The Blade

Creating an Awareness of Forages

Monthly Newsletter of the ***Grey Wooded Forage Association***

March 2018

Message from the Chair

Amy Leitch

Today, with the Chinook wind whirling the snow and building a drift yet again at our yard gate, I can say clearly, that I am not a friend to the winter wind; whether it is a bitter North wind or a warming Chinook one. I know that this wind today and the spring-like clouds on the horizon are leading me to believe that the grass will be green soon, probably too soon for me to have all my ducks in a row.

Just as any producer this time of year has, my mind is full of to-do lists and plans. Feed plans/items, husbandry activities/concerns and general life to-dos…. Did I remember to get milk?? Spring brings excitement along with many unknowns… will there be rain and when will it warm, will it be quickly or stay cold and so on. Many of us know already we don't have any say about anything. Ah heck we have a better chance putting on matching socks then really anything else in farming, sometimes finding the match is near impossible as well.

As we look at the approaching spring I encourage you all to look out at your land and ask ….

- Is it possible for me to do more with it i.e. Grazing Management?
- How would/could I go about doing that?

These are all questions that a conversation with someone who you feel has been doing it well, or that you are simply interested in their practices could help you to answer. I can say that when I started I knew NOTHIN about Grazing Management, and I still know no more then a drop in the bucket. But I have, through trail and error, and lots of conversation (since I am a Butterfly personality as I found out) heard of different ways, styles, applications, tools to use, and learned to listen to my gut for what works on our land with our herd.

We all need to know that we are the only ones who know the main factors for our grazing management better than anyone else. We are the experts you could say, but boy can we learn form other people still, through their successes and valuable mistakes. I encourage all of you to extend the information you have learnt through your operations and share it with a new neighbour or an old friend. We don't need to lean on the expertise of those selling their knowledge, we all are wealthier in knowledge from our own areas then any expert from else where can be. We need to be the mentors / the wise ones and share.

Enjoy the wind, if you can this spring.

Amy Leitch,
Chair of GWFA

The Blade is a monthly publication produced by The Grey Wooded Forage Association

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Contact Ginette to be added to our digital mailing list

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GWFA Mission Statement

To promote environmentally and economically sustainable forage and agricultural practices.

GWFA Vision Statement

The community is engaged in regenerative agricultural production methods.

The Grey Wooded Forage Association is a member of ARECA

This publication is made possible in part with funding from:

Alberta

In This Issue:

Ginette's Message

Howdy folks,

We have some exciting news. We have booked Ben Crane for our AGM entertainment this year. Ben is a well-known entertainer and comedian. Mark your calendar, Friday night May 11th at the Dover Court Community Hall in Clearwater County. See the poster in this publication.

Most registrations for events are done online and GWFA is transition in the same way. We encourage everyone who plans to attend our AGM to register via the Eventbrite link on the poster. You'll also be able to renew your membership all in one transaction. This will reduce the long wait time during registration and reduces administration time. If you are unable to make our AGM and would like to renew your membership, the fee is now $40.00 and is due April 1st. We accept cash, e-transfers to gwfa3@telus.net and cheques made payable to Grey Wooded Forage Association.

We would like to recognize our outgoing Directors, Andrew Ritson-Bennett, Cy Newsham, Ted Chastko and Ken Ziegler. We would like to thank them for their service and contributions to our association. We are looking to replace these four departing board members. We are also looking to fill the position of secretary at large and year end auditor. If you can assist us in any of these positions or know of someone please contact the office at 403-844-2645.

With the new renewal process of the Environmental Farm Plan, I have been extremely busy helping producers in this process and approving plans. I encourage members who have an EFP older than 10 years to consider renewing your plan to take advantage of the new funding program, CAP (Canadian Agriculture Partnership) opening on April 1st. I am available as your technician to assist you.

GWFA could use assistance from the membership in the following areas:

All aspects of projects
Fund raising ideas
Researching grants opportunities
Community investment ideas

If you have some spare time and insight on any of the above topics, please contact us with your thoughts.

At a recent event one of our GWFA members shared with me his interest in starting a summer grazing group. With long summer evenings upon us soon, this would be an ideal opportunity for producers to meet and tour a few farms and chat about grazing. If you would like to join a group, we can assist in this process and facilitate communication.

With our fiscal year end fast approaching, we are reflecting on our programs successes and areas to improve. Your feedback is important to us. To serve you better we need to hear from you. If there are areas, you feel we should concentrate on please let us know.

Recently GWFA sponsored and participated in the Rocky Farmers / Farmerettes Bonspiel. The staff joined teams in the bonspiel, met new people, and distributed over 50 publications of the Blade. This was a great way to increase community engagement. If you have a business and would like to assist us in the distribution of the Blade, please let us know and we would be happy to drop off some publications when we are in your area. We also invite producers to provide their email address and can added to our digital mailing list.

Ginette

Feeding in the Evening for Daytime Calves

Devin Knopp, PAg

I was asked a little while ago to do a bit of research and put together an article on feeding cattle in the evening to increase the likelihood of daytime calves. For those who maybe haven't heard about this practice, the theory is that changing from morning feeding to evening feeding increases the likelihood that you will have calves born in the daylight hours over the middle of the night. It's not a new concept. I've found lots of research dating back 15-20 years. I've also heard about, and from, a few producers who have been practicing this for much longer than that.

Basil Lowman, a beef specialist at Scotland's Rural College, demonstrated that upwards of 79% of calves will be born in the daytime when feeding in the evening/night. While only 57% of calves will be born during the day when feeding in the morning. Researchers out of Montana State University also did two years of research on feeding time and calving with heifers. Similarly, they found that evening feeding heifers increased the number of calves born during the day by 15%. Combining the two findings would mean approximately 75% of heifers would calve during the day when fed at night. Anyone who has ever calved heifers and cows would see that as significant. By a simple change in a single management practice there is a considerable difference in likelihood that calves will be born during the day.

As I was reading through some of the research, I started asking myself why does this happen? In my research findings, it appears to all come down to digestive and hormonal physiology. Though the exact process isn't known at this time, many researchers believe that it comes down to rumen pressure due to gut fill and rumen contractions. Rick Rasby, a University Nebraska-Lincoln Beef Specialist, states that rumen contractions decrease a few hours before calving. According to Basil Lowman, after eating, cows will lie down to ruminate, chew their cud, and digest. The presence of rumen pressure and rumen activity decreases the stimulus and hormonal response for calving. The theory is that by evening feeding, the gut empties throughout the night, with rumen contractions slowing by morning, at which time calving is more likely to occur.

Another theory out of Montana State University has to due with a cow's body temperature before calving. They explain that a cow's body temperature will drop about 2 degrees Fahrenheit around 16 hours before she calves. Inversely, a cow's body temperature will increase by about 1-degree Fahrenheit for about 2-3 hours after she eats. The rise in body temperature, could in effect, delay the start of calving for that 2-3-hour period. Which by feeding in the evening, may change her calving time from the middle of the night to the morning, daylight hours. While the exact cause of the change in calving time is still a theory, the outcome of evening feeding is still well documented. Be it rumen activity or a rise in body temperature, or a combination of both, we do know that evening feeding will lead to more daytime calving.

Producer's that don't mind getting up in the middle of the night multiple times may be wondering why this practice matters. There are some significant advantages to having daytime calves, not only with the calving itself but for the newborn calf after birth as well. When checking cows at night the ability to observe new calves, cows starting to calve, or cows in distress is more difficult due to the lack of light. It is much easier and less stressful on everyone involved, when assisting a calving during the day. During daylight hours, it is much easier to get a good overall picture of what is happening in the herd, both because it's light out and because the individual doing the check is well rested. This is

Continued from previous page.

especially important for heifers, where monitoring practices tend to be more labour intensive than cows. Another advantage to daytime calving is that calves born during the day are generally more active with the sunshine. This means they will be more likely to get up right away and get a good suck of colostrum. That first drink is not only important for health reasons, but it also is very important for heat generation. A belly full of high energy colostrum will create a lot of internal heat for the calf. Calves that don't get up right away are prone to cold stress, which means they are often removed from their mothers to warm up, lengthening the time before they get colostrum, weakening their immune system even more. In some areas, predators are also a major concern. Calves born in the night are at a higher risk of danger from predators than calves born during the day.

Ultimately, whether you decide to continue to feed during the morning as you always have, or switch to nights, it's a decision each producer must make on their own. The evidence is there, that feeding at night will increase the number of daytime calves, which to many producers is worth the change in practice. There are a lot of management decisions like appropriate bull selection, nutrition, and calving date, producers can make that will affect their calving season. When to feed is another tool that may help make calving an easier time.

Basil Lowman, beef specialist, Scotland's Rural College. Effect of time of feeding on time of calving. AHDB Beef & Lamb Technical, February 2016. http://beefandlamb.ahdb.org.uk/wp-content/uploads/2016/02/Effect-of-feeding-time-on-calving-250216.pdf

Evening Feeding of Beef Cattle in Winter and its affect on Calving and Feed Efficiency. http://extension.oregonstate.edu/crook/sites/default/files/ag/documents/Winterfeedingandcalvingandfeedlot.pdf

Rick Rasby, UNL Beef Specialist, Time of Feeding Influences when Cows Calve. Univeristy of Nebraska-Lincoln. http://newsroom.unl.edu/announce/beef/3004/16634

Grey Wooded Forage Association

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March 1st, 2018

GREY WOODED FORAGE ASSOCIATION POSITIONS TO FILL

1-SECRETARY AT LARGE

The secretary at large position involves attending board meetings once per month for three hours and taking minutes, this is an extremely important position and we need you to consider this role.

1-AUDITOR POSITION

We need one additional auditor to train during this year's audit May 8th, this position is once per year for 4 hours.

4- BOARD MEMBERS

We are seeking four new Directors to join our board. This is a volunteer position. The role of the Board is to govern the organization. As a member of the Board, a Director acts in a position of trust for the community and is responsible for the effective Governance of the organization. Governance is the act of establishing and monitoring the long-term direction of an organization through policy.

Below is a brief list of benefits and experience that we seek from potential board members

- Advocating for the association is a key role we need in a Director
- A positive attitude towards continued learning
- Assist in the development of quality projects and extension activities
- Enthusiastic supporters of our association
- Willingness to share experiences and grow
- Social interactions and networking with Industry representatives, GWFA members, staff and other board members at our events and meetings.
- Prospective board members who have a broader view of the community and the world are an asset
- Prospective board members are a formal link to the community and to the people that our organization serves.
- Your contribution will impact future generation in agriculture
- Opportunities to attend conferences, approve project, and personal development

For more information on our board positions, roles and responsibilities and time commitment please contact us at 403-844-2645 or email at: gwfa3@telus.net

Ginette Boucher
Administration & Marketing Manager
Grey Wooded Forage Association

Amy Leitch
Chair
Grey Wooded Forage Association

Grey Wooded
Forage Association

Creating an Awareness of Forages

ANNUAL GENERAL MEETING

May 11

Dover Court Community Hall

Hwy 22 halfway between Rocky and Caroline

Dinner at 6pm

Meeting and Entertainment to follow

$40 Registration

Tickets: gwfa-agm.eventbrite.ca

Featuring

BEN CRANE

ALUS Myths and Rumours

Ken Lewis, Conservation Coordinator, Red Deer

As ALUS (Alternative Land Use Services) grows in Red Deer County, in Alberta, and across Canada, more and more people are talking about it, which is awesome.

I am often intrigued by some of the myths and rumours about the ALUS Program, that people share with me. I figured it might be time to tackle some of these head on.

MYTH: The ALUS Program is about taking land out of agricultural production.

REALITY: *The ALUS Program does not take land out of agricultural production. ALUS does provide a new revenue stream for farmers and ranchers for a new agricultural product: management that produces increased ecosystem services. In some cases, ALUS farmers convert land that is marginal for annual crop production (for example because it's too wet, too saline or too prone to erosion) to land that is managed for ecosystem service production. For clarity: in many cases, ALUS farmers/ranchers graze or hay the same land that they are earning ALUS payments for.*

"A typical ALUS project. Land taken out of production? Tell that to the cows!"

MYTH: If I do an ALUS Project on my land, ALUS will dictate what I do on that land.

REALITY: *The ALUS Program has general management practice guidelines (not rules) for the land involved in an ALUS Project. These guidelines describe the same practices that have become generally as "best management practices" for the types of land involved in ALUS: riparian areas, saturated soils, steep slopes, flood-prone areas, etc.*

ALUS recognizes that the ALUS Farmer/Rancher is the single best person to know how to manage their land to produce ecosystem services. ALUS also recognizes that the ALUS Farmer/Rancher has to make different management choices every year, or even every day or week, depending on what's happening with weather, other parts of the farm, markets etc. ALUS is designed for maximum flexibility for the ALUS Farmer/Rancher.

MYTH: If I sign onto ALUS, the land is "locked-in" forever, and I can't even sell my land without permission from ALUS.

REALITY: *ALUS Farmers/Ranchers sign contracts with the ALUS Program (called "ALUS Conservation Agreements". These contracts are NOT registered on your land title. The contracts are usually for 5 to 10 years, and provide an assured income from the ALUS acres on the farm. ALUS Farmers/Ranchers can end their contracts at any time, subject to standard contract cancellation clauses (for example, if a farmer decides to cancel their ALUS Conservation Agreement, that decision will result in the stoppage of annual ALUS Payments). Ultimately, land enrolled in ALUS is still your land…do with it what you want.*

MYTH: ALUS is run by a bunch of tree-huggers.

REALITY: *ALUS was founded by agricultural producers (Manitoba's Keystone Agricultural Producers was one of the 2 founding organizations, along with Delta Waterfowl). ALUS Canada, the organization that coordinates ALUS across the country, is headed up by Bryan Gilvesy, a rancher who has had land in the ALUS program since it started in his community. In Red Deer County, ALUS was started by the County's Agricultural Services Board, and is now guided by the ALUS Partnership Advisory Committee, made up of a majority of Red Deer County farmers and ranchers. The ALUS Program is staffed by Ken Lewis, who comes from a farm in Mountain View County, and by ALUS Farmer Liaisons Stephen Smith (a farmer from the Pine Lake area), and Tom Towers, who ranches south of Red Deer. ALUS Farmers / Ranchers represent a broad cross-section of Red Deer County producers: mixed farms, cattle farms, crop farms, multi-generation farms and new farms, big farms and small, in all areas of the County.*

MYTH: ALUS is too good to be true.

REALITY: *For decades, farmers and ranchers in Red Deer County, around Alberta, and across Canada, have been calling for a program that pays them for the invaluable ecosystem services that they produce for society, on their farms and ranches, without taking away their ability to manage their own land in a way that's also best for them. With ALUS (finally!) it's here.*

To find out how ALUS might work on your farm or ranch in Red Deer County, please give me a call (403-505-9038) or email (klewis@rdcounty) anytime. Or, call our Farmer Liaisons (Steve at 403-318-3371 or Tom at 403-352-6901). We look forward to hearing from you!

How to Ensure Good Forage Establishment?

Dr. Surya N. Acharya, Lethbridge Research and Development Centre

Among crops grown in western Canada, perennial forages are the most difficult to establish. Success of a perennial forage stand depends largely on proper establishment. Poor stand establishment reduces productivity and quality of forage and consequently profit margin for the producer. Agronomic practices that have resulted in rapid establishment of forage crops in western Canada and the reason behind them are outlined below. These practices may also work in other regions of North America for establishing small-seeded and difficult-to-establish crops. Here are the important considerations:

1. Choose the right crop and appropriate cultivar for the Region

Picking the right crop and cultivar for the specific purpose and local conditions will contribute to developing highly productive forage stands. For maximum hay production, cultivars that establish quickly and produce high yield in the target soil-climatic region should be selected. Due to genotype by environment interactions, not all cultivars perform well under all soil-climatic zones. Therefore, it is important to choose an appropriate cultivar for the region. In the Canadian prairies, it is important that a forage crop cultivar has the ability to establish quickly and has high levels of cold tolerance for long-term survival, whereas disease resistance is important for irrigated areas.

2. Prepare the seed and use appropriate seeding rate

Some forage crop seed such as cicer milkvetch seed requires scarification for rapid and uniform germination. Waxy-coated seed will not imbibe water quickly and can remain in the soil for a prolonged interval without germinating, resulting in an uneven stand, characterized by weed invasion and poor biomass production. Although scarification is essential, seeds should not be scarified too far in advance of seeding. Studies have found that viability of seed decreases by as much as 50% over the course of 1 yr after scarification. Therefore, scarified cicer milkvetch seed should be planted within weeks of scarification.

Use appropriate seeding rate for the crop you are planting. Seeding rate recommended for a crop is based on optimum number of plants per unit area for optimum production and so should be followed at planting. If you are planting a two or three way mixed stand adjust the seeding rates for each accordingly.

Legumes grow well when they have healthy nodules on their roots. Seed inoculation encourages nodulation making the stand more productive. Rhizobia available commercially for specific forage legume should be used. The strains available in the market may not be optimal for cool soil temperatures during spring in western Canada, but use of any inoculum is better than not using one.

3. Seed into a warm seed bed in spring

Most perennial forage crops should be seeded early in spring, as soon as the land can be worked. Seeding forage crops early in spring allows more time for slow-growing crops to establish well (prior to winter) and consequently produce high biomass yield in the Canadian prairies. However, crops such as cicer milkvetch require warmer soil

Continued from previous page.

temperatures to germinate; therefore, it should be seeded in late May or early June to establish quickly. If seeded early enough with care, most forage crops including cicer milkvetch will produce substantial amounts of high quality biomass in the establishment year and enter the winter in a healthy state.

4. Seed pure perennial forage stands

Companion or "nurse" crops such as annual cereals or canola should not be seeded with slow growing perennial forage crop in areas with short growing seasons. In the Canadian prairies, there is little time for forage growth after the companion crop is harvested. In this area, forage yields are normally reduced for at least one year after establishment with a companion crop. In some studies, the yield loss effect of companion crop was observed on forage legume stands for up to four years after establishment. Annual companion crops vigorously compete with perennial slow-growing forage crops for valuable nutrients, water and sunlight, making the stand weaker than when the forage crop is only competing with few weeds. It is important to note that a well-established and vigorously growing forage stand produces higher forage yield and weed-free forage (high quality) compared to a poorly established stand. Our studies have indicated better stand establishment and productivity when the components of a mixed stand are planted in separate rows.

5. Seed shallow into a firm seed bed

It is generally accepted that small seeded forage crops perform best when seeded into a moist, packed seed-bed at a shallow depth. Small forage seeds do not have enough energy to grow through a deep layer of soil. On irrigated land, it helps to irrigate the seedbed 3 to 4 days before seeding. On dryland, direct-seeding (drilling) or broad casting followed by harrowing and packing helps emergence. Furthermore, it also helps to pack the seed-bed before seeding or to use a seeder with a packer. A LRDC "method of seeding" study conducted in 2001 confirmed this and indicated the usefulness of pre-packing seed beds. This study included seven seeding methods: 1) seeding with a LRDC custom-built forage seeder with packers before and after the pan drill; 2) pan drill alone; 3) hoe drill alone; 4) pan drill with packer; 5) hoe drill with packer; 6) broadcast followed by harrow and packer; and 7) broadcast followed by harrow. Seed was placed at a depth of 1.5±0.5 cm with the drills with packers. Depth of placement in the broadcasted and harrowed plots varied from 0 to 5 cm.

Mean plant counts 70 d after seeding per 0.25 m2 area for the LRDC forage seeder seeded plots were higher than the other methods of seeding. The LRDC custom-built forage seeder also produced higher forage yield and cleaner forage (with very few weeds) than the other methods of seeding. This seeder has regular pan-type row openers, but is also equipped with motorcycle wheel packers in front and behind the pans. This arrangement has the effect of pre-packing the row, thus providing for packing of soil under and above the area of seed placement. It may also provide for better depth control, as the pans are cutting into soil that has been leveled and packed immediately ahead of the pans. It may be advantageous to harrow and pack a seed-bed before and after seeding. Commercial seed drills with packers would be desirable for a large scale forage stand establishment. We have successfully used zero-till drill for large grazing studies at Lethbridge and Swift Current.

6. Mow the crop to reduce competition

Weed competition in the establishment year may seriously affect productivity of a forage stand. Therefore, it is essential to prepare a clean seedbed. Perennial forage crops should be mowed when seedlings are about 20 to 25 cm high. This operation does not harm the young forage plants, but helps reduce annual weed competition by opening up the canopy and reducing seed production of weedy species. Pruning causes the perennial forage crops to stool out and cover the ground quickly. It is difficult to select a herbicide for weed control in mixed stands and so use mowing as a cultural practice for such stands. Opening up the canopy gives the slow-growing and week stemmed seedlings (as in cicer milkvetch) access to light important for their growth.

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How you Feed Now can Impact Success During Breeding Season

Barry Yareminco | Beef & Forage Specialist, Alberta Agriculture and Forestry, Stettler

I have travelled through different parts of the province over the last few weeks and have observed that some pregnant cows are in poorer body condition than what is required prior to calving. The harsher winter conditions over the last couple months has taken its toll.

Feeding the cow and bred heifers properly in late pregnancy and the period between calving and breeding season can have a large impact on animal performance in many ways.

Animals that are thin prior to calving do not produce the required amount of colostrum needed by the calf and the quality of the antibodies in the colostrum is also reduced. A cow that is one body condition score lighter (200 pounds) than recommended will provide only 50% of the short term immunoglobulins in the colostrum compared to a cow in good condition. The result could be newborn calves that are more susceptible to diseases such as scours, pneumonia or navel ill the first couple weeks after the calf is born. The incidence of weak calves or dead calves could also be higher than normal.

To maintain high conception and calving rates next year, cows need to maintain post calving weight or if possible gain some weight between calving and the start of the breeding season. Research completed by Dr. Berg and Dr. McElroy at the University of Alberta found that even a small weight loss of 25 pounds; which is impossible to detect by visual appraisal resulted in a 20% reduction in calf crop the following year. A 9 pound weight gain between calving and breeding season is sufficient to keep pregnancy rates up in the 93 % range. The larger the weight loss between calving and breeding, the more difficult it is for the cows to become pregnant in the next breeding season.

Thin cows take longer to start cycling compared to cows in good condition. Bellows and Short found that only 46% of thin cows were cycling 60 days post calving and 66 % cycling at the start of breeding season. 91% of cows in good condition were cycling 60 days post calving and 100% were cycling at the start of the breeding season. Cows that cycle once prior to breeding season have a 20% higher first service conception rate compared to cows that have not cycled.

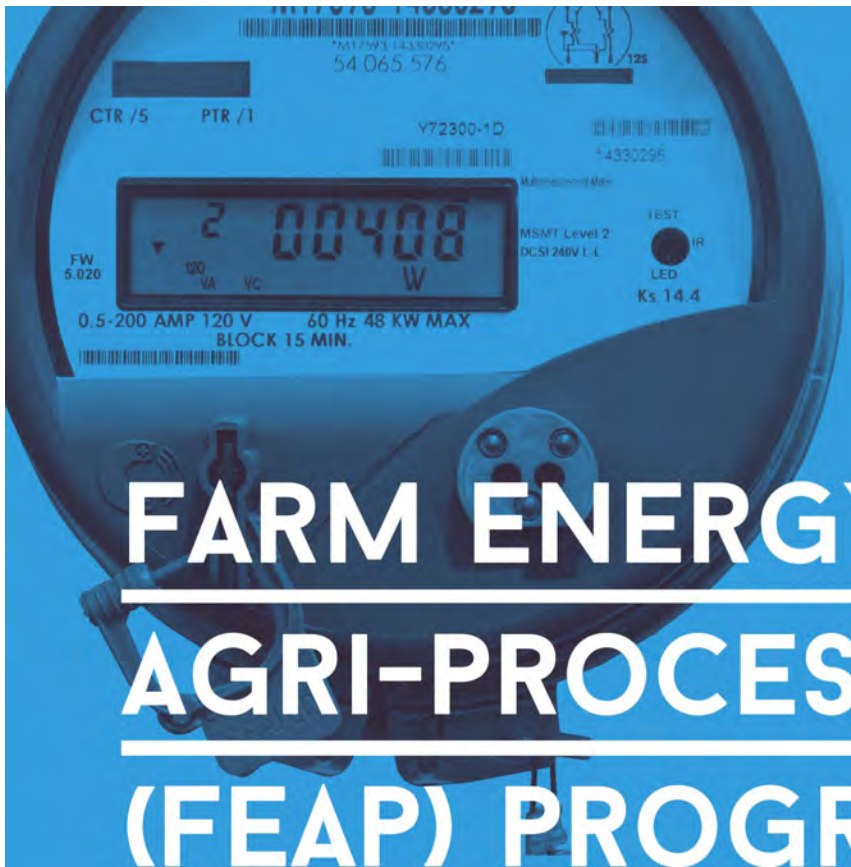
It is challenging for cows to consume sufficient amounts of forage to meet energy requirements after calving. Maximum feed intake does not occur until 12 weeks post calving whereas peak milk production occurs 8 weeks post calving. Adding grain to the ration is generally required to prevent weight loss. If the ration is energy deficient, cows will mobilize fat to supply needed energy. Thin cows do not have as much fat to mobilize resulting in lower milk production. Newborn calves can convert 7 pounds of milk into one pound of gain. If milk production is reduced at peak lactation, the loss continues throughout the entire lactation resulting in smaller calves at weaning.

The most difficult group of animals to manage for high reproductive efficiency is the first calf heifer. Open cow rates are generally the highest for the group trying to conceive their second calf. When the first calf is born, the heifer should be at 85% of mature body weight and needs to continue growing in addition to producing milk. The baby teeth are falling out and being replaced by the permanent teeth which may reduce feed intake. Competition for feed is a concern if this group of animals is kept with the main cow herd.

To reduce open cow problems, feed the first calf heifers and older cows that are hard keepers separate from the main cow herd. This group may need an extra 2 or 3 pounds of grain per day compared to the main group but the extra feed should help to get this group to cycle and become pregnant. If the animals are thin prior to calving, feeding extra grain for the last 60 days of pregnancy will also help.

Feed test in early fall and develop balanced rations for the different groups for pre-calving and post calving periods. There are many people available to assist with this task. Having a plan can prevent problems from happening later on.

Learn how to body condition score animals. The long guard hairs of a winter hair coat can disguise how thin or fat an animal actually is. Body conditioning is a hands on subjective evaluation of how much fat an animal is carrying by feeling the sharpness of the short ribs and tissue cover over the pin bone. Evaluation is always done on the right hand side of the animal when looking at the animal from behind. Condition scoring 10% of the animals in the herd can provide a good indication whether or not the feeding program is meeting animal requirements.



FARM ENERGY AND AGRI-PROCESSING (FEAP) PROGRAM

FEAP is a combination of two discontinued GF2 programs:
On-Farm Energy Management Program
Accelerating Agricultural Innovation Program (Stream C)

FARMS

RANCHES

AGRI-PROCESSORS

ENERGY EFFICIENCY INCENTIVES

Ag-Info Centre: 310-FARM (3276)

agriculture.alberta.ca/feap

Canada

Alberta Government

Technology's Ability to Allow Producers to Efficiently Deliver Beef to a Consumer a World Away

Clinton Brons, Gentec

Last month, in our article *Bench to Barn: A Glimpse into How New Technology is Developed and Delivered*, we touched on the origins of a $4.5M initiative that led to the development of a genomics tool for commercial cow-calf producers. Which may prompt the question: "A what?" and/or "Who cares?"

As it turns out, the world cares. By 2050, global demand for food is expected to rise by 70%. To put that into context, we will need to produce as much food in the next 45 years as we have in the previous 10,000. As global poverty is reduced, an additional 3 billion people are expected to rise to middle-class prosperity (the equivalent of 82 Canadas) by 2030. Like everyone else with money, these people will consume more protein than those with less. And again, like everybody else, they will want assurances that their food is safe, nutritious, and sustainable in terms of environmental protection, water conservation, and climate change.

But that's Who cares at the global level. More locally, Canada's beef producers should care as well. Our abundance of agricultural resources and reputation as a supplier of high-quality beef give our industry a unique opportunity to benefit from these trends. This genomics tool (called EnVigour HX™) allows commercial beef producers to produce more beef more efficiently by giving them the data to manage parentage, breed composition and vigour, each of which provides tangible economic benefits.

Parentage is probably the easiest trait to relate to. At its most basic level, producers can use it to determine which bulls are producing the most calves (or pounds of weaned beef)—or to determine which bulls are not performing, under performing, or producing difficult births that require your time or additional assistance. If a bull is not producing, it is getting free room, board, and health care. Taken together, the cost of acquiring a bull and the pounds of weaned calves not produced, even one marginal bull can cost thousands of dollars in expenditures and foregone revenue.

But it is the area of breed composition and the related vigour analysis that EnVigour HX™ can change the fortunes of the commercial cow calf producer. Moving past the techy science, it's like this: different breeds have different genetics that result in different traits and characteristics in a herd. Scientists here in Alberta have developed a new way to use DNA technology to identify the "bits" of DNA from various beef breeds in commercial cattle. Until now, producers recognized that they could achieve certain (variable and imprecise) benefits by mating animals from different breeds. They called it hybrid vigour.

With EnVigour HX™, however, producers can calculate the percentage of each breed's genetics within an animal precisely and use it to develop a "vigour" score. This score has been shown to be closely linked in predicting the economic value of an animal, especially in relation to its productivity.

In short, EnVigour HX™ could be the tool that allows producers here in Alberta to feed the world and allow the emerging middle class a world away to celebrate its success with a prime piece of Alberta beef. So what does the math look like for producers?

Working with Livestock Gentec, John Basarab of Alberta Agriculture and Forestry and Adjunct Professor at UAlberta demonstrated that retained heterozygosity or "vigour" ranged between 5-75% across 12 Alberta-based commercial cow/calf herds and 2,100 progeny. From this, he showed that, on average, producers would cull and replace 60 more animals every 5 years from a low-vigour herd than a high-vigour herd, if it is assumed that any animal not producing a weaned calf is removed from the herd.[1]

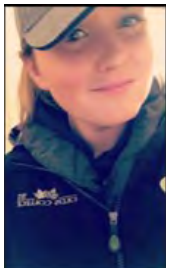
Beyond the savings of not having to purchase or develop additional replacement heifers, producers of high-vigour herds enjoy even more economic advantages from producing more calves, and heavier calves weaned than those produced in low-vigour herds. This advantage put an additional $161 per cow per year in their pockets (or $81,000 per 100 cows when taken across 5 calving periods). Pretty significant stuff!

This is the second in a series of updates that the GWFA, Livestock Gentec and Delta Genomics will provide on the project referenced above led by John Basarab. The first installment is on page 6 of the February 2018 GWFA Blade publication.

To find out how this technology might benefit your herd, email Delta Genomics at envigourhx@deltagenomics.com or speak to Michelle at (780) 492-2538.

[1]A high-vigour herd was defined as one with an average vigour greater than 48.6%, while a low-vigour herd was defined as one with an average vigour of less than or equal to 48.6%. 48.6% was the median-vigour of the animals studied, with an equal number of animals having more and less vigour than this value.

Young Agrarians Winter Mixer Update



Megan Snell, GWFA Director

It was a privilege to attend the Young Agrarians Winter Mixer Event on January 13th and 14th. The event was held outside of Alix, Alberta at the Deer Meadow Valley Camp. Our weekend was filled with many different activities and workshops, that involved a variety of unique farming skills and techniques. Throughout the weekend we had the opportunity to share our background in the agricultural industry, plans for the future, as well as many laughs shared. I found it interesting to hear the many different perspectives and ideas that everyone had come up with for a career in agriculture. Overall I would recommend the Young Agrarians event to anyone, because of the opportunity to absorb information and how it changed the outlook on agricultural industry in the most positive way.

Grey Wooded Forage Association

2018/2019 Memberships

Memberships are $40.00 and run from April 1 to March 31

Memberships are open to anyone interested in forage production, grazing management and environmental sustainability

For information call 403-844-2645

Membership Benefits:

- Receive discounts on courses, seminars, workshops, and tours
- Receive The Blade
- Receive Environmental Farm Plan delivery
- Free Equipment Rental (deposit required)
- Access to the GWFA library
- Access to our Member Facebook Group
- A chance to network with like minded producers
- Free Farm consultation service (phone, email, and in person in the office)
    - Farm calls are $0.55/km travel each way
- Receive an Annual Report

Please fill out and mail the portion below with a cheque or e-transfer of $40 to:

Grey Wooded Forage Association
Box 1448, Rocky Mtn House, AB, T4T 1B1

Renewal_____ or New Member_____

Name/Company Name:_____

Address: _____

Town/City:_____

Province & Postal Code: _____

The Blade: Email____ Canada Post ____

Phone: _____

Mobile Phone: _____

Email: _____

Please print clearly

How would you describe your occupation

- Beef Producer
- Sheep/Goat Producer
- Dairy Producer
- Annual Crops
- Forage Producer
- Other _____

How many head of livestock are you managing?

Beef Cows/Heifers:_____
Dairy Cows:_____
Feeders:_____
Ewes:_____
Does:_____
Other:_____

How many acres are you managing?

Pasture:_____
Hay:_____
Crop:_____
Other:_____

What topics are you interested in learning more about?_____

_____

How can GWFA better serve you?_____

_____

_____