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GRASSROOTS NEWS & VIEWS

FEBRUARY 2019

Director's Note - Tamara Garstin

Greetings fellow Grazers!

I hope that 2019 is treating you well and you are already planning your Valentine's day activities! What, wait?? It is that time of year already?? It is and that also means that calving and seeding are not that far away either.

On the ranch, we calve March and April which is followed by branding season, pasture moving, seeding, forestry move in, haying and the list just keeps going. With that in mind, I have been trying to be mindful of the time we have now to spend with family and friends. I have taking the time to enjoy adventures in our own backyard. We have taken trips to the Cardston Remington Carriage Museum, the Nanton Lancaster Museum and Waterton. All these attractions are close and allow me to spend time with family, enjoy our province and let my mind think of things other than cows and what we will seed this year. I encourage you to do the same.

What local attractions could you go and see? Are there any events in your area?

Take the time while you are not busy to reward yourself (and others) for the hard work that is to come. Show your family and loved ones that, yes, we may work hard at times, but we also take the time to enjoy the benefits of hard work. A simple "I appreciate the work you will put in this year" goes a very long way when times are busy.

This isn't just for family either. Taking your hired

hand out for a simple supper now just to get to know each other outside of the farm can be very beneficial to employee retention. We all know how hard good help is to find so think outside the truck box for ways to keep that person satisfied with their position. After all, there is more to life then the end of the tailgate!

Mental health is a growing concern amongst agriculture and another reason to do these things. Take the time to observe a new environment, learn something new or have a coffee with the neighbour. Don't ever underestimate the power of a coffee or a road trip with someone. "Windshield time" with someone is a very great relationship builder and can really elevate someone's mental well-being, (including your own).

So, jump in the truck and come out to the FFGA AGM this March. It is a great chance to talk with old friends, make some new connections and learn something new. This year we will have our meeting at the MD Ranchland Administration Building at Chain Lakes. After the AGM we will tour the a7 Rancho and look at their winter watering systems. The word on the street is that lunch is even free, (see event details on page 6)! I hope to see you there but if I don't, good luck with calving!

"You can discover more about a person in an hour of play than a year of conversation"- Plato

Tamara Garstin



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Reducing Nitrate Concerns When Grazing Forage Cover Crops

Planting cover crops after severe wind or hail damage to crops is becoming increasingly common. Often growers are planting species that have been used as forages for many years with the thought that they may be grazed.

If these cover crops are to be grazed, growers need to consider that many of these species have the potential to accumulate high levels of nitrates. The specific level at which nitrates become risky to cattle is unknown; however, with careful grazing, haying, and livestock management the potential for livestock losses can be reduced.

The potential for high nitrate concentrations is more of a concern with haying than with grazing. All annual grasses and brassicas can accumulate nitrate. The brassicas accumulate more than grasses, but they are also higher energy. This may help offset some of the toxicity concerns. We have grazed some very high nitrate fields with no issues.

Haying is a different story. Currently recommended levels of risk are based on hay feeding. Levels above 2100 ppm of $\text{NO}_3\text{-N}$ are considered high risk, which is appropriate. The potential for nitrate toxicity is lower in grazed forages than in hay with the same level of nitrate due to the following factors:

- Grazing animals eat more gradually than those receiving hay.

- When cattle are grazing, they tend to be selective and do not graze the entire field close to the ground (where nitrate is highest). This means that if allowed access to the field (not strip grazed), they will likely consume the plant parts with lower nitrate concentration first. This will reduce the amount of nitrates consumed during the grazing period.
- Fresh (high-moisture) forages release nitrates into the rumen at a slower rate than dry forages such as hay.
- Cattle consuming high-energy diets can handle more nitrates than those on low-energy diets. Many of the cover crops grazed are very high energy, including the brassicas and immature grasses.

It should be noted that allowing a warm-season summer annual to reach maturity and stockpiling it for winter grazing will reduce nitrate toxicity susceptibility. Although toxicity concerns will be less than with hay since the animal can be selective and intake will be slower, the buffer of high moisture or high energy is reduced.

During the past few years we have grazed calves on fall cover crops. When analyzed for nitrates, many of these would be considered extremely high risk (see Table 1). However, no signs of toxicity were noted and calves

gained 1.3 to 2.2 lb/day (low rate of gain was in 2015 with extended cold/wet weather). In all instances, calves were allowed to be selective (access to the whole field at once; 60 days of grazing). Forage quality was very high (above 65% TDN).

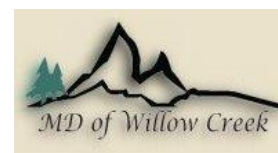
Table 1. Nitrate potential of oats and brassicas planted for grazed forage (Source: Mary Drewnoski)

Forage	$\text{NO}_3\text{-N}$ in PPM	Animal	Year
Oat, turnip, radish	6146	Steers	2014
Oat, turnip, radish	4655	Steers	2015
Oat, turnip, radish	2158	Heifers	2015
Oats (south paddock)	912	Steers	2015
Oats (north paddock)	4414	Steers	2015
Oats (north paddock)	3921	Steers	2016
Oats (south paddock)	8026	Steers	2016

To summarize, nitrate toxicity will always be a concern when planting cover crops for forage in hail-damaged crop fields. Grazing cover crops with elevated nitrate concentrations does have some risk, which can be reduced with careful management.

(Continued on page 8)

Thank you for your support!



Handy Tips to Prepare for Calving Season

With spring calving season just around the corner, now is the time to evaluate your beef cows and heifers to help make the calving season go smoother and set your herd up for success in the next breeding season.

Dr. Jody Wade, Professional Services Veterinarian with Boehringer Ingelheim Vetmedica, Inc., says cow-calf producers need to focus on three key areas to help the calving season go smoothly:

- Body condition of heifers and cows
- Vaccinations to boost colostral antibodies
- First aid kit fully stocked and a clean calving area

Body condition

It is important for cows to maintain a body condition score (BCS) between 4.5 and 5.5 during the final trimester. A higher body condition score allows for improved calving ease, along with higher quality colostrum. First-calf heifers should have a BCS of 5.5 to 6 before calving. However, producers should avoid cows or heifers with too much body condition (BCS 8 or 9) since that can lead to calving difficulty.

“Heifers are still trying to grow, while also providing milk and preparing to rebreed. After calving, they won’t add body condition so it is key that they are in really good condition before calving,” says Dr. Wade.

Vaccinations

Entering the third trimester, producers should consider vaccinating with a killed-virus vaccine, like Triangle® 5 or Triangle® 10, to boost immunity. Dr. Wade recommends that producers focus on the viral diseases like BVD Types 1 and 2, BRSV, PI₃, and IBR. He adds that producers could also consider a clostridial vaccination at this time, if needed.

Dr. Wade explains that the immune response developed from the vaccination forms antibodies that pass from cow to calf through the colostrum. He encourages producers to work with their local veterinarian to develop a health program that fits the producer’s management style and protects the cow herd from regional disease challenges.

Dr. Wade says that vaccination cannot overcome poor nutrition. “Cows

and heifers have to be in the right condition to respond to vaccinations,” he says. “Vaccines can’t make up for lack of feed or water.”

Calving Time

Don’t wait until you have problems to develop a plan. Dr. Wade recommends having the following items ready before calving season.

- Clean calving area
- Functioning calf jack
- Obstetric chains
- Plastic or latex gloves
- Good functioning lights for nighttime calving problems

Easy access to local veterinarian’s phone number (including a back-up option)

Dr. Wade says it is important for producers to have patience when heifers or cows begin calving. “You don’t want to intervene too quickly because cervical dilation may not be complete and you can accidentally tear the cervix or uterus,” he explains. “There is also the chance of breaking the calf’s ribs or a leg if we are too aggressive too early.”

However, Dr. Wade cautions that producers need to be aware of how long a heifer or cow has been in the process. “If there is a problem, we don’t want to delay too long or we risk losing the calf,” he explains. “After the placental membranes appear, you should expect to see the front hooves followed by the nose shortly. If everything goes well, a cow should be done calving in 10 to 30 minutes.”

Dr. Wade says heifers are a different story. “Heifers may take a little longer, but they should still calve within one to three hours after the placental membranes appear.”

Dr. Wade says if cows or heifers are disrupted during calving, then you will need to give them a chance to settle back

in, so the process may take longer.

“If you see the hooves facing upward, then you have a breech birth and you should contact your veterinarian immediately,” recommends Dr. Wade.

After the calf arrives safely, make sure the calf consumes at least one quart of colostrum within six hours of birth. This is also a good time to make sure the calf is getting up and around without any motor function problems. To get off to a really good start health-wise the calf should consume three quarts of colostrum within the first 24 hours of life.

“A little planning now goes a long way toward a trouble-free calving season and prevents problems before they start,” concludes Dr. Wade.

Feedlot Magazine—<http://feedlotmagazine.com/handy-tips-to-prepare-for-calving-season/>



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Rotating Pastures to Reduce Scours in Calves



Photo by Lee Gundersen

Solid herd management practices mitigate the threat of a scours outbreak. While rotating calves through pastures is less common than some of the more obvious measures taken, those who do use it swear by its effectiveness.

One such cow-calf operation is Whiskey Creek Ranch, owned by Clay and Jesse Williams. Jesse is a past Cattlemen's Young Leaders Program graduate and current Alberta Beef board member. This young husband-and-wife duo started their cow-calf operation near Hanna, Alta., four years ago. They had both just returned from a hectic few years in downtown Calgary getting their respective educations and working lucrative jobs in order to kick-start their ranching dream, Jesse with her botany degree and Clay as a petroleum engineer.

Both had ranching backgrounds and concrete ideas of what was important to get their operation started and how to make it profitable for the long-term growth and expansion goals they had in mind. It was obvious to them that the higher percentage of calves they could wean — and ultimately sell or retain for breeding — the more likely they would be able to sustain and grow their operation.

Scours may not seem like a critical issue in the Hanna area, which is often drought-stricken. But both Clay and Jesse have off-farm jobs that keep them busy later in the spring. It makes more sense for them to finish calving in March. However, in their area March conditions can

swing from dry ground to snow-covered to muddy within a few hours.

Fortunately, Clay's parents had used a pasture-rotation system for years. They "created their program based on their experiences calving purebreds in February and March over the years," says Jesse Williams. This made it an easy decision to model the new Whiskey Creek Ranch set-up after a tried-and-true system.

For their 150 head of Simmental/Angus-cross cows they designed and built a series of small pastures to facilitate three distinct groups during calving season. First they have one specific pasture where they house the cows before calving that is not used at any other time of the year. The cows in this area are closely observed via a camera system for signs of an impending birth or new hooves on the ground.

Once the cow calves, or is about to calve, she moves to the second stage of the system. The pair stays here for up to 36 hours, cameras present, so that Clay and Jesse can monitor them for any sign of illness.

"The rotation system means you are looking at those calves daily and you can easily identify any scouring calves immediately, isolate the prob-

lem and prevent the spread," says Williams.

The area in the second phase is well-bedded and the bed pack is constantly being changed out to reduce the chance of illness.

"By limiting the exposure of other calves to scouring calves or infected bedding (especially during those first few fragile days) you can prevent a herd-wide problem," says Williams.

Once they are confident the calf is in the clear health-wise, the cow and calf are relocated to the after-calving pasture. Alternating the pasture that they use for this third and final phase of the system on an annual basis is key to the system's success.

Aside from the rotation system, there are a few additional pieces of the puzzle they think are instrumental in cutting scours incidents. Inoculating the cows with a scours vaccine before calving boosts the calves' immune systems in utero. They have also noticed that the better body condition score the cow has, the more likely the calf is to have a stronger immune system. Along with that, careful observation of the calves allows them to spot early symptoms and then treat the animal accordingly, generally with a combination of scour bolus and electrolytes.

"Preventing dehydration is the absolute key to getting these calves healthy. Once a calf gets dehydrated things can get really bad really fast," says Williams.

Williams admits that while this method has worked exceptionally

(Continued on page 5)

(Continued from page 4)

well for them, having never lost a calf to scours so far, it does have its drawbacks. It is a labour-intensive system that only works if you are diligent about keeping a close eye on the animals and are willing to be constantly moving the freshly calved cows, along with their calves, through the system.

She also notes that when calving out cows in close quarters, often in wet, sloppy conditions, some calves are bound to contract scours. If you are not equipped with the knowledge and skills to identify and treat these calves properly at the onset of the illness, and have to call the vet, it will cost you a lot of money. Fortunately, the two of them are able to avoid this additional cost by performing these tasks themselves.

There's also a cost to reconfiguring a place that's not otherwise set up for this type of system. This could include the addition of portable shelters and windbreaks that can be moved often, electric fencing or cam-

era systems. Not only that, the animals have to adjust to the system and be comfortable with more frequent handling, as well as having their calves handled on a regular basis.

Still, they've found that pasture rotation is an effective way to manage scours in their operation. They'll continue calving in March with this system because, as Williams says, it works best for their lifestyle, allows them to manage scours easily, and helps them put pounds on their calves.

Jesse and Clay Williams have big plans for the future of their operation. With customer demand steadily increasing for their easy-calving, maternal Simmental/Angus replacement heifers, they want to continue to grow their cow herd as aggressively as possible to meet that need. In July 2018 they welcomed daughter Harper to the crew. Harper's arrival hastened their decision to expand their small herd of purebred Simmental cows to give her the opportunity to show cattle when she gets older.

They also have a few ideas for improving their current calving rotation system. As their herd grows, and they depend less on their off-farm jobs, they intend to increase the number of pastures used in their rotation.

"We currently switch between two after-calving pastures but our calving and immediately-after-calving pens/pastures are the same each year. I would like to be able to rotate those pastures and pens more, just to be sure we aren't fostering any scours year-to-year," says Williams.

Mona Howe—Canadian Cattlemen

[https://
www.canadiancattlemen.ca/2019/01/
16/rotating-pastures-to-reduce-
scours-in-calves/?module=under-
carousel&pgtype=section&i=](https://www.canadiancattlemen.ca/2019/01/16/rotating-pastures-to-reduce-scours-in-calves/?module=under-carousel&pgtype=section&i=)

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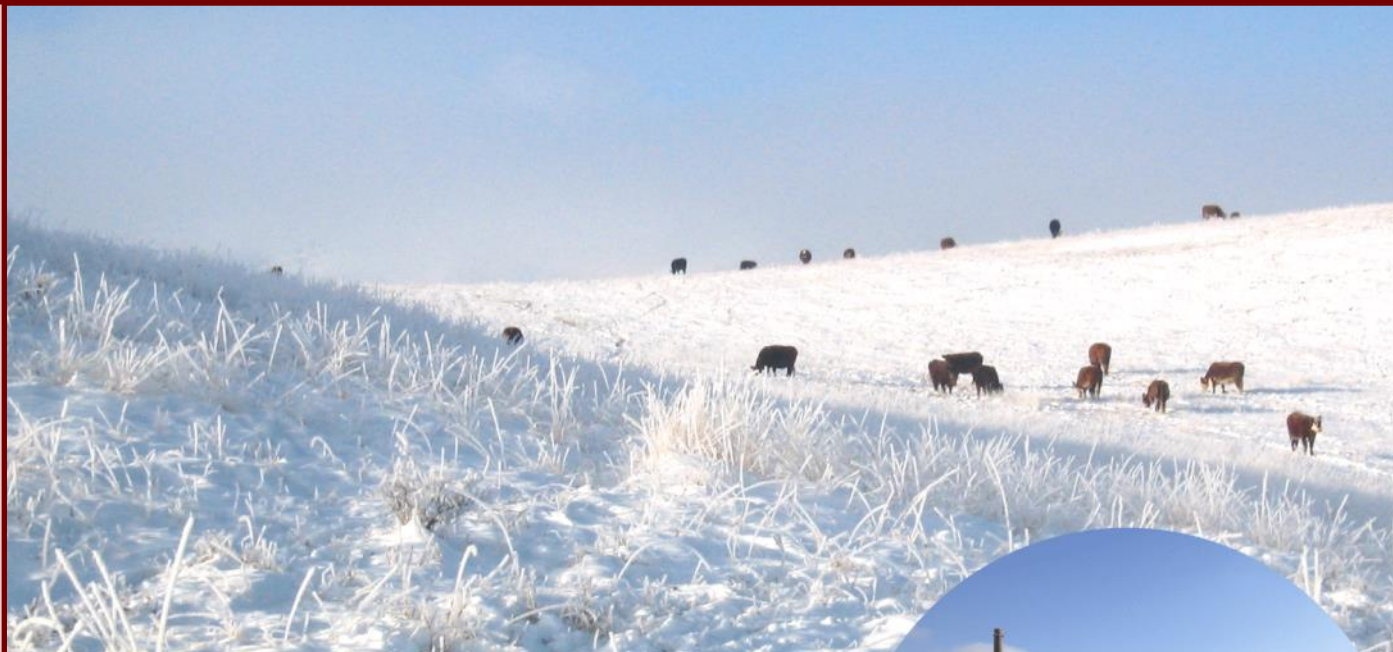
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FFGA is looking for a motivated, enthusiastic summer staff member to assist with our applied research demonstration sites, data collection, extension activities and public relations. The successful candidate will interact closely with producers, researchers, extension specialists, industry and educational institutes.

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- Collect, enter and review data from demonstration trials
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We thank all applicants for their interest; however only those selected for interviews will be contacted.



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Management Strategies to Mitigate Nitrate Toxicity

Make sure cattle are full before putting them on fields. Regardless of the nitrate level, a good management practice is to fill cattle up with hay before turnout.

Use lower risk cattle, if possible. The group with the greatest risk of negative consequences due to feeding on high-nitrate forages is pregnant cows, as abortion can result. Open cows are the best option followed by growing calves (stockers or developing replacement heifers before breeding).

Gradual adaptation is a key management strategy to minimize risk when using high nitrate forages. Losses from nitrate toxicity will be much greater in cattle not adapted to nitrate. The bacteria in the rumen capable of degrading nitrite to ammonia for bacterial protein synthesis will increase when nitrate is available to them. Adapted animals can safely be fed higher levels. To adapt the cattle, start by grazing the lowest-nitrate fields and then work up to the highest.

Graze higher N fields lightly to allow animals to selectively graze plant parts that are lower in nitrate concentration. Nitrate level varies with location in the plant. Nitrate tends to accumulate in the lower stem, so overgrazing so that cattle have to eat the lower stem can cause an increased intake of nitrate.

Consider grain supplementation while adapting cattle to high-nitrate, lower quality forages such as mature sorghum x sudan-

grass hybrids or pearl millet. This will supply energy for rumen microbes to convert nitrate into bacterial protein and minimizes the intermediate nitrite production. Brassicas, such as turnips and radishes, are highly digestible and as such may provide enough energy to allow for increased microbial protein synthesis. Grain feeding may be of limited benefit for high quality cover crops.

Ultimately, the decision to graze high nitrate fields is a judgment call and a question of how much risk a producer is willing to take.

Institute of Agriculture and Natural Resources. Cropwatch. <https://cropwatch.unl.edu/2018/reducing-nitrate-concerns-when-grazing-forage-cover-crops>



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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.

This Publication is made possible by our two major funders - the Agriculture Opportunity Fund and Alberta Agriculture and Forestry.



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