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GRASSROOTS NEWS & VIEWS

JUNE 2019

Directors Note - Justin Blades

Howdy Folks;

As our valley wraps up branding, I find myself getting use to smoke. I don't mind the branding smoke, but the forest fire smoke is not my favorite environment to work in. For us, June is a month of sorting pairs into their breeding groups and moving all the cattle from our home ranch to their summer pasture. The replacement heifers and Gordon's D cows will be returning to the Cartwright Ranch on Pekisko creek. Others will be trailed to the Livingstone and Old Man River basin to spend the summer. The first calf heifers and younger cows will summer on Rice creek, and the most productive cows will be summered between the home ranch and Chaffin creek forestry. They all get trailed to their summer destinations except for Chaffin creek cows. This all leads to many days in the saddle which I enjoy. June will end with turning the bulls out to calve in April of next year.

We have received some much-needed rain this spring. It has made grass management easier than last year. We will require more to have an average year as our reserves in the dugouts, potholes and soil have been depleted through the last couple years. As some of our range at Chimney Rock burned in the fall of 2017 the standing aspen trees were killed. Now they are starting to sucker back thick from the root system. I am planning on intensively grazing them this spring to thin the trees. I received some information on this at the Maycroft hall at a field day hosted by FFGA along with a tour of the

Waldron Ranch. I will try to keep you posted on the results of the project as outcomes occur. I do not think it will be a simple once over fix, but I believe that natural control is better than mechanical or chemical methods. Most of this is lease land, so I will be working with John Carscallen on this project.

On a more immediate note, on June 11 & 12 FFGA is hosting 2 Soil Health field days with Jill Clapperton; one in Nanton and the other in Didsbury. I am sure I will see some of you there. I look to the July edition of the *Grassroots News & Views* where Morrie will fill you in on the outcome of the days, (as he scooped me for the July newsletter)! Just kidding...he is just more organized than I am and spoke for it first. Please find the time to attend one of FFGA's events this year, it will be well worth your time.

Hoping to find you all with plenty of rain and sunshine.

Justin Blades

Branding photos by: Lori Stuart



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Don't delay planning your winter feed supply



Swath grazing at Doug Wray's

This past winter was challenging, particularly for those of you who experienced drought in 2018. Feed supplies were extremely tight and compounded by unseasonably cold weather in February and March. As a result, many producers had to scramble to get sufficient feed to carry their cattle through the winter. While it is too early to tell what the 2019 growing season has in store for us, for those of you who got caught short last year, it might pay to do some early planning for the upcoming winter. This column will give examples of steps one can take to ensure that feed supplies are in place when needed.

When faced with the prospects of potential drought, the tried and true option that many producers turn to is the use of annual crops to supplement winter feed supplies. Crops such as barley, oat and triticale can be seeded in early spring and then cut and baled as greenfeed or left in swaths for winter grazing. Silage is also an option for those who are set up for it or have access to custom operators. For greenfeed or swath grazing, seeding is typically delayed (i.e. late May through mid-June) such that in early fall prior to a killing frost, the crop is at the soft dough stage in the case of barley and triticale,

and in the late milk stage for oat. From a nutrition perspective, cereals cut at this stage are similar to good-quality grass hay. Recent research at the University of Saskatchewan has shown that barley harvested at the hard dough stage will maximize dry matter yield without negative consequences on animal performance, a strategy that can further extend forage supplies. Warm-season crops such as corn and millet have also been successfully used for swath grazing.

Crop residues such as barley or wheat straw are typically in high demand during drought situations. These byproducts, while deficient in almost all nutrients, can be successfully fed to wintering cows as part of a balanced nutrition program. Traditionally, wheat and barley straw have been considered relatively cheap forage sources. However, securing adequate supplies — whether it is for feed or bedding — has become a difficult task. This is in part due to changing crop rotations, as well as to implementation of new harvesting technology that leaves the residue in the field as opposed to laying it in rows for baling. Advanced planning and co-ordination with neighbours is often necessary to secure an adequate supply.

As discussed previously in this column, corn residue also offers significant opportunities for supplementing winter forage supplies. Corn residue consists of the leaves, husks, cobs and stalks, and any kernels or cobs not harvested. The energy value of this residue depends in large part upon the relative proportions of the above residues. If one considers only the plant residue (i.e. leaves, husks, stalks and cobs), one is typically looking at a feed source that is slightly better than cereal straw in both energy and protein con-

tent. Residue grain kernels or unharvested cobs will greatly increase the feeding value of the crop aftermath and extend the number of grazing days. For cows in early to mid-gestation and not experiencing cold stress, corn residue can be an adequate energy source. However, protein may be limiting.

Depending on how the summer unfolds, canola is another feed option that may be available to some producers. As with most forage crops, stage of maturity at cutting is critical. When cut at late bloom to mid-pod stage of maturity, canola hay is similar to alfalfa/grass hay in feed quality. However, when harvested at full pod, the plant is much more lignified and quality is similar to slough hay. When cut for silage, canola requires wilting to 65 per cent moisture to prevent excessive seepage. As with good-quality hay, canola silage should be harvested at the early- to mid-pod stage of development. Canola-based feeds should be tested for sulphur and nitrate levels to minimize any potential toxicity issues.

In addition to planning ahead with alternative forage sources, producers who anticipate a drought situation should also be looking to lock in alternative feed supplies. Typically, these are byproducts of the grain and oilseed processing sectors such as oat or soy hulls, grain screening pellets, dried distillers grains, malt sprouts, lentil screenings and various protein sources such as canola or soybean meal. These byproducts vary in energy and protein content according to the parent grain or oilseed as well as to the nature of the processing method involved. For example, from a nutrition perspective, oat hulls are very similar to barley or wheat straw, while corn distillers grains have a similar

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Drought brings additional livestock challenges



Photo by Lee Gunderson

It appears substantial areas of the Prairies have potential to experience significant drought once again this summer.

Years in which we have significantly less than normal rainfall can have major effects on pasture quality and forage ability. As well, the impacts on animal health can be significant and far ranging.

First, we should have major concerns about water quality on many areas of the Prairies. During a drought, water that may have been acceptable for animal consumption can become toxic as the summer progresses. Evaporation can lower water levels in dugouts throughout the summer and especially during a drought can begin to concentrate mineral levels.

In those geographic areas that have been dealing with low moisture for several years, the dugouts and water sources may already be quite high in sulfates even

before the heat of the summer occurs.

Sulfate toxicity can impair copper absorption, causing a copper deficiency that results in low growth rates, impaired fertility, anemia and hair colour changes.

At higher levels of sulfate (more than 2,000 parts per million) we may begin to see signs of nervous disease in cattle.

Polioencephalomalacia (PEM) is the technical term for a nervous disease of cattle characterized by blindness, difficulty walking and seizures. Eventually, the animals will become recumbent and may die.

Water can easily be tested for sulfate levels and in dry summers it is important to monitor dugouts as their sulfate levels may increase as evaporation occurs.

Electrical conductivity meters, if used correctly, can provide a quick estimate of water quality before sending samples to the laboratory. Your local livestock agrologist, veterinarian or nutritionist can assist you with getting your water tested and interpreting the results.

Blue-green algae may become more common when we have warm daytime conditions during the summer. This cyanobacteria can live on the surface of stagnant, nutrient-rich water bodies such as dugouts and will appear with a blue-green sheen on the surface of the water, which

appears like green paint or curdled greenish milk.

Strong winds can cause the algae to accumulate at one end of the dugout or water body and when the algae die they can release potent neurotoxins that can rapidly kill the animals.

Dugouts can be treated with copper sulfate to kill the blue-green algae, however, it is critically important to recognize that cattle should not be given access to the dugouts for 12-14 days after the treatment has been administered to the water. The algae that have been recently killed are releasing toxins during this period.

A variety of plant toxicities are much more likely during seasons of drought. Cattle that have limited grazing are more likely to consume plants that they would normally ignore in more lush grazing situations. Grain aflatoxins are sometimes higher in plants such as corn when stressed. Nitrates and cyanide may be higher within stressed plants as well.

In addition, producers are sometimes forced to use novel feeds that can sometimes also have toxic components. For example green flax has high levels of a toxic compound known as cyanogenic glycoside, which can be converted to prussic acid when the plant is damaged by drought, wilting, or other trauma such as animal trampling.

Fog fever is a common name for a specific pneumonia of adult cattle. Outbreaks of fog fever are most commonly associated with moving cattle from dry-stressed pastures to more lush grazing. We have also seen outbreaks occur in areas that have received significant lush regrowth after a prolonged dry spell.

Outbreaks usually occur 10-14 days after cattle are exposed to the more lush grazing conditions. The pneumonia that develops is unique from many of the other pneumonias that ranchers are familiar with.

The respiratory syndrome is caused by a protein in the lush pasture called tryptophan. When the cattle are exposed to higher levels of tryptophan gradually, and their rumen bacteria are not adapted to this protein, this protein is converted by the bacteria in the rumen and produces a toxin known as 3-methyl-indole that is circulated in the cow's bloodstream to the lungs. Once the toxin reaches the lungs it causes severe cellular damage and the result is a severe, untreatable respiratory

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syndrome.

Vitamin A levels can also be affected because of drought conditions. The relationship of vitamin A levels to drought is well established and a recent western Canadian study showed that vitamin A levels were significantly lower in herds that were in geographical areas that had less than 200 millimetres of rain in the previous growing season, compared to herds that grazed where there was adequate precipitation.

Newborn calves get almost all of their vitamin A from the colostrum they consume shortly after birth. They are actually born with very low levels of vitamin A and are reliant on their dam's vitamin A levels in her colostrum.

If a cow has been grazing under drought conditions or fed stored feeds low in vitamin A and not received adequate levels of supplemental vitamin A, the calf will be at a much higher risk of being deficient in vitamin A. Vitamin A is necessary for adequate immune function and normal growth. Studies have demonstrated that the calves deficient in vitamin A were almost three times more likely to die than calves that have adequate levels of vitamin A for their age.

You might want to consider supplementing your cows and calves with vitamin A this year to prevent deficiencies.

The consequences of decreased body condition and reproductive performance during drought must also be considered. Cattle with fewer feed resources during the grazing season will be at risk of lower body condition.

Numerous research studies have shown the impact of body condition on fertility. By 70 days after calving, only 55 percent of thin cows will have started cycling again compared to 96 percent of cows that are in good body condition.

In addition, the first service conception rates may be as much as 20 percent lower for thin cows. The results are dramatic and can have significant effects on the pregnancy rate in the following year. If cows aren't cycling, they cannot get pregnant.

This problem may take another year to manifest itself if cows go into this grazing season in reasonable body condition or it may appear as lower pregnancy rates in this year, if the cows are already in borderline or poor body condition.

Drought always creates significant challenges for our industry and preventive strategies and solutions to protect

animal health are possible but often logistically difficult.

Consult your veterinarian, nutritionist or local livestock agrologist to determine which strategies would be the best fit in your situation. Let's hope that a few good rains will prevent all of these issues from occurring.

John Campbell is a professor in the department of Large Animal Clinical Sciences at the University of Saskatchewan's Western College of Veterinary Medicine.

Original article can be found at <https://www.producer.com/2019/05/drought-brings-additional-livestock-challenges/?module=carousel&pgtype=section&i=2>

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Persistence Pays



Forage legumes provide high yields, protein, and good animal performance while improving soil fertility by fixing nitrogen from the air. Alfalfa is the highest yielding and most widely-used legume but can cause bloat. Legumes like cicer milkvetch, sainfoin and birdsfoot trefoil do not cause bloat. As little as 25% sainfoin in a pasture can virtually eliminate the risk of bloat even if the other 75% is alfalfa.

The problem is that older sainfoin varieties don't regrow as fast as alfalfa after grazing. Alfalfa's aggressive nature allows it to outcompete sainfoin for sunlight, moisture and nutrients. Without careful grazing management, sainfoin can disappear from a pasture in a few years. This might be because plant breeders have traditionally selected new varieties for clipped forage yield under monoculture conditions. This doesn't reflect the challenges sainfoin faces when grown with alfalfa and grazed.

Surya Acharya at AAFC Lethbridge has been breeding sainfoin that regrows more rapidly after grazing and persists longer in mixtures with alfalfa. New varieties (e.g. Mountainview and Glenview) have already been released, but there are more in the pipeline. An update on these ongoing efforts was published in 2017 (*Performance of Mixed Alfalfa-Sainfoin Pastures and Grazing Steers in Western Canada, Professional Animal Scientist* 33:472).

What They Did: New sainfoin populations were selected at AAFC Lethbridge for improved regrowth and persistence when grown with alfalfa and cut several times during the growing season. Three promising sainfoins (coded as A, B and C, with Nova as a control) were seeded with alfalfa in alternate rows to achieve 50:50 alfalfa:sainfoin stands, and tested under

grazing conditions in Swift Current and Lethbridge. In Swift Current, sainfoin was seeded with Beaver alfalfa in 2009 and rotationally grazed under dryland conditions using 80 yearling Angus steers in 2010 and 2011. In Lethbridge, sainfoin was seeded with AC Blue J alfalfa (which yields better than Beaver) in 2008, cut in 2009, and rotationally grazed under irrigation using 80 yearling Hereford

steers in 2010, 2011 and 2012. Pastures were rotated when 60% of the forage had been used. Alfasure was used for bloat control in Lethbridge but not Swift Current. Forage yields, persistence, animal performance and bloat were tracked.

What they Learned: All growing seasons were wetter than the 30-year average at both locations, but irrigation allowed longer rotational grazing seasons in Lethbridge (41 to 61 days) than in Swift Current (21 to 29 days).

Forage yields averaged 1.8 tons/acre and did not differ among any of the alfalfa:sainfoin mixtures in either grazing season at Swift Current. At Lethbridge, rotationally grazed pastures averaged 4.1 tons/acre. Sainfoin A out-yielded Nova in one year, C out-yielded Nova in two years, and B out-yielded Nova in all three rotational grazing seasons.

Sainfoin persistence: All plots contained 50% sainfoin at the start. By year 2 in Swift Current, sainfoin B was 39% of the stand, while A, C and Nova had dropped to 25 or 26%. After three years of rotational grazing in Lethbridge, B was at 40%, C was intermediate (29%), while A and Nova were lowest (5 to 11%).

Animal performance: Average daily gains and gains per acre were higher in Lethbridge (2.3 lbs/day and 397 lbs/acre) than in Swift Current (2.1 lbs/day and 187 lbs/acre) but not statistically different among varieties at either location. More animal data would be needed to detect performance differences among the sainfoin. No bloat was observed.

What it Means: Upcoming sainfoin varieties have improved persistence and yield when grown and grazed in mixed stands with alfalfa, but one size doesn't fit all. The varieties that perform best in slightly heavier soil and irrigation may not per-

form as well under drier, more challenging conditions.

This team used an unusual approach. Not all forage breeders test new strains under different soil, climatic and management conditions before releasing varieties. That's important, because new forage species or varieties may not meet expectations if they were developed under conditions that don't resemble your own. Ask questions when considering new varieties – results may vary!

Long-term forage breeding work is costly, especially when multiple sites are used. Grazing trials are even costlier; more seed is needed for each of the experimental varieties in order to establish plots that are large enough to graze, plus the added land, animal, sampling and analysis costs. Producer check-off investments are important to make sure that AAFC and other public institutions maintain their forage breeding programs. This is especially critical for legumes like sainfoin; their smaller acreage relative to alfalfa may not attract investment from private breeders.

The Productivity pillar of Canada's National Beef Strategy aims to increase production efficiencies by 15%, partly by increasing the yields and nutritional quality of tame and native annual and perennial forages through improved pasture, hay and grazing management, plant breeding and variety selection recommendations. The Strategy explains why the Canadian Beef Cattle Check-Off increased from \$1 to \$2.50 per head in most provinces (with approximately 75 cents allocated to the Beef Cattle Research Council), and how it is being invested.

This article written by Dr. Reynold Bergen, BCRC Science Director, originally appeared in the May 2019 issue of Canadian Cattlemen magazine and is reprinted in the FFGA Newsletter with permission of the publisher.

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energy value to corn grain but have significantly higher protein content. Most importantly, these byproducts are in high demand at the best of times and during drought situations can be extremely hard to access. Advanced booking is often necessary to avoid tight supplies and high prices.

As I indicate above, we do not know what 2019 has in store for us. We

do know, however, that those who plan for adversity are generally those who are in the best position to withstand whatever Mother Nature throws at us.

Author: John McKinnon. Original article can be found at <https://www.canadiancattlemen.ca/2019/05/29/dont-delay-planning-your-winter-feed-supply/?mod->

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