

PCBFA Field Day 2017

By: Julie Watchorn

July 19 2017, Peace Country Beef and Forage Association had the annual Field Day held at the Fairview Research Farm, near Fairview, Ab.

They had a great turnout with about 153 people, started with a BBQ lunch, hot dogs, hamburgers salads and pop, the weather was perfect for all who came !

Our first presentation was Dr. Michael Harding who was a Plant Pathologist with Alberta Agriculture and Forestry he talked about Crop and Forage Diseases

The second presentation was Increasing Crop Yield by managing Pollinators by Jean Coppens from GPRC-Fairview and Rebekah Keyes from Grande Prairie Beekeepers Club They even had honey for sale

There was also a Kid Zone this year with a petting zoo, bouncy castle and face painting the line ups were amazing !

The last presentation was Raelynn Peterson from Alberta Agriculture and Forestry with a Farm Safety Presentation

We then went on our plot tours. They offered wagon rides to the plots and around pulled by teams of horses! They have 899 different plots of Cereals, Legumes, Cover crop mixtures annuals and perennials. It is worth the drive to see what grows well in our area and what doesn't

Peace Country Beef and Forage Association
Fairview Office 835-6799
www.peacecountrybeef.ca

Pierre Gasser...Climate Specialist.

By: Brian Harcourt

LSRS is replacing the Canadian Land Inventory system...since 1995.

Lay of the land, soil suitability, crop specific, what's best.

Canadian soils are classed, 1 very good, 4 marginal, 7 unsuitable.

No #1 soils in Alberta.

Climate, soils, and landscape determines what you can grow.

An effort is being made to estimate what the future climates will be.

Time periods to come...2011 to 2040, 2041 to 2070, 2071 to 2100.

Provincial data is gathered hourly from all over and entered in to a soils "polygon".

Info on the growing season from start to stop will be available.

Tile drainage was touched on and how it improved the farming in eastern Canada.

Heat Days above the 49th has increased by 12% since 1900.

Climate variability is an issue in the whole province.

We need more weather gathering stations.

One of the issues is the ability of the farmer to adapt.

Check out.

"Soils Viewer" LSRS.

www.albertasoilsinfo

www.albertaclimateinfocentre

Dr. Jill Clapperton...Soils Expert.

When it comes to pastures...

Dr. Clapperton believes in crop rotation not cultivation.

Good soil structure equals size and clusters of soil particles.

Particles must be able to move in the soil.

More plant variety better soil structure.

Seed into a mulch.

Earthworms are nature's plows.

Healthy plants grow in healthy soils.

Healthy plants equal healthy humans and animals.

Biodiversity, Flexibility, Resilience.

Above ground diversity is a mirror of life below ground.

Fungi below ground decompose plants and create nutrients for root systems.

Mycorrhiza live inside root cells.

Fungi holds root systems together.

If the plants are thriving there will be very little erosion.
Nutrient cycling will be available.
Water holding capacity will be good.
Get your soil tested, take two samples, try to balance all elements.
Dark lines and spots on roots equals a pathogen.
Canola loves earthworms, plant roots will move to the e-worms tunnels and their "middens"
SOM= Soil Organic Matter.
#1 Soil quality, #2 Water holding capacity, #3 Overall resilience.
Carbon is nature's "servantcy".
Add many diverse seeds to your pastures...sunflowers, safflowers, vetches,
corn, clovers, buckwheat,
Each plant species enhances the root systems.
More is better.

Grazing School with Jim Gerrish

American Grazing Lands Service
Patterson, Idaho.

Quotes and comments.

"What really matters in Grazing Management".
Four ingredients needed.
Sun, Water, CO₂, Soil minerals.
One acre equals a solar panel, 43560 sq. ft.
The first 3 are free.
Most minerals come from degrading plants.
90% of expelled poop is soil food.
One ton of forage is worth \$90.00 in minerals.
Right animal to be the factory is the cow.
Need "Land" to collect these well 365 days a year.
Rather than trying to manipulate inputs like fertilizer.
The "cow" is your combine.
Controlled grazing equals income per acre, short duration, high density.
UHSD=Ultra high stock density, grazing.
100 cows on One acre for one day.
"Mob Grazing" more than one kind of animal at one time.
Management in every season of resources, space and time.
Build a better solar panel.
It takes grass to grow grass.
3 phases of grass, 1, new up to about 5 to 6 inches, 2, 7 to 8 inches, 3 beginning of seed head.
LAI, Leaf Area Index, 5 sq ft of leaf to 1 sq ft of ground.

Best grazing begins at phase 2, graze down to 5 or 6 inches.

Grass with decent rain will regrow 1 ton per acre in 40 days.

Grazed down to 3 inches will take 60 per ton.

Phase 3 grass is not great pasture.

Over grazing is the greatest cause of lost pasture.

Benefits of plant diversity equals more photosynthesis and greater forage production.

Interseed other species and varieties of each

Audrey Bjorklund

From: star harcourt <erharc@hotmail.com>
Sent: September-09-17 12:29 PM
To: Audrey Bjorklund
Subject: PCBFA Field Day. Fairview Research Farm.

About 150 people came out for the day, a kids zone, face painting and a fun castle. Two teams of horses and wagons with benches to sit on for those who would struggle with walking on rough ground. Thanks to the Roessler Family from Cleardale. The day began with a trek to the south field, about 200 plots. Predominately grains interseeded with various clovers and vetches. I was impressed with one of the new oat varieties "Haymaker" a tall plant with very good seed production and a broad leaf, about one inch wide. There were three plots with Haymaker in them and they outperformed all other varieties of oats beside them. Next came lunch, very well done PCBFA. Dr. Michael Harding gave a presentation grain and forage diseases. Our local "Bee man" Jean Coppens gave a talk on how to increase yields on various crops by managing pollinators. Rebeka Keyes from Grande Prairie told us about all the varieties of honey bees and bumble bees there are in Alberta, also had some honey for sale. Plot tour of the north field was next. Most folks followed Dr Akim Omokanye around to hear what he would have say on every plot. Very interesting. Raelyn Peterson from Alberta Ag. and Forestry reminded all about safety on the farms. Good advice. This is one day more people should try to attend this very worthwhile effort.

Harcourt

Permaculture Workshop, Presenter; Ron Berezan

By: MacKay Ross

What is permaculture?

Permanent +agriculture, permanent + culture =permaculture

Highly recommends Bill Mollison's book "Permaculture A Designer's Manual"

Care for the earth, care for people, share the surplus.

Essentially, permaculture is a way of designing an area to produce food and fibre with minimal upkeep.

A set of interrelated elements that make up a unified whole.

Solar thermal greenhouse, in development at Old's College. Allows year round growth at our Latitude.

Light is the key to working year round greenhouse not heat.

www.theurbanfarmer.ca

Earth, water, air, fire: Earth; feed soil Organic's, do not till. Water; slow it down, build SOM to retain rain, multi height plants to maximize dew. Air; clean it, absorb nitrogen. Fire; maximize solar absorption per area, mow less, use less energy.

Top dress, (compost, residues etc.) don't work in.

Solarization for a full year.

Edges (boundaries between lawn/garden etc) must be addressed; there are low maintenance environmental ways to do it.

Stumps, snags, dead trees are of more use to more animals than live trees.

Dandelions are vital full season food for pollinators. (cattle and other livestock eat them)

Perennial polyculture of multipurpose plants.

"Edible forest garden" book by David Jacke and Eric Toensmeier Gardening like a forest, not in the forest is the premise. Forest gardens can produce 7 "F", food, fibre, fuel, fertilizer, fodder, fun, pharmaceutical.

Largely a self maintained and a self renewing system.

Design principles; succession (always evolving), 50-75% shading long term (mid to late woodland)

Consider dwarf to semi dwarf to limit height of trees to ease harvest.

Aim for a 7 layer forest (7 different heights of plants)

Diversity; of and within species, many fruits, more than one of each fruit.

Even within a genus (Apples) have a variety of maturing and 2 or more to cross pollination.

Attractants; daisy, mint, carrot family for beneficial insects.

NatureScape Alberta, another recommended book.

Borage and Comfrey for chop and drop, mulch, large biomass producers.

Utilize plants that serve multiple purposes whenever possible.

Shipova self pollinating Mountain ash grafted.

Aronia, a choke cherry and Josta berry a currant, are both good for our climate.

pfaf.org for searching plants for any and all uses.

Bedrock Seeds in Sangudo Alberta, is a seed bank.

Green Barn Nursery QC and Arrowhead Nursery Edmonton AB, great suppliers for Canada.

Biochar is the product resulting from burning wood gas but not the physical structure of plant material. Biochar; nutrient retention, water retention, carbon sequestration into the soil, improve tilth, increase ph, absorb toxicity. Remember, Biochar is a habitat not a nutrient.

Biochar-international.org and seachar.org as resources.

Max 10% Biochar to soil, minimum 5% field scale (compared to 4" soil depth).

worldstove.com for high efficient (77-82% depending material, soapstone or steel), "wood gas" burning stoves, does not produce biochar. Burns the physical and gas from wood products.

Note: Willows are very important to native pollinators as it is first nectar available

Rob Harlan with the Solar energy society of Alberta, celebrating 41 years.

Solaralberta.ca

XX Conservation of energy is the best ROI XX Eg. Insulation, good windows, these are the 2 best ROI initiatives one can do, seal everything possible (air exchanger required) build thermal mass for heat (solar passive heat can provide 50% of a homes needs) in 2009 a 16" wall was the economic threshold for spending money on insulation.

Solar electrical production is expected to reach parity in cost compared to non-renewables in 2017, for 80% of the world. 68% of American electricity installed in 2015 was non renewable.

Photo voltaic modules have dropped in price from \$77 in 1977 to \$0.50 in 2015 per watt US dollars, \$1 per watt is typical in Canada.

In 17 years Germany went from 4 electrical producers to 1.4 million, now the "big 4" only own 6.8% of the electrical production. (Democratization of energy)

Grande Prairie has almost the same solar production capacity as Rome Italy, farther north but similar potential. The cold climate plays a big part, 25'C is the temp PV's are tested at, however there is a 0.38% increase in efficiency with each 1'C drop in ambient temperature.

2009 the Alberta government passed micro generation legislation and that boosted installation numbers. System limitations are annual average usage (if you produce more than you use annually, and transformer size

Southern Alberta farmers are being approached by companies for solar installation contracts

New houses can be designed to use 50% passive solar heat in Alberta

Solar wall

650,000+ acres of solar greenhouses in china

3/4 the PV required after these measures

5 years ROI on net zero building (extra cost)

Electric cars on coal produced electricity is marginally better than gas vehicle.

Solar powered electric car has a 5 year ROI

Solar production of electricity and power pool price are nearly identical

Solar decreases power pool prices without compensation

68% premium in solar.

Inverters produce slightly higher power so you use your solar power first then a mix of solar/grid, and grid when 0 solar production

Off grid(supplies only) can be 3x the cost of a complete grid tie system.

PV warranty 80% efficiency at 25 years

Currently 2 year energy payback on complete system on construction energy cost

.5% degradation per year

Siliconvalleytoxicscollision.com

Coal produces 90-300x the emissions as solar

Roof integrated PV old tech 25 plus years.

PV arrays set to shade windows in summer

eGauge monitor system input and output

Once a year, garden hose cleaning 2% loss

Rain washing 5% loss

78% of original production after 50 years 88% after 25

aceenergy.ca

Capital cost allowances available

Non taxable income from solar.

Alberta solar program just released a couple weeks ago.

Estimates 12 year break even on initial capital investment.

4% loan will break even in 14 years

US resale of houses with solar is \$4 per installed watt higher than comparable house (install cost is \$3)

15kW or smaller systems will be covering 0.75 per installed watt to 30% or \$10,000 whichever is less.

Surface rights workshop.

Assessment-exploration-production- reclamation.

Cradle to grave, water appears to be the main concern.

30 days on new applications for formal concerns to be filed on AWR website.

Farmers Advocate Office directly answer to the AF minister.

Companies can not change/stop rental payments before the minister has signed the reclamation certificate.

2 page form, which one submits to surface rights board for unpaid rental.

The company has 30 days to pay rental or the government pays.

Oil companies should start negotiating starting year 4 for rent review, if landowners do not agree at that time, Landowners have to submit application for rent review with the surface rights board.

Anyone paying for oil company's electrical bill needs to contact FAO.