GRASSROOTS NEWS & VIEWS

Demonstration Site—Laura Gibney

FOOTHILLS FORAGE AND GRAZING ASSOCIATION

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June 2017

Director's Note

Summer is here again. Most crops are planted in the southern parts of Alberta but many northern areas are still much too wet to finish last year's harvest as well as getting this year's crop in the ground.

Moisture conditions in our area (Linden, AB) are doing fine for now, although some rain would sure be nice. Our crops this year will be the usual peas, canola, and barley. As well, we will be planting some oats seeded with some turnips, kale, and rye grass to be used as swath grazing. As for the cow herd this summer they will be split between a community pasture north of Rocky Mountain House and pasture close around the home place. We have split our pastures in to smaller paddocks so that we can rotate them around.

I would like to thank Ian Murray for his time spent with FFGA. We wish you the best in your future endeavors; just remember when one door closes another one opens.

Here's hoping for everyone to have a good harvest and for those of you still calving, have a good calving season.

Stan Wiebe

Discussion Forum

Foothills Forage is excited to announce our very first **online discussion forum**. This forum will be a place where producers can talk to other producers, ask questions, discuss ideas, and receive support from one another.

The forum will feature various topic sections such as "Everything Soils", "Forages & Feed", "Grazing Management", "Cattle Health & Nurition", and "Ranch Business & Books". We have such an innovative and diverse membership. This is your chance to share what you're doing, get advice from mentors, and discuss ideas in a positive and open environment from the comfort of your home computer or cell phone!

IN THIS ISSUE

You can get started in on the discussion at: www.foothillsforage.com/forum.. If you have questions, please don't hesitate to give me a shout at: rachel@foothillsforage.com or 403-995-9466.

3 Ways to Achieve a 266% ROI with Cover Crops

Rulon Enterprises in Indiana shares how cover crops free up fertility, increase yields and improve soil health, providing a $69.17-per-acre benefit.

In a down ag economy, no-tillers may be wondering whether cover crops are worth the expense. But Rulon Enterprises in Arcadia, Ind., finds covers do more than pay their way in their no-till system of 20-plus years.

At the 2015 Iowa Cover Crops Conference, Ken Rulon explained the broke down the costs of cover crops for his family's operation in Arcadia, Ind., and the return on investment they've received from pairing covers with their long-term, 'never-till' system.

Ken stresses that his analysis is from data and assumptions for their farm, and other no-tillers may have different results based on their personal desires and farm attributes.

For Rulon Enterprises, the average cost of including cover crops in its rotation is about $14.27 per acre for seed and $11.73 per acre for seeding operations, totaling $26 per acre (Figure 1). The Rulons use oats, radishes, clover, annual ryegrass and cereal rye, with seeding rates varying between mixtures and how they're seeded.

Due to the size of their operation, the Rulons can old seed covers on about 60% of their 6,000 acre corn and soybean acres each year. In fall 2014, cover crops were seeded on 3,527 acres, and at $26 per acre the total costs of covers was almost $92,000.

But when looking at the benefits, Ken finds there's little to no chance of not getting his $26/acre back (Figure 2, Page 4).

"You can slice every benefit category in half and we still calculate a 50% return on investment," he says.

Continued on Page 3...

WHAT DO COVER CROPS COST?

Cover Crop Acres and Costs Fall 2014

SEED COSTS		Cost/Acre	Acres	Seed Cost	
Oats (32#) + Radish (2.5#)		$16.38	240	$3,931.20	
Oats (24#) + Radish (2.5#) + Clover (6#)		$18.40	1005	$18,492.00	
Annual Rye Grass (18#)		$14.04	200	$2,808.00	
Cereal Rye Grass - Plant (35#)		$12.05	607	$7,314.35	
Cereal Rye Grass - Aerial (40#)		$12.05	1,475	$17,773.75	
	3,527		Seed Cost =	$50,319.30	
				Seed Cost/Acre =	$14.27
Planting Costs for Season		**Quantity**	**Rate**	**Total Cost**	
Aerial Seeding Cost		1,475	$13.93	$20,546.75	
Tractor Hours		140	$35.00	$4,900.00	
Labor		210	$15.00	$3,150.00	
Fuel		720	$3.50	$2,520.00	
Planter Repairs/wear		2,052	$5.00	$10,260.00	
Total Other Costs	**Acres = 3,527**			**$41,376.75**	
				Planting Cost/Acre =	$11.73
			Total Cover Crop Cost =	$91,696.05	
				Total Cost/Acre Planted =	$26.00

RULON ENTERPRISES – IOWA COVER CROPS CONFERENCE 2/17/2015

FIGURE 1. Ken Rulon shares the cost breakdown of his cover crops. Between the seed cost and cost of seeding — including labor — Rulon Enterprises spend $26 per acre on cover crops. Ken admits it's tough to write the check to buy cover crop seed every fall, but the number crunching he's done shows they'll see a return on investment.

1. Using Covers to Reduce Fertilizer

One category they're saving on is their fertility program. Based on 20 years of 1-acre grid soil testing data and actual fertilizer use, as well as data from nearby no-tiller Cameron Mills' farm and tile discharge data out of Purdue University, the Rulons are spending $16 less in phosphorus (P) and potassium (K) fertilizer per acre every year compared to Tri-State fertilizer recommendations.

Ken notes that since they've added cover crops 8 years ago, it seems the amount of P available to the plant increases, even without a prescription application.

Rodney, Ken's cousin who developed their prescription fertility equations, stresses that they focus on 1-acre grid testing — and not crop removal — because with 36-40 inches of rain in a year, their area will normally see more nutrient leaching than is actually used by the crop. Using cover crops to capture those excess nutrients in the soil and prevent them from leaching into the water supply has great value, Ken says.

The Rulons also figure they capture about 40 pounds of nitrogen (N) per acre in organic matter, but are not reducing their N rates from it yet. Ken says they hope in the long run it's contributing to yield increases.

"In our plots, oats and radishes following soybeans produce the highest yields," Ken says. "They capture nutrients and contribute to rapid increases in earthworm populations.

"Cereal rye is second. Cereal rye grows organic matter a lot faster than the radishes."

2. Using Covers to Increase Yields

The Rulons are also seeing their yields increase from their system. Comparing their 5-year yield averages to their county average, the Rulons' soybean yield is 113% of the county yield average, and their corn yield is 114%.

Ken says the operation sees on average a 7.1-bushel corn yield increase when it follows cover crops vs. no cover crops.

The Rulons have also dedicated a 100-acre field to joint research with Purdue University and the NRCS since 2008. The multirep strip plots compare corn that follows various cover crops vs. no cover crops, along with different N rates.

Every year they do stand counts after emergence. Ken says they planted an average corn population of 33,000. For the corn that followed cereal rye the final stand was 28,500, while the corn that didn't follow a cover crop had a stand of almost 32,500.

But when it came to the yields between the two in 2013, the corn grown into cereal rye yielded 187.6 bushels per acre, 4.2 bushels more than the corn following no cover crop, when averaged across all of the N rates. The corn following oats and radishes yielded 190.5 bushels per acre, 7.1 bushels more.

Three years of data for corn shows if the crop yields 7.1 bushels higher, at $5 per bushel the Rulons…

Continued on Page 4...

Continued from Page 3...

are capturing a benefit of $35.50 per acre.

Soybeans also gain a yield boost following cereal rye. Ken says they've tested it numerous times over the years and always see a 1.5 - to 3-bushel increase. If the yield increase is 1.95 bushels, at $12 soybeans they get a benefit of $23.40 per acre.

The biggest benefits come during drought years. Ken says the farm experienced the three driest Julys in its history from 2011-13. In those years, their farm's average yield was 130% of the county average, almost twice the normal difference. The biggest benefits are when the crop has the highest price.

3. Using Covers to Improve Soil Health

The final benefits the Rulons are obtaining from their no-till, cover crop system include reduced erosion and increased soil biology and soil quality, which based on numbers from the NRCS, provide a $14-per-acre benefit.

The Rulons also receive a Conservation Stewardship Program payment of $40,000 annually, which breaks down to $10.91 an acre over 3,667 acres.

Ken calculates the total benefit of cover crops on their farm comes to $69.17 per acre, for a 266% return on investment.

"It's a little bit tough when you go to write Beck's a check for $85,000 for cover crop seed in August," he says. "But when we sit down and go through it, we just cannot find any data where the cover crop yielded less than straight no-till. So at some point you have to say it has some value."

He notes that these benefits don't typically happen in the first year of cover crops. They're the combination of many practices, including investment in drainage, variable-rate seeding, N application based upon yield goals, and of course, the farm's 23 years of 100% continuous no-till.

Ken also adds that no-tillers must deal with some successes and failures with cover crops, and proper management plays a crucial role in achieving the benefits.

"We know for a fact that if we let cereal rye get way too big, and then plant soybeans too wet, there is a potential 5% yield hit," he says.

By: Laura Barrera; No-Till Farmer

Source: https://www.no-tillfarmer.com/articles

WHAT ARE THE ECONOMIC BENEFITS OF COVER CROPS?

Data Source	BENEFITS ANALYSIS	Per acre	Acres	Total Benefit
Ion/Mills	Fertilizer Saved-P&K (Mills+Rulon+Purdue Tile Discharge)	$16.23	3,527	$57,243.21
Mills	Fertilizer Saved-N (40#/Ac Invested in OM Increase)	$0.00	3,667	$0.00
Rulon	Corn Yield Inc.(3yr/9reps CC Plot Data: 7.1bu@$5)	$35.50	2,052	$72,846.00
Rulon	Soybean Yield Increase (Less Disease:1.95bu@$12)	$23.40	1,475	$34,515.00
Rulon	Drought Tol.(2004-14 Actual:16%every4th=6.9Bu@$5)	$34.50	3,527	$121,681.50
NRCS	Biology & Soil Quality (OM increases 2X of no cc)	$6.00	3,527	$21,162.00
NRCS	Erosion Reduction (2 ton/acre @ $4)	$8.00	3,527	$28,216.00
FSA	CSP Program Payment ($40,000)	$10.91	3,667	$40,000.00
		Total Cover Crop Benefit =		$335,663.71
		Net Economic Benefit =		$243,967.66
	ROI = 266%	Net Benefit/Acre Planted =		$69.17

RULON ENTERPRISES – IOWA COVER CROPS CONFERENCE 2/17/2015

FIGURE 2. Each line item shows a benefit the Rulon family in Arcadia, Ind., is gaining from using cover crops in their continuous no-till system. Even if they cut the benefits in half, they'd still see a return on their $26-per-acre expense for cover crops, Ken Rulon says.

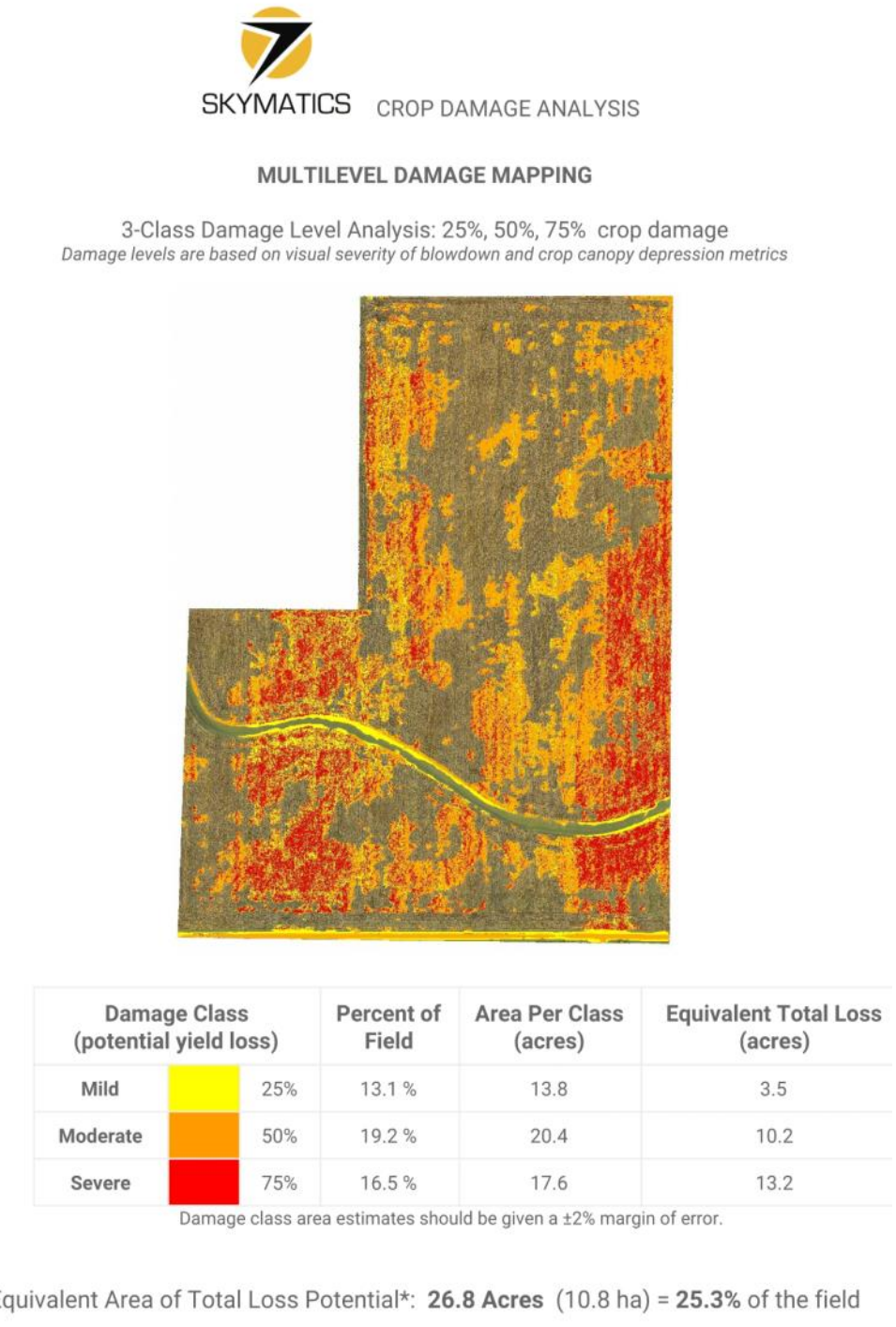
Bursary Winner: Kelsey Biever

Thank you so much for this scholarship. I am very honored that I chosen. This money is greatly appreciated. I will put it towards my schooling, so that I can continue learning about things to keep our grasslands alive & thriving!

Kelsey Biever, Land & Water Resources Student, Olds College

- Kelsey Biever

Producers Wanted! Project Proposal: Data Collection with Drones



Damage Class (potential yield loss)		Percent of Field	Area Per Class (acres)	Equivalent Total Loss (acres)
Mild	25%	13.1 %	13.8	3.5
Moderate	50%	19.2 %	20.4	10.2
Severe	75%	16.5 %	17.6	13.2

Damage class area estimates should be given a ±2% margin of error.

Equivalent Area of Total Loss Potential*: **26.8 Acres** (10.8 ha) = **25.3%** of the field

Good afternoon,

I am Dr. Virginia Garcia from the Centre for Earth Observation Science (CEOS) at the University of Alberta, Canada. I am currently working on a research project about precision agriculture in collaboration with Skymatics, an **unmanned aerial imaging and geospatial data service provider** located in Calgary, AB.

The main goal of the project is **investigating the potential of data collected by small consumer drones** for the identification of sudden crop damages caused by severe weather events, particularly hail storms. For the development of the project, we need to survey as many fields as feasible during the 2017 growing season, and when possible, before and after the hail storm. Also, it is very important for us to validate the data collected by the drone with ground data, so it will be optimal to simultaneously collect some information about the height and biomass of the crop.

We are seeking to contact farmers, agronomists, consultants or any other person related to agriculture lands in Alberta, **in an area around and within the Calgary - Edmonton corridor,** who are willing to let us fly our small drones over their croplands and, eventually, do some measurements into their fields.

In return for project collaboration, we will deliver free drone imagery and maps of the fields and, if desired, a report on damages and plant vigor. This 2017 season is the only time we are offering these service for free as part of our province-wide data collection campaign. For more information about the data that we are offering, please check an example on the reports Skymatics generates (about wind storm damage in corn and wildlife damage in canola), and visit the website http://skymatics.com/skyclaim/ for details about the company and the project.

Please, do not hesitate to contact me for any questions about the project and the collaboration terms.

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Digging Deep Reveals the Intricate World of Roots

Western Wheatgrass

If you've ever driven past wild prairie grasses swaying in the Kansas breeze and felt a wave of appreciation for America's heartland, you should know that those visible grasses are just the tip of the iceberg.

"We're pretty blind to what's going on beneath the soil," says photographer Jim Richardson, who became well acquainted with the world of dirt while working on "Our Good Earth," a 2008 Natio-nal Geographic magazine story.

Dr. Jerry Glover works in a soil pit at the Land Institute in Salina, Kansas. On the left, the deeper roots of wheatgrass are displayed, while the more shallow roots of wheat are visible on the right.

The bulk of a prairie grass plant, it turns out, exists out of sight, with anywhere from **eight to fourteen feet of roots extending down into the earth.** Why should we care? Besides being impressively large, these hidden root balls accomplish a lot—storing carbon, nourishing soil, increasing bioproductivity, and preventing erosion.

Unfortunately, these productive, perennial grasses (which live year round) are more rare than they once were.

"When [you] say the American Midwest is a breadbasket, essentially what you mean is that you have taken out the prairie grasses. You went out with Willa Cather and the plow that broke the plains, plowed up the grassland, and started planting annual grasses like wheat, sorghum, corn, any of the big grains that supply most of our calories," says Richardson.

Annual vs. Perennial Root Systems
Photo: Savory Institute

A challenge in raising the profile of this tallgrass ecosystem is that so much of it is underground and therefore difficult to visualize.

Richardson wanted to reveal these roots to the world, highlighting not only their productive attributes but also their surprising scale and intricacy. Logistically speaking, he had to get creative, because if you were to try and dig up the roots of switchgrass from any old prairie, you would destroy them in the process.

"You can't get them out of the ground. You'd be going down ten feet and trying to excavate all around them to get them out. It just wouldn't work," he says.

So Richardson collaborated with Dr. Jerry Glover, an agroecologist and a National Geographic Emerging Explorer who developed a method of growing tallgrasses in "root-tubes" (made from PVC pipes) while he was working at the Land Institute in Salina, Kansas. It takes a year or two to grow the plants. When they're ready, the tube is split and, after a good wash, the roots come out intact and ready for their close up.

He welded together two 55-gallon drums, laced the inside with a wire frame, filled the tall container with soil and seed, and then watered and waited. Three years later, he cut open the barrels and laid bare a giant's bouquet of native prairie plants.

Then came the second hurdle: how to capture the scale and the texture of these roots at the same time. Remember, some of these roots are twice as tall as an NBA basketball player.

"[Glover] basically brought the roots over to the gallery here, rolled them out on the floor, and said, 'How can we photograph this?'" says Richardson.

He describes their solution as being similar to that of a flatbed scanner...

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They put a long piece of plexiglass on a platform and laid the roots out. Then they put a camera up above the plant on a ladder so that they could look straight down on the roots. Starting at the top, they photographed an approximately 12" x 18" section of the plant, then moved it 12 inches and photographed another section, working their way down the plant as the camera stayed still.
They then took those photos (usually between eight and fourteen per plant) and stitched them together into a super high-resolution image, like a vertical panorama. The main problem now, he says, "is finding walls high enough for the print job."

Richardson has a well-known, one-liner piece of advice about photography: "If you want to be a better photographer, stand in front of more interesting stuff." I found it funny that he's become so invested in a story about roots and soil, something that at first glance seems kind of boring. So I asked him about it. He explained: "What I mean is that, as a photographer, you need to do the work of discovery … Do the grunt work of research to find gems in unsung places. The worth of the photograph depends on the intrinsic value of what is being seen."

By: Becky Harlan
Source: http://proof.nationalgeographic.com/2015/10/15/digging-deep-reveals-the-intricate-world-of-roots/

Swift Current Research and Development Centre Grazing and Forage Field Day

June 27, 2017

Join us for plot / pasture tours and oral presentations focused on new and long-term forage and grazing research that is relevant to Southern Saskatchewan.

- New and traditional legume and grass mixtures for extended summer/fall grazing
- New strategies to seed and establish saline tolerant AC-Saltlander green wheatgrass
- Best management practices to establish Sainfoin into existing pastures
- Grazing preferences of different native and tame forages
- Environmental and production benefits from deferred grazing of native species/ pasture

Admission is $10 and includes beverages, snacks, and lunch. The field day will run rain or shine.
For registration, please call Mr. Trevor Lennox at 306-778-8294 or email trevor.lennox@gov.sk.ca.

Government of Saskatchewan

All About Mycorrhizal Fungi

What are Mycorrhizae?

Mycorrhizal fungi have existed since the first plants appeared on dry land more than 450 million years ago. They form a close symbiotic relationship with plant roots. They are called mycorrhizae from the Greek "mukés", meaning fungus, and "rhiza," meaning roots.

Mycorrhizae form a network of filaments that associate with plant roots and draw nutrients from the soil that the root system would not be able to access otherwise. This fungus-plant alliance stimulates plant growth and accelerates root development.

One kilometer of hypae (fine filaments) may be associated with a plant growing in a one-liter pot and it can access water and nutrients in the smallest pores in the soil. It also makes the plant less susceptible to soil-borne pathogens and to other environmental stresses such as drought and salinity.

In return the plant provides carbohydrates and other nutrients to the fungi. They utilize these carbohydrates for their growth and to synthesize and excrete molecules like glomalin (glycoprotein). The release of glomalin in the soil environment results in better soil structure and higher organic matter content.

However, in soil that has been disturbed by human activity, the quantity of mycorrhizae decreases drastically so that there are not enough of them to produce a significant benefit on plant growth and health, hence the importance to compensate for this lack.

Mycorrhizal fungi

- Mycorrhizal fungi colonize the plant's root system and develop a symbiotic association called "mycorrhiza"
- They form a network of fine filaments that associate with plant roots and draw nutrients and water from the soil that the root system would not be able to access otherwise.
- Mycorrhizae are formed with more than 90% of plant species.

Benefits of Mycorrhizae

Mycorrhizal fungi allow plants to draw more nutrients and water from the soil. They also increase plant tolerance to different environmental stresses. Moreover, these fungi play a major role in soil aggregation process and stimulate microbial activity. According to the plant species and to the growing practices and conditions, mycorrhizae provide different benefits to the plants and to the environment:

- Produce more vigorous and healthy plants
- Increase plant establishment and survival at seeding or transplanting
- Increase yields and crop quality
- Improve drought tolerance, allowing watering reduction
- Enhance flowering and fruiting
- Optimize fertilizers use, especially phosphorus
- Increase tolerance to soil salinity
- Reduce disease occurrence
- Contribute to maintain soil quality and nutrient cycling
- Contribute to control soil erosion

Types of Mycorrhizae

There are two major groups of mycorrhizal fungi: ectomycorrhizal and endomycorrhizal fungi.

Members of the former group develop exclusively on the exterior of root cells, whereas those of the latter penetrate the plant cells where direct metabolic exchanges can occur.

Ectomycorrhizae are essentially found on trees and form visible structures whereas endomycorrhizal fungi colonize trees as well as shrubs and most herbaceous plants and do not form visible structure.

Endomycorrhizae

Among the types of endomycorrhizal fungi, arbuscular mycorrhizal (AM) fungi are the most prevalent in soils. Their name is derived from structures they form within the plant root cell: arbuscules*.

*Arbuscules are finely-branched structures that form within a cell and serve as a major metabolic exchange site between the plant and the fungus. Vesicles are also found in some species of AM fungi, they are sac-like structures, emerging from hyphae, which serve as storage organs for lipids.

(80% of plants)

Other types of mycorrhizae do exist in nature but are specific to given families of plants Ex: orchids and the ericaceous families.

Ectomycorrhizae

Ectomycorrhizal fungi are also found in natural environments, mainly in forests ecosystems.

These fungi can form visible reproductive structures (mushrooms) at the feet of trees they colonize. Ectomycorrhizal fungi grow between root cells without penetrating them. Their hyphae grow externally, forming dense growth known as a fungal mantle. These fungi form symbiotic relationships with most pines, spruces and some hardwood trees including beech, birch, oak and willow. (5 to 7% of plants)

Mycorrhizal Effects on Soil Structure

Soil structure refers to soil particle aggregation as well as pore spaces. Maintenance of soil structure is of critical importance to the preservation of soil functions and fertility. Mycorrhizal fungi play a major role in soil aggregation through hyphae networking and glomalin (biological glue) production. Therefore, their presence in the soil is essential to maintain physical soil properties.

Better soil structure results in

- Greater water infiltration and water holding capacity
- More permeability to air
- Better root development
- Higher microbial activity and nutrient cycling
- Better resistance to surface sealing (crusts)
- Better resistance to erosion (water/wind)
- Better resistance to compaction

Article by: Premier Tech Mycorrhizae.

Source: http://www.mykepro.com/mycorrhizae-benefits-application-and-research.aspx

Gabe Brown: The Brown Family Grazing Strategy

As our operation has and continues to evolve, we have changed the way that we graze our livestock. During the grazing season we used to look at three things: the cows, the grass, and the water.

By utilizing the principles of Holistic Management, we now look at the "whole" rather than just these three things or "parts."

Now we realize that livestock are merely just a tool (and a good one at that) for achieving a greater goal for our operation. Our land base is regenerating and greatly improving. When we as ranchers say that "the cows are out grazing," there is much more going on out there than we realize.

This is why it is important to take note of everything going on out in the pasture. The list could be endless, but some to think about include: soil health, forage height, leaf density, sward thickness, plant species diversity, plant maturity, ground cover, graze: trample ratio, wildlife, insects, water, and livestock. These are things that are visually taken into account every time our cows are grazing.

Our previous grazing strategy consisted of a few pastures that the cattle were simply rotated through every few weeks. Although this was better for the "whole" than continuous grazing, it still wasn't taking our land-base in the right direction. Twenty years ago we started rotational grazing with an understanding of the principals of rest/recovery. While learning about Holistic Management, an emphasis is put on animal impact and getting residue in contact with the soil surface. There are billions of

mouths to feed below the soil surface and we need to feed them. This can easily be achieved by having a diverse plant community that supplies them with food via root exudates, as well as having the cattle put residue on the soil surface, which provides countless benefits to the health of the ecosystem. In order to get the livestock to be both efficient at consuming forage and trampling residue (carbon) onto the soil surface high stock densities are needed. We typically like the cattle to consume 30-40% of the aboveground biomass and trample the majority of the remaining sward.

We typically move the cowherd once a day and the yearling herd anywhere from 3-7 times a day. This may sound like a lot of work, but as in any situation, the human mind can make it as easy or complex as it wants. We chose the easy way.

The majority of our permanent pastures are 15-40 acres in size. Every morning portable fence is set up to divide these pastures even further. These temporary paddocks range in size from 1/6 of an acre to 2 acres to give us the stock density we desire.

The use of solar-powered automatic gate openers made this an easy daily routine. A time was preset into each of the gate openers and the cattle moved themselves into the next temporary paddock throughout each day.

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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.

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

Connect with us on social media!

Please Take Our Survey!
Southern Alberta Beaver Survey

Assessing Knowledge and Perceptions about Beavers

Understanding Albertans' knowledge and perceptions about beavers, their habitat and management is important to realize benefits and address impacts. This survey is being conducted in partnership by the Miistakis Institute and Cows and Fish (Alberta Riparian Habitat Management Society). It is available online from May 31 to July 26 and will take approximately 25-30 minutes to complete:

https://www.surveymonkey.com/r/albertabeaver

Participation in the survey is voluntary. Results will be aggregated and feedback will not be attributed to individuals. If you prefer to participate in the survey via a written, mail-in copy, please email nisha@rockies.ca to receive your survey. The results of this survey will be available in a formal report created after the survey period at: www.rockies.ca and www.cowsandfish.org, and will be used to help inform the development of education materials about beavers and their management.

Miistakis Institute

Talk about stress-free for both the cattle and people. When mob grazing we typically use stock densities around 700,000 pounds of liveweight/acre.

With this type of density we were able to achieve maximum ground cover due to the trampling caused by animal impact. We noticed that the pastures that were mob grazed fully recovered on average a week or two faster than those that were MIG grazed. It is important to note that we do not always move the cattle at this frequency. Whenever we want to take a vacation or some time off we simply allow them a larger paddock.

This allows us the quality of life we desire.

Since we have incorporated a planned grazing strategy, the flexibility and options that we have on when and where to move the livestock has greatly increased. This is especially important because we rely on this flexibility and nature for fly and parasite control. We quit using insecticides (pour-ons, fly tags, and orals) many years ago and have since seen a large increase in dung beetle and insect predator populations. Cowbirds are also found patrolling the herd year-round.

Their numbers coincide with fly populations throughout the year. They, along with being able to move the livestock away from fly pressure and grazing tall have done an excellent job of controlling flies and parasites.

We don't want to completely eliminate flies, but rather obtain a balance between predator and prey. Keeping a fly population is essential for us to see which genetics are naturally more fly-resistant. Although we do not specifically use fly-resistance as a selection tool, it is taken into consideration when we decide which animals to keep as replacements.

Another of the many benefits of high stock densities is that it allows us to use the cattle to control noxious weeds. We were able to rent some land that had been in CRP for twenty years. It was primarily composed of smooth bromegrass, a small amount of alfalfa and quite a large extent of noxious weeds.

By running higher stock densities cattle behavior changes and, although they are not forced to, they readily consume less desirable species such as Canada thistle. We have been able to greatly reduce the infestations of noxious weeds, while at the same time, increase the diversity and health of other grasses and forbs in these pastures. Along with Canada thistle, our cattle are now grazing absinth wormwood and leafy spurge.

It has been a joy to see the improvement in our grazing resources and we feel we have just begun. We owe a great deal of gratitude to all who have been both an inspiration and a help to us, especially Ken Miller, Jonathan Lundgren and Neil Dennis. We invite you to check our Facebook page to follow our grazing throughout the year.

By: Gabe Brown

Catch Gabe at the Soil Health & Grazing Conference in Edmonton in December!

Source: http://brownsranch.us/grazing/

Carbon & Forages

Field Day

Featuring:

Dr. Barry Irvine

APO/Manager Research Stations, University of Alberta

Carbon capture & forages—the current research in Alberta

Grant Lastiwka, P. Ag

Forage/Livestock Business Specialist, Alberta Agriculture & Forestry

Pasture management, forages, carbon, and connecting the dots. The big picture and why measuring carbon isn't easy

Dianne Westerland

Manager, Chinook Applied Research Association

Tour of the Foothills Forage Perennial Forages trial of 32 different varieties of forages

July 19, 2017

Rugby Hall (near Didsbury) 1:00pm—4:30pm Cost: $15/members, $20/non-members

Register: https://carbonandforages.eventbrite.ca or call 403-995-9466

FOOTHILLS FORAGE AND GRAZING ASSOCIATION

UNIVERSITY OF ALBERTA

Alberta Agriculture and Forestry

Mountain View COUNTY

Environmental Farm Plan Workshop

Email rachel@foothillsforage.com to register

M.D. of Pincher Creek Office
Pincher Creek, AB
June 21, 2017
9:30am

Alberta EFP — Building on a solid foundation — Environmental Farm Plan

M.D. of Pincher Creek

FOOTHILLS FORAGE AND GRAZING ASSOCIATION

Learn About
Funding Incentive$
in Growing Forward 2

Alberta Agriculture and Forestry

Growing Forward 2 — A federal-provincial-territorial initiative

Assistance with the EFP Workbook