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## GRASSROOTS NEWS & VIEWS MAY 2020

### Manager's Note — Laura Gibney

#### Greetings FFGA members;

I hope this finds you healthy during this unprecedented time. Having my girls, (3 and 5 years old) home full time has been an interesting shift these past several weeks, we are missing extended family, friends and activities but are blessed to be safe, happy and healthy. We are making the most of the additional family time and I am sure glad my eldest is only in kindergarten so the shift to 'home schooling' has been pretty straight forward – practicing our letters and numbers sure beats high school chemistry, math and physics. Hopefully many of you are enjoying the extra family time as well as the extra hands on deck for calving, seeding, branding and the busy spring season.

Here at FFGA we are adapting to the changes that come with physical distancing. Sonja, our Environmental & Communications Coordinator, has been working from home since March 20<sup>th</sup> and will continue to do so until more physical distancing measures are lifted. I am balancing working at the office and a bit from home as childcare and my husband's schedule allows. Even though the office is currently closed to walk-in traffic we are still working and enjoy phone calls and emails from our members!

FFGA is sitting in a healthy fiscal position for the 2020 year having received core funding from the Alberta government as well as 4 project grants, corporate sponsors dollars, county and MD support, membership revenue and our other usual channels of income. COVID-19 has of course had a significant impact on FFGA as we are currently unable to deliver in-person extension

events. Unfortunately, we have had to post-pone our Annual General Meeting, we are hopeful for a late summer or early fall AGM, or if we must, we will look at virtual or alternate options at that time. We sincerely hope that the 8 people who agreed to nominations for the FFGA Board will still let their names stand when we are able to proceed.

For the time being we have made a shift from field tours and events to online webinars. Our first webinar with Jim Gerrish on April 22<sup>nd</sup> had 93 attendees with an additional 80 people registered to receive the link to the recording. With the success of this first webinar we have been working hard to unroll an informative series of webinars, they can be found on page 9 or on the new [webinar](http://www.foothillsforage.com) tab on the FFGA website at [www.foothillsforage.com](http://www.foothillsforage.com).

Our 3-day Soil Health Academy with Gabe Brown and Allen Williams is scheduled for July 20-22<sup>nd</sup> near Longview. At this point the board has decided to continue to take registrations (but not payments) for the school in hopes we will still be able to go ahead. A final decision will be made in early June – if you are interested contact me and we'll add your name to the list.

For the time being everyone is receiving an electronic newsletter and we will go back to hard copies when we are able. We are continuing with several of our on-going projects including the Rancher Researcher project, Carbon Sequestration projects in partnership with both provincial and national bodies as well as our Soil Health Benchmark project.

Take care, stay well and keep in touch virtually until we can meet again,

Laura Gibney

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Laura and family December 2019

# Selecting the right forage mix has never been easier



Photo: Sonja Bloom

*New forage selection tool builds on extensive research and puts it all in an easy-to-use package*

Trying to decide what forage to seed in a newly broken field? The Forage U Pick selector takes the guesswork out of it.

Forage U Pick is not a new tool. Twelve years ago, the Saskatchewan Forage Council developed a Dryland Forage Selection Tool. It was well used by producers in that province, provincial ministries, and educators. But old technology was an issue and this led to a vision of a western Canadian forage tool and a collaboration across the four western provinces began.

“The real push came from the Alberta Beef Forage and Grazing Centre,” said project co-ordinator Julie MacKenzie.

The new online tool has a user-friendly layout, and is optimized for mobile devices.

The home screen has three options: Forages Suited to My Field, Seeding Rate Calculator, and Forage Weed Management.

The latter is an important component, said MacKenzie.

“We know economic success can really increase in forages with weed control,” she said.

When Forages Suited to My Field is selected, a map of Western Canada opens so the user can select their province. In Alberta, there are five soil zones the user can select — Peace River, Grey, Black, Dark Brown and Brown — and each has a list of forage species suited to that zone.

Forage specialists across the provinces were consulted and their extensive research over the past 60 years has been used. That research has looked at not just soil type, but also climatic conditions within the soil zones.

“It’s amazing how much they have learned even in the 12 years since the Saskatchewan Forage Council tool was developed,” MacKenzie said.

To narrow things down further, a user then selects up to 10 field characteristics. These range from the purpose of the forage (pasture, hay, stockpiled, or

reclamation), time of use (spring, summer — including hay, fall, or winter) to desired plant type (tame, native, legume, or grass species).

“To make Forage U Pick the easiest and most practical to use, we’re not going to overprescribe,” said MacKenzie. “Picking one, two, or three of your main characteristics you’re looking for in a forage is going to get you your best result.”

“Focus on a couple of things you want to address on your farm.”

When the field characteristics are selected, the tool then offers a list of forages suitable for the chosen site, with some highlighted and others shaded out. The shaded-out species are those suited to the selected soil zone, but not best suited to the field characteristics that were selected.

The highlighted species are ‘clickable’ and when chosen, three key points about the species appears. From there, the user can select Full Details to see photos of the species and find out additional information, such as yield and hardiness.

“We’re very lucky (to have this),” said MacKenzie. “This is a hybrid of information between the British Columbia Forage manual, the Alberta Forage manual, and the previous Saskatchewan forage tool.”

Currently the Forage U Pick focuses on perennial forages, and annuals were not included in the species selection.

“If we get enough information and research about novel

**On the cover:** Rotational grazing on the Waldron Ranch. Picture taken during the Level 2 Grazing School with Jim Gerrish Summer 2019. Photo: Sonja Bloom

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## Thank you for your support!





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annuals within Western Canada in the next couple of years, then maybe we can build an annual component into Forage U Pick,” MacKenzie said.

Up next is the Seeding Rate Calculator.

It asks for similar information as the Forage U Pick selector — soil zone, irrigated field, or for reclamation purposes. The calculator also supplies recommendations for increased seeding rates to improve stand establishment — something that can plague newly seeded forage stands.

Blends can be calculated, too, selecting percentage of species for the total stand. A unique option allows the user to input the cost of seed per pound, giving the cost per acre of seeding. Once the information is inputted, a summary appears at the bottom giving the forages selected, percentages for each mix, recommended seeding rate, cost per pound and total cost.

Users can then take a snapshot of it and send to their seed retailer to formulate custom blends.

Seed size and seed weight, especially when doing blends, are not always equal, MacKenzie said. “This is where calculators can really help us and get us the forage stands we want.”

This is a good place for producers to start, she added.

“The goal of the project is to help producers across Western Canada. We want to see people using good forages, this tool helps you select good species for your situation. We want to ensure seeding rates are adequate to produce healthy, economical forage stands.” A new forage selection tool builds on decades of research, much of which has advanced considerably in recent years, says Julie MacKenzie.

*Author: Jill Burkhardt. Original article can be found at <https://www.albertafarmexpress.ca/crops/selecting-the-right-forage-mix-has-never-been-easier/>*

*Subscribe to FFGA Facebook and Twitter for updates on when the Forage U Pick Tool becomes available.*

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# Seeding tips for perennial forages



*Wild oats (yellow) invade the area the sprayer missed during the establishment year. The green is the nurse crops of oat. Photo: Lorne Klein (supplied)*

## *Managing plant residue from the previous year is important*

Traditional annuals and cocktail cover crop mixtures can make great forage for cattle on a temporary basis, but over the long haul a good stand of perennial pasture may be the best choice, according to Lorne Klein, range management extension specialist, Saskatchewan Ministry of Agriculture at Weyburn.

As a resource for producers who want to establish a good perennial pasture, he recommends a document called *Successful Forage Crop Establishment*, published by the Saskatchewan Forage Council.

“The important thing is to plan ahead. Order seed the winter before you plant, and know the germination details. Make sure you are ordering the right species and varieties for your own situation,” Klein says. “For instance, whether your basic grass should be meadow brome or crested wheatgrass will depend on your soils and climate.”

Also consider whether there is any herbicide residue from the year before, says Klein, as it can affect what you’re trying to plant this year.

Managing plant residue from the previous year is also important.

“If there was a massive amount of straw and it was spread rather than chopped, it may interfere with seeding. You need to think of all the things that could go wrong,” says Klein.

Also consider whether perennial weed control was lacking in previous years, Klein says, as it can be a big issue.

“Perennial weeds, whether quack grass, Canada thistle or some other prolific plant can be hard to control — especially if you are using a combination of legume and grass, which a good pasture should have.”

## **Species selection**

Grant Lastiwka, forage extension specialist with Alberta Agriculture and Forestry (previous), says high-legume pastures are usually best for forage value and soil fertility, due to the nitrogen-fixing legumes.

Lastiwka says while some people are concerned about bloat in high-legume pastures, non-bloating species are available. A good pasture has several functional species types, he says.

“I want a grass that regrows rapidly after grazing, and one that will provide a bit of sod to protect and create surface cover. In some areas it is a challenge to keep enough litter on the surface so that it can protect the ground when it’s suddenly rainy or there’s a lot of frost coming out of the ground. I want to seed a pasture for all seasons,” he explains.

Winter hardiness is important.

“For a perennial stand, look for varieties that last a long time and can back that up with Canadian test results. In my mind these would include a rapid-regrowth grass, preferably something with drought tolerance,” says Lastiwka. He adds that their forage project focuses on Canadian varieties bred for local and regional Canadian conditions.

Lastiwka says productivity of hay stands and pastures across Western Canada has been dropping over the years, particularly since forages are generally seeded on the poorest lands. The land that isn’t productive enough for grain is left for pasture or hay.

Even with good management, it’s hard to improve yield of pastures that started as old hay fields.

“If forage crops are on our poorest lands, there are usually some limitations. We need to figure out what those are, and then determine what might be best to plant in those conditions,” says Lastiwka.

Producers with a mosaic of soils in their pasture can use a seed mix that contains something that will work on those areas, says Klein. Temporary flooding and salinity are the two biggest categories, he adds.

“Depending on the acreage, I normally suggest that people pick the main species they want and seed the whole field with that — and then go back and touch up the problem spots with different species that are either saline- or flood-tolerant,” Klein says.

If these are large areas, however, a producer might use a different approach and seed those places with the appropriate species to begin with, he adds.

Light-textured soils such as sand or gravel can also be a challenge because they won’t hold water well. Producers may need a more drought-tolerant variety.

Next determine whether to seed a nurse crop.

“There are reasons to use a nurse crop, and reasons to not,” says Klein. “My personal preference, because of the climate I’m in — where we can normally count on rain — is to include a nurse crop but cut back on the seeding rate, with intention of cutting it for greenfeed, as opposed to full seeding rate and combining it.”

Klein adds that some people advise against nurse crops and others seed a full-rate nurse crop, then combine it.

“I feel that a full crop presents too much competition for your new seeding of perennials, so I opt for somewhere in the middle,” Klein says.

But, Klein adds, he likes the idea of

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a nurse crop “because as one producer told me, ‘You are going to get a nurse crop whether you seed one or not. There will be some volunteer plants and a flush of weeds.’”

Klein thinks it’s a good idea to seed a cereal at about 25 to 30 lbs. per acre. “I won’t get the biggest crop of greenfeed, but my goal is for the permanent pasture to come in strong and healthy,” he says.

### **Seeding and weed control go hand-in-hand.**

Where Klein works, in southeastern Saskatchewan, producers can usually count on rain, and June is usually the wettest month, says Klein.

“To allow better weed control, I am never in a big hurry to seed perennial forage very early in the spring,” says Klein. “Some people say you need to get it in early but I want to let that first flush of weeds appear first, so I can burn them off.”

Klein’s goal is to get the seed in the ground before June, just ahead of their normal June rains. That allows them to get an extra hit on seed control ahead of seeding, Klein explains.

### **Seedbed preparation**

Lastiwka says it is important to ready the land in advance. For example, he’s worked with a producer who uses an annual crop to set up the nutrients and ready the seed bed with the proper tith, organic matter and fertility for his pasture or hay. In the spring, he probes the soil. If the soil is too hard or dry, he puts the field into annuals for another year.

“This gives him the time to get optimal conditions for the perennial seeding to be the best it can be,” says Lastiwka. “His hay yields across all his stands — older and new — were almost three times our provincial yields,” says Lastiwka.

Soil organic matter and litter are crucial for the soil to be a living, breathing organism.

“You want the soil to be able to aid

those plants and grow with them,” he says.

### **Seeding tips**

“The most important thing is to not seed too deep,” says Klein. He adds that this problem is likely less common today with zero till.

“Most of the equipment today has individual shank control and you can put the seed into the ground half an inch. An inch is too deep.”

His personal preference (because it is easy) is to just blow the seed on with a Valmar and then harrow it into the ground.

“If I start with a field that didn’t need any tillage because I controlled all the weeds with herbicide, the ground will be firm,” says Klein. “If I blow the seed on and harrow it in, I have 100 per cent confidence that I won’t bury the seed too deep. Another thing I like about that method is that it doesn’t leave row spaces or bare soil.”

While most seeding equipment today creates a row space, some grasses will fill even wide row spaces over time, he adds. The disadvantage of broadcasting seed is that it means waiting for rain.

“With a drill, you have on-row packing. If there is soil moisture right to the top, you still get germination right away, even without a rain,” Klein says. For some producers in some locations, this could be the best option.

Ideal seeding rates depend on the species and a producer’s goals. While some people think perennial forages should be seeded at 10 lbs. per acre, Klein says in many cases, after penciling it out, he’s told producers that they can seed less. He starts with the species a producer wants to plant and calculates how many seeds per pound. Next he thinks about how many seeds per square foot they need.

“There is a tendency to seed heavier rates than needed, but it’s best to err on the side of too much than not enough,” says Klein.

Whether the seed has been coated also affects the calculation. For example, depending on the thickness of the coating, it can increase the seed size of alfalfa by about a third, Klein explains.

“Some people put on five pounds of alfalfa and four pounds of a certain grass and four pounds of another grass. This might mean 15 seeds of alfalfa on every square foot — plus the grass seeds. That’s a lot of seeds,” says Klein.

A high seeding rate is an insurance policy, Klein says, and allows producers to make mistakes.

“But I prefer to look after the details and try to avoid mistakes, and then I have the option to not have to overdo seeding rate,” says Klein.

The seeding plan will also depend on whether it will be a hayfield or pasture.

“If it’s a hayfield, you might consider picking rocks or rolling it after seeding, if you have stones,” says Klein. “No one likes to bump across a field, running stones through the machinery.”

Insect control, especially for grasshoppers, deserves consideration some years. So does inoculation or scarification of legume seeds.

“Most of the time, the seed companies do that for you, but it never hurts to ask. If you are seeding legumes, you want to make sure they were inoculated and scarified, for best results,” says Klein.

*Author: Heather Smith Thomas. Date: May 24, 2019. Original article can be found at <https://www.canadiancattlemen.ca/features/seeding-tips-for-perennial-forages/>*

# Where are we at with antimicrobial resistance?



*Vet Advice with Dr. Ron Clarke*

Antimicrobial resistance (AMR), often incorrectly labelled antibiotic resistance, has been the subject of immeasurable media attention through the past three decades. It's a relentless rabble of potential health threats, what and who is to blame, and where do we go from here. AMR has spawned at least two generations, maybe three, of academic scrutiny, dissection, review

and examination.

Opinions and problem-solving around AMR issues constantly shifts between paranoia and scientific reason. Concrete efforts to find lasting solutions to difficult problems seem to be going hopelessly astray. Take, for example, a 1999 article by Dr. David Price in *Canadian Cattlemen* trying to summarize

what the issues around AMR really are measured against the recent press release from Agriculture and Agri-Food Canada with a headline stating: "New study finds antibiotic use in cattle not related to antimicrobial resistance in humans."

As incredulous as this storyline released by Agriculture and Agri-Food Canada on March 5, 2020, may seem, I can only hope scientific scrutiny may offer a clearer description of what the study actually revealed. A sharper ex-

planation of matters such as "phylogenetic relatedness" and "AMR phenotypes across the one-health continuum" is necessary. If not, the credibility of well designed and executed studies and a clearer understanding of very difficult topics will remain seriously flawed. Only one family of bacteria, *Enterococcus* sp., was subject to study. Although this particular family of bacteria is an important cause of infections in humans, it is much less important in cattle. Many important zoonotic infections were not part of the study or even mentioned (e.g. *E. coli*, *campylobacter*, *salmonella*, *C. difficile*, *streptococcus*). The role of a competent immune system is missing, as is the environmental potential of resistance transfer within a huge population of resident bacteria in soil and water that ultimately find their way into the AMR story and the One-Health continuum.

*(Continued on page 7)*

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In 1999, Dr. Price stated very clearly that while abandoning low-level use of antimicrobials in finishing beef might improve beef's image, resistant bacteria remained the real issue. Resistant bacteria do not evolve through the use of sub-therapeutic levels of antimicrobials in food-producing animals. To this end, agriculture had become the scapegoat when, in effect, AMR happens because of antimicrobial overuse and random mutation of bacteria in humans. New research seems to support this theory. Twenty years ago, Price postulated that bacteria resistant to animal antimicrobials that somehow develop resistance to human antimicrobials defy all evidence. Furthermore, it has not occurred in 50 years of commercial antimicrobial existence.

The harsh reality endured. Resistance to human antimicrobials arises through overuse in humans and much of that comes about because humans demand their use — needed or not.

Between 1955 and 1989, the FDA, the National Institute of Health and the National Academy of Science in the U.S. tried on nine occasions to ban low-level feeding of antimicrobials. All nine attempts failed because no definite reason could be found for their exclusion. In the end, we were told science failed to prove reasons adequate enough to proceed, but the

disturbing perception that resistance could be transferred between animals and humans persisted. Scientists rewrote the chapters on regulatory directives and prudent antimicrobial use. Veterinarians bought in a reality that will someday stand as a crowning point of scientific laxity.

It's time to revisit foundational principles of problem-solving:

- First and foremost: accurately define the problem.
- Look at all potential causes for the problem.
- Using astute scientific methods, identify alternatives for approaches to resolve the problem.
- Select an approach to resolve the problem.
- Then plan to implement best alternatives.

We need to recognize a major difference exists between problem-solving (a method) and decision-making (a process). Problem-solving

is an analytical aspect of thinking. It also uses intuition in gathering facts. Decision-making, on the other hand, is more of a judgment where, after thinking, one will take an appropriate course of action.

Looking back, little has really changed in twenty years. Our approach to managing antimicrobial resistance seems locked in a vacuum. The importance of livestock's role in dealing with a serious human issue remains unresolved.

Author: Dr. Ron Clarke. Original article can be found at <https://www.canadiancattlemen.ca/vet-advice/where-are-we-at-with-antimicrobial-resistance/>

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# Warm season crops and cool climates



Photo: Sonja Bloom

## Research on the record with Reynold Bergen

According to Statistics Canada, silage corn acreage was 26 per cent higher in 2015-19 than in 2010-14. Most of this increase occurred in the Prairies. Achieving corn's potential will depend on whether plant breeders can successfully adapt this warm-season plant to Canada's cooler climate.

Plants contain two kinds of carbohydrates. Non-structural carbohydrates are starches and sugars that help the plant store energy and are easily digested by livestock. Structural carbohydrates include the cellulose and hemicellulose fibres found in cell walls. Cellulose and hemicellulose, along with lignin, hold the leaves and stems together and help the plant stand up. Rumen microbes digest hemicellulose more easily than cellulose, but lignin is virtually indigestible. In a feed test, neutral detergent fibre (NDF) measures the amount of cellulose, hemicellulose and lignin. An indicator of "bulk," high NDF levels limit animal intake. Acid detergent fibre (ADF) is the amount of less digestible cellulose and lignin (but not hemicellulose). Digestibility declines as NDF and ADF increase.

In perennial grasses, cellulose, hemicellulose and lignin levels increase steadily as the plant grows and matures. This makes sense; as the plant gets taller, it requires more structural integrity to keep standing. This is why ADF and

NDF increase and digestibility decreases as grasses mature. Non-structural carbohydrates and protein levels rise initially, peak and decline after grass has headed out. The amount of structural carbohydrate continues to increase as the plant matures and sets seed. That's why the nutritional value of pasture generally declines as grass matures, and why rotational

grazing practices that keep grass vegetative by "clipping" and preventing it from heading out helps maintain the nutritional quality of the pasture later into the growing season.

In contrast, annual crops have been selected for vastly increased grain yield. The amounts of structural carbohydrate and lignin still increase as the plant grows and matures. But thanks to millennia of selection for increased seed yield, the percentage of non-structural starch in the whole plant continues to increase after seed set, through kernel filling, before slowing during ripening. For example, research led by the University of Saskatchewan's Greg Penner (*Effect of maturity at harvest for whole-crop barley and oat on dry matter intake, sorting, and digestibility when fed to beef cattle*; doi:10.2527/jas2015-0063) found that whole-plant starch content is low at the late milk stage in barley (three per cent) and oat (2.7 per cent), but much higher in the whole plant at hard dough (25 per cent starch in whole-plant barley, 14.5 per cent in whole-plant oat) and ripe barley (24.6 per cent) and oat (12.8 per cent).

These effects are even more pronounced in corn. *Nutritive Value of Corn Silage as Affected by Maturity and Mechanical Processing: A Contemporary Review*, doi:10.3168/jds.S0022-0302(99)75540-2, reported that the starch content of whole-plant corn increased from 18.25 per cent (early dent

stage) to 28.7 per cent (1/4 milk line), 37.2 per cent (2/3 milk line) to 37.45 per cent (blackline). In addition to higher starch content, corn also produces 50 per cent greater silage yields than barley — under the right growing conditions.

Corn can produce higher silage yields and starch contents than barley because of a few fundamental differences between the two plants. Because corn is open-pollinated, it is easier to hybridize than self-pollinated barley (as mentioned in my February 2020 column). Barley and corn also use slightly different photosynthetic processes to convert carbon dioxide and water into carbohydrates. Photosynthesis has light and dark stages. During the daytime (light stage), plants absorb energy from sunlight and temporarily accumulate it in energy storage molecules called ATP and NADPH. At night (dark stage), the stored energy is used to convert carbon dioxide and water into structural and non-structural carbohydrates. The majority of the earth's plant species — including most tame grasses, barley, other small grains and oilseeds — are "cool-season" plants that all use the same dark stage process.

A minority are "warm-season" plants such as corn, sorghum, maize, green foxtail, kochia and blue grama, and use a more energetically efficient dark stage process. That means that warm-season plants such as corn can put more photosynthetic energy into starch production, plant growth and crop yield than cool-season plants such as barley. Warm-season plants also tolerate heat and moderate drought better than cool-season plants. But cool-season plants also have advantages. They do better during cool, wet growing seasons and produce more protein than warm-season plants.

Much of Canada is suited to cool-season plants, but plant breeding companies have developed corn hybrids that require fewer corn heat units (CHU) during the growing season. The mini-

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# Upcoming FFGA Webinars



## Taxes 101: Agriculture with FBC

Thursday May 14th at 6:00pm MST

This webinar will cover;

- Top 12 tax tips for your agriculture business
- CRA changes that may affect your business
- Understanding business deductions to claim and how to maximize them



## Hay/Pasture Rejuvenation feat. Grant Lastiwka with Union Forage

Wednesday May 20th at 7:00pm MST

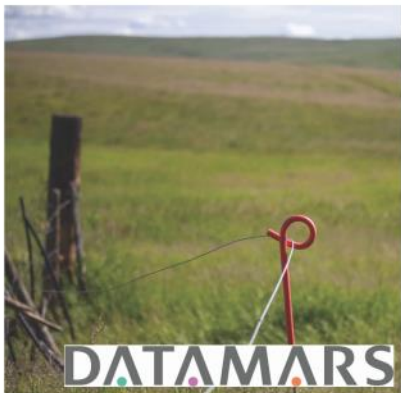
Grant Lastikwa will talk about managing hay stands and hay/pasture rejuvenation. This webinar will offer tips, things to consider, determining pasture/hay health and more.



## Paddock Design feat. Jim Gerrish with MaiaGrazing

Wednesday May 27th at 7:00pm MST

Renowned Grazier Jim Gerrish is back with a second webinar this spring. This webinar will focus on designing paddocks and the importance of managing things with a defined unit of records.



## Electric Fencing Tips and Troubleshooting with DATAMARS

Wednesday June 3rd at 7:00pm MST

This webinar was designed to provide more in-depth information around electric fencing, a critical tool used in paddock design and rotational grazing. Jason Williams will provide tips and tricks and provide some troubleshooting in this webinar.

To register for these webinars visit:

<https://www.foothillsforage.com/livewebinars>

*\*\*All webinars will be recorded and available for viewing at  
<https://www.foothillsforage.com/recordedwebinars>\*\**



(Continued from page 8)

mum CHU rating for corn hybrids has fallen from 2300 to 2000 over the past 40 years. But corn silage may still be a risky crop. In a cooler-than-average growing season or high elevation, even a low CHU hybrid may not reach the growth stage where starch content adequately offsets structural carbohydrate (NDF and ADF) levels. This would have a negative impact on silage yields, the ensiling process, palatability and digestibility. The next column will discuss the delicate balance between the higher yield potential of corn and its higher input costs and production risks compared to barley when the growing season is short or unseasonably cool.

*The Beef Research Cluster is funded by the Canadian Beef Cattle Check-Off and Agriculture and Agri-Food Canada with additional contributions from provincial beef industry groups and governments to advance research and technology transfer supporting the Canadian beef industry's vision to be recognized as a preferred supplier of healthy, high-quality beef, cattle and genetics.*

Author: Reynold Bergen.  
Original article can be found at: <https://www.canadiancattlemen.ca/research/warm-season-crops-and-cool-climates/>

## How to head off summer pneumonia

*Management is the best defense against this killer of small calves*

The bovine lung, says David Smith, is made to get pneumonia.

That's because, for the size of the animal, it's not very big, says Smith, a DVM and endowed professor at the Mississippi State University College of Veterinary Medicine. So any kind of challenge, whether it be pathogens, dust or a combination of things, sets the animal up for a rough time in terms of respiratory disease.

While respiratory disease is most often battled in the feedyard, summer pneumonia is a problem for some cow-calf producers. "It's not the same problem we have when calves are weaned and commingled and shipped and stressed and then get sick in the feedyard," he says. "This is more of an inherent problem that we see."

Smith's specialty is population medicine and summer pneumonia is a perfect example of how that works. "An interesting thing about population medicine is that the solution may not look like it's related to the problem," he says.

Applying the 80-20 rule in real time, he says about 20% of cow-calf producers experience problems with summer pneumonia. Most are in the West and most are on operations he considers well managed.

"You're more likely to have summer pneumonia—pneumonia in calves prior to weaning—if you're an intensive grazer or if you're somebody who uses some kind of estrus synchronization program or the larger your herd is," he says.

"So what's going on with those practices? They are all opportunities to pull a lot of calves together."

In an intensive grazing program, cattle tend to be managed in one large, compact group, giving calves more opportunity for close contact, which spreads the virus. And on large, more extensive operations, the opportunity for closer contact happens at watering places, salt or supplement stations, resting areas or anywhere cows and calves tend to congregate.

"And estrus synchronization programs, that's the oddball thing," he says. "What would estrus synchronization have to do with it?"

That typically occurs when the calves are around three months old, the time when they're particularly susceptible to summer pneumonia. If you use an estrus synch program, you're gathering the cows and sorting off the calves. The calves typically get put in a pen until they can get back with mama—another opportunity for close contact at a critical time in their lives.

Why is that critical? "This is a lot about im-

munity and the thing that calves are losing at about three months of age is their maternal antibodies."

### **Does vaccination help?**

Yes. But it's tricky because timing is the key. And many outfits aren't set up to work cattle when the calves need the vaccine.

It's difficult to get an immune response from a vaccine while the maternal antibodies are still at work. That's why vaccinating at branding is a hit-or-miss deal. If you have a 90-day calving season, the younger end of the calves won't respond right away to the shots.

That doesn't mean you shouldn't vaccinate at branding, however. You get clostridial protection and even if those younger calves don't respond to the respiratory vaccine then, they'll respond later if you give them a pre-weaning shot.

Smith says ranchers have been successful in getting an immune response from a two-shot program in calves just prior to 80 days of age, essentially mimicking a branding/pre-weaning regimen. But two shots a couple weeks apart at branding/turnout time is hard to do.

### **Management to the rescue**

The idea behind population medicine is, while you should treat animals that get sick, the idea is to not have them get sick in the first place. Vaccination has long been the go-to practice to make that happen.

In the absence of being able to vaccinate, look at your management program and try to avoid gathering and confining cattle when the calves are 90 to 120 days old. "That's when they're most vulnerable to whatever pathogens they might be sharing with each other," Smith says.

"Comingle early if you need to or comingle late if you have to," he advises.

That may be difficult to do as well. In that case, think in terms of smaller groups and more space, Smith says.

In an intensive grazing program, run several smaller groups of cattle instead of one big mob if possible. For branding and estrus synch, kick the calves into a pen or trap that's big enough so they can spread out along the fence with a little social distancing between them.

And, recognizing that this is a calfhood disease, watch your calves while they're at the susceptible age. "You can catch it early and you're not caught by surprise when you already have calves in advanced stages of the disease that are less likely to respond to your antimicrobial treatments."

Author: Burt Rutherford. Original article can be found at <https://www.beefmagazine.com/animal-health/how-head-summer-pneumonia>



# Profitability, finances and your ranching future



*Many ranches are struggling. Are you investing wisely in expenses that pay?*

Last month I raised the question, “Are you ranching for the past or for the future?” I don’t like saying this, but many good conventional ranchers are quickly or slowly going broke. The speed at which they are going broke is usually determined by the size of their debt in relationship to the size of their gross income.

For many years, the price of things we buy (inputs) has increased faster than the price of our products. Yet, most ranchers continue to build and try to enhance a production system that has a heavy reliance on fossil fuel and iron, or machines, fuel, fertilizers, sprays of various kinds, feeding more, magic feed supplements, and many more.

That is not to say that some of these inputs don’t have a place in our production systems. But the arithmetic doesn’t work very well when the price of inputs increases faster than the price of our products.

The most common attempt to improve profitability is trying to improve what we are currently doing. Those attempts are usually focused on improving the amount produced—crop yields or livestock weights. Sadly, too much academic research is focused on the previously mentioned inputs because the producers of those

inputs provide much of the research grant money.

Too often we don’t associate the production increases with all the costs—some of which are not so evident but real and significant. When striving for bigger weaning weights, we typically consider how much more we pay for the bulls we use and how much more we have to spend

on feed and other performance enhancing inputs.

But do we also consider the not-so-apparent costs of a reduction in stocking rate that happens when we have bigger and higher milking cows? Do we carefully observe as conception rates deteriorate and then try to compensate with more feed or “magic” supplements? Do we remember that bigger calves sell for less per pound than smaller calves? Do we consider reductions in overall herd health that are often associated with pushing our growth and milk genetics beyond what our environment will sustain?

To move forward and ranch in the future, we need to pay much less attention to improving “how” we are doing things and start paying more attention to “what” we are doing. Small changes will not make the improvement that most ranches need.

As mentioned last month, it is very refreshing and encouraging to me to see a growing number of ranchers, especially younger ranchers, attending seminars and visiting other ranchers to learn about grazing management and soil health, selection of the optimum calving season, reducing the use of fed feeds and even grazing year-round, enterprise selection and also stacking enterprises, etc.

They are building production systems that have a heavy reliance on soil, rainfall, sunshine and their God-

given abilities and ingenuity, rather than a dependence on fossil fuel and iron. There is no meter on the rainfall and sunshine; and one’s ability to build and improve the soil can come with little expenditure of cash—just a willingness to study and learn. Yes, the courses do have a price tag, but the return can be many times the price of the course and attendant travel costs.

**I hope repetition of the following is helpful.**

Profitable ranches:

- Cut overheads as much as possible—mercilessly.
- Get excellent cow-herd reproduction at low cost.
- Market well.
- Focus on three key ratios:
  - acres per cow
  - cows per person
  - fed feed vs. grazed feed

These practices are not physically demanding, but they do require some mental exertion. The practices are part of and are based on sound ecological, economic and business management principles.

At times the mental effort can become emotional when you cut the overheads or leave an old practice. You get attached to things and methods you are familiar with. However, you’ll get over it.

You will find that good grazing management and improvement of the soil will become the key drivers in changes you will need to make. Everything else connects to and is largely driven by or facilitated by grazing management and the resultant improvement of soil, plants and livestock.

There will be some costs associated with good grazing management. Most ranches will need to spend some money on stock water development to

have sufficient water in enough places to make adaptive, multi-paddock grazing work. Some fence (hopefully inexpensive electric) will be required.

I have yet to meet a good grazer who hasn't said that the fence and water development has a very rapid payback. They also say they should have pushed the development faster.

Animal breeding will then be important to put together or design a herd with high reproduction rates that will function at low cost under your grazing management and in your environment. This herd will not consist of big, high milking cows. Many neighbors may wean bigger calves, but you will produce more pounds per acre and probably sell at a higher price per pound.

With well fitted and adapted livestock being grazed with intent to improve the soil and plant production, you will begin to reduce acres per cow. By having them fairly tightly grouped in few herds (or even one), cows per person will increase.

The grazing management will provide a longer season of green growth and also facilitate stockpiling of

winter grazing to increase grazing days and reduce feeding days. Improving these three key ratios has tremendous leverage to improve profitability.

*Author: Bruce Teichert.*

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**NEW**



## **PROGRAM**

## **EFFICIENT GRAIN DRYER**

The Efficient Grain Dryer Program is an energy efficiency program intended to assist producers with reducing the overall energy use on their operations.



A valid Alberta Environmental Farm Plan (EFP) is a prerequisite to this program.

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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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