FALL 2018 ISSUE 01 PEACECOUNTRYBEEF.CA

FROM THE ROOTS UP

Your Peace Ag Connection

PUBLISHED BY THE PEACE COUNTRY BEEF & FORAGE ASSOCIATION

Peace Country Beef & Forage Association

"STRENGTHENING AGRICULTURE, ONE FARM AT A TIME"

Board of Directors

Jordan Barnfield
Preston Basnett
John Prinse
Thomas Claydon
Nancy Van Herk
Faron Steffen
Robbie Hale
Kirk Cowell
Kelvin Krahn
Allan McLachlan

Staff

Liisa Vihvelin, Manager
Akim Omokanye, Research Coordinator
Katie McLachlan, Environmental & Communications Coordinator
Monika Benoit, Extension Coordinator
Marianne Krahn, Admin Assistant

Locations:

GPRC Fairview Campus
780-835-6799

High Prairie Provincial Building
780-523-4033

info@pcbfa.ca

Having worked in the Peace Country since 1982, we have established ourselves as an innovative association, working 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.

Mission

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.

Vision

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

Our services include:

- Applied Research
- Extension publications & events
- Feed testing & analysis
- Soil testing & analysis
- Production decision making, technical assistance & problem solving
- Information research & referrals

Follow Us

@peacecountrybeef

@pcbfa

@peacecountrybeef

Search Us & Subscribe!

peacecountrybeef.ca

Become a Member Today!

peacecountrybeef.ca/membership
One Year, Three Year, Five Year & Corporate Memberships are available

2018-2019 PCBFA Board of Directors checking out emergence at the Fairview Research Farm, June 2018

CONTENTS

INTERCROPPING WHAT'S THE DEAL?

By: Katie McLachlan, PCBFA

Cocktail cover crops have taken off here in the Peace Country with beef producers. Not only is production potential increased with cocktails, the benefits to the soil are immense. Work being done here in the Peace, as well as across Alberta and the northern States, has found that plant diversity above the soil surface, helps to foster biological diversity below the soil. A healthy biological community below the soil helps to kickstart natural nitrogen, carbon, and other cycles in the soil. When these cycles are functioning properly, our needs for fertilizer, and even hericides and fungicides can be decreased.

But how to implement diversity into a cropping rotation without losing a grain crop? There are more and more producers in Saskatchewan growing intercrops. In 2016, there were approximately 20,000 acres planted to intercrops in the province, and 50,000 in 2017.

Intercropping is defined as growing two or more crops together in the same field (intentionally!). Compared to our typical monoculture rotation, intercropping can sound very complicated and messy. Despite the challenges and complexity of intercropping, the higher yield potential and added soil health benefits are driving the excitement with our neighbours to the east.

Research conducted in Saskatchewan at the South East Research Farm in Redevers, SK, and related on-farm trials have found that when intercropping flax and chickpeas, their combined yield is reliably higher overall than when either crop is grown on its own. Producers growing these intercrops in Saskatchewan are reporting between 120 and 130% more yield combined compared to flax or chickpeas on their own. So for producers dealing with a finite land base, intercropping can open up opportunities to grow more on the same landbase!

Above: Combining a lentil/flax intercrop near Minton Saskatchewan

But where does one start when looking into intercropping? Research is in its infancy, and regional data is not yet available

Lana Shaw, researcher at the South East Research Farm at Redvers, Saskatchewan, shared some tips with RealAgriculture on how to start experimenting with intercropping. Shaw recommends getting on Twitter. The leading edge of agriculture is on Twitter, and it supplies a great forum for producers and researchers to connect and share experiences.

It is also of course recommended to start with a small acreage, and a mix that is easy to separate. For example, peas and canola may be a good option for the Peace

Below: Attendee's to PCBFA's Cocktail Cover Crop Tour check out a cocktail meant for silage and fall grazing near Fairview

Country. A short season canola paired with a long season field pea would mature at a similar time. Producers who have grown peas and canola have also reported that the canola helps the peas to stand up, and the peas hold the canola together helping to prevent pod shatter.

Shaw also recommends from an agronomy stand point to focus on one crop, with the second crop playing a supporting role. She says that many farmers she works with in Saskatchewan are mixing their crops 75%/25%. By prioritizing 3/4 of the crop, seeding date, seeding rate, fertility, harvest timing, and other management decisions are based on one crop.

Focus on one target crop will also help with marketing the end product. The outcome of a 75/25 mix is much easier to predict than a 50/50 mix that can go either way.

Lastly, a plan to separate the crop is paramount. Many producers in Saskatchewan have rigged up their own means of separation on-farm, but many seed cleaning plants may also be up for the job.

Crop insurance options are another consideration for risk management when looking into intercropping. Depending on the mix of the crops, intercrops may or may not be insurable through Agriculture Financial Services Corporation (AFSC). It is recommended to stop by and chat with your insurance expert about insurance options on an intercrop for grain.

Producers who have been intercropping for several years in Saskatchewan have reported that on average, yield and profitability have been reliably higher on their intercropped acres compared to their monocropped acres. In addition, many have been able to cut out a couple passes with their spayers, most notably fungicide applications. Saskachewan has ranged from being very wet to very dry in the last few years, and intercropping producers have also reported their intercropped land's ability to bouce back and still grow a crop. Resiliancy of the land has been improved on many intercropping acres.

Cocktail cover crops in our area have proven to improve soil health, soil structure, and we are seeing more and more evidence of increased carbon sequestration and natural nutrient cycling. An intercropping system that supports above ground diversity may be able to help improve the health of our cropping acres in the Peace as well.

5 Tips for Getting Into Intercropping:

1: Get on Twitter

2: Start Small

3: Start with a mix that is easy to separate

4: Prioritize one crop

5: Have a plan to separate or store seed

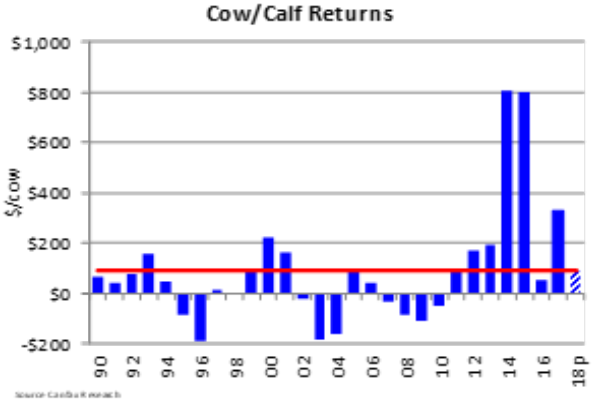
Keep your eyes open for Peace Country Beef & Forage Association's Innovative Crop Production Workshop coming this December! We are very excited to be welcoming experts on the subject of intercropping to the Peace Country!

Check out our website peacecountrybeef.ca for more information on our upcoming events!

COW/CALF PROFITABILITY & COST OF PRODUCTION

By: Brian Perrilat, Canfax

The cow-calf sector has been generally profitable over the past several years, but after some years of very large profits, a year with average profitability can seem rather lackluster. According to the Canfax model, the long term average return has been about $85/cow. Keeping in mind that there is a very large variation between producers given different cost structures and marketing windows, profits can easily vary by over a hundred dollars per cow between operations.



Depending on the strength of calf prices this fall, producers may be looking at profit levels this year that are closer to the long term average, and although calf prices remain historically strong, one of the biggest challenges producers are facing right now is the rising cost of feed. Producers chewed through a significant amount of feed stocks given the extended past winter. The low feed carryover combined with a disappointing hay crop across a large portion of the prairies has many cow-calf producers reviewing feed supplies, ration alternatives, and herd inventory management. Do you buy feed? Sell cows? Sell calves? Move cattle to feed? Or a combination of these different alternatives?

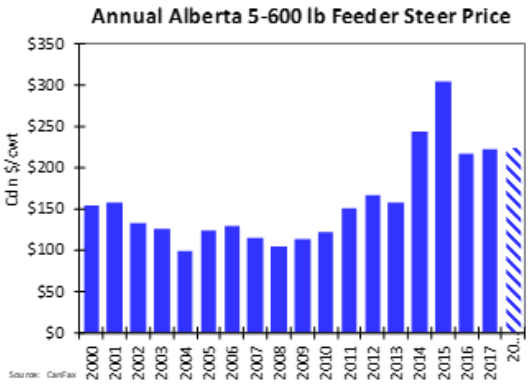
While most discussions focus on hay costs, it is important to consider the power of the rumen, and the wide range of rations that can be used to most efficiently feed a cow through the winter. Many producers will be facing higher feed costs this year, but it is still critical for each producer to understand their total cost of production in order to make economic decisions focused on profitability rather than just costs. This can also be used to decide if it may be more economical to feed the cows, the calves, both, or neither.

Looking at a basic scenario for a cow-calf operation, assuming a feeding period of 210 days this winter, at 35 lbs of hay fed at eight cents a pound, and $1.25/pair/day grazing, feed and grazing costs for the upcoming year are approximately, $782/cow. Based on Alberta Agriculture benchmarks, costs for vet, marketing, fuel, repairs, utilities and labour are another $245/cow, plus overhead costs of $95/year equates to a total cost of $1122/cow. Again, depending on your feeding season, ration, and overhead, it is important to understand your own specific costs. Knowing your cost per cow is important, but cost information is most useful when it is broken down to per unit cost, which is done by applying your productivity factors. From your cows wintered, do 90% wean calves, or 95%? Is your average weaning weight, 625 lbs or 500 lbs?

Your productivity is critical when doing this analysis. In this basic example, if a producer has a cost per cow of $1,122, and weans 90% of their calves with an average weaning weight of 500 lbs, their cost of production is $2.49/lb weaned, while if a producer has this same cost per cow, but weans 95% of their calves with an average weaning of 625 lbs, their cost of production is $1.89/lb weaned. These per unit costs are now more useful when trying to incorporate market information into your decisions. The following sensitivity table shows the cost per pound weaned with varying costs per cow and weaning weights. It is based on a 92% wean rate. For example, if your cost is $1,000 per cow, and your average weaning weight is 550 lbs, your cost of production is $1.98/lb weaned.

		Average Cost/Cow					
	$ 2.44	$ 950	$ 1,000	$ 1,050	$ 1,100	$ 1,150	$ 1,200
Average Weaning Weight	450	$ 2.29	$ 2.42	$ 2.54	$ 2.66	$ 2.78	$ 2.90
	500	$ 2.07	$ 2.17	$ 2.28	$ 2.39	$ 2.50	$ 2.61
	550	$ 1.88	$ 1.98	$ 2.08	$ 2.17	$ 2.27	$ 2.37
	600	$ 1.72	$ 1.81	$ 1.90	$ 1.99	$ 2.08	$ 2.17
	650	$ 1.59	$ 1.67	$ 1.76	$ 1.84	$ 1.92	$ 2.01

Even though feed costs may have increased substantially, it gives you a basis to decide if you should buy feed or sell the cows. Even if your cost of production for your calves will be over $2/lb weaned, would you be willing to take that risk if it meant keeping your cow herd together, rather than risk selling the cows into a depressed market and replacing breeding stock at higher costs?



There are no simple answers, but without knowing your costs you are making decisions in the dark, and have no way to really incorporate a marketing plan.

Predicting calf prices for the fall of 2019 is next to impossible, given changing market dynamics, but also because of additional risks with currency changes or potential trade issues. We can try to use past prices to create some ranges. The lowest price in the last four years, was Oct 2016, when 550 lb steers averaged $176.40/cwt, while this year calf prices have averaged $225/cwt. Over the last five years October and November steer calves have averaged $228/cwt, and since 2010 fall steer prices have averaged $198/cwt. Steer calf prices have shown solid strength over $200/cwt the last couple of years, and should have support at $200/cwt, but there are certainly no guarantees in these markets. It is also important to remember these are just steer prices, and given where your cost per pound weaned lines up, you must remember to incorporate the heifers prices in your calf sales.

UPCOMING PEACE COUNTRY BEEF & FORAGE ASSOCIATION EVENTS

Event	*Date & Time*	*Location*
Dugout Workshop & EFP/ CAP Information Session	Thursday, October 18th 9:30am	Grimshaw Legion Hall
Livestock Nutrition Workshop	Wednesday, October 24th 9:30 am	Grovedale Hall
Livestock Nutrition Workshop	Wednesday, October 24th 4:30pm	Savanna Recreational Complex
Holistic Land Design	November 1-3 & November 22-24	Deposit required Please contact us for more information
Canadian Forage & Grasslands Conference	November 14th-15th	Sheraton Cavalier Calgary
Tillage Workshop	November 17th	Webster Hall, North of Sexsmith
Innovative Crop Production Workshop	December 5th	Coco Hall, Wanham
Alternative Energy Workshop	December 10th	Triangle Hall, Near High Prairie
Alternative Energy Workshop	December 11th	David Thompson Hall, Near Hines Creek
Holistic Management Course	January 16th-17th & January 24th-26th	Deposit Required. Please contact us for more information
Peace Country Beef & Forage Association Annual General Meeting	February 22nd	Dunvegan Motor Inn, Fairview

For More Information or to Register for any of These Great Events,

Visit peacecountrybeef.ca/upcoming-events | Email info@pcbfa.ca | Call 780-835-6799 ext. 3

A WORD ON WINTER WATERING SYSTEMS

By Katie McLachlan, PCBFA

Extending the grazing season across your landbase is not only great for your soil and land, but your pocketbook from not needing to start your tractor! One of the biggest obstacals to extended grazing is figuring out how to get a reliable water source set up. If you are like myself, you may have lain in bed awake at night trying to figure out how you are going to get water to your herd!

Unfortunately, we have yet to find a perfect system for our Peace Country winters. Regular checks to ensure that the system is not frozen up or has failed is not something that we are able to get away from as of yet. From what we have learned from our annual Winter Watering Systems Tours, there are definitely some tried and true methods that our Peace Country producers are implementing that do make watering through the winter less stressful!

Considerations for building a new winter watering system in the Peace

Systems that we have seen work with little seasonal maintenace are those that combine geothermal heat from below ground, insulation to conserve that heat, and a way to keep water circulating through areas that may tend to freeze.

Utilizing geothermal heat from below ground and capturing that heat is by and far one of the most energy efficent ways of keeping your water thawed. Many systems that rely on geothermal heat also keep water circulating with little power input. Water warmed by the earth rises to the top where the cattle drink, and the cooler water at the surface sinks down to the bottom. This constant water circulation keeps the water open through most weather conditions. There are also commercially available float switches, electric eyes, and other options such as Nose Pumps that keep water out of the bowl and under insulation until an animal comes to drink.

Powering your winter water

Many of the off-grid watering options that are commercially available are powered by either solar, wind, or a combination of the two. There are also energy-free options such as Frost Free Nose Pumps or Thermosinks.

If utilizing solar or wind power, a major consideration is batteries. Those who are using solar or wind to charge batteries which in turn run their watering system know that keeping a battery charged through the cold winters can be a challenge. After consulting many producers

across the peace, we have compiled the below tips to help keep batteries charged and running through the year on a solar system.

Choosing a Battery

- Deep cycle batteries (leisure or marine) hold a charge best
- Your battery bank must be large enough that batteries are not discharged by more than 50% on a regular basis. Any less, and the life of batteries will decrease

Keeping Batteries Charged

- Solar Panels
  - Ensure the solar panel is sized to your needs
  - Great option for keeping pre-charged batteries charged through the winter
  - Low temperatures do not affect solar panel performance
  - Keep snow off your panels!
  - Solar panel angle
    - For year-round use, the tilt of your solar panels should equal your latitude + 15º
    - Ex: Latitude in Fairview is 56º, so solar panels should be at 71º
- Insulated battery boxes
  - Warm batteries charge better
    - Rancher Hack: Use a discarded chest freezer to insulate your batteries! Also great storage for spare parts!

Since there is no such thing as a maintenance free system, it is always advised to have a back-up plan incase of water system failure.

If you are interested in purchasing a new watering system, there is funding available through the Canadian Agriculture Partnership (CAP)! Give us a call and we would be more than happy to go over your funding options before you purchase your watering system!

Keep your eyes peeled for our Winter Watering event coming this January!

PCBFA 2018 RESEARCH PROJECT UPDATE

By: Dr. Akim Omokanye, PCBFA

2018 has been an exciting year for research at PCBFA. Through the support of 10 MDs, many seed and fertilizer companies, the Alberta Wheat Commission, Alberta Beef Producers (ABP), Alberta Agriculture & Forestry, Alberta Canola Producers Commission and Penergetics Canada, we have been able to conduct several field trials at 5 sites. Research results from the sites will be available January 2018. Here are the highlights of what we did in 2018, and what to look for in our reports.

Fairview Research Farm

Regional Silage Variety Trial:
Barley: 15 varieties were tested including SR14501, a new barley variety that is currently in the seed select phase on the road to certification. SR14501 was developed by Alberta's Field Crop Development Centre in response to producers' requests for a barley with good lodging resistance. SR14501 is a very well rounded variety. Very impressive growth in 2018 and producers in the Fairview area are already looking forward to this variety.
Oats: 12 varieties were tested including Haymaker and CD-SOI oats
Triticale: 5 spring triticale varieties were tested (Bunker, Taza, Tyndal, Sunray and T256) for silage and swath grazing.
Pea-Cereal Mixtures: Peas in the mixtures usually improve feed quality. This year, we mixed forage type pea varieties with triticale, barley and oats as well as cereal/legume intercrops. The mixtures were seeded at 75% of the usual pea seeding rate + 50% off the usual cereal seeding rate.
Winter Cereal/Spring Cereal Mixtures: To test mixtures of winter & spring cereals for forage yield and quality, and for their potential for fall grazing for beef cattle production. Fall or winter triticale was mixed with spring triticale, barley and oats for silage and fall grazing. Each of the 2 crops in the mixtures was seeded at 75% of its usual seeding rate.

Alternative Forage Type Crops for Silage, Grazing and Soil Improvement: PCBFA has continued to test introduced forage type annual crops as alternatives to our traditional barley and oat crops for greenfeed, silage, swath grazing or for inclusion in cocktails for beef cattle production. Crops tested this year included millet, sorghum Sudan grass, ryegrasses, festulolium, brassicas, plantain, chicory, frosty berseem clover, crimson clover and phacelia.

Below: Aerial view of PCBFA's small plots the Fairview Research farm

Pulse Crops for Seed and Forage Production: Nine pea varieties including 4 forage type peas, 8 soybeans and fabelle faba beans have been tested this year.

Cocktail Cover Crops & Seeding Rates: PCBFA's previous studies have shown that growing a cocktail with at least 3 cover crops instead of 1-2 crops helps to increase the forage yield with better nutritive value for mature beef cattle. In our previous studies, we have obtained greater forage production from cocktails which consisted of multispecies cover crops from 3 different categories (grasses/cereals- both warm and cool season crops), legumes and brassicas (with limited amounts). In search of the right type of cocktails for improved energy for growing and finishing calves, 9 cocktails were tested this year. The cocktails were seeded at moderate and high seeding rates, and with or without brassicas.

Testing Corn Varieties for Silage and Grazing: We tested 6 corn varieties with lower heat unit requirements (1950 –2150) for silage production and grazing, and for their nutritional suitability for beef cattle production.

Corn Intercropping Systems for Improved Corn Silage Quality: In order to improve corn forage protein content for young beef cattle, we tested several crops for use as companion crops (e.g. Tillage radish, Crimson clover, Hairy vetch, cocktail) with corn.

Strategies to Reduce Fertility Inputs and Improve Soil Health and C-Sequestration in Mixed Crop-Livestock Systems (3-year project): This is being done to examine the effects of incorporating cocktails in crop rotations/cropping systems, and the use of manure and foliar fertilizer on soil health improvement, fertility savings, C storage & potential carbon sequestration rates; and to compare the cost-benefit analysis of the different systems.

Industrial Hemp Variety Trial: New, emerging opportunities related to fibre utilization for a wide variety of industrial applications are expected to

continue to create demand for more hemp feedstock in Alberta. Efforts to build whole hemp crop value chains, for both food and fibre, are underway in Alberta. Seven industrial hemp varieties are being tested.

Canola Variety Trial : Nine varieties of canola were tested.

Comparing Peace Region Common Wheat Varieties: We have continued to test the grain yield potential of Peace Country commonly grown wheat varieties. This year, we tested 16 wheat varieties.

Reducing Crops Fertility Needs: Testing the effectiveness of using cover crops and cocktail cover crop mixtures in reducing fertility needs of subsequent crops. The roles of some soil rejuvenation methods and foliar feeders in crop production are also being assessed.

Improving Soil pH and Nutrients with Deep-rooted Crops in Crop Rotation Systems: Previous PCBFA on-farm studies seemed to show that there may be higher pH, as well as higher levels of some nutrients in the sub-surface soil (6-24") compaired to the surface soil (0-6"). This project looks at the possibility of improving surface soil (0-6") pH and nutrients with deep-rooting forage type brassicas, particularly those with potential to scavenge nutrients.

Teepee Creek Project Site

Comparing Peace Region Common Wheat Varieties:

We tested 12 Peace Country common wheat varieties in order to compare them for grain yield and quality.

Testing of Traditional Vs Alternative Forage Type Cereals for Silage and Cocktails: 7 traditional (new varieties) and 5 alternative (introduced) forage type cereals were tested for forage production potential and for inclusion in cocktails. Proso millet, 2 soft white wheat, Prima fall rye and Green Spirit Italian ryegrass were tested as alternative forage type cereals.

Pea Variety Trial: We tested 9 pea varieties including some that have shown potential in the area and some forage type peas. Peas tested: AAC Liscard, CDC Horizon, CDC Meadow, CDC Leroy, AAC Carver, CDC Amarillo, CDC Limerick, CDC Raezer and 40-10.

Forage Type Legume Crops for Cocktails: We tested newly introduced forage type legumes for their growth, adaptation and forage yield potential in the area, and for inclusion in cocktails. Forage type legumes seeded: hairy vetch, chickling vetch, crimson clover, Frosty berseem clover, crimson clover, serradella, ebena common vetch, lupins and mung beans.

Cocktail Cover Crops: 10 cocktails consisting of 3–8 crops were tested for comparison with 1-2 crops of cereals and peas for forage production.

Corn Variety For Silage & Grazing Trial: Perennial forages consisting of 18 grasses and legumes (e.g. alfalfa, sainfoin and cicer milkvetch) have been seeded for demonstration of adaptation, longevity and forage production.

High Prairie and Sunset House Project Sites

Demonstration of Cocktail Cover Crops: Nine cocktails consisting 4-8 crops were compared to Haymaker oats for forage production and quality.

Forage Type Alternative Cereals: The following were tested for their potential for forage production and inclusion in cocktails: Teff, Htkor festulolium, Japanese millet, Melquartro Italian ryegrass, proso millet and forage corn.

Forage Legumes for Inclusion in Cocktails: Subterranean clover, winner brand berseem clover, laser brand Persian clover, serradella, crimson clover, mung beans, ebena common vetch and lupins were tested for their forage production potential.

Broadleaves for Cocktails: Broadleaves tested as monocrops for their potential for inclusion in cocktails: plantain, chicory, forage collards, malwira brand turnip, balo brand phacelia, buckwheat.

ABP Perennial Forage Trials: Established in June 2016. Fifteen legumes, 11 grasses and grass/legume mixtures. These have been monitored for early spring growth, re-growth after cutting, forage yield and quality.

Above: Producers take part in a tour guided by Dr. Omokanye at the Teepee Creek Project Site

Other Projects

Corn Variety Trial for Grazing: Six corn varieties were tested for growth, forage production and quality for grazing. This is at Travis Jassman's (Happy Valley area, near Spirit River).

Fall or Spring Management Options for Pastures: Renovate or Rejuvenate? The project started in 2016 and has just been completed. Twelve methods of pasture rejuvenation were tested. The project took place at the Wanham PGR.

On-Farm Cocktail Soil Monitoring Project: Several sites, which have been in cocktails for several years are being examined for soil improvement with cocktails in different areas of the Peace.

THANK YOU TO ALL OUR FUNDING PARTNERS

Agriculture Opportunity Fund

SINCE 1969 Alberta Beef Producers

CANADIAN AGRICULTURAL PARTNERSHIP
Innovate. Grow. Prosper.

ALBERTA PULSE GROWERS

Alberta Barley

Alberta Wheat COMMISSION

Alberta Agriculture and Forestry

ALBERTA CANOLA PRODUCERS COMMISSION

WORKING TOGETHER WITH AGRICULTURAL SERVICE BOARDS ACROSS THE PEACE

MUNICIPAL DISTRICT OF GREENVIEW No. 16

BIG LAKES COUNTY

CLEAR HILLS COUNTY

Saddle Hills COUNTY

MD 133 SPIRIT RIVER 780 864-3500

County of Grande Prairie No. 1 Alberta, Canada

Municipal District of Peace No. 135

Municipal District of Fairview No. 136 Inc. 1914

Birch Hills County

NORTHERN SUNRISE COUNTY