

## SPECIAL POINTS OF INTEREST:

- Upcoming Events  
in Centerfold!

## IN THIS ISSUE:

PCBFA	2
Multispecies Cover Crops (Cocktails) for Forage Production	6
Be WolfSmart	11
Perspective on the Market	12
Busy Bees at GPCRC Fairview Farm	13
Watershed Resiliency in Lesser Slave	14
Wild Boar	18
ASB Env. Project On-Farm Soil Nutrient & Health and Dugout Water Quality Assessments	20
National EFP	27
AOF 2015-16 Year in Review	28
GF2 Update	29
2017 Soil Health & Grazing Conference	30
MPWA Save the Date	31
New to PCBFA Website	31

# FORAGE COUNTRY

WINTER 2017

## New Zealand Agricultural Tour 2017

By: Lawrence Rowley, Leader Tours Inc.

Peace Country Beef & Forage Association is offering all members & friends the chance to experience the incredible sightseeing and culture of New Zealand, while also providing an incredible opportunity to network and connect with local farmers and Ag professionals.

New Zealand is a small country, similar in size to Great Britain or Japan. With a population of only four million people it's also gloriously uncrowded.

New Zealand is the largest dairy and sheep meat exporter in the world, and a major global supplier of beef, wool, kiwifruit, apples and seafood. New Zealand grown produce feeds over 40 million people, with 7,500 animal products and 3,800 dairy products going to 100 countries every month.

Agriculture is the backbone of the New Zealand economy, with over 95 percent of agricultural production exported. The drive for research and innovation has long been a feature of the sector, with robust investments in education, animal health, farm equipment and management technology, seed production and plant genetics.

As one of the world's most efficient agricultural economies, with respected pastoral farming expertise and high quality food production systems, New Zealand is well positioned to work with other countries facing challenges as the world population heads towards an estimated nine billion in 2050.

### What can we learn from New Zealand agribusiness?

**Pastoral farming** (dairy, sheep, beef & wool) comprises 69% – more than two thirds of New Zealand's gross agricultural revenue. Most dairy and cattle farming in New Zealand is pastoral making farmers less dependent on grain feeding and the energy intensive housing of animals during winter months. The intelligent use of natural resources, along with the rapid adoption of new methods and technologies gives New Zealand a competitive advantage in grazing animals.

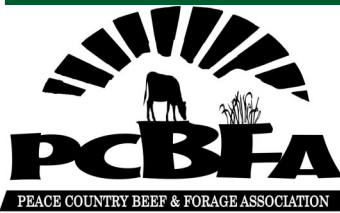
Rather than providing **government subsidies** for individual farms, the New Zealand government looks to provide a framework which enables sustainable economic growth. Farmers in New Zealand are improving productivity for the long term, making management decisions based on the responsible and efficient delivery of high-quality products to market.

**Technological innovation** - as an island nation, New Zealand has developed an innovative and hands on approach to agribusiness problems. New Zealand is committed to growing its agricultural innovation and expertise, and publicly funds some research and development. The government invests around \$30 million annually into research and development focused on improving agricultural productivity and profitability.

On farm technology development is grounded in "a typical farmer's approach to solving farm problems," according to the Gallagher Group, the company behind the electric



Continued on Page 3



#### Board of Directors

Conrad Dolen  
Jordan Barnfield  
Preston Basnett  
Thomas Claydon  
John Prinse  
Nancy Van Herk  
Stan Logan  
Faron Steffen  
Garry Gurtler  
Joyleen Beamish

#### Staff

Liisa Vihvelin, Manager  
Akim Omokanye, Research  
Coordinator  
Jen Allen, Agri-Environmental  
Program Coordinator  
Lekshmi Sreekumar, Research  
Technician

#### Locations

GPRC Fairview Campus,  
Trades Instructional Building,  
Room 229  
780-835-6799  
  
High Prairie Provincial Building  
AFSC Office  
780-523-4033

#### Email:

info@pcbfa.ca

# Peace Country Beef & Forage Association

## 'Local Information for Peace Country Producers'

Having worked in the Peace Country for many years, we have established ourselves as an innovative association, willing to work with local businesses, educational facilities, other research groups and always with the producers from across the Peace Region.

Our programs vary from environmental concerns to finding the newest technology and helping producers implement it on their operations.

Our board is made up of producers from across the Peace Region, who actively voice questions, ideas and concerns to address the needs of farmers and ranchers of the Peace.

### Vision

The Peace Country Beef & Forage Association is a producer group with the goal to be a hub of innovative, relevant and local beef, forage and crop information for Peace Country producers.

### Mission

A Peace Country producer's first stop for optimizing beef, forage and crop production to maximize profitability with innovative and credible information.

**If you have any questions, comments or feedback about our current extension events or any of our projects, please do not hesitate to give us a call at either PCBFA office.**

**Your input matters to us!**

We are in the first year of a 3 year cycle of funding and with your help we have identified several areas in which we will be focusing our research and extension efforts.

- Forages and Livestock Program: *Optimizing Production and Profitability of Livestock and Forage Production in the Peace Country.*
- Environment Program: *Facilitating the Role of Agricultural Producers as Stewards of the Land.*
- Annual and Special Crops Program: *Long Term Profitability of Crop Production through Land Rejuvenation & Sustainability.*

These programs will all work together to improve production and profitability on all operations in the Peace Country with a focus on soil health and restorative, sustainable farming practices.



PCBFA Research Farm Plots 2016

fence invention and a global leader in live animal weighing and electronic animal identification.

A continued effort to lift the quality, productivity and performance on farms has led New Zealand companies to innovate in milking machines, irrigation, animal genetics and other areas. Improvements are introduced, tested and trialed onshore then adapted for use globally.

New Zealand company Tru-Test invented the milk meter and is now the world's largest supplier of ICAR (International Committee for Animal Recording) - approved milk meters for herd improvement and livestock scales, and continues introduce new, innovative technologies to market

Farms in New Zealand use high technology systems to support animal handling, pasture management, budgeting and overall productivity gains. Local use fuels continual investment by local agri-technology companies in research and development. For over 20 years, Zee Tags has produced technologies such as livestock identification tags and applicator devices, sold to farmers located in more than 40 countries.

**Value chain efficiency** - New Zealand agri-technology solutions, such as herd improvement, software, and pasture mapping and management are being integrated into on farm practices, maximizing increases in productivity and profitability. Increasingly, there are new collaborations up and down the agricultural value chain - from seeds and grains, to animal genetics, quality control and on to farm assurance systems, farm equipment and technology.

New Zealand is a pioneer in on farm efficiency, which underpins the huge growth in dairy production in New Zealand in recent years. New Zealand dairy companies control one third of international dairy trade, and New Zealand remains the largest exporter of dairy products.



### Peace Country Beef & Forage Association New Zealand Tour Highlights

First stop on this fantastic trip is beautiful Queenstown. Queenstown sits on the shores of the South Island's Lake Wakatipu, set against the dramatic Southern Alps. Renowned for adventure sports, it's also a base for exploring the region's vineyards and historic mining towns. There's bungee jumping off Kawarau Gorge Suspension Bridge and jet-boating on the Shot over and Dart rivers. In winter, there's skiing on the slopes of The Remarkables and Coronet Peak.

On arrival you will have free time to explore the waterfront area of Queenstown. Tonight's Welcome Dinner is on the 1912 steamship TSS Earnslaw; you will cruise across the lake aboard the steamship for dinner at Walter Peak High Country Station (Station is the name given to larger farms in New Zealand). The farm runs 18,000 merino sheep & 800 beef cows on approximately 60,000 acres.

Enjoy a relaxing morning at leisure to explore Queenstown on your own. Early afternoon you will be picked up at your hotel for a guided winery tour & to experience New Zealand's largest underground wine cave.

Early morning start as we travel along the shores of Lake Wakatipu towards Fiordland National Park region where you will descend into the Cleddau Canyon to reach majestic Milford Sound dominated by Mitre Peak. The Milford Sound has the unofficial title of the Eighth Wonder of the World! Here you will board the cruise ship and explore this incredible place with scenery that will blow your mind.

A fantastic day awaits you this morning at Criffel Station in Wanaka. We will visit the farm and enjoy a tasty venison lunch. Criffel Station was converted into a deer breeding and finishing farm; you will get an insight into deer farming in New Zealand during this visit.

After one night in Wanaka we will travel over the winding Lindis Pass and continue on your journey to arrive into stunning Tekapo. On a clear day looking out over the lake you will see New Zealand's tallest mountain Mount Cook. From Tekapo we will travel through the Mackenzie Country, an area famed for its history of sheep farming and its sparsely populated beauty.

*Continued on Page 4*

### Follow Us!



@peacecountrybeef



@pcbfa



@peacecountrybeef



[www.peacecountrybeef.ca](http://www.peacecountrybeef.ca)



## New Zealand Agricultural Tour 2017 *continued*

By: Lawrence Rowley, *Leader Tours Inc.*



The next two nights we are based in Christchurch, Canterbury. Canterbury is a large farming region with cropping (due to the Canterbury plains), beef, sheep, deer & dairy the main focus. During our time in the Canterbury region we will visit Lincoln University founded in 1878 as a School of Agriculture. We will visit the cropping research farm, currently used for both sheep and dairy support, with two major research themes being dryland pastoral systems and dairy wintering systems.

As we leave the sights of Canterbury we will stop in to visit a top Pure Breed Angus operation Te Mania Angus. Te Mania Angus is one of the largest fully performance record-

ed registered Angus herds in the country. We will enjoy a farm tour and lunch with a few drinks with the local farmers before driving to Picton for the night.

This morning we depart for the ferry terminal, crossing the Cook Strait from the South Island to the North Island. Sail through picturesque Queen Charlotte Sound, viewing the stunning sheltered waterways, remote bays and isolated holiday homes. Travel across Cook Strait and into Wellington Harbour for spectacular views of New Zealand's Capital City. A brief city tour will incorporate the summit of Mt Victoria for panoramic views of the city and harbour, the Houses of Parliament and the distinctive 'Beehive', Wellington Cathedral, city centre and Oriental Bay.

As we travel further north we will visit Te Whanga Station. Te Whanga has developed an enviable history over 75 years as one of New Zealand's pre-eminent Angus cattle and sheep stations. Te Whanga is home to 700 Angus stud cattle and 10,000 sheep grazing on 4,000 acres of pristine farming country.

We will be based in Palmerston North for the next two nights. Morning visit to Feilding Livestock Auction gives you an insight into how they sell their livestock in New Zealand. The first sale was conducted by Mr Jack Stevens and Colonel Gorton on 24th May 1880 in the Denbigh Hotel Sale yards. This was the same site as the sale yards now occupy. At the first sale 100 head of cattle were sold. Regular fortnightly sales followed and were later expanded to weekly sales with four firms involved. In earlier times the Sale yards were considered to be one of the largest in the Southern Hemisphere with 489 pens covering 3.7 hectares, selling 100,000 cattle and 600,000 sheep annually. Now the Feilding Sale yards remain of important significance to the Region. They still occupy 3.7 hectares and have 350 sheep pens, 140 cattle pens and 45 deer pens. These days around 50,000 cattle and 450,000 sheep are sold annually.

The group will have a guided tour with a retired local farmer, after the guided tour you can stay and look around at your own leisure or wander to the town centre of Feilding to look around the shops or to grab a bite for lunch.

Afternoon visit to Massey University research centre. Massey University is one of the top agricultural universities in New Zealand. Massey is world ranked and New Zealand's No 1 university in agriculture. The group will be visiting the Agricultural Precision Research Centre. New Zealand Centre for Precision Agriculture (NZCPA) creates practical land management solutions through the use of leading edge precision technology tools.

Today we travel to Lake Taupo, stop off at the Huka Falls for a great photo opportunity. Free time in Lake Taupo to enjoy the beautiful lake side town. This evening we enjoy a cocktail cruise with complimentary drinks and antipasto platters on the Ernest Kemp. The Ernest Kemp is a replica steamboat built in the 1980's. Step back in time for a voyage of discovery. View the world famous Maori Rock Carvings, Hot Water Beach, the Lakefront, and Acacia Bay. Live informative commentary, including Lake Taupo and Maori history.

Sunday is our day off, a full day to explore Lake Taupo on your own. The Taupo town centre is one of those extraordinary places that you'll visit and wish you lived in. In fact, many of our permanent residents had exactly that thought when they first visited Taupo, so they chose to make it their home. Moving from all corners of the globe and from within New Zealand, these people have joined longer-standing residents to form a diverse and caring community who embrace the quintessential kiwi lifestyle. Relaxed living, beautiful surroundings and positive people are what it's all about.

Taupo is known for its adrenaline activities like bungee jumping, sky diving and jet boating, but equally for its fishing, boating, walking and natural attractions such as geothermal hot pools, waterfalls, forests and volcanoes. All of this can be done within relatively close proximity to the Taupo town centre, making it the ideal base for your visit.



Relax at your hotel; take a walk to the town centre to browse the shops & cafes on the waterfront. If you wish to go trout fishing, golfing & other sightseeing activities please advise and we will book on your behalf.

Morning farm visit on route to Rotorua. Mark & Sherry Stokman run 200 Angus stud cows, as well as commercial Angus heifers on a property bordering Lake Ohakuri, which is a very beautiful area in New Zealand. Sherry is originally from an Angus stud operation in Montana and is looking forward to hosting folks from North America.

Upon arrival into Rotorua you will enjoy a free afternoon. This evening you will discover the Tamaki Maori Village. You will be greeted by imposing warriors who will perform the Powhiri (traditional Maori welcome) before you walk through a forest of pine trees and learn about some of the traditional Maori arts. Later enjoy the Maori hangi (traditionally prepared meats and vegetables) which has been slow cooked beneath the earth using hot stones, as well as enjoying a selection of more conventional dishes. Be inspired by a concert and cultural performance featuring stirring Maori songs, haunting chants and the famous haka.

This morning you will visit the original Sheep and beef operation that the Hobbiton movie set is located on. The farm has over 2000 acres, running a beef and sheep operation. Enjoy a tour of the farm with the owner who will give you an insight into running the farm with the most popular tourist attraction in New Zealand.

Experience Hobbiton Movie Set at dusk with a guided tour of the Shire. Your guide escorts you through the twelve acre site recounting fascinating details of how the movie set was created. The tour concludes at The Green Dragon Inn with ample time to relax in front of the open fires enjoying a complimentary beverage from the exclusive Hobbit South farthing range. The guests will then be moved through into the Green Dragon dining room and treated to a banquet feast fit for a Hobbit. The tables will be full of traditional Hobbit fare and as is the tradition in The Shire, second helpings are encouraged.

To conclude this premium Hobbiton Movie Set experience, after dinner the guests will rejoin their guide to make their way back through the wandering paths of the Shire. The trails will be illuminated by path lighting and each guest will receive an authentic hand held lantern to light the way. For this stunning journey under moonlight, travel through the village breathtakingly lit up with Hobbit hole chimney's smoking and lanterns glowing against the darkness.



Morning visit to Horse Stud Farm in Cambridge. Cambridge Stud has long been New Zealand's finest thoroughbred nursery. Cambridge Stud was established in 1975 and during the nearly four decades since has been progressively developed into a showpiece property, spreading over 1000 acres of the finest horse country New Zealand has to offer.

Transfer to Auckland wharf where you will board a ferry cruise to Waiheke Island through the glorious Hauraki Gulf. Arrive at Matiatia where you will be greeted on the wharf by Ananda Tours. The tour will commence with a drive along the scenic northern route, taking in spectacular views of the Hauraki Gulf and beyond to the Coromandel Peninsula. Next enjoy a tasting at Peacock Sky; the wines are all carefully matched with morsels of tempting food created daily by the vineyard owners. After your tasting, stay on for lunch in their vineyard restaurant. Our next visit is to Stonyridge Vineyard for wine tasting. Founded in 1982, Stonyridge is a world class producer of Cabernet blends and is the home of one of New Zealand's cult wines, Larose. You will taste their Church Bay Chardonnay, Merlot/ Cabernet Franc as well as the Fallen Angel Sauvignon Blanc. Depart Oneroa and travel back to the ferry, sailing via Davenport to Auckland. You will then be transferred back to your hotel where the rest of the afternoon will be for you to spend at your leisure.

This evening for our dinner we will walk to the Sky Tower to enjoy a delicious farewell dinner at the Orbit Restaurant with spectacular views and fresh food.

Time to say farewell to New Zealand, as you fly out of Auckland back to Canada...sit back and reminisce about the scenery, people, experiences you have taken part in, the memories & stories will last a lifetime! Hope you can join us on this wonderful trip to beautiful New Zealand!

**For more information or to register for the New Zealand Ag Tour with PCBFA,  
contact Lawrence with Leader Tours Inc. at  
1-844-370-7044 or [lawrence@leadertours.ca](mailto:lawrence@leadertours.ca)**



*Leader Tours Inc.*

## Multispecies Cover Crops (Cocktails) for Forage Production: PCBFA 2016 Research Findings

By: Akim Omokanye, PCBFA

### Introduction

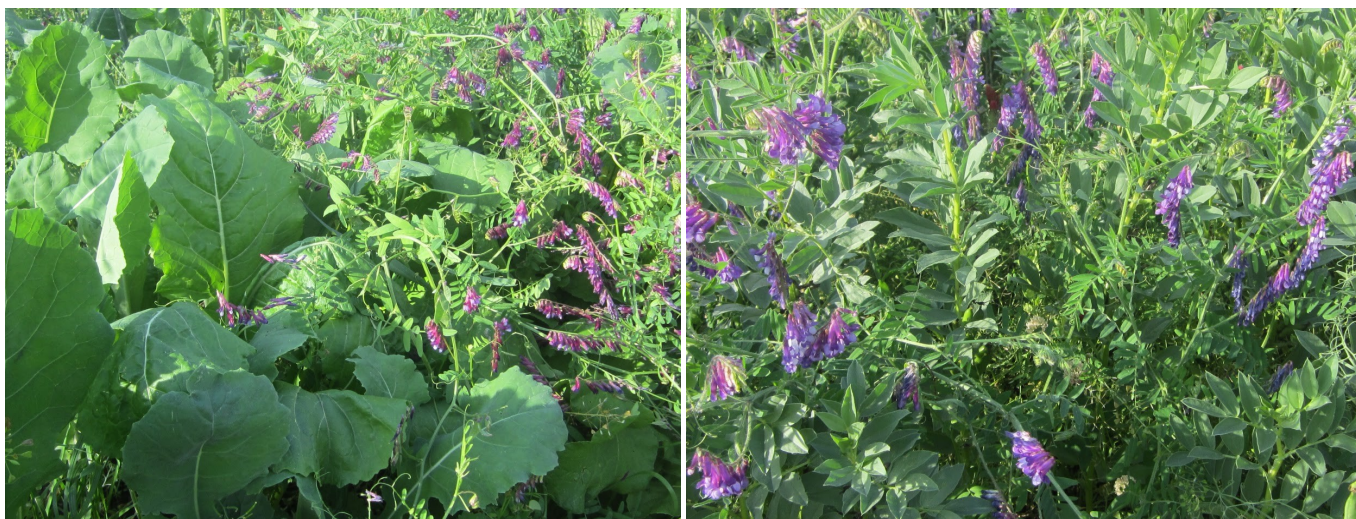
A cocktail mixture is a number of cover crop (CC) species mixed together to take advantage of each of its species' unique offering to the farmer's soil. A cocktail mixture provides multiple agronomic benefits. Researchers have suggested that different plant species complement each other, but additional work is needed to determine how best to balance forage production and how competitive the various species are when added to a mix. Improved forage quality of CC mixtures (cocktails) for beef cattle has been observed from feed tests emanating from producers in the Peace. Legume cover crops are an essential component of good soil management. Cereals grow very quickly and provide quick ground cover. They can provide a tremendous amount of biomass that not only smothers weeds and prevents soil erosion, but also puts huge amounts of green matter, or green manure, back into the soil which improves the soil's tilth. These cover crops are nature's great nutrient recyclers. Interest in the potential for a multispecies cover crop blend for silage, swath grazing, greenfeed and pastures has been growing amongst beef cattle producers in the Peace. The idea of cocktails is new, indicating that the concept of a cocktail mix is an area where local research for local producers is needed. In 2016, PCBFA tested several cocktails for forage production.

### Experimental Procedures

Thirteen (13) cocktails (treatments) as shown in Table 1 below were drill-seeded at the Fairview Research Farm(NW5-82-3W6) on RR #35 in 2016. We had 3 replications. We used mono-crop oats as a check. The cover crop species used in this study belong to 4 categories as shown in Table 2. The cocktails tested here depict samples of cocktails seeded by producers in parts of the Peace.

The cocktails were pre-mixed before seeding. A 6-row Fabro plot drill at 9" row spacing was used to seed. Seeding was done on May 18. No fertilizer application was done to any of the mixtures, even the CDC Haymaker oat (check). Except for cocktail #7, where legumes were included in the mixtures - the legumes were inoculated before seeding. Roundup WeatherMAX® was used as pre-emergent 7 days after seeding. In-crop spraying was done with 2, 4 - D 700 at 0.35 L/acre only on CDC Haymaker oat (check).

Forage harvest was done on August 2, 2016. Prior to harvest, efforts were made to identify the crop varieties in each cocktail mixture and we compared these crop varieties to the supposed list of seeded crop varieties in the mixtures. This was done to ensure that the final result of a particular cocktail mixture reflects the intended crop composition.



Continued on Page 7



Table 1. Cocktail mixtures and their seeding rates (lbs/acre)			
<b>Cocktail #1</b> Peas 60 lbs Oats 45 lbs Hairy vetch 4 lbs Radish 0.5 lb Turnips 0.5 lb Crimson clover 1 lb	<b>Cocktail #4</b> Proso millet- 2 lbs Oats- 15 lbs Barley- 15 lbs Peas- 15 lbs Tillage radish- 1 lb Hairy vetch- 5 lbs Kale- 1 lb Crimson - 1 lb Persian Clover – 1 lb	<b>Cocktail #8</b> Barley 36 lbs CDC Horizon peas 36 lbs Triticale 36 lbs  <b>Cocktail #9</b> 25% Peas 25% Hairy vetch 25% Crimson clover 25% Faba bean <i>Seeding rate: 15.0 lbs/acre</i>	<b>Cocktail #11</b> <b>(Union Forage Relay Mix)</b> 60% Italian ryegrass 20% Hairy vetch 10% Hunter forage brassica (turnip/Asiatic leaf veg) 10% Winfred forage brassica (kale/turnip cross) Seeding rate: 8.5 lbs/acre + CDC Haymaker 50 lbs
<b>Cocktail #2</b> Annual Ryegrass - 2 lbs Proso millet- 2 lb Barley- 20 lbs Peas- 20 lbs Purple top turnip- 1 lb Kale- 1 lb Crimson Clover- 1 lb	<b>Cocktail #5</b> Barley 48 lbs CDC Horizon peas 8 lbs Hairy vetch 4 lbs Crimson clover 1 lb Winfred forage brassica 1 lb GreenSpirit annual ryegrass 1 lb Sunflower 1 lb  <b>Cocktail #6</b> Barley 50 lbs Hairy vetch 6 lbs - inoculated	<b>Cocktail #10</b> <b>(Union Forage Ultimate Annual Mix)</b> 30% Hairy vetch 25% Italian ryegrass 15% sorghum 10% crimson clover 10% Winfred forage brassica 5% Hunter forage brassica 5% Graza forage brassica <i>Seeding rate: 8.5 lbs/acre + CDC Haymaker 10 lbs</i> CDC Horizon peas 10 lbs	<b>Cocktail #12</b> <b>(PGG Annual mix)</b> 29.8% Hairy vetch 24.7% GreenSpirit Italian ryegrass 14.95% Sorghum Sudan 9.85% Crimson clover 9.98% Winfred rape 5.0% Goliath Rape 4.98% Graza radish <i>Seeding rate: 15.0 lbs/acre</i>
<b>Cocktail #3</b> Annual Ryegrass- 2 lbs Oats- 35 lbs Peas- 25 lbs Purple top turnip- 1 lb Forage rape- 1 lb Persian clover- 2 lbs	<b>Cocktail #7</b> Barley 50 lbs Hairy vetch 6 lbs - not inoculated	<b>Check</b> CDC Haymaker oat 100 lbs/acre	<b>Cocktail #13</b> <b>(Pinpoint from Barenbrug)</b> 45% GreenSpirit Italian ryegrass 20% BMR hybrid sorghum 10% Super 10% berseem clover 8% Barsica forage rape 7% T raptor forage Turnip x Rape 5% CW0604 Teff Grass 5% Laser Persian clover <i>Seeding rate: 15.0 lbs/acre</i>

Table 1: Categories of cover crops and examples of crops used in 2016 tests

Cereal Grains & Grasses	Legumes	Brassicas	Others
Oats	Peas	Radish	Sunflower
Barley	Hairy vetch	Turnips	
Triticale	Clovers	Kale	
Annual ryegrass	Faba beans	Brassica (forage type)	
Italian ryegrass			
Millet (forage type)			
Sorghum (forage type)			
Teff			



## Results and Interpretation

### Forage DM Yield (Table 3)

Cocktail #1 had higher DM yield (about 5.0 tons DM/acre) than other cocktails as well as check. Three (Cocktails #1, 4 & 8) had >4.0 tons DM/acre, while others had <4.0 tons DM/acre. Six (6) cocktails produced more DM yields (109-137%) than check (CDC Haymaker oat).

Cocktails #6 & #7 contained only barley and hairy vetch. The hairy vetch in Cocktail #6 was inoculated, while that of cocktail #7 was not. The differences between the two, which was in favour of cocktail #6 (inoculated) was high, resulting in a yield advantage of 1076 lbs/acre over cocktail #7 (or 116%). This confirms the need to inoculate legumes before seeding.



## Multispecies Cover Crops (Cocktails) for Forage Production: PCBFA 2016

### Research Findings *continued*

By: Akim Omokanye, PCBFA

Cocktail #13 had the lowest DM yield, even lower than check. The lowest DM yield obtained for cocktail #13 was due to the fact that 20% of what was seeded contained crop varieties which did not germinate or varieties that performed very poorly such as BMR hybrid sorghum, berseem clover, Teff Grass and Laser Persian clover.

### Forage Quality

**Crude Protein (CP)** - All cocktail mixtures tested here had higher protein than CDC Haymaker oat (Check, Table 3). The differences obtained in forage CP between all cocktails and check show the benefits of seeding mixtures of different cover crop types for the purpose of improving forage protein. Cocktail #12 had the highest CP (24% CP), followed by cocktail #13 (21% CP) and then cocktails #9 and #10 (19 and 18% CP) in that order.

Protein is a building block and the Beef Cow Rule of Thumb with protein is 7-9-11, which means an average mature beef cow requires a ration with CP of 7% in mid pregnancy (second trimester), 9% in late pregnancy (third trimester) and 11% after calving (during lactation). Generally, all cocktails tested here were able to meet the 11% CP needed by mature beef cattle, and in most cases, the CP requirements of mature beef cattle were exceeded by cocktails tested. For growing and finishing calves, most cocktail mixtures fell within the required 12-14% CP by these calves. The check (CDC Haymaker oat) was only able to meet the CP requirements of a dry gestating beef cow (7% at 2<sup>nd</sup> trimester & 9% at 3<sup>rd</sup> trimester).

**Detergent Fibers (ADF & NDF) and Non-Fiber Carbohydrates (NFC)** - The acid detergent fiber (ADF) content is important because it reflects the ability of an animal to digest the forage. As the ADF content increases, digestibility of a forage decreases along with the energy. The neutral detergent fiber (NDF) content is important in ration formulation because it reflects the amount of forage the animal can consume. As NDF content increases, dry matter intake (DMI) will decrease. Lower values are preferred for both ADF and NDF. From Table 3, cocktail #11 seemed to be of better quality than other cocktails and check. The ADF and NDF values obtained for check compared to all cocktail mixtures indicate that check (CDC Haymaker oat) was of lower forage quality than any of the cocktails tested in this study. NFC is more rapidly digested than fibers (ADF & NDF) and it is a significant source of energy for the rumen microbes. The microbes also use NFC to make microbial protein. Cocktail #11 had the highest NFC (Table 4).

Looking at the cocktails and check tested here (Table 3), cocktail #11 (with the lowest ADF & NDF values and highest NFC value) seemed to fare better than other cocktails and check in terms of potentially available microbial protein in the rumen, amount of forage an animal would consume and better forage digestibility.

**Energy** - Energy gives the ability to use the building blocks for growth and other productive purposes. Total Digestible Nutrients (TDN) and Net Energy for maintenance (NE<sub>M</sub>) are 2 of the 6 measures of energy for beef cattle. The forage energy (% TDN) was highest for Cocktail #11 (70% TDN) and lowest for check (CDC Haymaker oat, 60% TDN). All cocktails tested here had >60% TDN (Table 3). Cocktail #11 had the most NE<sub>M</sub> (1.75 Mcal kg<sup>-1</sup>), while check (CDC Haymaker oat) had the least NE<sub>M</sub> (1.46 Mcal kg<sup>-1</sup>).

All cocktails and check had sufficient %TDN for a gestating beef cow, which requires 55% TDN at mid-pregnancy stage and 60% TDN at late-pregnancy stage. But for a lactating beef cow, which requires 65% TDN, only 8 of the 13 cocktails tested had at least 65% TDN needed by this category of cow. All tested cocktails as well as check (CDC Haymaker oat) had NE<sub>M</sub> levels within the range for a mature cow, 0.97-1.10 Mcal kg<sup>-1</sup> for gestating cows and 1.19-1.28 Mcal kg<sup>-1</sup> for lactating cows.

*Continued on Page 9*

**Check Out the PCBFA Website for More Details on Our Projects, Events and Past Publications:**

**[www.peacecountrybeef.ca](http://www.peacecountrybeef.ca)**

### Minerals (Table 4)

The forage Ca was lower for check (CDC Haymaker oat) and cocktail #7 (barley + un-inoculated hairy

**Table 3. Dry matter (DM) yield, % yield advantage, crude protein (CP), detergent fibers and energy of 13 cocktail mixtures and oat (check) tested in small replicated plots at Fairview Research Farm in 2016**

Cocktail Mixture	DM yield Lbs/acre	DM as % of check (Haymaker oat)	CP %	ADF %	NDF %	NFC %	TDN %	NEM MCal/kg
Check (CDC Haymaker oat)	7024	100	8.87	37	59.9	19.7	60.1	1.46
Cocktail 1	9600	137	14.2	33.9	54.9	19	62.5	1.53
Cocktail 2	7115	101	14.4	28.8	46.2	28	66.5	1.64
Cocktail 3	5823	83	13.3	34.8	56	19	61.8	1.51
Cocktail 4	8762	125	13.9	33.5	49.7	25	62.8	1.54
Cocktail 5	6114	87	13.7	31.3	50.5	24.3	64.5	1.59
Cocktail 6	7638	109	12.1	28.9	48.6	27.8	66.4	1.64
Cocktail 7	6562	93	11.6	28.2	48.8	28.1	66.9	1.66
Cocktail 8	8763	123	11.1	33.1	52.4	25	63.1	1.55
Cocktail 9	4611	66	18.5	28.5	39	31.1	66.7	1.65
Cocktail 10	7919	113	18.3	31.1	41.1	29.1	64.7	1.59
Cocktail 11	7683	109	15.3	24.1	35.1	38.1	70.1	1.75
Cocktail 12	4816	69	23.7	27.7	35.9	28.9	67.3	1.67
Cocktail 13	3816	52	21	26.8	36.4	27.5	66.6	1.65
LSD <sub>0.05</sub>	2313		7.58	5.56	13.3	11.1	4.33	0.12
Significance ( $P < 0.05$ )	*		*	*	*	*	*	*
Mean	6865		14.2	31.3	48.7	25.6	64.5	1.58
CV, %	15.4		17.2	5.77	8.86	14.1	2.17	2.49

vetch) than other cocktails. But both check (CDC Haymaker oat) and cocktail #7 were able to meet the Ca requirements of a gestating beef cow (0.18% Ca). Other cocktails exceeded the Ca requirements of mature beef cattle (0.42% Ca).

All cocktails as well as check only had sufficient P for a gestating beef cow (0.16% P). The P requirements of a lactating cow (0.26% P) were not met by any of the cocktails or check. The P requirements by growing and finishing calves were only met by 7 of the cocktails tested as well as check.

The K, Mg and S requirements of a gestating cow were met by all cocktails and check. All cocktails and check also met the K and S requirements of a lactating beef cow. For the Mg requirements of a lactating beef cow, CDC Haymaker oat, cocktail #6 (barley + inoculated hairy vetch), cocktail #7 (barley + un-inoculated hairy vetch) and cocktail #8 all fell short of the 0.20% of Mg needed by this category of cow.

The forage Na was as high as 0.57% for the cocktails tested. In terms of Na requirements by mature beef cattle, only cocktails #7 and #9 did not have enough Na for mature beef cattle. All other cocktails as well as check did have adequate Na for all categories of mature beef cattle.

The forage trace minerals Cu, Fe, Zn and Mn varied from 3.16 - 6.25 ug/g Cu, 91 - 186 ug/g Fe, 25-80 ug/g Zn and 32 - 107 ug/g Mn. For mature beef cattle, the requirements for Fe were met by all cocktails and check, but cocktails #5 and #7 fell short of meeting the Mn requirements of mature beef cattle.

Only CDC Haymaker oat (check) fell short of meeting the Zn requirements of young and mature beef cattle, which all require 30 ug/g Zn. All cocktails exceeded the 30 ug/g Zn needed by mature beef cattle.

# Multispecies Cover Crops (Cocktails) for Forage Production: PCBFA 2016

## Research Findings *continued*

By: Akim Omokanye, PCBFA

Table 4. Forage macro- and trace-minerals of CDC haymaker oat (check) and cocktails tested in 2016										
Cocktail Mixture	Macro-minerals						Trace-minerals			
	Ca	P	K	Mg	Na	S	Cu	Fe	Zn	Mn
	%						Ug/g			
Check (CDC Haymaker oat)	0.31	0.17	2.17	0.14	0.13	0.16	3.16	98	25	107
Cocktail 1	0.62	0.18	1.71	0.22	0.67	0.25	3.76	102	42	81
Cocktail 2	0.81	0.18	1.96	0.28	0.35	0.29	3.61	120	46	42
Cocktail 3	0.72	0.19	2.35	0.23	0.50	0.29	3.85	104	41	105
Cocktail 4	0.79	0.20	2.03	0.24	0.28	0.33	3.81	99	45	55
Cocktail 5	0.78	0.21	2.13	0.22	0.20	0.26	4.21	103	40	38
Cocktail 6	0.48	0.19	1.77	0.19	0.11	0.19	3.87	91	40	43
Cocktail 7	0.40	0.22	1.73	0.16	0.05	0.17	4.26	94	47	32
Cocktail 8	0.49	0.17	1.79	0.19	0.19	0.20	4.37	106	40	63
Cocktail 9	0.97	0.24	2.00	0.26	0.08	0.20	6.25	145	80	49
Cocktail 10	1.73	0.25	3.33	0.34	0.35	0.51	4.49	143	59	52
Cocktail 11	1.28	0.23	3.28	0.31	0.21	0.4	4.55	186	44	70
Cocktail 12	1.46	0.24	3.01	0.42	0.57	0.57	4.91	171	67	61
Cocktail 13	1.37	0.24	3.28	0.37	0.46	0.45	4.44	183	43	70
LSD <sub>0.05</sub>	0.60	0.08	1.27	0.17	0.80	0.22	2.26	48.9	26.6	23.2
Significance ( $P < 0.05$ )	*	NS	*	*	NS	*	NS	*	*	*
Mean	0.79	0.20	2.24	0.24	0.33	0.29	4.07	117	46	68
CV, %	24.6	13.8	18.5	22.8	78.2	24.3	18.1	13.5	18.8	11.1

### Summary

From forage DM yield and quality obtained in this preliminary trial for all cocktails and check (CDC Haymaker oat), it is evident that all cocktails had higher DM yield as well as better quality than CDC Haymaker oat (check). Six (6) cocktails (#1, 4, 6, 8, 10 and 11) produced more DM yields (109-137%) than check (CDC Haymaker oat). Overall, Cocktail #1 produced the most DM yield in this study. Generally, all cocktails had 11% CP or more, while CDC Haymaker oat (check) had less than 10% CP. All cocktails were able to meet the protein requirements of mature beef cattle, and in most cases, cocktails were well within the protein requirements of 12-14% CP for growing and finishing calves. The cocktails in most cases, had enough TDN for mature beef cattle. On the other hand, the check was only able to meet the protein and TDN requirements of a gestating cow. Looking at the forage minerals of check and the cocktails, the benefits of cocktails were obvious with higher forage minerals than check. The differences in forage DM and quality between cocktails #6 and #7 further confirms the need to inoculate legumes before seeding. Taking into consideration the higher forage DM yields obtained from of cocktails #1, 4, 8 and 10 and their ability to meet the protein, energy and mineral (except for Cu) requirements of a gestating beef cow, cocktails #1, 4, 8 and 10 are therefore suggested for growing in the Peace. It is important to note that nitrates may need to be tested before feeding to cows in a situation where brassicas are included in the mixtures. Care needs to be taken if including Persian clover, BMR hybrid sorghum, berseem clover and teff grass as these crops did not germinate or if they did, they did very poorly in our study.







The **Gray wolf** (*Canis lupus*) is an intelligent and resourceful predator found throughout Alberta's foothills, mountains and boreal forest. It is the largest member of the wild dog species (*Canis*) and can weigh up to **60+ kg**. Typical prey includes moose, elk, deer, bison and smaller animals. They typically hunt at night as a pack, which can range from 2 - 20+ wolves. Populations in Alberta are considered stable.

## Wolves and People

Myths and stories have been told throughout history about wolves. While some have been positive many have negatively portrayed wolves, often as a result of conflict with people. Livestock depredation is one such example.

Normally, wolves are wary of people and will generally keep their distance and stay hidden. However, wolves that have been directly or indirectly fed by people (i.e. garbage, carcasses, etc.) and become food conditioned, or have learned to hunt livestock, are more likely to become problematic and pose livelihood and safety risks.

## Be WolfSmart and adopt best management practices on your farm!

Reducing and preventing conflict between wolves, people and livestock can be achieved by being **WolfSmart**. Best management practices include:

- Removing and properly storing attractants such as dead carcasses, other food sources and garbage.
- Plan your breeding season, as the scent of birthing mothers and new born calves are strong attractants for wolves. Also remove afterbirth or still borns, and time castration and branding so calves can heal, thereby reducing smells, before they are released into pastures.
- Use defined storage areas at least 200m from calving or feeding areas to reduce hiding cover. Also, plan your pasture sites, avoiding areas of thick vegetation, creek beds, etc.
- Using pens, electric fencing, or guard dogs (e.g. Anatolians or Great Pyrenees) for livestock. Also increase the routine presence of people checking on livestock, at various hours.
- Using hazing or scaring devices, such as fladry, strobe lights, or sirens to scare wolves away or alert people. Fladry combined with electric fencing has been particularly effective—use a series of bright cloth flags (red or orange) tied at 18-inch intervals on fencing to deter wolves.

Some resources that may be helpful include:

<http://www.watertonbiosphere.com/projects/carnivores-communities/>  
<http://www.ablamb.ca/images/documents/management-modules/Predation-Management.pdf>  
<https://www.bcac.bc.ca/sites/bcac.localhost/files/WPLP%20Best%20Management%20Practices%20for%20Cattle.pdf>  
<http://www.albertatrappers.com/>

Wolves can also be hunted or trapped in Alberta, subject to provincial regulations. Further information is available at [MyWildAlberta.com](http://MyWildAlberta.com)

## If a wolf approaches, growls or snarls:

- Show the wolf you are not easy prey—make yourself look bigger by waving your arms, and gather children or others close to form one large body.
- Always leave the wolf an escape route—never corner it.
- Back away slowly, looking for a safe place, and never turn your back.
- Carry and use **bear spray**. This is also advantageous for other species (i.e. bears, cougars).
- Make lots of noise and throw rocks, sticks or other objects if the wolf approaches.



**Report wolf encounters by calling a local Fish and Wildlife at 310-000. After regular business hours use the Report A Poacher line at 1-800-642-3800.**

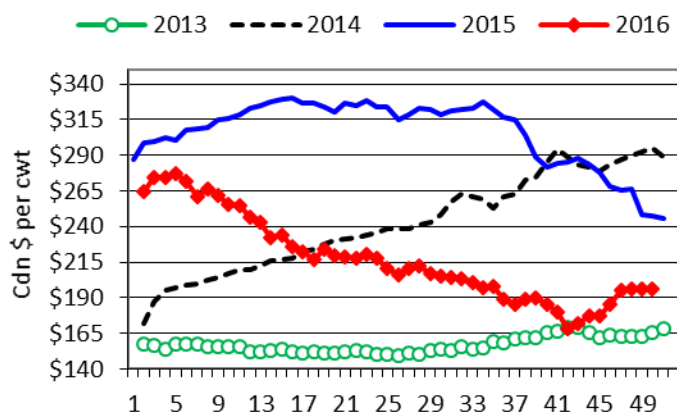
## Perspective on the Market

By: Brian Perillat, Canfax

In each of the years 2014, 2015, and 2016, the swing in the value of a fed steer from the annual low price to the annual high was over \$700 per head. For calf prices, the swings were not quite as dramatic, but the changes within each year's high to low still swung calf values \$465 (2015) and \$680/head (2014). There have been many large and rapid market changes in the past 3 years, and this has left many cattle producers on edge. At the current time, it is somewhat unfortunate that the extreme volatility has overshadowed the positive market situation. The start of 2017 saw calf prices back over \$200/cwt, and in some cases feedlots in western Canada are making almost \$300/head. Traditionally, this would be considered very strong market conditions, but uncertainty, and the extremely high prices in 2014 and 2015 makes keeping the market in perspective difficult.

To start the year, Alberta 550 lb steer prices were over \$200/cwt, and while they were about \$60/cwt below last year at the time, they are over \$30 higher than 2014 and almost \$50 higher than 2013. It is a similar story for fed cattle prices, as current prices are still at the third highest level for this time of year. While these price levels do remain historically strong, it is important to remember that from the feedlots' perspective, they have just been through one of the biggest equity drains they have ever seen, and after about 16 straight months of losses, it will take more than one profitable month to build confidence.

**Alberta Weekly 550 lb Steer Price**



Source: CanFax



Decreasing calf prices helped lower feedlot break-evens, but feedlot profitability is also very much related to the strong rebound in prices to end 2016. From the early fall lows, fed cattle prices rebounded 23%, and similarly, calf prices increased 17%. These are significant rallies in a short period, no matter what the market conditions. There are several positive factors at play. The stronger US market combined with a weaker Canadian dollar, an abundance of feed grain and forages, as well as record strong basis levels have all added to improved market prices and/or reduced costs. It should also be noted that while western Canadian basis levels have been historically strong, Ontario basis levels had been disappointing at the end of 2016. That said, Ontario basis levels have improved somewhat but remain weaker than the west. Alberta fed cash to cash basis levels have hit record strong levels this winter, with prices premium to the US at times. At the start of January, the basis was +4.15 and the last time the fed basis was positive in January was in 2002. The Canadian dollar can often be the main driver for Canadian prices, and while the Canadian dollar is higher than a year ago, it still remains below the long term average of 80 cents which is considered supportive. Western Canadian barley prices are almost \$50/tonne lower than a year ago, and an abundance of feed wheat has also been brought into feeding rations this winter which further improved feedlot margins and the calf market.

The market is a long way from the highs seen in 2015, but prices are still relatively strong and creating profit opportunities for cattle producers. On the other hand, broader market trends of increasing meat supplies and uncertain global demand could likely push the market lower through the next couple of years of this cycle. This recent rally is likely not a full trend change in prices, but does point to some stability in the market place. Cost management and risk management will continue to be critical for producers to build and protect profit margins.

For more information on cattle markets, or to become a Canfax member, please visit [www.canfax.ca](http://www.canfax.ca)

2016 has been a busy season for the bees at GPRC Fairview Campus. The majority of our bees survived very well throughout the winter. In an effort to get them back to optimal performance, we fed them a healthy amount of food and preventive medication.

This past spring, Paul Benoit, a commercial beekeeping instructor, led an introductory class of beekeeping (Beekeeping 101). The class filled so quickly, GPRC's Continuing Education department had to arrange another class a couple weeks later to satisfy the demand. The participants, mostly beginner beekeepers, had a chance to visit many of the hives during the afternoon, where they were able to view the queens, laying patterns, and identify varying strengths between colonies. In addition to this, our students were given the opportunity to solve problems in the hive and equalize any issues within the bee yard. These were all great experiences and it was definitely a hit with the students!

In addition to Beekeeping 101, GPRC also delivered a more advanced class, called Beekeeping 102. This class was taught over the span of two Saturday workshops, with a focus on breeding. In this more advanced class, Paul demonstrated the art of grafting young larvae, necessary for raising new queens. Sadly, the weather wasn't cooperating, but with the help of umbrellas we were able to get the job done. Students were able to learn the importance of breeding the queen bees in order to improve health and the future production of the colonies. Even though these lessons are directed more to experienced beekeepers, it is necessary to relay the process in order to keep working towards a flourishing beekeeping industry.

With the new queens that have been bred, we increased the amount of hives by 50%, which gave the stronger hives the foundations necessary for breeding queens in small units the following season.

It wasn't a surprise that 2016, a very wet year, resulted in challenges for the area's crop production. However despite the uncooperative weather, GPRC was able to build a good base for the bee yard, which was also used as a teaching place for our Continuing Education students. With the challenges occurring in the honey bees health and the industry, the general public reacts with a lot of interest and support to this small insect, which means so much in terms of her pollination work of the crops. As well, presently there are quite a few hobby beekeepers that purchased their first hive recently and are embracing the experience of keeping their first bees. The keeping of bees in production is a trade that takes years of practice and observation before one somehow feels the Aha! (I got it now!). This is why correct education and training is needed to understand the correct rearing processes and how to avoid sometimes costly mistakes.

The Peace Country and North West of Alberta is a natural sanctuary for bees, with 16% of the Canadian production of honey. The commercial beekeeper population is aging, so it is vital for our younger generations to start gaining interest and producing in this area. The GPRC Fairview Campus has had a long tradition of instructing beekeeping, and with its present infrastructure, is still equipped to take on the important task of educating students in this great line of work.

### **Did you know?:**

- Bees survive on the nectar and the pollen of the flowers and give back to them by pollinating.
- Bees contribute greatly to the pollination of the fields of Alfalfa, Clover and Canola.
- Bees also pollinate a wide variety of plants such as small berries, goldenrods and asters. Even willows and dandelion, the first foods of the bees after the long winter inside the hive and vital for their survival and growth.
- Beekeepers and farmers have a common interest when it comes to pollination and have to support each other and understand that their mutual practices are beneficial to their relative industry.
- Bees/Farmers are both in their own way the stewards of the environment and our food industry.





## Watershed Resiliency in the Lesser Slave

By: Meghan Payne, Executive Director, Lesser Slave Watershed Council



The Lesser Slave Watershed includes all of the land area that drains into Lesser Slave lake through its tributaries as well as the Lesser Slave River and its sub basin.

The Lesser Slave Watershed Council (LSWC) is the Watershed Planning and Advisory Council (WPAC) for the Lesser Slave Watershed.

The LSWC and the other 10 WPAC's in Alberta are provincial Water for Life partners and work to deliver the 3 Water for Life goals: safe, secure drinking water; healthy aquatic ecosystems; and reliable, quality water supplies for a sustainable economy.

The LSWC focuses our work in the key areas of:

- Watershed planning
- Watershed evaluation and reporting
- Education and outreach
- Stewardship of the environment

In 2016 the LSWC was the recipient of a \$38,500 Watershed Resiliency and Restoration Program (WRRP) grant

from the province. The primary objective of the program is to increase the natural ability of the province's watersheds to reduce the intensity, magnitude, duration and effects of flooding and drought through watershed mitigation measures.

With support from the province and collaboration with partners such as Peace Country Beef and Forage Association, Cows and Fish, The High Prairie Riparian Action Team, and our local governments, the LSWC is working with landowners and cattle producers in the watershed to protect and enhance riparian areas and wetlands.

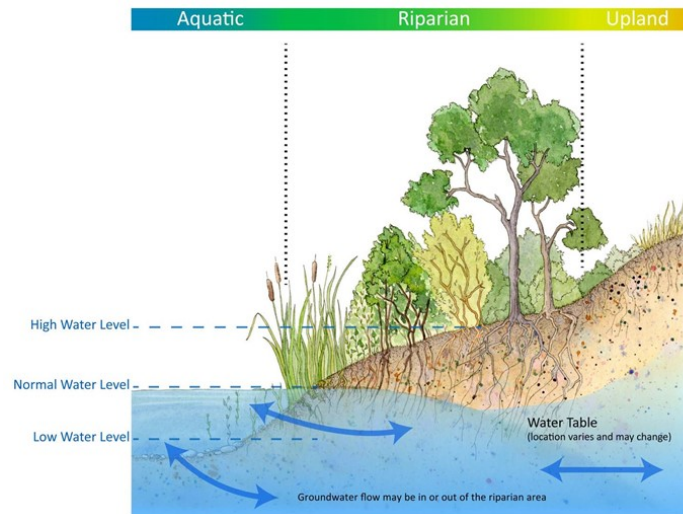
Riparian areas and wetlands are very important to a healthy and functioning watershed. Riparian areas are the lush green zones along a water body or the transitional zone from wet to dry. They act as the border between upland habitat and aquatic habitat and have many valuable functions:

- Trap and store sediment
- Build banks and shores
- Store water and energy
- Recharge groundwater aquifers
- Filter and buffer water, removing contaminants
- Reduce energy of flowing water, reducing erosion
- Maintain biodiversity (80% of all species in Alberta use riparian areas for part of their life cycle)

The LSWC's goals are to work with interested land owners who have a vested interest in land stewardship and maintaining healthy wetlands and riparian areas. Our projects include identifying a suitable site, assessing the issues, and creating a plan that may include: exclusion fencing, off stream water systems or wells, weed management, re-vegetation of native species, and small scale erosion control. Prior to project work a riparian health score is calculated by Cows and Fish and acts as a benchmark that we can measure improvements against. The LSWC and our partners provide financial support, resources and expertise to ensure project completion and success.



Honorable Minister of Environment Shannon Phillips and Lesser Slave MLA Danielle Larivee present members of the LSWC with their WRRP grant check.



In 2016 the LSWC initiated 4 projects with producers in Big Lakes County and we are looking forward to completing these projects in the summer of 2017. In partnership with PCBFA we held a watering systems tour in September 2016 where 25 producers joined us to check out our project sites and the land owners were able to receive professional advice on systems for their projects from Marvin Jackson of Sundog Solar.

The Government of Alberta has announced that there will be another round of WRRP funding in 2017 and it is our hope that we can access more grant funds to continue watershed resiliency work in our region.

For more information about the LSWC or our work please contact us at 780-523-9800, visit our web page [www.lswc.ca](http://www.lswc.ca) or email our staff at [info@lswc.ca](mailto:info@lswc.ca)



*On our watering systems tour the group had the chance to check out the LSWC's demo system in action and learn about the benefits of a solar and or wind powered unit.*



# Upcoming P

Event	Date & Time	Location
Peace Country Classic Agri-Show	March 9th-11th	Evergreen Park, Grande Prairie
Solar Power Workshop	March 15th	Westmark Hall 13km west of Woking
Smokey River Ag Trade Show	March 16th-18th	Falher
Surface Rights Workshop	March 29th	Worsley
Clear Hills County Ag Trade Show	April 8th	Dave Shaw Memorial Complex, Hines Creek
Jim Gerrish	June 25th-26th	TBA
New Zealand Ag Tour	Nov 12th-Dec 1st	New Zealand
Western Canadian Soil Health & Grazing Conference	December 5th-7th	Radisson Hotel Edmonton South



Up to Date Information can be Found on our Website!  
[www.peacecountrybeef.ca](http://www.peacecountrybeef.ca)



Cost	Contact	In Collaboration With
	Come visit us at our booth and enter our draw to win a great prize!	
Free!	Jen with PCBFA @ 780-835-6799	 
	Come visit us at our booth and enter our draw to win a great prize!	
	Jen with PCBFA @ 780-835-6799	 
	Come visit us at our booth and enter our draw to win a great prize!	
	Jen with PCBFA @ 780-835-6799	
	Contact Lawrence with Leader Tours Inc. @ 1-844-370-7044	
	Nora Paulovich: <a href="mailto:nora@npara.ca">nora@npara.ca</a> or Tom Fromme: <a href="mailto:tom@npara.ca">tom@npara.ca</a> with NPARA @ 780-836-3354	 

**To Register or for More Information on any of  
our Events Please Contact Jen at  
780-835-6799 ext. 3 or [jen@pcbfa.ca](mailto:jen@pcbfa.ca)**



## Wild boar at large: An invasive pest in Alberta

Provided By: Perry Abramenko, Alberta Agriculture & Forestry

### Why are we concerned about wild boar in Alberta?

Wild boar are farmed in Alberta as livestock. However, when they are not being raised as livestock on a farm, they are considered to be “at large” and are an invasive pest that can:

- damage property, agricultural crops, pastures and the environment, including through rooting (digging);
- endanger people and animals;
- harass livestock and consume their feed, prey on young livestock and wildlife;
- spread diseases that could be transmitted to wildlife, livestock, pets and people;
- alter the ecosystem, including through wallowing (rolling around), that can contaminate water supplies, promote erosion, and destroy fish habitat;
- compete with wildlife and destroy other sensitive natural habitats; and
- consume the eggs of ground-nesting birds.



### Are wild boar native to Alberta?

Wild boar are not native to Alberta. They came to the province in the 1980s and '90s as livestock. Over the years, some animals escaped, and have established several feral/wild populations.

### How do they survive in the winter?

Wild boar are very adaptable. The wild boar in Alberta are typically the Eurasian type and have long dark hair and a wooly underfur that protects them from extreme cold. They build nests where they shelter during cold weather and are able to travel in deep snow to access food sources.

### In what kind of habitat are they found?

Wild boar prefer habitats that provide forest cover for hiding and resting, as well as access to food. During the summer months they can be found close to water sources where they can wallow to stay cool.



### What do they eat?

Wild boar will eat just about any organic matter. They are omnivores, which means they will eat plants, insects, and other animals. They have a “cartilaginous disc” on their snouts, which helps them to dig and root extensively in search of insects and roots. They can use their very sharp tusks for rooting, as well as protection.

### What are the regulations for wild boar in Alberta?

In 2014, Agriculture and Forestry’s Wild Boar Containment Standards were enacted for farmed wild boar. These enhanced fencing requirements were put in place to help prevent them from escaping and becoming pests at-large. When wild boar are in captivity, they

are considered livestock as long as the farmer meets the fencing standards.

Wild boar at-large are a pest under provincial law, through the Pest and Nuisance Control Regulation. Under the *Agricultural Pests Act*, Albertans are required to control or destroy them and prevent them from becoming established on their land.

### What should I do if I have wild boar on my land?

If Albertans have wild boar at-large on their land, they should call 310-FARM (3276). Provincial government staff will collect the information and work with the landowner and the municipality to help find a solution.

#### Did you know?

Non-professional hunting of wild boar at-large can actually make it harder for organized control efforts. Boar are very smart! Hunting can make them learn quickly to avoid humans, and this can make the problems worse.

### What are signs of wild boar at-large to watch for?

Signs of boar activity include:

- Tracks in the snow or mud, or trails of groups (“sounders”) of boar
- Signs of boar digging or rolling around (rooting and wallowing)
- Signs of boar eating your livestock feed
- Boar droppings



### Can I hunt wild boar?

People who want to help remove pests from property are allowed to do so, and there is no licence, season, or limits for wild boar at-large. Be aware that general laws around firearms and trespassing apply and must be followed. Contact your local police or Fish and Wildlife Office for more information.

To report wild boar at-large or for more information, please call **310-FARM (3276)** toll-free in Alberta.

**310-FARM (3276)**  
[agriculture.alberta.ca](http://agriculture.alberta.ca)  
 January 2017



## Top Quality Peace Country Grown Seed

**Alfalfas : Grasses : Clovers : Pasture and hay mixes : Native grasses**

**Custom blends for reclamation : Certified organic seed**



Located near Fairview, AB

Family owned and operated since 1982

[gaseeds@kerbagroup.com](mailto:gaseeds@kerbagroup.com)

**Call 1-800-481-7333**

Follow us to see how PCBFA Advocates for Agriculture!



@peacecountrybeef



@pcbfa



@peacecountrybeef



[www.peacecountrybeef.ca](http://www.peacecountrybeef.ca)



## ASB Environmental Project: On-Farm Soil Nutrient & Health and Dugout Water Quality Assessments

By: Akim Omokanye & Lekshmi Sreekumar, PCBFA

### Introduction

The PCBFA has been actively involved in the facilitation and delivery of the ASB Environmental Program for Big Lakes County, Clear Hills County, MD of Fairview, MD of Peace, MD of Spirit River, Saddle Hills County and Birch Hills County. For the last ASB Environmental Program (2014-2016), PCBFA identified 6 livestock and cropping operations across the Peace Country for the project. We gathered information on soil nutrient distribution and we also tested dugout water in order to identify any probable contaminants in the dugouts. The goal is to decrease water body/source and riparian area contamination in the Peace Country by creating awareness of nutrients, nutrient distribution, collection and management on farm from wintering sites to pastures and crop land. This report presents a summary of our findings.

### Experimental Procedures

The production systems examined, soil particle size analysis and soil texture for each site (Table 1).

Baseline data in 2014 and subsequent data in 2015 & 2016 for each project site (or selected production system) involved (1) soil nutrients in 0 to 24 inches soil depths, (2) soil temperature and water infiltration in 0 to 6 inches soil depth, (3) soil compaction reading with a digital penetrometer in 0 to 6 inches soil depth and (4) water sampling from on site dugout for water quality issues.

Both soil & water samples were submitted to Exova Edmonton for analyses using standard laboratory procedures. Water samples were analyzed for the presence of microbes, salt, mineral content and other parameters so as to determine the probable contaminants in those dugout water samples.

**Table 1. Grain/livestock production systems examined and initial soil particle size analysis from soil surface (0-6") in 2014**

MD/County	Site	Production System	# of acres used	Soil texture	Sand %	Silt %	Clay %
Fairview	Site 1	Winter (feeding) Pen	3	Silt clay	10.6	47.5	42
Spirit River	Site 2	Pasture	15	Silt clay	8.4	53	38.6
Saddle Hills County	Site 3	Bale grazing	7	Silt clay	15.7	54	30.4
Clear Hills County	Site 4	Grain production No-till/control traffic system Canola in 2014 Wheat in 2015 Canola in 2016	24	Clay	11.4	38.2	50.4
Big Lakes	Site 5	Swath grazing	15	Silt clay	24.4	47.8	27.8
Big Lakes	Site 6	Grain-forage system Canola in 2014 Silage corn in 2015* Silage corn in 2016	15	Silt clay	18	42	40

\*, Manure was spread after corn was silaged in 2015.

### Results and Interpretation

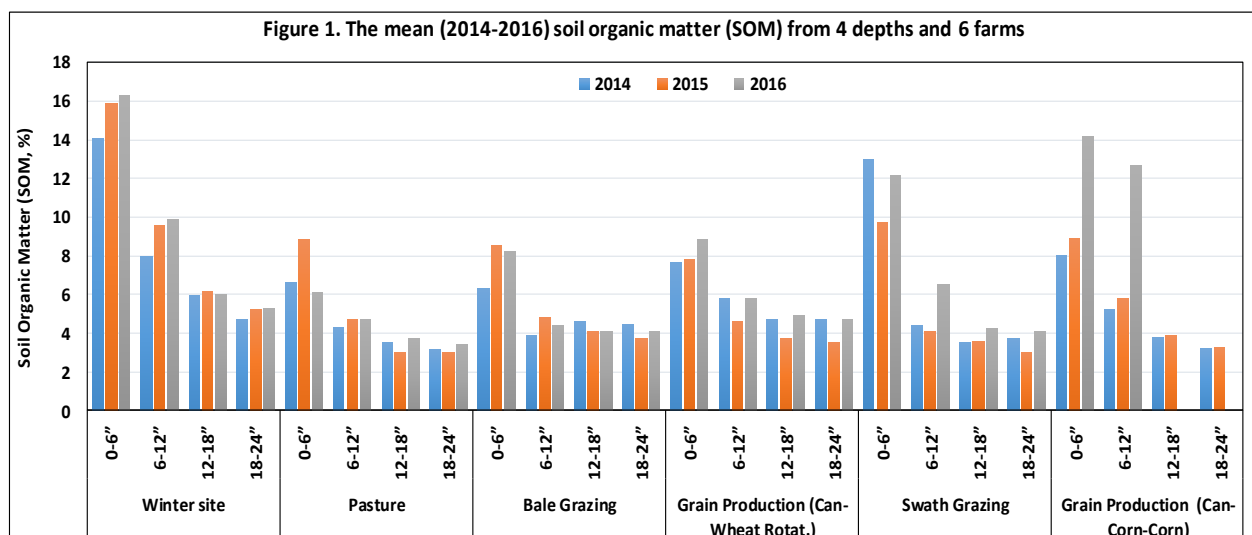
#### Soil organic matter (SOM)

The SOM was consistently higher at the 0-6" depth at the winter feeding site (site 1) than other sites examined (Figure 1). Swath grazing site (site 5) was second in SOM at 0-6" depth, followed by grain-silage corn site (site 6). In this study, both pasture (site 2) and bale grazing (site 3) had similar SOM at the 0-6" over the course of the project.

Continued on Page 21

In some cases, SOM increased slightly at a particular depth over the study period (2014-2016). This pattern was more obvious with winter feeding, grain production (canola-wheat-canola rotation) and canola-corn silage production sites particularly at the 0-6" depth (Figure 1). The canola-corn silage production (Site 6) field had a dramatic increase in SOM at 0-6" from 2014 to 2016 compared to other sites. The canola-corn silage production (Site 6) had manure applied to the field in 2015 after the corn was silaged, and this was thought to be responsible for the sharp increase over a short period.

Overall, increases in SOM from 2014 to 2016 came from 3 sites/productions systems in the following order: Bale grazing & Pasture (each with 2.2% SOM) > Winter feeding site (1.9% SOM). The changes with other systems or sites were far less or inconsistent. It is very important for producers to know that even for every fraction of SOM built, there will be more water holding capacity. Research studies have shown that every 2% SOM will hold 32,000 gallons of water (or 21% of a 5.5 inch rain). Every 5% SOM will hold 80,000 gallons (or 53% of a 5.5 inch rain) and every 8% SOM will hold 128,000 gallons of water (or 85% of a 5.5 inch rain).



### Soil Infiltration rate

The mean infiltration rate (2014 - 2016) was highest for the grain production (canola-wheat-canola rotation) site (4.06 inches/hour) (Figure 2). The winter site came second (1.74 inches/hour), followed by swath grazing (1.25 inches/hour) and then bale grazing (0.52 inches/hour). The pasture site had the lowest infiltration rate (0.05 inch/hr).

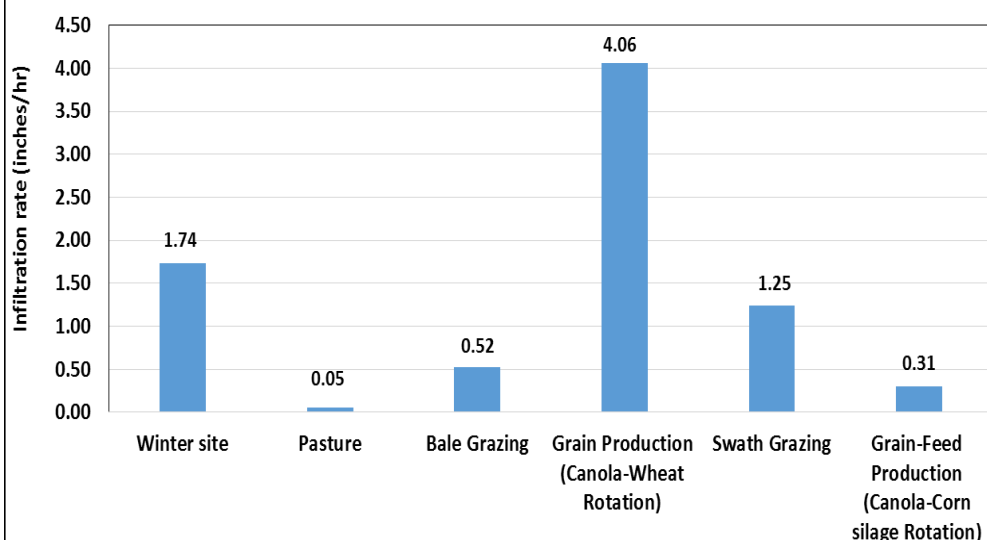
The compacted soil layers in pasture might have contributed to the poor water infiltration rate at the pasture site (see compaction below). Going by the standard permeability classification system, grain production (canola –wheat rotation), with the highest infiltration rate, had moderately rapid infiltration.

From this study, it is evident that “no-till” (zero till) as a conservation tillage system significantly improved infiltration over other 5 production systems or sites examined here. Under zero-till (conservation tillage), the crop residue buffers the raindrops' energy, so water has less erosive force when it reaches the soil. This protection by residue, along with the rougher surface provided by the residue, facilitates infiltration and decreases runoff— runoff that carries soil and nutrients with it. In addition, macropores, which are the major route for water movement through soil, get disrupted in the surface 6-8" of soil by conventional tillage, but remain intact under conservation tillage. Improved macropore development also enhances water infiltration and decreases water runoff. It is important to remember that anything that is done to decrease erosion losses also decreases the need to add as much fertilizer and water to soils, given that top soil generally contains the most organic matter.

# ASB Environmental Project: On-Farm Soil Nutrient & Health and Dugout Water Quality Assessments *continued*

By: Akim Omokanye & Lekshmi Sreekumar, PCBFA

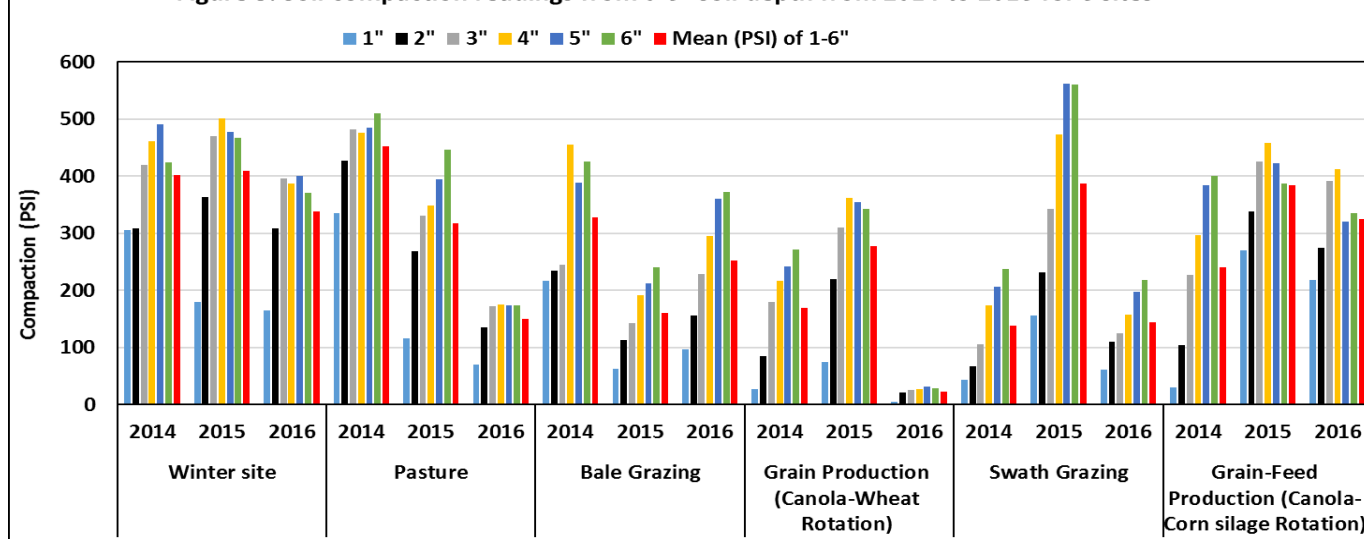
Figure 2. The mean (2015 & 2016) soil water infiltration rate (inches/hr) for different production systems or sites



## Soil Compaction

Compaction occurs when soil particles and aggregates are forced together so as to reduce the pore space for air and water. Readings of 400-500 PSI indicate potential compaction. Of the 6 sites, winter site showed the most compacted soil (Figure 3). The least compacted soil was with the grain production site (canola—wheat rotation), followed by bale grazing. For each site, compaction was least at 1" and then compaction increased gradually, in most cases, with increasing depths.

Figure 3: Soil compaction readings from 0-6" soil depth from 2014 to 2016 for 6 sites



## Soil Mineral Nitrogen (SMN)

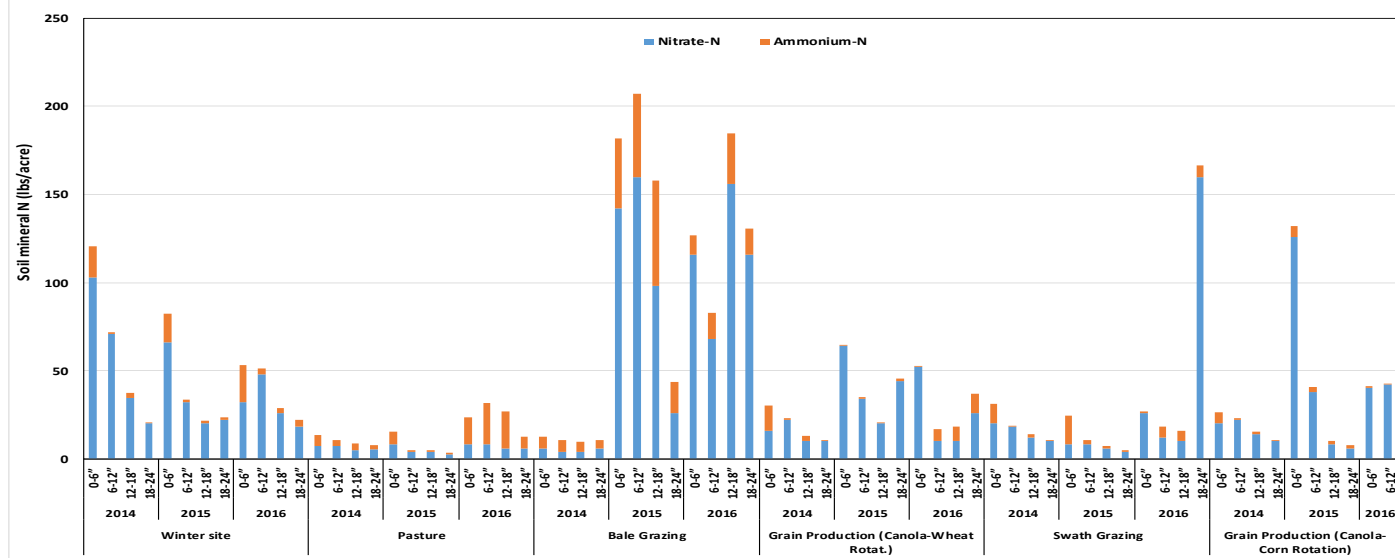
Nitrogen is available (soluble N) to plants as either ammonium or nitrate and comprises only 2-3% of the total soil N. Both ammonium and nitrate are called the mineral N fraction.

Overall, the bale grazing site had the most SMN, followed by the winter site (Figure 4). Surprisingly, the pasture site had lower SMN than other sites. In most cases, SMN was higher at 0-6" depth than other depths. Both bale grazing and swath grazing showed potential for SMN leaching through soil depth over the years, as SMN seemed to be higher at 18-24" depth in 2016 than 2014. The higher SMN at 0-6" for site 6 (canola-corn silage) was due to the manure applied in the fall of 2015.

Continued on Page 23



Figure 4. Soil mineral N (Nitrate-N+Ammonium-N) at four soil depths from 2014 to 2016 from 6 sites

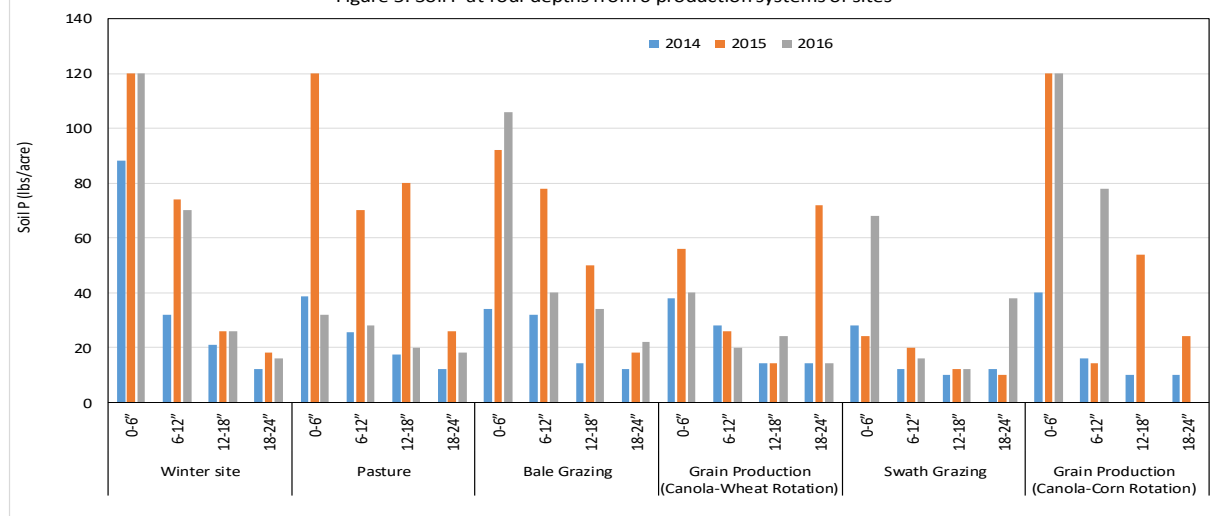


Over the 3 years of data collection, some production systems showed some potential for SMN leaching down the soil profile. The pasture site showed indication of greater ammonium-N leaching than nitrate-N. The year (2015) following bale grazing showed greater SMN than 2016. However, looking at the deepest soil tested (18-24") in 2016, it is evident that nitrate-N had leached through the soil profile over the years. Generally, production systems which had beef cattle to do some grazing such as winter pen, pasture, bale grazing and swath grazing showed greater ammonium-N than other production systems with no beef cattle present.

### Soil P

From 2014 to 2016, soil P appeared to be highest at 0-6" and then it decreased with increasing soil depth (Figure 5). At the 0-6" depth, the winter site had the highest mean soil P (109 lbs P/acre), followed by the canola – corn silage production site (93 lbs P/acre), bale grazing (77 lbs P/acre) and then pasture (64 lbs P/acre).

Figure 5: Soil P at four depths from 6 production systems or sites



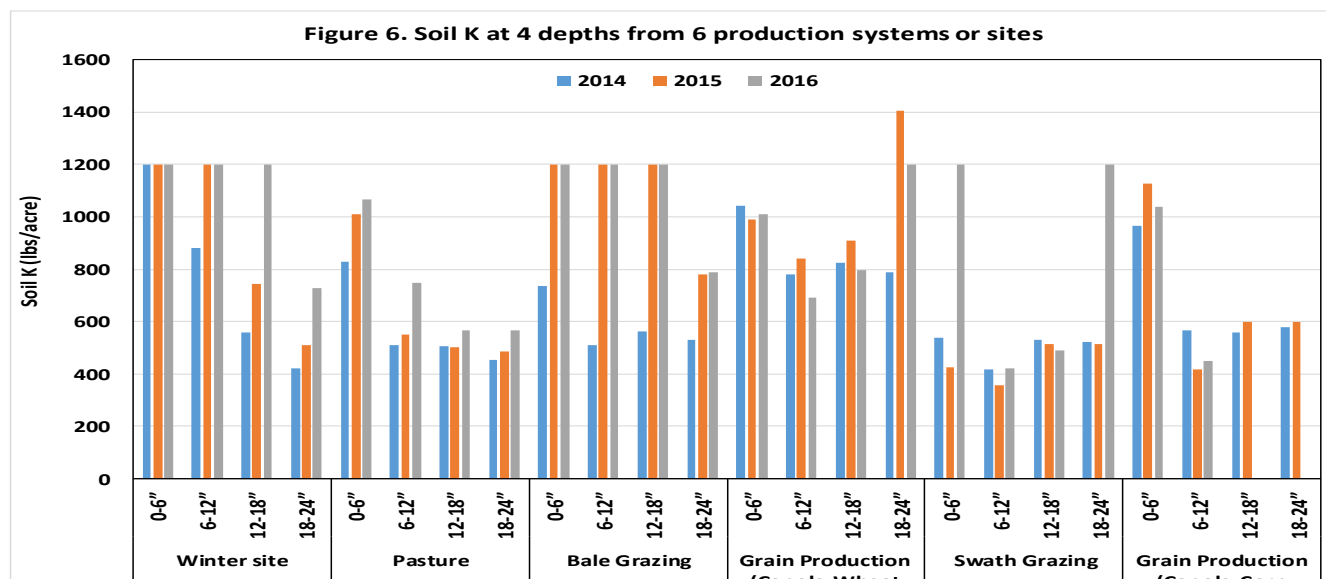
### Soil K

The highest level of soil K was observed in the subsurface soil depth (18-24") for the second year in the canola-wheat rotation production site (1404 K lbs/acre) (Figure 6). In the winter site the soil K level remained constant for the surface soil depth (0-6"). Also, there is a constant decrease in the soil K level for the subsurface soil depth (6-24") for the winter site from 2014 to 2015. For the bale grazing site, in the 2<sup>nd</sup> & 3<sup>rd</sup> year the soil K level remained constant in the surface (0-6") and subsurface soil depths (6-24"). In the pasture, the highest K level was observed in the surface soil (1068 K lbs/acre) in 2016 and there is a constant decrease in the level of soil K in the subsurface soil from 2014 to 2016.

*Continued on Page 24*

## ASB Environmental Project: On-Farm Soil Nutrient & Health and Dugout Water Quality Assessments *continued*

By: Akim Omokanye & Lekshmi Sreekumar, PCBFA



### Dugout Water Quality Assessment

#### Results & Interpretation

The dugouts tests (Table 2) were compared with the water quality interpretation chart for livestock use as provided in "Water Analysis Interpretation for Livestock" publication (Agdex 400/716-2) by Alberta Agriculture and Forestry.

#### Alkalinity (as $\text{CaCO}_3$ )

Alkalinity measures the water's ability to neutralize the acid. The P-alkalinity (phenolphthalein alkalinity) of dugouts sampled varied from <5-10 mg/L. The T- alkalinity (total alkalinity) varied from 109-472 mg/L. Both P-alkalinity and T- alkalinity values obtained in this study were acceptable for cattle, sheep and horses.

#### pH

The pH value in the dugouts varied from 7.4-8.6 over 3 years from the 6 sites. Most samples were within the pH of 6.5-8.0 that is considered acceptable for cattle, sheep and horses. A few samples fell within 8.0-10, a range that is considered poor for cattle, sheep and horses. None of the dugouts samples showed unsuitable levels for cattle, sheep and horses.

#### Total dissolved solids (TDS)

The total dissolved solids (TDS) varied from 200-923 mg/L from the sites from 2014-2016. Going by the established standard, <1,000 mg/L is considered acceptable for cattle, sheep and horses. So, all dugouts samples were therefore acceptable for cattle, sheep and horses.

#### Sulphate ( $\text{SO}_4$ )

High concentrations of sulphates can be found in surface sources that are fed from saline areas and groundwater-fed dugouts. The sulphate content of dugout water samples in this study varied from 5.6-411 mg/L. Except for one site, which had >125 mg/L (above what is considered acceptable level) every year, other sites (5) consistently had <125 mg/L (acceptable level for cattle, sheep and horses).

#### Nitrate

The level of nitrate-N varied from <0.01-0.22 mg/L for the dugouts, while nitrite-N value ranged from <0.005-0.009 mg/L. Also the water analysis results showed that the total nitrate-N + nitrite-N value varied from <0.01-0.23 mg/L. All levels obtained for nitrate-N or nitrite-N and nitrate-N + nitrite-N were free from any nitrate or nitrite contaminants, and were therefore considered acceptable for cattle, sheep and horses.

Continued on Page 25

### Bacteria, viruses and parasites

The total coliform bacteria count in the dugout water samples varied from 1-79000 cfu/100mL and E-coli varied from 1-6000 cfu/100mL.

Total coliforms are an indicator of disinfection effectiveness and are usually not used to determine pathogenic risk to cattle and horses, however past research did use total coliforms as an indicator of pathogens. Use fecal coliforms or E.coli for better indicators of pathogenic properties. Recommendations by researchers vary from 1 count/100 mL to 5000 counts/100 mL.

Generally, the levels of potassium, chloride and iron in the dugouts were within the acceptable levels for cattle, sheep and horses.

**Table 2. Summary of microbial and routine water analysis of 6 dugouts from 2014-16**

Analyte	Units	Range
<b>Microbiological Analysis</b>		
Total Coliforms	cfu/100mL	1-79000
Escherichia Coli	cfu/100mL	<1-6000
<b>Routine water test</b>		
pH		7.4-8.6
Electrical conductivity	µS/cm	343-1520
Calcium	mg/L	22.7-72.2
Magnesium	mg/L	9-34
Sodium	mg/L	8.2-198
Potassium	mg/L	6.4-177
Iron	mg/L	<0.01-5.19
Manganese	mg/L	<0.005-0.86
Chloride	mg/L	1.2-249
Nitrate-N	mg/L	<0.01-0.22
Nitrite-N	mg/L	<0.005-0.01
Nitrate-N & Nitrite-N	mg/L	<0.01-0.23
Sulfate (SO <sub>4</sub> )	mg/L	5.6-411
Hydroxide	mg/L	<5.0
Carbonate	mg/L	C6-13
Bicarbonate	mg/L	133-575
P-Alkalinity	mg/L	<5-10
T- Alkalinity	mg/L	109-472
Total Dissolved Solids	mg/L	190-923
Hardness	mg/L	110-315
Ionic Balance	mg/L	90-104
Source: Water Analysis Interpretation for Livestock publication (Agdex 400/716-2) by Alberta Agriculture and Food. <a href="http://www1.agric.gov.ab.ca/\$department/deptdocs.nsf/all/agdex718/\$file/400_716-2.pdf?OpenElement">http://www1.agric.gov.ab.ca/\$department/deptdocs.nsf/all/agdex718/\$file/400_716-2.pdf?OpenElement</a>		

### Summary

The soil nutrients (N, P & K) and health indicators (infiltration rate and compaction) from 2014 to 2016 examined here have been most improved by bale grazing. The grain production system, which involved canola -wheat - canola rotation and no-till systems, appeared to have the least compacted soil as well as the highest infiltration rate of all the sites.

The dugout water quality analysis reports on parameters such as pH, alkalinity, TDS, sulphate and nitrate and their comparison with the recommended standard values revealed that dugouts tested were generally acceptable for cattle, sheep and horses.







**The PCBFA Board of Directors and Staff meet once every 2 months to go over the happenings with PCBFA. Our AGM is held each February, where new board members are elected. For more information on becoming a board member, please give us a shout in Fairview at 780-835-6799 ext. 2!**

### Alberta Environmental Farm Plans

Many Alberta producers are wondering if they need a current Environmental Farm Plan (EFP). The EFP is meant to be reviewed and upgraded regularly for each operation. It's simple to do. The program is coordinated by the Agriculture Research and Extension Council of Alberta (ARECA) and EFP technicians are available across the province. A completed EFP is required for the On-Farm Stewardship categories of the Growing Forward 2 program. Stewardship is being tied to business opportunities and it is good to be prepared. There are many other reasons to complete an EFP too, including having a hard copy record of the environmental status of your operation, becoming more aware of the rules and regulations concerning the environmental impacts on farms, including protecting water resources and air quality. EFPs can also contribute to the environmental sustainability of crop and livestock operations. Updating your EFP shows your commitment to being good stewards of the land and your commitment to meeting consumer expectations and food safety. Establishing that food is produced in an environmentally sustainable way in Alberta, also positions Alberta to be competitive in world markets.

Producers can use an online workbook. This workbook carries data entered to all areas of the plan where it is needed, provides quick access to information sources, ensures each section is complete prior to moving to the next and allows the EFP technician to see what is completed, answer questions and assist with finishing the plan.

To get started contact the ARECA office at 780-612-9712 or [info@albertaefp.com](mailto:info@albertaefp.com). You will then be matched to an available EFP Technician in your area.

### Why Develop an EFP

- ◆ Improve farm health and safety
- ◆ To protect water resources, air quality.
- ◆ To preserve soil and biodiversity
- ◆ Building acceptance of the operation among neighbours and the public
- ◆ Increasing personal satisfaction and knowledge
- ◆ Adding value to the farm property
- ◆ Agricultural sustainability
- ◆ To reduce farm inputs and decrease storage time of herbicides, insecticides, fertilizers and fuel
- ◆ To demonstrate to the public, governments, regulators, lenders and/or investors that you are managing your environmental risks
- ◆ To increase your understanding of your legal requirements related to environmental issues.
- ◆ To identify what you are already doing well and pinpoint where improvements could be made.



### Peace Region EFP Technicians

**Jen Allen, PCBFA**  
780-835-6799

**Annette Rosendal, PCBFA**  
780-835-6799

**Nora Paulovich, NPRA**  
780-836-3354

**Jacob Marfo, MARA**  
780-927-3776

**Sabrina Westra, MARA**  
780-927-3776

**Sheleen Gerbig, SARDA**  
780-837-2900 ext 3

**Jill Henry, County of GP**  
780-567-5585 ext 2104

## ARECA's Paul Watson- Interim Chair of the National Environmental Farm Plan (NEFP) Steering Committee

*By: Agriculture Research & Extension Council of Alberta (ARECA)*

Upon his arrival at ARECA in 2015, EFP Director Paul Watson began reaching out to his provincial counterparts to evaluate the possibility of the provinces working together to harmonize key environmental components of the EFP. In late spring of 2016, the Alberta Wheat Commission showed their support for this initiative. The outcome? The National EFP Summit in November.

The initial meeting in 2015 was intended for provincial delivery organizations; then industry such as McCain's, Dairy Farmers of Canada, and Pulse Canada joined the conversation. Demand for a baseline national EFP was clear and Paul pursued this with the support of ARECA and the Government of Alberta. Paul worked steadily behind the scenes developing consensus, bringing stakeholders together, and drafting a terms of reference for an NEFP.

There were many farmers at the Summit and their recognition and trust of EFP was evident. EFP was built by producers for producers; and farmers at the Summit supported the evolution of the program that has provided access to relevant extension and financial resources in the past.

The NEFP Summit not only served to showcase the many unique features of Canada's EFP, but provided an effective forum to gauge cross-commodity, full-value chain support for the move toward a national program. Positive remarks offered by Pat Finnigan (MP Miramichi-Grand) and Jean-Claude Poissant (Parliamentary Secretary to the Minister of Agriculture and Agri-Food) relayed the federal government's commitment to provide continued support for Canada's EFP as it harmonizes nationally. In the future, this will enable farmers and ranchers to better meet sustainable sourcing requirements here in Canada, and around the world.

The closing discussion covered a variety of opportunities that will be explored by the NEFP Steering Committee. The item that received almost unanimous support was the creation of a national program that could address national standards with flexibility to address regional differences and accommodate both farmers and industry.



We invite you to contact Paul Watson at [efp@areca.ab.ca](mailto:efp@areca.ab.ca), 708-224-0911

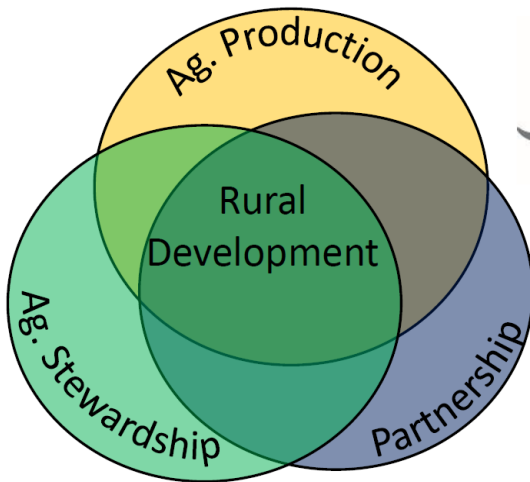
to talk about how this process will affect your farm.



For more information about any of PCBFA field tours, workshops or project sites please call either Peace Country Beef and Forage Association Office.  
**Fairview 780-835-6799 or High Prairie 780-523-4033**  
 or email [info@pcbfa.ca](mailto:info@pcbfa.ca)



## Agriculture Opportunity Fund (AOF) – Promotes long term sustainability of agriculture industry and rural communities



**\$1.95 million AOF funding results in an economic impact of \$250 million per year in rural Alberta**



## 2015-16 YEAR IN REVIEW

### Knowledge Extension and Information Sharing

**10,052** producers attended **224** extension events, **1016** producers attended **7** conferences, **941** One-on-one consultations, **64** News letter issues published, **2** Fact sheets developed, Ag. production information extended to over **50,910** producers farming over **42,042,122** acres, **1** Peer-reviewed scientific paper published and **4** submitted, **120,079** Web hits, **36** Board members participated in board governance training, **1077** producers attended **35** Field schools, **142** workshops completed, **50** press interviews, **919** Twitter followers, **952** Facebook likes

### Regional Applied Research and Demonstration

**203** Applied research projects, **128** Demonstrations, **9** out of **12** AOF groups collected data in **183** sites for the Provincial Pest Monitoring Program, **13** sites of **24** Regional Variety Testing sites in Alberta were delivered by AOF groups and with final data going to the 2015 Alberta Seed Guide.

### Industry Engagement, Collaboration, & Support of AF programs

**119** AF staff and **332** Non-AF specialists collaborated with the groups (9 ARAs, 4 FAs and ARECA), **142** workshops organized by the groups, Partnered with **54** rural counties/MDs to deliver Ag. production extension

### Agriculture Stewardship Programs

**8** groups partnered with **25** counties/MDs to deliver AF environmental extension program, Completed **58** GF-2 and **24** EFP workshops, completed **37** AESA projects

### Partnership and Strengthening Rural Communities

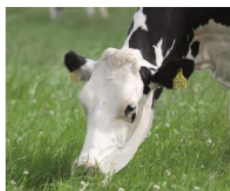
Delivered **12** 4-H/educational events, Organized **6** agricultural tradeshow/fairs, **67** staff employed, **21** staff speaking requests.





## We are the Forage Leaders.

We start with performance trials and testing programs to develop proprietary forage products. We then contract our forage seed needs with highly skilled Canadian seed growers, who work closely with our experienced field representatives to ensure our seed crops are of top quality. Our expert sales and technical staff are always ready to support and assist with forage product choices and agronomic needs.



### Forage for Beef

We offer a wide selection of legumes, grasses and designed forage mixtures to meet your needs for beef and:

- Increase the daily gains of calves and yearlings
- Supply all of the energy and protein needs, as well as nearly all of the minerals and vitamins
- Provide a more even seasonal distribution of forage
- Provide a higher level of herd health
- Produce surplus hay and additional income

### More milk ...

In forage, fibre digestibility is one of the most important quality measures. The main benefit of high fibre digestibility is an increase in milk production.

**1% increase in fibre digestibility (DNDF) =  
+0.25 litres milk per cow per day**

The importance of high fibre digestibility is supported by independent research work that is well acknowledged throughout the world. Fibre digestibility is a key focus of the DLF global research platform.



[pickseed.com](http://pickseed.com)

Growing Forward 2

Alberta  
Government

Canada



### Programs Accepting Applications

- \* Accelerating Innovation
- \* Agri Processing Automation and Efficiency - Livestock
- \* Agri Processing Product and Market Development - Livestock
- \* Food Safety Systems Processor
- \* Irrigation Efficiency
- \* Livestock Welfare Processor
- \* On-Farm Solar Photovoltaics
- \* On-Farm Water Management
- \* Traceability Technology Adoption



### Programs Not Accepting Applications

- \* Agri Processing Automation and Efficiency - Crop
- \* Agri Processing Product and Market Development - Crop
- \* Agriculture Watershed Enhancement
- \* Animal Health Biosecurity Delivery Agent
- \* Animal Health Biosecurity Producer
- \* Animal Health and Welfare Emergency Preparedness Delivery Agent
- \* Business Opportunity
- \* Business Management Skills Development
- \* Confined Feeding Operation Stewardship
- \* Food Safety Systems Delivery Agent
- \* Food Safety Systems Producer
- \* Irrigation Conveyance Works
- \* Livestock Welfare Delivery Agent
- \* Livestock Welfare Producer
- \* On-Farm Energy Management
- \* On-Farm Stewardship
- \* Regional Water Supply
- \* Traceability Pilot
- \* Traceability Training

Growing Forward 2 Programs are continuously updated and/or changes are made to the programs. All information on GF2 programs can be found at [www.growingforward.alberta.ca](http://www.growingforward.alberta.ca)

The best way to stay up to date on all things GF2 is to subscribe to the programs that you are interested in. The subscribe function can be found on the right side of the GF2 home screen.

PCBFA staff would be happy to help with your GF2 applications, so give us a call!



## Soil Health & Grazing Conferences to be Combined in 2017

Nora Paulovich, manager of North Peace Applied Research Association (NPARA) and conference chair reports the Western Canada Conference on Soil Health (WCCSH) will unite with the Western Canadian Grazing Conference (WCGC) in 2017. A number of Alberta applied research and forage associations will be hosting these events.

The combined conferences will take place on December 5, 6 and 7th at the Radisson Hotel Edmonton South.

The 2015 WCCSH was the first of its kind in Canada and featured Gabe Brown, soil health practitioner and producer from Bismarck, North Dakota. The WCGC is a leading extension event for the cattle industry. "The conferences will again feature leading experts with the most current information" states Paulovich.

Cattle producers continue to develop and learn regenerative techniques for enhanced grazing and soil health. Farming for soil health enhances biodiversity and increases biological activity, both of which are absent in current production technology. In both cases integrating plant diversity, keeping the soil covered, maintaining living roots as long as possible, and minimal soil disturbance leads to reduced crop inputs, greater infiltration and water holding capacity, as well as environmental and social benefits. Soil health is greatly enhanced when practiced in conjunction with animal agriculture. "We invite farmers and ranchers to come together and see the benefits of diversity cropping and livestock integration" notes Paulovich.

"With the conferences being united registrations may go quickly" said Paulovich. Agendas and speakers are being developed and will be announced in the coming months.

Contact: Nora Paulovich: [nora@npara.ca](mailto:nora@npara.ca) or Tom Fromme: [tom@npara.ca](mailto:tom@npara.ca) Web: [www.npara.ca](http://www.npara.ca)

---

THANK YOU TO PRAIRIE COAST EQUIPMENT FOR SPONSORING PCBFA'S PASTURE WALK SERIES  
IN JULY 2016!



**PRAIRIECOAST**  
equipment

**JOHN DEERE**



## Save the Date!

The Mighty Peace Watershed Alliance (MPWA) will be hosting their  
**2017 Annual General Meeting**  
**on Friday, May 26th in Peace River.**

Stay tuned for more details at <https://www.mightypeacewatershedalliance.org/>

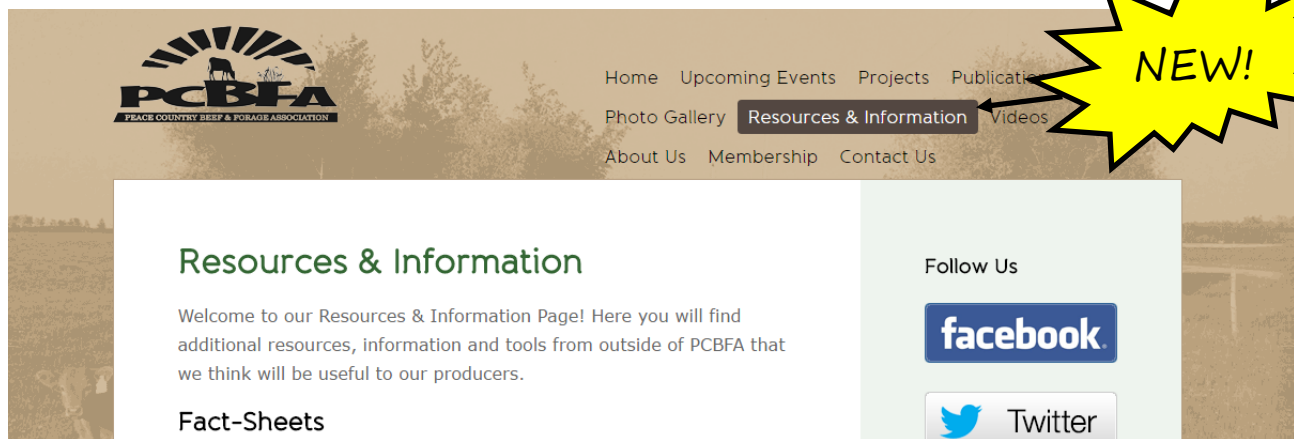
Or contact MPWA Education/Outreach Coordinator, Megan Graham at  
 780-324-3355 or [mpwa.admin@telus.net](mailto:mpwa.admin@telus.net)

## New to the PCBFA Website: Resources & Information Page

*By: Jen Allen, PCBFA*

Are you a producer looking for useful resources, information and tools available right at your finger tips? Check out our new *Resources & Information* page where you can find relevant electronic materials available for you to access and download to your device!

[www.peacecountrybeef.ca/resources/](http://www.peacecountrybeef.ca/resources/)



# Thank you to all our Funding Agencies



## Working Together with Agricultural Service Boards Across the Peace

