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GRASSROOTS NEWS & VIEWS APRIL 2020

Director's Note — Justin Blades

Howdy folks;

Finally, spring has arrived shortly after our AGM which was postponed due to the Corona virus. The virus has changed the way in which we interact with people. The kids are home from school which seems a little different this time of year. We are trying to get a few more of those tasks around the house done that we never quite have enough time to do. We seem to have a little more time on our hands as the kids don't have any sports practice or games which have been cancelled due to COVID-19. Also, they have finally quit asking to have a friend over after many days of receiving the same answer! This social isolation is new to all of us, and in my lifetime I have never lived in such extreme circumstances. We are now calving, even though it seems more like winter than spring. Social isolation comes pretty natural for farmers and ranchers this time of year. It is actually good for the kids to be home right now to help out with calving and feeding. We are very fortunate to be in agriculture and have the opportunity to teach them about what we do for a living.

I try to be optimistic and find some positive in all of this world turmoil. As I watch the news and see that oil prices have tanked, I feel fortunate that in our industry the markets are holding their own for now. I am also optimistic that while people are forced to slow down and spend more time at home, they will realize that healthy food choices and home cooked meals are an important part of their life. I know that we have

been eating healthier now that we are not running the kids everywhere. I hope this leads to an increase in beef consumption as I am concerned about a decrease in burger sales with fast food limited to drive thru only. I think all we can do is limit our exposure to the public until this pandemic passes and make the best of quality time spent with family.

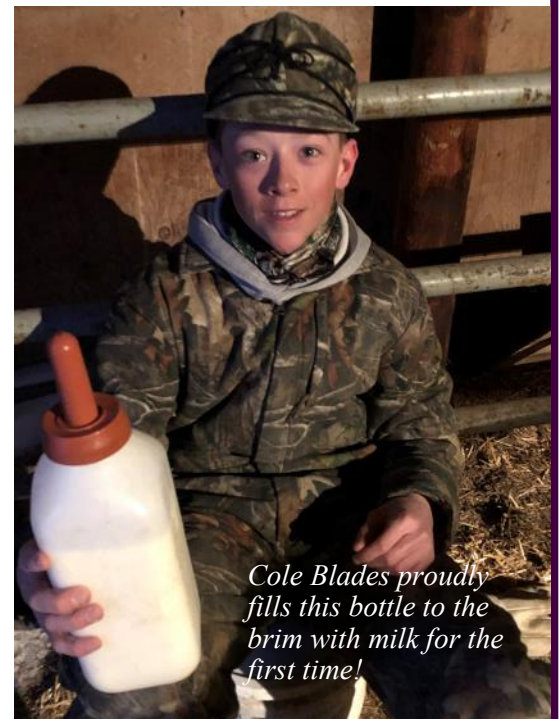
I am hoping that the Foothills Forage events planned for this summer can proceed as scheduled. The board tries to come up with informative and current events for the membership to continue their education and to stay on the leading edge of our forage industry. Laura and Sonja also put a lot of effort into planning and organizing these events, so let's keep our fingers crossed that COVID-19 passes quickly and we can get back to a more normal life. FFGA is going to try offering some extension events via webinars this spring, check them out on Page as we try out a new platform during this time of physical distancing. The FFGA board will remain the same until we can reschedule the AGM. There will be 4 directors stepping down this year as they have completed 2, 3-year terms. These four spots will still need to be filled, and I'm hopeful that those who agreed to nomination are patient and will still put their names forward as it is a great learning experience. Hope this finds you all healthy and happy!

Stay safe,

Justin Blades

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Cole Blades proudly fills this bottle to the brim with milk for the first time!

When parentage testing pays for your commercial operation



Photo: Sonja Bloom

While determining parentage of commercial calves may not always be cost-effective, it may pay in certain situations.

While the onset of DNA testing may appear to primarily be a beneficial tool for seedstock producers, there are advantages for commercial cow-calf ranchers as well. However, despite economic difference between offspring of sires, determining parentage of all offspring it is not currently cost effective for most commercial producers. In certain situations, however, it may pay to determine parentage.

As an industry, we have made a good deal of progress in reducing calving difficulty by first using calf birth weight EPDS, and now calving ease EPDs. However, there are still occasions when calving difficulty occurs and if the incidence seems abnormally high, doing a parentage test on the calves with difficult births may be extremely valuable for deciding future

matings.

Likewise when working with replacement heifers or weaned calves, there could be some calves that seem more excitable in the chute or even when you enter the pen. The decision to cull a replacement heifer with this attitude is not hard (for me at least), but if there are a number of them, you might want to see if they share a common sire.

Keeping replacement heifers from high accuracy AI sires can help producers reach genetic goals faster. If neither early ultrasound pregnancy detection nor delayed turn in of cleanup bulls was used following AI, there might be some heifers born with ambiguous birth dates: heifers could be AI sired or natural service sired.

With a 10-day gap between fixed-timed AI and turn in of clean up bulls, there is still overlap of birth dates of AI and nature service-sired calves. A parentage test could clarify which heifers are AI sired.

To complete a parentage test, DNA is needed from the offspring and the possible sires. The testing uses a process of elimination to identify individuals that could not be a parent. If potential parents are closely related, such as full or half-sibs, there could be difficulty in ruling out sires and DNA from the dam may be needed.

In some cases, a bull may have already had parentage markers identified as part of a high-density DNA panel

completed for genomically enhanced EPDs. Access to this information may vary with breed associations. The same test and associated markers must be used for the offspring and possible parents. For example, tests run with an older microsatellite panel would need to be rerun with current markers.

Collecting and storing either a hair or blood card for use for a future parentage test would be a good risk management step for all bulls in a breeding battery. This could be done at the first semen check or other handling. If you needed to determine parentage at a point after one of the possible sires had died or was sold, the samples you collected and stored would still allow you to test. Without DNA from all possible sires, parentage may not be correctly identified.

There are good reasons for commercial producers to strategically use parentage testing. Accurate records of which bulls were used in each pasture are needed. Banking DNA samples from bulls when first purchased may be useful if future trouble shooting is needed

Author: Sandy Johnson. Johnson is an Extension beef specialist with Kansas State University, based in Colby, Kan.

Original article can be found at <https://www.beefmagazine.com/genetics/when-parentage-testing-pays-your-commercial-operation>

On the cover: Rotational grazing on steep terrain in Costa Rica. Photo Credit: Sonja Bloom

Thank you for your support!



Calving: minimize personal risk



Every calving season and site poses its own unique risks. Don't be caught off guard. No matter what time of year producers calve, there are practices that help improve personal safety dur-

ing the process.

Both assisting cows with calving or tagging newborn calves can pose significant risk for personal injury during any kind of weather conditions.

"There's no process in place to document how many people have been injured while trying to tag a calf," said Aaron Berger, University of Nebraska South Panhandle Extension Unit.

"Cows are usually unhappy about it, and there are some things that can be done to minimize the risk."

Berger advises that producers consider the necessity of immediately tag-

ging a calf. Since observing which cow claims a calf, tagging may be deferred until the cow is less irritable or weather conditions are more accommodating.

"For instance, during branding season, it's obvious which calf is nursing a cow and tagging can be completed at that time," Berger said. "Cows could also be brought in once the cows are more settled so tagging can be completed more safely."

If a cow needs to be restrained, Berger advises against using a rope attached to a bumper. The safest way to handle an animal is in a facility designed for that purpose.

"Bringing a cow or cow and calf in at any time raises the level of risk for the producer," Berger said. "You're usually moving fast and it's easy to overlook the hazards around you. Use the proper head catch panels that fold out to correctly assist a cow. With a squeeze chute, an animal can go down and injure themselves."

Regularly practicing sound livestock handling practices will help diminish the chances that a cow will injure a producer. Learn to read the behavior of cows and understand signs that they are ready to charge. An arched back and lowered head can be an indication of significant agitation.

"If you have to bring a cow in, make sure your facilities are in good condition," Berger said.

"Check gate latches and look for any area that might need repair. There may also be times when bringing a cow in poses too big a threat to the producer. No one wants to lose an animal, but if a facility is torn up or someone gets hurt, there's a great cost to that, too."

Regularly inspecting a calving facility prior to calving season can be a valuable exercise in safety. Maintenance on items such as headgates and lighting can be accomplished well ahead of calving, making the season safer for producers and cows.

In evaluating the risk of handling an agitated cow, producers might con-

TAYLOR WELLS

FFGA 2020 BURSARY RECIPIENT

Greetings FFGA Members;



My name is Taylor Wells and I grew up on an acreage east of Pincher Creek, AB where my love for the livestock and performance horse industry started. My passion for agriculture is what lead me to Lakeland College in Vermilion, AB where I received my diploma in Agribusiness; Livestock Production in June of 2019.

I chose to continue my studies at the University of Lethbridge to complete my degree in Agriculture Studies. I enjoy training and showing horses, skiing, traveling, learning about agriculture and spending time at home. I feel extremely blessed to have grown up in a ranching community, where I was able to obtain many valuable skills. I am proud to be involved in such an incredible industry and that I am a part of the next generation of farmers and ranchers feeding the world.



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Legumes can boost pasture productivity

A University of Nebraska forage specialist says the extra productivity from adding legumes outweighs the risk of bloat

Attracting visitors to Manitoba in the middle of January is not an easy task.

Despite the challenge, organizers of the Manitoba beef and forage days convinced a University of Nebraska professor to spend a week in the province — from Jan. 14-17.

Bruce Anderson, an agronomy professor and forage specialist, spoke at beef and forage sessions in five locations across the province.

One of his stops was Holland, Man., on a sunny and -26 C day.

Anderson provided advice on extending the grazing season and how to improve pasture productivity.

His key message?

Add legumes to the pasture because the productivity gains outweigh the risk of bloat.

“I think it (bloat) has been a real barrier to taking advantage of all that legumes can provide,” he said. “Personally, I feel our fear of bloat is costing us more than most of us will lose economically (from cattle deaths).”

Consumption of legumes can cause bloat, a condition where gas accumulates in the rumen as the feed is fermented. The cattle cannot expel the gas and if the pressure becomes too severe it can cause heart or lung failures.

Bloat from legume plants is a risk, but if managed properly, legumes can turn an average pasture into a high performing pasture, Anderson said.

“At the end of the season ... when these cool season pastures were not as productive, not as good of quality, then the legumes really showed their value.”

To make his case, Anderson referred to University of Nebraska research comparing pastures with legumes to pastures where nitrogen was added to the soil.

The researchers found:

- Adding legumes increased cattle rate of gain by 0.39 pounds per day.
- That extra weight worked out to 50 additional lb. per acre of pasture, over 144 days of grazing.

- Assuming each additional pound was worth 50 cents, legumes increased returns by \$25 per acre.

- Including the savings from not applying nitrogen, the overall benefit was \$55 per acre.

In addition, legumes fix nitrogen and improve the overall fertility of the pasture.

“If we look at soil tests from our area, a lot of our soil tests on pastures come back with under 20 lb. of available nitrogen per acre,” said Tim Clarke, Manitoba Agriculture forage specialist in Ashern, Man.

Still, the economic gains from legumes don’t have the same emotional impact as seeing a dead cow in the pasture.

For some producers the payback from legumes isn’t worth the risk.

The risk is real but there are ways to minimize losses from bloat, Anderson said.

One option is using legumes that don’t cause bloat, such as cicer milkvetch, birdsfoot trefoil and sainfoin.

“If you incorporate some of those ... even in (a pasture) that has alfalfa, the non-bloat characteristics of those legumes will tend to (reduce) the effect of bloat (from) the bloat-causing legumes,” Clarke said. “In particular sainfoin and the ones that have tannins in them.”

One of the flaws of non-bloat legumes is they aren’t as productive as other legumes, especially in Western Canada’s harsh climate. However, the latest varieties are more resilient.

“That had been the problem on our latitudes. The sainfoin varieties out there

weren’t (hardy) enough,” Clarke said. “There’s a newer variety of sainfoin, called AAC Mountainview, that is more winter hardy.”

There are other ways to manage bloat, besides non-bloat legumes, Anderson said.

One key is timing.

Don’t move cattle onto a legume pasture when they are ravenous because they’re likely to consume more legume plants, increasing the risk of bloat.

Also, hold off on moving cattle onto pastures with legumes until the plants are more mature.

“A real, young lush legume plant is much more likely to cause bloat than one that has a little bit of growth on it,” Anderson said.

During his speaking tour of Manitoba, Anderson learned many livestock producers in the province and elsewhere on the Prairies are more progressive than their counterparts in Nebraska.

Practices to extend the grazing season, such as bale and swath grazing, haven’t caught on in Nebraska. Most producers still bring the cattle back to the feedlot and put out bales.

“Especially the swath grazing — we’ve struggled to get people to adapt to that type of thing,” Anderson said. “We have a more ‘machine-centric’ approach.”

Author: Robert Arnason ~ The Western Producer. Original article can be found at <https://www.producer.com/2019/03/legumes-can-boost-pasture-productivity/>



Jim Gerrish

Getting your Grazing Season Started on the Right Foot
Things to consider & developing your Grazing Plan

APR 22, 6:00 pm MST (US & Canada)

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Greenfeed may be linked to milk fever



Photo: Doug Medlock

Cattle producers faced many challenges with forage and crop production last year. Many areas had poor hay crops and the weather didn't co-operate at harvest for many grain crops.

As a result, many beef cattle herds have relied heavily on baled cereal crops, such as oats or barley, as a major component of their winter rations.

This greenfeed, when it's of good quality, is a great option for wintering beef cows but it can be associated with a metabolic disease known as milk fever or hypocalcemia.

Milk fever or hypocalcemia is a disease often associated with mature dairy cows around the time of calving. As the cow begins to produce milk, calcium is taken from her blood stream into the udder. The cow must then mobilize calcium from her bones to replace the calcium in her blood stream. If the process of mobilizing calcium from the skeleton is not efficient, the blood calcium level of the cow can drop to dangerously low levels.

Calcium is an essential element necessary for muscle function. As blood calcium drops, the affected cow usually shows signs of muscle weakness and eventually goes down and is unable to rise.

Once the cow goes down, other symptoms become evident such as staring eyes, cold ears, constipation and drowsiness.

The heart also starts to beat weaker and much faster. If left untreated, the low blood calcium will eventually impair the function of the heart muscles and the cow will go into circulatory collapse, enter a coma-like state and die.

Milk fever cases are generally a rewarding experience to deal with as a veterinarian. An injection of calcium intravenously and, in most cases, the cow will miraculously recover and soon be up on her feet.

However, even if the cow responds well to calcium injections, cows that experience milk fever are much more likely to suffer from retained placentas, displaced abomasums and other complications in-

cluding lower milk production. Cows that are down because of milk fever, for any period of time, also have the potential to suffer from muscle damage, which can make their recovery problematic.

Most of our knowledge about milk fever has been learned by studying the disease in dairy cows. These high-producing, heavy milking cows can have a significant amount of calcium enter the udder and are much more likely to be affected. Older cows aren't as efficient at mobilizing calcium from their skeleton and usually the disease is seen in cows older than four years. Most dairy producers, veterinarians and nutritionists manage the dry cow diets carefully to prevent this disease.

Although much less common, we have seen outbreaks of milk fever in beef cow herds. The most significant difference is seen in the timing of the disease. Most beef cows become clinically affected with the disease in late pregnancy and less commonly after calving, which is more typical in dairy cows.

Cases are usually diagnosed by seeing a cow having difficulty standing in late pregnancy and then by having your veterinarian take a blood sample to analyze blood levels of calcium, magnesium and phosphorus. Most veterinary clinics have the capability of doing the laboratory work for those blood samples within the clinic and can usually confirm the diagnosis within a few hours. Responsiveness to treatment with calcium is also an important diagnostic tool.

A number of beef herds were studied in northwestern Saskatchewan more than a decade ago, by nutritionists from the University of Saskatchewan and Saskatchewan Agriculture, with the assistance of local veterinarians. Many of these herds had multiple beef cows affected with milk fever in late pregnancy and occasionally around the time of calving. These herds tended to be composed of cows with relatively high milk production such as Simmental breeds.

Beef cows that are clinically affected with milk fever seem to be less likely to respond to calcium treatment immediately. This may be because the cases are not identified as quickly as they are by experienced dairy farmers or it may be due to other deficiencies that are occurring at the same time. These cases of low calcium in beef cows can occasionally be coupled with low levels of blood

magnesium, which can cause muscle tetany (or spasms) and that can also cause cows to go down.

A common theme was that all farms fed a majority of the dry cow ration as cereal greenfeed. In this particular study, the farms were mostly using greenfeed from oats or barley. The cereal greenfeed was particularly high in potassium and as a result, the cows were consuming excessive amounts of potassium throughout the wintering period.

Repeated manure application to soil can cause higher levels of potassium, which then accumulates in feed.

Potassium is a key component of something nutritionists refer to as the Dietary Cation: Anion Balance or DCAB. This dietary indicator actually has an impact on the cow's acid base status. The levels of two important cations; sodium and potassium are compared to the levels of two important anions, chloride and sulfur.

High levels of potassium can create a subtle change in the acid-base balance in the animal, making it more difficult for the cow to mobilize calcium. This relationship has been well described by nutrition researchers as a cause of milk fever in dairy cows and it appears to also be important in beef cows.

If you have fed a significant amount of cereal greenfeed as a winter ration for your beef cows, you may want to be aware of the potential of hypocalcemia in late gestation beef cows.

It is not a syndrome that we usually look for and therefore can sometimes be missed in the early stages.

You might also want to consider using alternative forages other than greenfeed in the critical period six to eight weeks before calving.

Author: John Campbell, the Western Producer. Original article can be found at <https://www.producer.com/2020/03/greenfeed-may-be-linked-to-milk-fever/>

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sider the risk of sustaining a lifelong injury.

“In the heat of the moment, we sometimes think, we’re not going to let that cow get the best of us,” Berger said. “But injuries incur costs, too. If a producer can’t work for the remainder of the calving season or suffers injury that affects them for the rest of their life, that is a very high cost. It’s possible that it’s best not to keep a cow with that attitude.”

Winter calving often involves ice and snow, increasing potential for injury while working around cows and calves. In muddy conditions, rutted pastures or areas also pose additional hazards.

“When it’s cold, we have more clothes on when we’re working outside, too,” Berger said. “It’s likely that we’re not able to move as quickly to respond to a threat during those kinds of conditions. Working in icy conditions or operating equipment on ice also enhances the risk of injury.”

During times when temperatures are frigid and fatigue may affect producers, tasks such as checking cattle during the night hours or assisting a cow on snowpack or ice can quickly become hazardous. Use of four wheelers or horses during these conditions poses its own set of risk for injury.

Anytime a producer assists a cow with calving there’s risk of injury to the lower back and neck. Injury can be incurred by straining muscles, being kicked or butted by the cow, etc. Other hazards related to calving are uneven ground, sharp objects, vehicles, fences or railings. Ankle strains and eye injuries may also occur. Maintaining fit-

ness and strength during the off-season, getting enough sleep and staying hydrated will help avoid physical injury.

Minimizing the distance calves or heavy objects are carried during the calving process and taking a break when possible will also lessen the possibility for personal injury.

To help avoid nighttime calving, Berger recommends that producers evaluate the value of research that indicates feeding cows late in the day will result in a large number of daytime births. It may be necessary to check on cows at night but avoiding calving activity at night can greatly decrease the chance of injury to producers.

“In the daytime, it’s much easier to see what’s happening with a cow and calf,” Berger said. “Temperatures tend to be warmer during the day, so calves are likely to need less assistance in getting up and nursing. We should take pride in managing our livestock, but we need to protect ourselves from personal loss, too.”

Author: University of Nebraska Medical Center, Omaha NE. Original article can be found at: https://www.capjournal.com/news/calving-minimize-personal-risk/article_22f807a2-72c3-11ea-a61f-6b3ab5aa881e.html



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New drought-tolerant Barricade grass mix offers shoulder season boost



Photo: Union Forage

Like everyone in the cattle industry, Mick Taylor, the Research and Cattle Manager at Cattleland Feedyards, is keen to find ways to maximize forage options and minimize feed costs. In 2017, he was one of a handful of Alberta's cattle industry leaders offered a 'sneak peak' opportunity to try out a brand new forage grass mix called Barricade. Developed by global forage breeding trailblazer Barenbrug, and sold in Canada by Canadian forage seed leader Union Forage, Barricade is a high quality grass mix designed to extend shoulder season grazing and to excel in some of the toughest of growing conditions. Unlike many one sized fits all solutions, Barricade is specifically targeted to drought prone rangeland and dryland pastures: the often challenging environment Taylor depends on to keep Cattleland's 500 head herd in top condition.

"A few years ago, we had our cowherd spread all over. When we made the decision to bring the cowherd home, we needed to develop our pastures quickly and increase the productivity of the land," he explains. "We had maybe 120 acres of low, saline land that often became waterlogged. Over the years, we'd planted everything there and nothing ever really did well. Three years ago, Union Forage suggested we give Barricade a try. Union Forage has been a real asset to grazing management at Cattlelands over the years, so we valued their input. Turns out, Barricade was a great recommendation: it thrived and it has really held up. It increased our stocking rate substantially for that land. Overall, it has performed better than I expected."

Barricade is designed for new planting or interseeding into existing rangeland and dryland pastures in areas that typically receive six to 12 inches annual precipitation. The mix, developed via a partnership between Barenbrug and several USDA ag research stations, includes Arsenal meadow brome, Artillery smooth brome, Armory tall fescue, and Hammond creeping wheat grass. Each was selected for germination, establishment, persistence, drought tolerance and availability.

"What makes Barricade unique is that it consists of newly developed varieties specifically bred for this mix and to suit a dryland setting," says Bryan Weech, Barenbrug's market development manager for western Canada and the western US. "Our goal was to target genetics to the environment where that mix will be used, and we're really pleased with how successful this mix is proving to be."

To support farmer's success further, Barricade is pre inoculated with Yellow Jacket, Union Forage and Barenbrug's proprietary mycorrhizal fungi seed coating that supports grass growth. The seed treatment helps with soil to seed contact and is able to absorb nearly 600 times its own weight in water, making it ideal for drought-prone rangeland.

"The ag industry hasn't given rangeland seed the attention and science that its given other areas in agriculture. We're changing that. We are throwing a lot of research and a lot of technology at rangeland seed, and it's really exciting to be developing notably better grazing solutions for profit-minded farmers and ranchers," says Weech.

Barricade proves its value most at both ends of the grazing season, allowing forage producers to optimize their rangeland options and match their cattle's production cycle and nutrient

demands to a longer, high quality grazing season. Thanks to its Arsenal meadow brome component, Barricade greens up about three weeks earlier than other grasses. This early spring forage offers an ideal nutrient base when the cow herd needs it most. It also means farmers and ranchers can save their native summer pasture for later in the season, improving and protecting native rangeland while optimizing graze throughout the season.

At the other end of the season, Barricade's inclusion of Armory tall fescue means it holds its nutritional value much later into the cold and snow of fall/winter. In fact, Barricade holds quality so well that it can successfully be stockpiled for winter grazing. As more and more farmers and ranchers are realizing, every day that the grazing season can be extended offers a significant cost and labour savings compared to winter feeding.

"That fescue definitely holds up in the fall. It's a taller stand and, to me, the cattle seem to go to that fescue later in the season," says Taylor.

"Barricade is very tolerant of grazing and provides a fantastic option in the shoulder months when forage is typically less available," says Weech. "Our aim was less feeding, more grazing, and Barricade delivers by producing much more forage during critical periods."

Just how much more forage does it produce? According to a yield trial at the University of Nebraska, Barricade achieved 80% more dry matter yield versus orchard grass and other commonly grown dryland options.

While grazing is the most typical use for Barricade's high quality grass mix, it also translates to quality hay. Producers also have the option of a dual purpose production system: taking a cut of hay early in the season and then turning cattle onto the pasture for later forage.

Taylor uses Barricade in a blend

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alongside the Nitromaster legume blend (AC Glenview sainfoin, Algonquin alfalfa and Sicer milk vetch). He currently grazes the field from spring through late summer with a single short break, but plans to shift to rotational grazing as soon as he's able to cross fence the field. He expects the mix to keep on producing for him over the longer term.

"Three years is a young pasture. I can't see why it won't hold up. Grazing management is key to keeping a healthy stand," he says.

Barricade is just the first offering in a new portfolio of targeted forage options Barenbrug intends to roll out over the next couple of years, all of which Union Forage will be bringing to market. Called RangeShield, the portfolio will soon include multiple products geared towards specific precipitation zones.

"There is a need for superior forage options, especially for farmers and ranchers dealing with challenging environments," says Weech. "It's not good enough to offer one size fits all options: farmers need real solutions."

"Union Forage has the experience and ability to bring to market products that will allow farmers and ranchers to be more profitable here in Canada," says Graeme Finn, Union Forage's president and senior forage specialist. "We're in the business of supporting regenerative, sustainable agriculture via a diverse portfolio of high quality, productive annual and perennial grazing and forage options."

"We're really pleased to see that Barricade is creating value for users," says Finn. "We're excited to introduce it to other farmers and ranchers who can benefit from it in coming years."

*Article supplied by FFGA Gold
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Disease can be bad news for calves



Blackleg, tetanus and white muscle disease are three deadly conditions for calves.

"These three diseases result in compromised muscle function in calves and are not seen often, but when you do see them, it tends to affect more than one calf," said Werner Debertin of New Brunswick's provincial veterinary services.

"All three are lethal if they are not addressed and they are easily prevented with vaccinating or mineral supplementation," he said in a recent Beef Cattle Research Council webinar about animal health.

Clostridial myositis, also known as blackleg, is fatal because muscles are infected by the bacteria *Clostridium chauvoei*, which grow in a low oxygen environment. The bacteria form spores in the soil and can last for decades. They are ingested by the animal, absorbed through the intestinal wall and move through the blood stream.

"It often follows an environmental disturbance in the pasture or field," Debertin said.

The spores may be stirred up after a heavy rain or dry period when animals grazed closely to the ground.

It affects deeper muscles as well as the heart and diaphragm.

Cattle of all ages can be affected, but it most often hits healthy, fast-growing animals six to 24 months old. It is often seen on pasture in summer and fall when cattle are discovered dead. Death occurs within 12 to 48 hours.

The animal develops dark, dry muscles, and Crepitis occurs, in which bubbles form in the muscle.

"If you poke the hide of the animal with your fingers, it feels like you are breaking bubble wrap," he said.

Lameness and soreness are the main

symptoms. High fever, lethargy, crepitis and reluctance to move are other symptoms, but diagnosis is often determined during a post mortem.

Penicillin can be used on all of an infected animal's siblings for treatment and prevention. They should be treated for up to 14 days, but it is not always successful.

Multivalent clostridial vaccines that include tetanus should be given to calves three months and older and boosted two to three weeks later.

Vaccinate cows four to eight weeks before calving so that they can pass immunity through the colostrum to the calves, especially in areas where blackleg is known to occur.

This disease is related to the blackleg bacteria. It is soil borne, and spores enter the body through a wound. It can affect animals of all ages.

Neurotoxins are produced and irritate the nerves supplying muscles. The muscles then go into spasms.

"The severity continues until animals are no longer able to breathe due to involvement of the diaphragm and dehydration because of the inability to swallow," Debertin said.

Tetanus is often associated with surgical castration or injuries to the birth canal during a hard calving.

Mild signs are observed at first: the animal seems anxious, is stiff when walking, its third eyelid droops, it develops a sawhorse stance and has a water pump tail that is extended. These symptoms are followed by death.

The disease could be treated with penicillin if caught early enough. The wound needs to be debrided. Place the animal in a quiet place with deep bedding and good footing on the floor. A tetanus antitoxin at 15,000 units or more could be given.

Vaccination is effective against tetanus.

"If you are going to use elastrators in calves, it is a good idea to vaccinate your cows four to eight weeks before calving so they pass immunity through the colostrum," he said.

Give the vaccine to bull calves two to four weeks before banding and provide a booster when the procedure is done.

Seleni-

um deficiency in parts of Western Canada can cause white muscle disease.

Selenium and vitamin E given together prevents oxidative damage to muscles and builds a good functioning immune system.

"Often you will have vaccine failures due to a deficiency in selenium," Debertin said.

The disease damages muscle cells that are replaced with scar tissue.

There are two forms of the disease.

The first is a congenital type in which animals are born with a deficiency because dams didn't receive enough mineral supplement. It may occur in bunches of animals.

The disease affects the heart and causes respiratory distress because the animals do not circulate the blood properly. Calves may have a hard time getting up.

"If you see this, it does have a poor prognosis," he said.

Late term abortions can happen in which the fetus dies because of heart failure.

The delayed form occurs in calves up to seven to nine months old. It corresponds to more activity among the animals, and the skeletal and heart muscles may be affected.

If the heart is involved, heart failure can occur and the animal may die suddenly.

Calves should receive an injection at birth or any time they are processed or handled when they are being vaccinated before sale time. Cows should also receive 200 to 500 IU of vitamin E daily during the last 60 days before calving.

Selenium deficiency can cause reduced disease resistance and retained placentas.

Deficiency symptoms reveal calves that tend to lay around and may lack an aggressive suckling ability or be chronically stiff. There is soreness, an arched back and weakness.

Consult a nutritionist or veterinarian if selenium deficiency is suspected.

Author: Barbara Duckworth, The Western Producer. Original article found <https://www.producer.com/2020/01/disease-can-be-bad-news-for-calves/>



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The Rancher Researcher project strives to assist producers in adopting technologies which will benefit cattle operations in Alberta.

FFGA is looking to work with 1 rancher to take an objective look at their operation and adopt a technology/innovation/best management practice that would provide maximum net return on investment.

RANCHER REQUIREMENTS:

- interview with FFGA staff
- selection of one technology new to the operation
- cost share on technology/innovation
- benchmark data collection
- provide data throughout the project
- participate in an economic analysis package
- share information related to the chosen technology with peers via workshop, events, seminars or meetings
- follow-up interview

RANCHER RESEARCHER PROJECT PARTICIPANT



POTENTIAL TECHNOLOGIES OR INNOVATIONS:

- DNA parentage sire verification
- Feed testing
- boosting pasture productivity
- EnVigourHX - determining genomic breed composition
- Precision ranching - precision based tools; drones, GPS
- Low-stress weaning - nose flaps, fence-line weaning, etc

If you are interested in partnering with FFGA on this exciting project please connect with Laura Gibney by phone 403.998.4687 or email manager@foothillsforage.com



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- Successful Marketing: Strategies for Enhanced Net Margins
- Nutrient Management
- How to Restore Vibrant Ecosystems Through Adaptive Grazing
- How to Make Grazing Highly Profitable & Desirable

COURSE DETAILS

- Location: East Longview Hall & Alex Robertson's Ranch
- Dates: July 20 - 22, 2020

COST

- Early Bird (Until May 14th) - \$1050.00 per person **GST Included**
- General Admission (May 15th) - \$1260.00 per person **GST Included**

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PLEASE NOTE THAT DUE TO CURRENT EVENTS THIS SCHOOL IS SUBJECT TO CHANGE



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FFGA MISSION & VISION STATEMENTS

Mission: Assisting producers in profitably improving their forages and regenerating their soils through innovation and education.

Vision: We envision a global community that respects and values profitable forage production and healthy soils as our legacy for future generations.

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