



# GRASSROOTS NEWS & VIEWS

Photo Credit—Rachel McLean



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# August 2017

## Director's Note

Well here I go again,

It's another year from when I wrote my last newsletter input and what a summer this one has been for most of southern AB. I have seen more dried out pasture and dugouts around here than I have ever seen in the 24 years I have been in Canada (it's starting to remind me of home in Australia!). I thought we were in a safe zone!

A lot of the pastures have finished growing and are setting seed a few weeks earlier than normal which is good for the seed bank, but I'm concerned with how long the stockpiled forage will last this year.

The swath grazing that was sown on June 10, 2017 is only about a foot and half high at the moment and the oats and triticale are heading out. Luckily, I have some forage rape and peas in the mix and they look okay for now. I even put in some sunflower seed in this year to try it out. I have seen other guys give it a go and it did not turn out too bad for them. It's all about trying something new each year!



Photo: FEFA

This last winter my swaths were so high in feed value that I weaned 10 weeks before calving in May and was really pleased with the way the cows and calves performed on the swaths over winter. The market was also higher in the spring than last fall which paid off nicely. I think that we will give that another go this year if we get some rain to improve the swath crop soon.

I seeded some new pasture this year with sainfoin, milk vetch, alfalfa, brome, soft leaf tall fescue and orchard grass and all that is left is the legumes so I will have to drill the grass in again next year to fill the gaps. I wish I did this last year.

Well that's about it from me for now, one more thing, don't forget to sign up for the Western Canada Conference on Soil Health & Grazing coming up December 5-7 this year in Edmonton. It is going to be a good one again!

Take care and do a rain dance one day soon.

*Graeme Finn*

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Photo: FEFA

# The Importance of Monitoring Livestock Water Quality



Photo: Lee Gunderson

Rains in early spring can ease your worries about water supplies for the summer, but will you have enough good quality water to get through the year? Early summer is the time to have your livestock water sources tested to be sure.

Water is the most important nutrient for livestock. Water is needed for all metabolic processes essential for life, growth and reproduction. The quantity of water that animals consume is affected by many factors including growth, pregnancy, lactation, activity, diet composition, feed intake and environmental temperature. The quality of water offered can also affect consumption and performance.

Many producers rely on wells and surface waters such as ponds and streams to provide water for livestock, but these sources can be contaminated by many pollutants within the watershed. Nitrates, bacteria, organic material and suspended solids are common sources of pollution.

Additional factors that affect water quality and consumption are salinity, sulfates and mineral concentrations. If cattle are allowed to stand in water sources, fecal and

urine contamination will decrease water quality and can spread diseases. In addition, allowing cattle unlimited access to ponds will usually result in suspension of sediments that can decrease water quality and consumption.

Fencing off ponds to provide limited access points or gravity-fed water troughs can decrease fecal contamination and prevent cattle from stirring up sediments. Wells should be protected from contaminants by sealing around the wellhead with a concrete pad and locating the well at least 150 to 300 feet from livestock working facilities, lagoons, septic tanks and manure stockpiles.

In addition, pasture management can greatly impact water quality. Poor forage stands within a watershed can contribute to erosion and nutrient transport resulting in decreased water quality. Careful consideration should be taken when applying fertilizers, manure, herbicides and pesticides.

Testing your livestock water sources is the only way to know if they are acceptable for livestock use. All water sources should be tested annually at the beginning of the summer to identify potential problems and to assess the quality of each source.

If a water source is tested and determined to be marginal, a management plan should be developed to utilize the forages associated with these sources

before the water becomes health- and performance-threatening. In addition, you can be prepared for potential water quality problems that can easily arise throughout hot, dry periods due to evaporation and use. As always, the sooner problems are identified, the easier they are to manage, even if this means you have to provide a new water source.

Questionable water sources, including ponds that have decreased in size, sources that may have been contaminated and any that were marginal at the beginning of the summer, should be tested again as supplies become limited.

**Periods of hot, dry weather can concentrate dissolved contaminants through evaporation, leaving water that may be unacceptable for livestock use.**

Livestock should be provided with free-choice access to clean, quality water at all times. Water quality is often overlooked, even though research is clear that growth and reproductive performance is decreased when certain components of water quality reach threshold levels. Poor water quality also affects consumption, which may limit feed intake and animal health.

By: Noble Research Institute

Source: <https://www.noble.org/news/publications/ag-news-and-views/2008/june/the-importance-of-monitoring-livestock-water-quality/>



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**“Once people are aware of and in control of their counterproductive instinctive human behaviours then they are ready to learn a new set of cattle handling skills that will enable them to get the job done in a calm, controlled, safe and efficient manner.” - Dylan Biggs**

- ◆ Herd movement for success
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- ◆ Eliminating run backs
- ◆ Sorting in alleys and pens
- ◆ Working singles in a pasture
- ◆ Getting into the corral
- ◆ Moving cow/calf pairs
- ◆ What to expect at home
- ◆ Settling after a move



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# Get More Bang For Your Nitrogen Buck



If you cut your nitrogen by 80% tomorrow, would you expect your production to drop? Of course it would... if you did nothing else. Optimizing nitrogen use is one of the holy grails in a drive to produce food for a booming world population, all whilst looking after the environment.

Across the world a growing number of farmers are successfully dropping their N to astoundingly low levels in an approach that provides a wide range of benefits. How is it that some farmers can dramatically reduce nitrogen without reducing production?

The journey starts with an appreciation of soil health's role in driving the nitrogen cycle.  
Photo Source: Integrity Soils

## Soil Structure

If you ask most fertilizer reps what the number one yield limiting factor is, they'll probably tell you it's nitrogen. That's actually inaccurate; try this... hold your hand tightly over your nose and mouth for a few minutes to see what your number one factor is.

It's air.

It is just the same for your plants and soil microbes. Without adequate airflow, roots and microbes curl up and die and natural mineral and water cycles breakdown. Compacted and waterlogged soils lose valuable nutrients including N[i], and reduce those microbes responsible for providing N to your crops.

Improving yield starts with a soil that can breathe. Air, and water, moves into soil through the gaps in soil aggregates; the crumbs formed by soil microbes. Just like constructing an apartment building, microbes and earthworms make hallways, stairwells and living spaces. Poor soil structure turns these apartments into a tarmac. This loss of structure stalls the natural nitrogen cycle.

The recent State of the Environment report shows that 78% of dairy farms were badly affected by compaction in 2013. This is a double whammy for farmers and the environment, as compacted soils require more N and lose more N into the atmosphere and waterways[ii][iii]. Research shows, that depending on the type of N used, up to ten times more N is lost from compacted soils[iv]; requiring more inputs to maintain production.[v]

Often when considering natural nitrogen inputs, farmers most often think of legumes, particularly clover and rhizobia for N fixation. However, in healthy soils among the most common organisms are free-living bacteria which fix nitrogen into the soil. These free-living N fixers require air, so compacted soils will have less of these important organisms.

The high use of soluble nitrogen creates a vicious cycle; putting farmers on a treadmill of decreasing returns due to the

breakdown of soil carbon, thus a loss of humus and an increase of microbes which love to feed on N. The loss of carbon creates the conditions for compaction, increasing runoff and erosion and limiting root growth. Just too really put the boot in, these soils then require more irrigation, creating more vulnerable farm systems.[vi]

## How efficient is your N fertilizer?

Our modern farming practices are leaky and inefficient. In dairy systems only 15-35% of the N applied is actually made available to the plant, with the majority of applied N lost to the air and waterways (globally this figure is 5-15%)[vii]. There wouldn't be many businesses happy with those kinds of inefficiencies, particularly for something which may be such a major input. So why do we tolerate it in farming?

Increasingly fertilizer companies are focusing on add-on products to improve N efficiencies, like DCD, Nitrapyrin and Agrotain. Even projections for best practices around nitrogen, the soundest estimates offer 60% efficiency at best. These products will enable fertilizer companies to continue business as usual, without addressing the key issue; why do you need to add soluble N, and why is the nitrogen cycle not working optimally?

Additional disruption to natural N function has been introduced with chemical pasture topping and herbicide brown out...





...practices using glyphosate which has an inhibiting effect on N fixation and promotes N.

The success of Biological Agriculture begins through building a foundation to enhance natural cycles, using proactive practices which address the root causes, versus reacting to symptoms. Fostering underground livestock is an essential ingredient to reducing N inputs.

One key in profitably reducing N, is through the addition of carbon based biological foods and stimulants to improve soil structure and nitrogen storage [viii] while maintaining yields [ix] [x].

Plants require nitrogen in different forms throughout the growing season; applying large volumes of N at once is ineffective in supporting plants through the year. Biological production creates significantly less emissions and leaching[xi] [xii], while providing nitrogen in plant available forms when plants need it[xiii].

## Microbiology and Soluble N

Many plant species are completely dependent on microbial partners for growth and survival. [xiv] High inputs of soluble N fertilizers dramatically change microbial communities; reducing organic N and C, microbial diversity and overstimulating bacteria.

Fungi to Bacteria (F:B) ratios are important for soil structure and pasture health. New research has also shown that soils higher in fungi reduce N leaching[xv] [xvi]. Mycorrhizae, a plant symbiotic fungus, have been shown to reduce

leaching by 40%.[xvii] These important fungi also produce a substance called glomalin, a relatively stable soil protein important in soil structure. [xviii] Degrading soil health and the addition of soluble N reduces the F:B ratio, creating more bacterial soils with time.

During the life and death processes which drive healthy biological systems, nitrogen goes through a variety of forms before being taken up by plant roots. Bacteria consume N and hold it in their bodies. If the soil foodweb has been compromised, through compaction or high soluble N applications, there is often lower predation from protozoa and nematodes[xix]. This means N becomes immobilised or bound in the soil, unavailable to plants.

Not all synthetic N is detrimental, adding small amounts of N (5 units/Ha) has actually been found to be beneficial for soil microbiology, acting as a

catalyst to help stimulate the natural N cycle.

Research is showing that high yields can be maintained and inputs reduced through good management of soil, water, energy and biological resources. Studies have shown that the same corn yields were possible by reducing chemical inputs by half and cutting a third of costs.[xx] [xxi]

## Feed your soil

Soils are an ecosystem; supporting and feeding soil microbes have huge benefits across the entire farm enterprise. Reducing nitrogen can be profitably and sensibly done through enhancing microbiology and soil health. With huge leaps forward for the environment and farming bottom lines.

Source: <http://www.integritysoils.co.nz/get-bang-nitrogen-buck/>

*\*See source for references*

# THIS COULD BE YOU. Even with cows.



Photo: beerrightnow.com

## Low Cost Winter Feeding Workshop November 16, 2017 ~ Fort Macleod, AB



# 3 Secrets for Farm Business Success



Photo: Farm Credit Canada

## Highlights

- ⇒ Share and learn from other farmers through networking
- ⇒ Invest 30 to 60 minutes a month on researching new technology
- ⇒ Read the headlines and watch global economic trends

Continual learning is important if you want to be successful at anything, and agriculture is no different.

In the recent FCC Edge podcast, *Managing during times of profound change*, host Kevin Stewart explores the importance of life-long learning and how “if it ain’t broke, don’t fix it” thinking needs to be retired for good.

So, how can you add continuous learning to your business plan toolkit? Three industry experts from FCC learning events weigh in.

## 1. Networking

Networking is a valuable tool for any entrepreneur and should be part of your business plan — it’s also a part of our ag knowledge events.

Sharing and learning from other farmers is the foundation of Lance Stockbrugger’s plan for success. Stockbrugger farms 4,000

acres of cereals and oilseeds and also worked as a chartered accountant.

As part owner of LDS Farms, Lance has spent the past 20 years not only sharing his agriculture knowledge with producers, but also learning from them.

“I’ve met with hundreds of clients over the years, talking to them about what worked in their operation. I learn from their knowledge and experiences, and then take that back and adapt it to our farm — trying new and innovative ideas that may have been tried by other farmers,” says Stockbrugger.

## 2. Embrace technology

Successful producers embrace technology and while it may take a few minutes a day, the long-term payoff is often worth it. “Technology is a big, fast changing sector and it’s not something we all gravitate towards” says soybean and wheat producer Peter Gredig. He knows first-hand the importance of technology. Peter is a partner of AgNition Inc., a company developing mobile products and strategies for agri-business, producer organizations and farmers across North America.

“One of the most common complaints I hear from farmers at the technology seminars I do for Farm Credit Canada is they just can’t keep up with all this technology! It can be intimidating, but it’s not going away and it’s becoming a cornerstone of agriculture. Investing as little as 30 to 60 minutes a month will make a huge difference,” says Gredig.

## 3. Watch the trends

Reading headlines and watching trends is another great habit successful business owners share. “Agriculture is truly a global industry,” says FCC Vice-President and Chief Agricultural Economist J.P. Gervais.

“Many events that happen outside our borders have a significant impact on a farm operation’s bottom line. When you understand the trends, it’s easier to see the opportunities for your operation.

“The financial world is a fast-paced sector. Many global trends are expected to shape the economic environment in agriculture. From oil prices to the Canadian dollar to the health of the Chinese economy, these economic drivers impact your business.”

The business of agriculture is ever-changing. J.P. and the Ag Economist team turn big-picture scenarios into easy-to-read snapshots you can use to help manage your operation.

Ready to add more learning to your toolkit? Register for a free FCC learning event near you.

Source: <https://www.fcc-fac.ca/en/ag-knowledge/business-planning/3-secrets-for-farm-business-success.html>



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# Increase Stock Density to Improve Land Faster



Photo: FFGA

Grazing with many animals in a smaller area and moving to fresh pasture more frequently builds soil health more quickly.

Graziers who have tried both ultra-high stock densities and a slower form of “rotational” grazing say increased stock density seems to build the land faster. The only two scientific experiments on the topic suggest this is true.

The first study was led by Texas A&M grazing ecologist Richard Teague, and Beef Producer had previously covered this topic. The gist of the research is this: Teague and colleagues measured conditions on three ranches fairly near each other in north-central Texas. They had similar soil types and topography, and native forage.

## Same but different

The difference was they had been managed differently but each in the same way for 10 years or more. One used continuous heavy stocking. A second used light continuous stocking. The third was managed with what Teague called adaptive, multi-paddock grazing. This means the ranch has multiple

paddocks and was not managed the same way month after month. Instead, management was adapted to moisture and growing conditions, correct stocking rate, and cattle health and well-being. Although this ranch uses multiple paddocks, it does not practice particularly high-stock-density grazing.

Therefore, this study showed the improvement in land managed with adaptive, multi-paddock grazing compared with continuous grazing at either a heavy stocking or lighter stocking rate, as is sometimes the university recommendation for land improvement. (See Figure 1).

The study from Texas showed significant improvements in soil carbon, soil organic matter and cation exchange capacity because of adaptive, multi-paddock grazing versus either lightly or heavily stocked continuous grazing.

## Benefits of managed grazing

In summary, Teague and colleagues showed significant improvements from the managed grazing:

- ◆ less bare ground
- ◆ more tall grass
- ◆ fewer forbs
- ◆ better fungi-to-bacteria ratio
- ◆ higher soil organic matter
- ◆ better cation exchange capacity
- ◆ higher water-holding capacity

In Mississippi, a group of researchers also measured soil

conditions on three ranches with relative proximity and similar soil types.

One of the ranches was continuously grazed (CG) for more than 10 years. One was grazed with lower-density slow rotations for more than 10 years. The third was managed for five years at the time of the research as an adaptive high-stock-density (AHSD) operation, with cattle moving one to five times a day, or sometimes more.

On the day the scientific team in Mississippi took samples in 2014, Allen Williams noted significant differences on the three sites.

“Immediate observations were that root structure and development, including root depth and mass, were significantly greater at the AHSD farm compared to slow rotation and CG farms. Root growth was observed all the way down to and past the 3-foot depth on the AHSD farm. On the other farms, root growth did not reach the 3-foot depth. In addition, there were noted differences in apparent soil life with earthworms immediately present in the soil of the AHSD farm. Earthworm populations were significantly lower at the slow rotation and CG farms. Likewise, soil texture, aggregation and appearance was significantly better at the AHSD farm when compared to the slow rotation and CG farms.”

## Texas study — soil, carbon, nutrients and water

Parameter	Heavy continuous	Light continuous	Multi-paddock
Soil organic matter	3.1 <sub>b</sub>	4.4 <sub>b</sub>	4.86 <sub>a</sub>
Fertility CEC	24.6 <sub>b</sub>	23.7 <sub>b</sub>	27.4 <sub>a</sub>
Water-holding (gal./ac.)	55,700	79,059	87,324

SOURCE: RICHARD TEAGUE, TEXAS AGRI-LIFE EXTENSION



## Mississippi study — soil carbon data, carbon assessment per acre

Farm description	Carbon (kg./m <sup>2</sup> )	Carbon (ton/ac.)	Carbon (ton CO <sub>2</sub> equiv.)
AHSD	12.69	51.41	188.13
Slow rotation	7.09	28.71	105.07
CG	5.47	22.16	81.09

SOURCE: ALLEN WILLIAMS

Figure 2.

### Soil acidity and alkalinity

The soil pH for each farm was:

- On the AHSD farm, soil pH was a constant 7.8 to 7.9 from 6 to 36 inches down.
- On the slow-rotation farm, soil pH ranged from 5.8 in the top 12 inches to 7 at 36 inches.

On the CG farm, soil pH ranged from 5.6 in the top 12 inches to 4.9 at 36 inches.

These numbers help show the pH-moderating effect of soil organic matter, increased soil microbial life and likely higher levels of arbuscular mycorrhizal fungi, although that data wasn't gathered.

The data also showed the amount of carbon stored in the soil was significantly greater at all depths and by all measurements, as was soil organic matter, as stock density increased.

### Allen Williams

In the study of three Mississippi farms, the total amount of carbon sequestered — and that includes total soil organic matter — was on the farm that used high-stock-density grazing for only five years, versus 10 years each for continuous and rotational grazing. Adaptive = constant change. Allen Williams explains his adaptive grazing management and use of high stock densities on his Mississippi farm this way.

"I use a combination of three principles in our grazing strategy and teach these principles in our workshops," Williams says. "I routinely alter practically everything. I go from lower stock densities to higher stock densities,

and alter rotation patterns and time of the season. I employ various stocking densities in each area and so forth.

"I try very hard not to settle into a set system or rigid routine. That is where we make mistakes with grazing and soil health response.

"So, I may employ stock densities at times that are lower than 30,000 pounds per acre and then go with ultra-high stock densities. What I often tell folks when I show them slides illustrating various stock densities is that, 'I do all of this some of the time, and none of it all of the time.'

"I want to keep nature confused and not allow stagnation."

By: Alan Newport

Source: [http://](http://www.beefproducer.com/grazing-systems/increase-stock-density-improve-land-faster)

[www.beefproducer.com/grazing-systems/increase-stock-density-improve-land-faster](http://www.beefproducer.com/grazing-systems/increase-stock-density-improve-land-faster)



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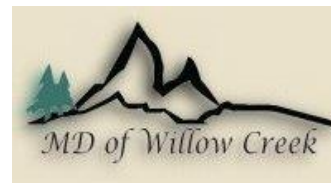






Photo: Lee Gunderson

# OFF-SITE WATERERS & WATERSHED MANAGEMENT

## OCTOBER 19, 2017

*Featuring:*

### Off-Site Watering Systems

Marvin Jackson

Choosing a watering system, troubleshooting, the pros and cons to different systems, and FAQ.

### On-Farm Water Management

Joe Harrington

Watershed management, water wells, long-term water management plans, wetlands, and more!

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# 5 Habits Young Producers Should Practice

My husband Tyler and I are entering our eighth year out of college and into the production agriculture business. It's hard to believe we are nearing a decade of agricultural entrepreneurship, but despite the passing years, I still feel like we are just getting started toward achieving our goals in this industry.

As my dad nears retirement age, there's been much talk about transitioning the ranch. While it won't be passed on to my family on a silver spoon, we are making plans to take over pasture leases and purchase my parent's herd when the time comes. It won't be easy, and it will be a huge chunk of change, but we are hoping that with patience and discipline, the move will go as planned.

Whether you've been in this business five years or 50, there are certain habits of successful producers that we should all aim to follow. Austin Miles, cattle and technology research associate for the Samuel Roberts Noble Foundation, lists several tips for young producers, including:

## 1. Be willing to assume risk

Miles writes, "Risk can come in a variety of forms: financial, occupational or reputational. Any time you put skin in the game, you're going to become more invested in the success and well-being of the operation. Be motivated and push the needle to accomplish your goal(s)."

## 2. Speak up, but know when to shut up

"You can learn a lot from listening," says Miles. "Seek out those who have been in the business, who have had success and failure, and learn from

their experiences. That kind of education is free and real-world tested."

## 3. Ask questions

"Sometimes being the silent observer is fine, but do not be timid about asking why things are done the way they are," he advises. "Try to gain some perspective and history before you offer input or thought into why or how an operation could be doing something differently."

## 4. Get your hands dirty

"I'm very proud of the degrees on the wall of my office, but I'm equally proud of the experiences and lessons learned from others I have encountered and worked with in the field," says Miles. "I am convinced that formal education empowers a person to continue to learn after they graduate and enter the professional world. Who better to learn from than those already actively engaged and doing the work?"

## 5. "Agvocating" is more than a hashtag

"Social media is a great way to connect with people who we would otherwise never meet, yet alone interact with," says Miles. "It is an easy way to stay abreast of current events and industry news, and to share information and ideas. It is important to promote our industry and heritage with photos, infographics, etc., but simply taking pretty pictures isn't enough. Be mindful of the opportunities you may have to promote agriculture and be confident enough to do so, whatever the venue or whoever the audience may be."

Source: <http://www.beefmagazine.com/communication/5-habits-young-producers-should-practice>

*The opinions of Amanda Radke are not necessarily those of beefmagazine.com or Penton Agriculture.*

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# Fast Facts on Forage Brassicas



Photo: FFGA

- ♦ Annual forage brassicas can provide fast-growing, high yielding, quality fall pasture. Brassicas include cabbage, cauliflower, kale, rape, radish, turnip, rutabaga and swede. They have been used in Europe as livestock forage, for at least 600 years.
- ♦ Brassicas tolerate temperatures down to -5 degrees C and are well adapted to the cool, northern parts of Canada. Forage brassicas grow best on well drained soils with a pH of at least 6.
- ♦ Typically the crude protein content of kale and rape leaves ranges from 18 to 25 per cent and that of turnip and swede roots from 9 to 10 per cent.
- ♦ Brassica forages are generally used for late fall pasture, but on occasion are chopped and fed to reduce the wastage caused by livestock trampling the crop.
- ♦ Turnips have bushy tops and large white roots that are rich in carbohydrates. Many varieties can be grazed twice, once for top growth (near the end of summer) and then later for the roots. Turnip has a lower dry matter yield than rape or kale.
- ♦ Marrowstem kale has very digestible leaves and stems, and grows to 5 ft (1.5 m) under cool, moist conditions. Dry matter yields of kale range from 4,500 to 7,100 lb/ac (5000 to 8000 kg/ha) and grazing can begin in late summer.
- ♦ There are two kinds of forage rape, a giant type which is leafy and upright and a dwarf type which is short and branched. The giant types are used for cattle and sheep pasture while the dwarf types are best suited for finishing lambs. The giant types of rape have higher yields and are more palatable than the dwarf ones. Rape is usually ready to graze about eight weeks after establishment. Forage rape is not the same as oilseed rape or canola.
- ♦ Forage brassicas should be established in the same manner as canola. Ensure that the seedbed is firm and do not seed deeper than 0.5 in. (1.5 cm) or alternatively, seed with a zero-till drill into pastures or grain stubble.
- ♦ Seeding rates can be as high as 4.5 lb/ac (5 kg/ha) if a problem with weeds is anticipated. Seeding kales and turnips later than mid-June usually results in decreased yields. The later seeding dates for rape ensures that adequate forage is available in September.
- ♦ Moderate levels of potassium and phosphorus are required and about 18 lb/ac (20 kg/ha) of sulphur is essential for productive growth. Under irrigation, adequate amounts of naturally occurring sulphur should be available in the water.
- ♦ Any mineral supplementation that is used should ensure that the calcium-to-phosphorus ratio in the feed does not exceed 7:1. In addition, a diet containing forage brassicas must be balanced with dry feed to maintain adequate fibre because of the low dry matter content of brassicas.
- ♦ Livestock can suffer from rape poisoning if they graze stunted, low growing, purple brassicas. This occurs when the crop is grown under very wet conditions on poorly drained soils, inadequate amounts of fertilizer have been used or an early frost occurs.
- ♦ Strip grazing with the use of electric fencing is recommended for brassica pasture, especially kale, for a more uniform grazing, increased gains per acre and to reduce trampling losses.
- ♦ The location of fields, shelter, fencing and water needs to be considered to grow successful crops that are grazed by cattle late in the season.

Source: [www.foragebeef.ca](http://www.foragebeef.ca)

## 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.



ALBERTA FORAGE INDUSTRY NETWORK



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