during the last trimester or from the period from calving through breeding are subject to calving difficulties, extended periods of anestrous and/or poor first service conception rates. The result will be an extended breeding season and/or an increase in the number of open cows. As well, next year's calf crop can be affected not only due to lower numbers but also as a result of reduced weaning weights due to the fact that more calves are likely to be born late in the calving season.

Having your forage tested is the first step to ensuring that you are meeting the requirements of your cows for maintenance and pregnancy. Today's feed test laboratories use both **wet chemistry** and **near infrared spectrometry** to offer accurate results and rapid turn-around times. A basic forage analysis will provide you with moisture , energy (i.e. total digestible nutrients, digestible energy and/or net energy content) and crude protein values as well as a mineral package (calcium and phosphorus). More advanced packages can provide you with details on all macro and trace minerals, acid and neutral detergent fibre content, nature of protein (soluble, degradable, bypass, heat damaged), fat content, nitrate and other potential toxins. This information can be used by you and your nutritionist to develop feeding programs that meet the requirements of pregnant, wintering beef cows and replacement heifers, as well as for targeting gains of growing cattle! At $25 to $30 a sample for a basic feed test, it truly is a no brainer! So again I ask the question – Have you tested your feed this winter?

*Written by John McKinnon, Ph.D. at the University of Saskatchewan.* Article can be found at http://www.beefresearch.ca/blog/feed-testing/

***Table 1.*** *Nutrient requirements for pregnancy for a mature 1300 pound cow and 900 bred heifer. Values were generated using Alberta Agriculture's Cow-Bytes Program. (Assumptions include breeding in late August for June 1 calving, typical Canadian winters, access to shelter from wind and a daily gain of 1.25 pounds for the bred heifer in addition to weight gain from pregnancy.)*

| *Table 1* | TDN | Net Energy Maintenance | Net Energy Gain | Crude Protein | Calcium | Phosphorus |
|---|---|---|---|---|---|---|
| | (lbs/day) | (Mcal/day) | (Mcal/day) | (lbs/day) | (Grams/day) | (Grams/day) |
| ***1300 lbs Mature (Condition Score 3.0)*** | | | | | | |
| 1st trimester | 11.0 | 10.7 | - | 1.5 | 17 | 14 |
| 2nd trimester | 12.8 | 12.4 | - | 1.6 | 17 | 14 |
| 3rd trimester | 15.3 | 15.2 | - | 2.1 | 30 | 19 |
| ***900 lbs Bred Heifer (Condition Score 3.0 gaining 1.25 lbs/day)*** | | | | | | |
| 1st trimester | 12.7 | 8.1 | 2.3 | 1.7 | 24 | 16 |
| 2nd trimester | 14.9 | 10.4 | 2.5 | 1.9 | 25 | 16 |
| 3rd trimester | 18.0 | 13.6 | 2.7 | 2.4 | 36 | 22 |


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# There's a Reason Why Stem-mining Weevils are the Priciest Livestock In Alberta

Stem Mining Weevil feeding on Canada Thistle. Photo from WCFA

Tens of thousands of weevils have been pouring into Alberta from Montana — and producers are clamouring for more.

"It's a biological control and it's been going great," said Rachael Nay, conservation agriculture extension co-ordinator with the West-Central Forage Association.

The association began the project to import stem-mining weevils four years ago as a way to combat Canada thistle, which can devastate the productivity of pastures if it gains the upper hand. The noxious perennial weed is hard to control, and difficult to attack. Each thistle produces thousands of seeds and individuals send up numerous shoots — as many as 170 shoots have been found in a single square metre, with just a fraction of that causing major productivity losses.

However, while cattle won't eat thistles, stem-mining weevils will.

The insects lay their eggs in thistle rosettes and the larvae live up to their name by munching their way down the stem of the thistle as it grows. After exiting and pupating in the soil, the adults emerge and feed on thistle leaves.

"It's a great alternative to herbicide," said Nay.

The weevils are non-invasive (they only eat Canada thistle and some types of plumeless thistles) and were first approved as a biological control agent half a century ago.

Each tray, containing 105 weevils, costs $200 plus GST. How many you need varies.

"It really depends on how big of an area they have to cover," she said.

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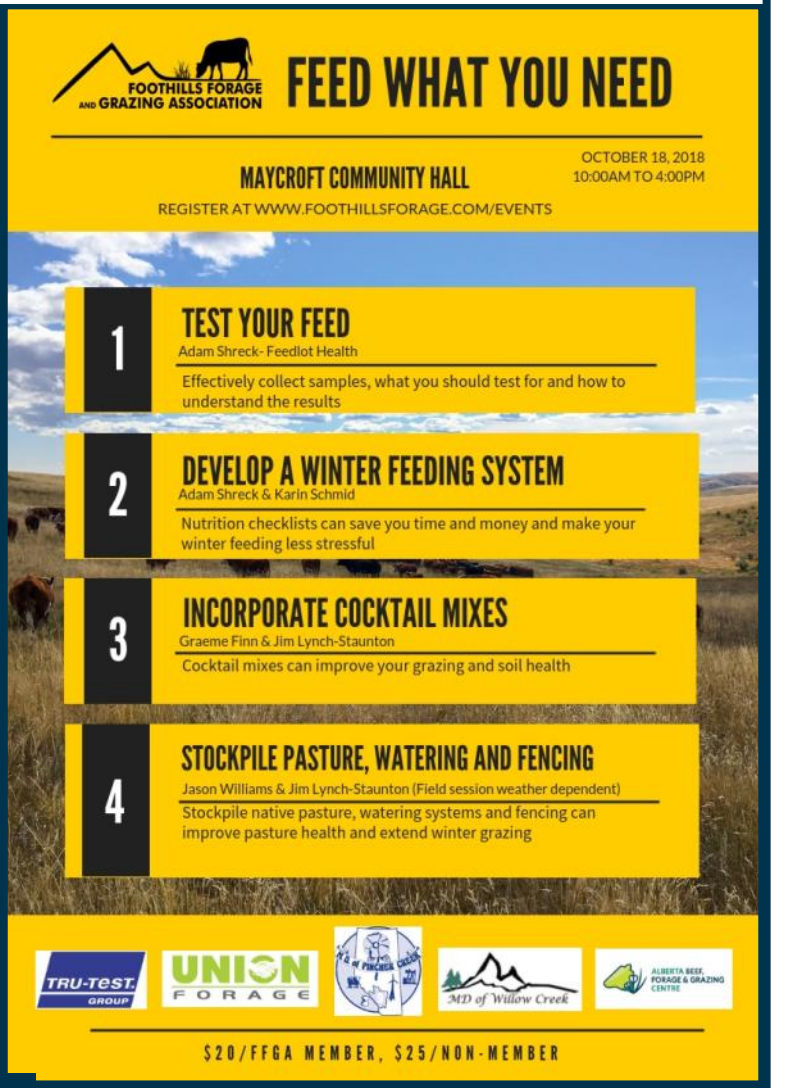

# The Bane That is Absinth Wormwood

Ah, *Artemesia absinthium.* If you've ever had the misfortune of being acquainted with absinth wormwood, you'll likely never forget it. Many describe the plant by its appearance and odor, both likened to pasture sage. Absinth's odor is strong, however, and in my experience, the pollen profoundly irritates the respiratory system. In fact, you can quite often smell absinth before you see it.

The plant, native to Europe and Asia, has a persistent tap root, which, explained Nadia Mori, regional forage specialist with Saskatchewan's Ministry of Agriculture, in the Ministry's latest webinar, can reach two inches in diameter.

A prolific seed producer, absinth can grow from two to five feet in height on a variety of soils. It also appears to be allelopathic, perhaps explaining its hasty spread. You'll commonly see absinth in and around railways, dumps, roadsides and other disturbed soils.

**Pest Status:** In Manitoba, Saskatchewan and much of the United States, absinth is considered a noxious weed, but not in Alberta. Why? I had the very same question. So I sent an email to the Pest Surveillance Branch of Alberta Agriculture and Rural Development. There has actually never been a formal request for absinth to be added to the list of noxious weeds, and the Alberta Weed Recommending Advisory Committee has not seen it as a problem weed for the entire province. Municipalities can add it to their list of noxious/prohibited weeds, if deemed necessary.

**Control measures:** "Over the years I've had to have a bit of a reality check. I initially thought I would eradicate this plant…. I've learned now that there just seems to be an endless seedbank," said Lorne Klein, regional forage specialist with the Saskatchewan Ministry of Agriculture, in the aforementioned webinar. "This is a war that will never be over, but what I'm focusing on is winning the battles."

According to Klein, the first defence is to have a healthy, vigorous pasture stand. This, due to absinth's opportunistic nature to spread most visibly in disturbed soils.

**Chemical control:** This year the Agricultural Demonstration of Practices and Technologies enabled the Saskatchewan Ministry of Agriculture to look further into chemical control possibilities for absinth.

Herbicides were trialled in three locations in Saskatchewan and the results indicated that 2,4-D would require multiple treatments, Dicamba showed suppression through top growth control and Restore II, Grazon and Reclaim showed good to excellent control (though absinth is only listed on the Restore II label). These herbicide applications will control/injure other broadleaf plants and many have residual activity, however, which could impact pasture quality and allow for greater movement of weed species.

It's always recommended you read the labels and check the Crop Protection Guide for your province to find out more about chemical control strategies.

Unfortunately, there are no known biological controls for absinth wormwood right now. And though there are insects that prove promising in its native habitat, they will not be introduced to Canada due to a wide host range.

**Physical control:** The best success we have had on our farm is through pulling the plants by hand. I highly recommend wearing long sleeves and gloves, because the plant will likely irritate your skin as it did ours. Masks might also be considered, or a lozenge of some kind later in the day.

If pulling plants by hand, consider doing so after a rainstorm, to lessen the likelihood of straining your back while also maximizing uprooted root mass. If the absinth has already set seed, consider destroying the plants.

There hasn't been much research done to look at integrated control strategies, but Klein considered cutting/mowing absinth in summer, grazing/cutting again if high regrowth and then apply herbicide to rosettes (likely more vulnerable to the spray). Again, more work needs to be done on tactics such as this.

*Debra Murphy is a Field Editor based out of central Alberta, where she never misses a moment to capture with her camera the real beauty of agriculture. You can read the article online at [https://www.realagriculture.com/2013/11/the-bane-of-absinth-wormwood/](https://www.realagriculture.com/2013/11/the-bane-of-absinth-wormwood/)*

# Predator Compensation Benefits All of Society

Photo: Heiko Junge / NTB scanpix

Ranchers play a key role in conservation by keeping their lands available to wildlife, and it's important that they be compensated for those losses, says a new study

"Our paper makes a case that there are benefits… if those ranchers who have depredation programs see some compensation for wildlife to be on their private lands," said Mark Boyce, a professor of ecology at the University of Alberta.

If there were no financial compensation, there would only be negative consequences for ranchers who maintain wildlife habitat, which attracts deer, elk and moose and, in turn, large carnivores, says a paper written by Boyce, PhD student Andrea Morehouse, and master's student Jesse Tigner.

For the report, Morehouse investigated incident reports, reviewing nearly 4,500 claims from 2000 to 2016. Payouts to ranchers come from the Alberta Conservation Association, which has financed the compensation program partly through licences from hunters and anglers since 1996. During that period, the annual amount of the payouts increased eightfold to $800,000 in 2016.

"The cost just keeps going up and up because of the increase of the numbers of wolves and increase in depredation, but also because the price of cattle has gone up substantially," said Boyce.

In most provinces and in many U.S. states, compensation is provided via agricultural subsidies or government revenues.

Seventy per cent of the predation is caused by wolves because their populations have increased dramatically in the province. In the 1950s, there was a rabies outbreak in southern Alberta, and the government almost eradicated wolves through a focused kill effort. But since the 2000s, wolf populations have rebounded.

"Since 2000, almost all the potential wolf habitat was occupied in Alberta," said Boyce.

In theory, farmers receive full market value for their losses through a rate, based on current market values, established by the provincial government. But that system doesn't take into account what the animals would be worth. Wolves often take breeding stock while bears mostly take calves.

"If bears get into calves in the spring, the farmer had those calves that she or he was planning to raise through the growing season, using the current annual production of forage on the ranch," said Boyce.

Ranchers also argue wolves cause shrinkage in cattle because they are more anxious and don't gain weight when large predators are around. In Montana, ranchers are compensated for shrinkage, but that's not the case in Alberta.

The hot spots for predation are the southwest corner of the province, the Pincher Creek area, the Peace Country, and aspen parkland regions.

In the case of predation, a rancher can call a fish and wildlife officer trained to evaluate predator kills. If it's a confirmed cougar, wolf, or bear kill, the rancher gets 100 per cent compensation. However, older kills may be more difficult to determine as telltale signs — such as bite marks on the necks of wolf prey — may no longer be clearly visible.

It's important for ranchers to keep on top of their kills, and the paperwork involved is not onerous, said Boyce. He also recommends the use of dogs to ward off bears and having people ride through areas where their cattle are grazing.

"Anything that allows ranchers to retain wildlife on their land is a benefit for conservation," he said. "It's not all bad that the Alberta Conservation Association is paying the bills (but) we think an agricultural subsidy program ought to be more broadly supported."

*Alexis Kienlen—Alberta Farmer Express.* Story can be found at https://www.albertafarmexpress.ca/2018/02/05/predator-compensation-benefits-all-of-society/

For more information on the Wildlife Predator Compensation Program in Alberta visit; http://aep.alberta.ca/fish-wildlife/wildlife-damage-control-programs/wildlife-predator-compensation-program.aspx

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# Winter Cow Care

Photo—Lee Gundersen

Winter management must start in the fall, before cold weather. This means carefully assessing body condition on pregnant cows when calves are weaned, and developing a plan to provide sufficient nutrition to allow cows to maintain moderate-to-good condition before their next calving.

James England, University of Idaho DVM, says cows must be in good condition (preferably a body condition score 6) to handle weather, calving and rebreeding. "With adequate condition at the start of winter and good maintenance throughout, most animals winter well. But, without adequate nutrition, anything else we do is set up for failure," he says.

Stockmen often underestimate the importance of fall nutrition and body-condition scoring. In fact, Ron Skinner, a Hall, MT, DVM and seedstock producer, says about 70% of open cows in Montana each year are the result of inadequate fall nutrition.

An adequate, balanced diet may merely mean adding a trace-mineral supplement to native pasture, some good hay, a protein supplement if grass becomes too dry, or hay if the grass becomes depleted or snowed under. If a cow is deficient in protein or phosphorus through fall and winter, she won't rebreed on time after calving. Plus, thin cows are unable to handle the stress of bad weather and lose more weight. And, it takes more feed to put weight back on a cow during cold weather.

If you manage pastures properly – without overgrazing or running out of grass – forage-efficient cows won't lose much weight during fall or winter grazing; they generally gain weight after weaning calves and go into winter with fat reserves.

Many factors influence a winter-feeding program. These include climate and grass growth; whether pastures snow under and can't be grazed; the available forage your climate or operational design (irrigated vs. nonirrigated pastures, forage varieties, crop aftermath, etc.) allows; and the type of cattle. It's most profitable to match the cattle to your feed sources rather than try to feed cattle not fit to the environment.

To help cattle maintain health and body condition during winter, vaccinations should be up to date, parasite populations assessed, and cattle dewormed and deloused, if necessary.

**Adjust feed for cold weather**

How much hay or supplement a cow needs depends on weather conditions, cow age and body condition, available pasture or crop residue, and reproductive stage of the cow. Some herds do well through fall and winter on good native pasture with just a salt/mineral supplement, especially if cows aren't nursing calves. But, if snow covers the grass deeply or weather gets quite cold, they may need hay.

In cold or stormy weather, cattle need more energy to maintain body heat. This can be adequately supplied by forages, since fermentation breakdown of roughage in the rumen produces heat. If cattle aren't fed additional energy, they rob body fat to keep warm, and lose weight.

During extremely cold or windy weather, cows should be given all the hay they'll clean up, or a protein supplement on dry pastures to encourage them to eat more. As long as protein is adequate, cows can process/ferment sufficient roughage to provide energy and body heat. Access to good windbreaks during severe weather is important to reduce cold cows' stress and energy requirements, as well.

"Assuming cows have adequate energy from forage, the next important thing is mineral supplementation, which is critical for digestion of forage," says Dick Fredrickson, DVM/nutritionist for Simplot, Grandview, ID.

Salt should always be provided, since this is the mineral most lacking in forages. Some geographic locations also are deficient in copper, selenium or zinc, so know the mineral content of your forages and provide supplements accordingly.

"The trace-mineral status of the cow affects all aspects of production and reproduction, as well as the future well-being of her calf," England says.

Drought-stressed grass may be short on protein and phosphorus. As a general rule, range grasses hold their feed values better through winter than tame or irrigated pastures, or crop residues. These lose nutrient value once they dry up or freeze, and cattle generally need supplemental feed (hay, silage, grain or a protein supplement and mineral mix).

If pasture is depleted or

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West-Central Forage suggests three methods. An aggressive approach is the most costly — buying as many as you can afford and topping them up with one or two releases in following years. But you can also release a tray or two in the worst area of Canada thistle infestation and release one or two more in following years. Or just release one tray and wait for them to slowly spread. (One Canadian study found the insects took six years to spread 90 metres, but a Montana study found that after a slow start, they had travelled nine kilometres from the release site a decade later.)

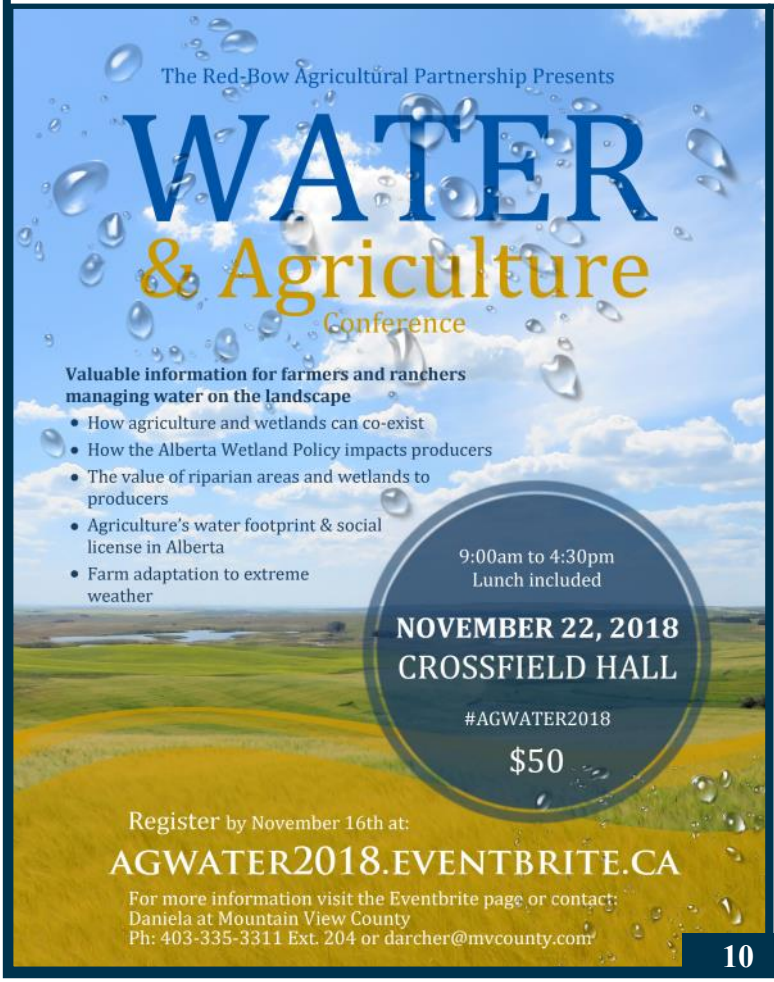
Producer interest in the weevils has spread much faster. The association gets daily calls from producers who are interested in purchasing the insects, said Nay.

"The program is getting bigger every year," said Nay, adding her association has been working with other forage groups to get the word out and producers from all over the province have been placing orders.

Producers need to order them in spring with trays arriving at the end of August, which gives time for the adults to adjust and successfully overwinter. For more information, contact West-Central Forage at manager@westcentralforage.com or 780-727-4447.

Alexis Kienlen—Alberta Farmer Express. Story can be found at; https://www.albertafarmexpress.ca/2018/09/05/theres-a-reason-why-stem-mining-weevils-are-the-priciest-livestock-in-alberta-2/

*What is the bid for this handsome devil? With tax, producers are paying $2 apiece for adult stem-mining weevils. But the insects and their larvae are voracious feeders on Canada thistle and over time can bring severe infestations under control Photo: West-Central Forage Association*

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snowed under and you're feeding hay, managing cattle in groups is best. "You don't want to waste hay by feeding better-quality feed than a group needs," says Shannon Williams, Lemhi County Extension, Salmon, ID. "Cows in early or mid-gestation don't need your best hay; save it for later or feed it to heifers and two-year olds." Of course, the only way to truly know the nutritional value of hay is a lab analysis, Williams adds.

Weaned calves need the highest-quality feed; next would be pregnant heifers and two-year-olds that just weaned off calves. This is a critical time for this latter group as these females are still growing and pregnant, and nursing calves may have pulled down their condition. Mature, dry cows can get by on lesser-quality forage, be it pasture or hay, until late gestation.

"Adequate protein is crucial during the last 60 days of pregnancy for development of the unborn calf, and for colostrum formulation," Fredrickson says. "If scours is a problem in the herd, timely vaccination for scours needs to be administered at this time also," he says.

Having cattle on pasture through winter is healthiest for both cows and their calves next spring. If you must feed hay, spread it out in large pastures and change feeding areas daily, rather than congregate cattle in small feeding areas, Skinner says.

**Low-cost alternatives**

Some stockmen reduce winter feed costs and labor by relying less on harvested forage. This strategy might include stockpiling pastures or windrowing forage for winter use, or bale grazing (leaving big bales in fields for cattle to eat).

"Grazing cows on stockpiled or windrowed forages as long as possible and then keeping harvested-forage feeding to a minimum is essential to a low-cost wintering program and profitable cow-calf operation," says Jim Gerrish, a management-intensive-grazing expert, May, ID.

"Closely monitor cow body condition and use strategic supplementation to stretch out stockpiled pastures. Even with the relatively high cost of adding protein to the diet, using a supplement to enhance stockpiled pastures or rangeland is almost always a lower-cost option than full feeding hay," he says.

With stockpiled or windrowed forage, cattle will trample/graze through relatively deep snow to get at it, unless snow is thickly crusted. And, utilizing electric fencing to move cattle gradually across a field can minimize waste. Gerrish says these methods can lengthen the grazing season but be sure to monitor cattle condition and ensure cattle have access to water and windbreaks.

The same is true with bale grazing. A calculated number of bales to provide a certain volume of hay/cow for a certain number of days can be placed in rows, with twines removed before wet, freezing weather makes that task difficult. Electric fence allows cattle access, using the next row as a handy place to insert "posts" (into the bale) rather drive them into frozen ground.

Some ranchers bale-graze young stock, too, letting weanlings/yearlings into each new section first, with dry cows following to clean up; both groups are moved when cows finish their section. This method spreads manure over fields uniformly.

But, probably the most important factor affecting winter cow management is matching cattle to the environment and your management style. Cows that need extra feed to maintain body condition and remain in the herd under "normal" conditions aren't the kind of cattle you want. If pastures are managed properly, forage-efficient cows won't lose weight during fall or winter grazing.

It's most profitable to match the cattle to your feed sources rather than try to create a feeding program to fit cattle that won't do well on their own in your environment.

*Heather Smith Thomas is a Salmon, ID, rancher and a freelance writer and book author on cow-calf management. . Story can be found at [https://www.beefmagazine.com/health/winter-cow-care-1001](https://www.beefmagazine.com/health/winter-cow-care-1001)*


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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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