



Grain, Grass & Growth

July 2016

www.chinookappliedresearch.ca



Crop & Soil Health Field Day

Wednesday August 3

9:30 am – 3:00 pm

Meet at the CARA Center, Oyen

\$25 includes lunch

Specialty Crop Demos
Cocktail Cover Crop Demos

Soil Health Demo

Soil Fertility

What is a Brix meter?
How can it help you?

Plant Disease & Pest Management

Crop Variety Trials:

Wheat, Durum, Oats, Barley, Peas,
Lentils, Flax, Mustard & Camelina

Featured Speakers:

Dr. Yamily Zavala, CARA

Dr. Manjula Bandara, *AF Special Crops Research Scientist*

Keith Gabert, *Canola Council of Canada*

Neil Whatley, *AF Crop Specialist*

Bob West, *R.A. West International*

Dr. Tom Jensen, *Director of IPNI*

Enjoy a Made in Alberta Lunch

CEU credits available

Please pre-register by calling 403-664-3777 or by emailing cara-3@telus.net

Sponsors



Growing Forward 2

Funding update



With the overwhelming applications and limited funding some Growing Forward 2 programs are currently closed until further notice. While Alberta Agriculture can't give a specific date to expect program announcements, we can let you know which funding programs are currently accepting applications and which are not.

On- Farm Stewardship; 50-70% cost share of certain projects including riparian area fencing, year round watering systems, shelterbelt establishment, livestock facility & permanent wintering site relocation, agricultural plastic waste management, improved pesticide management and more! Windbreaks, chem handlers, fuel tanks, low drift nozzles and auto boom height control are no longer eligible for funding.

To apply for any grants under the On-Farm Stewardship program you must have a completed Environmental Farm Plan. You can complete yours online with a CARA staff member.

On-Farm Water Management; One third of expenses up to a maximum of \$5000 per applicant for projects including well drilling, dugouts, dams, spring development, water tanks/storage/cisterns for low producing wells, buried pipelines, livestock watering components and more.

This program requires you to complete a Long Term Water Management Plan before being eligible for funding. A CARA staff member can help you with this as well.

The following programs are still closed to applications. These programs may or may not become available in the future.

Livestock Welfare Producer; For implementing low stress, low hazard environments for livestock, such as upgrading corral systems

Animal Health Biosecurity Producer; For livestock quarantine pens, rodent control for poultry, for example.

To get the most up to date information on program availability please visit www.growingforward.alberta.ca and click 'subscribe' on your favorite programs.



DYK?

When given a choice, **cattle will drink from a trough eight times out of ten**, even if they have access to surface water.

If you have wetlands, creeks or rivers, consider an off-site watering system for your livestock to maintain the quality and supply of water.

Pest Surveillance Fields Needed!

CARA is seeking Canola & Wheat fields for CARA staff to conduct a variety of Pest Surveys this season. If you would like to submit your field information, please give the CARA office a call with the following information.

- Contact Information
- Legal land description
- Crop variety

The staff will call land owners before entering any field.

Crop Specialist Touring Special Areas & MD of Acadia

Yamily Zavala, CARA Crop & Soil Health Management Specialist

Neil Whatley, Crop Specialist from Alberta Ag-Info Centre, Agriculture and Forestry, stopped in for a short visit on July 5 at CARA. He was in the area visiting farmers who had been calling him for some crop problems that they have in their farms. They were very fortunate to have Neil for a few hours in their fields to discuss their problems on site. We are lucky to be located close to those farms for him to stop and give us a short visit as well. It was nice to look at our crops together and also to scout for diseases in our lentils (pictures). I was so happy when he said "They are good, no diseases" which was good because it would have been necessary to have sprayed 10 days ago. Then, he left to visit two more farms for the afternoon. Thanks Neil for the short visit. I always learn a lot from you.



Assessing Riparian Health

Plants can be classified in many ways, one of which is their response to grazing pressure. Decreaser species decrease with grazing and are usually more palatable and preferred by livestock and therefore are frequently grazed which reduces their abundance. Increaser plant species are those which increase under grazing pressure and should be watched carefully as an indicator of a pasture being overgrazed. If overgrazing continues, some increaser plants will become absent as other species appear. Invader species include many weeds which become more apparent when there is a reduction of the desirable native plant species, therefore, a rise in increaser species and invasive species indicate overgrazing. Some plants are more of a disturbance than an invasion. These would include species such as brome or timothy grass as well as clover, dandelions and quack grass. Disturbance plants increase with disturbance of the land, and often appear in areas such as cattle trails, ditches, roads and buildings. Disturbance plants have the ability to choke out many native plants. Preferred species are those which increase the health of the riparian zone. Recognizing whether your riparian area has more preferred, increaser, decreaser, invasive or disturbance plants can help you understand the health of the area. Listed below are some common plants in each category in east central Alberta.

Preferred	Increaser	Decreaser	Invasive	Disturbance
Northern Gooseberry	Canada goldenrod	Purple prairie clover	Canada Thistle	Kentucky Bluegrass
Saskatoon	Northern bedstraw	Chokecherry	Leafy spurge	Dandelion
Aspen and balsam popular trees	Prickly rose	American vetch	Toadflax	Timothy grass
Buffaloberry	Low sedge	Saskatoon	Spotted Knapweed	Silverweed

The stability of a riparian zone relies on the plants that surround and encompass it. Vegetative cover allows stabilization, nutrient cycling, water velocity reduction, sediment entrapment, reduced erosion and evaporation as well as wildlife habitat to riparian zones. Overall vegetative cover can be assessed by identifying how much human caused bare ground is found. Human caused bare ground includes any bare ground that otherwise would be vegetated naturally. If less than 75% of the area examined is covered by live plant growth, it is considered a poor system. The presence of preferred tree and shrub species within the vegetative cover and regeneration is an important aspects in riparian health. The presence of such shrubs as yellow, bebb's and sandbar willows, aspen and balsam popular trees are desired in riparian systems as they stabilize banks and shorelines with their deep binding roots. Bulrushes such as the small fruited bulrush are also preferred riparian plants as they also have deep binding roots which stabilize smaller systems.

RIPARIAN PLANT OF THE MONTH

Small-Fruited Bulrush

Identification Tips

- ♦ Stout plant with dark green, triangular stem, grows 0.3—1 m tall
- ♦ Stems and leaves have a waxy appearance, stem is pith-filled
- ♦ Leaves come off each of the three sides of the stem; 5-12 mm wide
- ♦ Where the leaves clasp at the stem, they are often purplish-tinged
- ♦ Seed head cluster is large and pronounced, similar to a small, loose "broccoli" head

Riparian Function & Values

- ♦ Forms extensive communities with deep-binding rhizomes that offer good bank and shoreline protection.
- ♦ Grows in moist conditions and is often found in association with sedge communities
- ♦ Valuable forage for livestock and wildlife, especially during the growing season
- ♦ Decreases under heavy grazing and higher than average flows/water levels
- ♦ Can re-establish quickly when disturbance is removed



@Terry Thormin

Wildflowers etc. of Alberta

(<http://www.pbase.com/terrythormin/wildflowers>)

The "Dirt" On Soils

Cocktail Cover Crops 101

Yamily Zavala, CARA, Crop and Soil Health Management Specialist



What Is A Cocktail Cover Crop?

A cocktail cover crop is a mix of different plant species chosen to take advantage of their individual, unique benefits to improve soil health. Farmers that have used cover crops often refer to increased crop yield and reduced soil inputs. The number (5 or more) of species used will vary depending on the constraints being treated in the farmers' soils. The mixes will aim for at least one entry from each of the following categories: warm and cool season broadleaf species as well as warm and cool season grasses.

CARA Soil Health Field Day

August 3—Come and explore cocktail crop mixes at different seeding rates. We hope to see you there.

Crops For Cocktail Cover Crop Field Day

Date TBA Explore different crops for cocktail mixes & corn demos.

CARA's Soil Health Lab Update

Watch for updates as we move forward in the development of our NEW Soil Health Lab.

What is all the fuss about cocktail cover crops.

1. **Improves soil health** - Growing a mix of different species will start the process for healing the soil. Each species will have specific root exudates which will be food for certain types of microbial (biology) in the soil. This biology will contribute to feeding other micro-organisms in the soil which will decompose organic matter, as well as all of the biological processes in the soil that will improve soil aggregation. When good soil aggregation is achieved, water infiltration and soil aeration are also increased. The water cycle will be functioning properly. More soil moisture will be available for the crop especially if it is a dry year. In addition, the soil biological driving forces will positively affect not only the physical but also the chemical component of the soil. If cocktail mixes are growing during as much of the year as possible, soil will be protected from wind and/or water erosion. At the same time root exudates will be feeding the soil biological system, especially the arbuscular mycorrhizae fungi.

2. **Cycling of nutrients and Minimizes fertilizer inputs** - Growing legumes such as clovers, hairy vetch and peas, fix nitrogen which can be used by both current and subsequent crops. A variety of root systems are introduced (taproot & fibrous) so that nutrients can be scavenged and then left near the surface in the decomposing plant residue. Because the soil biological component has been awakened, it will improve nutrient cycling in the soil through, reducing leaching, mineral fixation and/or organic matter decomposition. Cocktail cover crops can increase the amount of nutrients available for the next crop by taking up nutrients that remained in the soil and holding them in plant tissue until they are released the next spring.

3. **Preserves soil moisture** - The residue left from the plants covers the soil, helping keep surface moisture from evaporating. Any little residue present on top of the soil will protect it from raindrop and/or wind impact that can cause erosion and crusting. Without residue cover, evaporation will take place from the soil surface all year long, resulting in less water available for the next year crop. Some studies have shown that even though a crop mix uses some soil moisture as it grows, it tends to use less water than what is lost to evaporation from a bare soil surface.

4. **Outcompetes weeds and pests** - There is a reduced need for pesticides as these species establish quickly and produce a lot of biomass which reduce weed growth.

5. **Reduces soil erosion** - Establishment of a mix of crops help stabilize soil aggregates so they are not washed or blown away which can happen when the soil surface is bare.

6. **High rates of livestock gain** - Many of the crops used in cocktail mixes are high in nutrients and might provide valuable fall and winter grazing.

NOTE: there is nothing "dirty" about soils— just ask Dr. Yamily Zavala. Watch this section future newsletters for more important information on Soil Health

VBP Transitions to VBP Plus

What is VBP Plus (VBP+)?

Beef producers like yourself care greatly about your animals, the products you produce and the environment in which you farm. It's just common sense.

In today's world the majority of people consuming your product are far removed from the farm, and often don't understand what it is you do. Combine that with negative stories, misplaced myths and uncertainty about what to buy, the need to trust only increases. This is true of all commodities: from vegetables and fish production to raising beef.

To bring transparency and reassurance back to their buying choices, the industry and marketplace has increasingly adopted verification programs to reassure all levels of buyers that what we say we do – we are doing!

Buyer concerns cover a wide range of topics from food safety, animal health and welfare, the environment and even your well-being and survivability. Being "sustainable" is a popular term in the marketplace to describe all this with consumers wanting to make sustainable choices when purchasing goods and services.

Why VBP Plus (VBP+)?

The Verified Beef Production (VBP) program, known in Canada for on-farm food safety, has been helping producers meet industry standards for food safety for over a decade. VBP coordinators and auditors are available to help you meet those standards in every province and are field proven, trusted suppliers of information and audit services.

It makes sense to add animal care, biosecurity and environmental stewardship components to enhance the program and provide the entire sustainability package. The resulting program is cost effective and utilizes existing tools and programs wherever possible (e.g. programs such as animal care codes and environmental farm plans). This successful formula is aligned with other industry efforts, such as the Canadian Roundtable for Sustainable Beef.

Verified Beef Production Plus (VBP+) is building on the strong base of VBP by making it into a valuable program that will be a global leader in providing education and verification of ALL the good things you do.



Funds to build VBP+ come from Agriculture and Agri-Food Canada's AgriMarketing Program - Assurance Systems Stream of Growing Forward 2

Growing Forward 2
A federal-provincial-territorial initiative

Canada

Verified Beef Production Plus is an initiative of the Canadian Cattlemen's Association and the Beef Cattle Research Council

CCA
CANADIAN CATTLEMEN'S ASSOCIATION
National Voice Of Cattle Producers

BCRC
BEEF CATTLE RESEARCH COUNCIL

How do I become VBP+ registered?

New producers to VBP+

For those not already registered in the VBP program, it's still an easy entry process:

1. Learn about the program – through various educational media (e.g. self-assessment tool, online materials, webinars, teleconferences or by attending a regional workshop where offered).
2. Implement the program – review your practices, update your records where necessary and complete the self-assessment checklists making changes where and if necessary.
3. Complete the voluntary verification audit – this takes approximately 3.5 hours and involves a trained auditor who is knowledgeable in the beef industry. To be ready for the audit, a cow/calf producer must have applicable records for at least 6 months, while a feedlot operator needs 3 months. The program is easily adaptable to any size of cow-calf or feedlot operation.

VBP Registered Producers

For those producers registered in the VBP program now, they can transition into VBP+ on their next renewal.

1. Continue to maintain the food safety records and practices as before.
2. Complete the VBP+ Supplemental Self-Assessment for the new components (biosecurity, animal care and environment), review your practices, update your records making changes where and if necessary.
3. The VBP+ program will be seamlessly integrated into your current audit cycle. Depending upon where you are at in your audit cycle, you will be required to submit:
 - A) a VBP+ self declaration or records assessment
 - B) a verification interview or VBP+ on-farm audit.
4. Feedlots will be required to complete a feedlot cattle chute side handling and pen condition assessment.

Producers who successfully complete the above steps will receive a VBP+ certificate, and can market themselves as VBP+ registered. In some provinces VBP+ farm gate signs are also provided.

For more information on VBP+ To learn more about VBP+ workshop schedules, module information, self-assessment checklists and program costs please contact your provincial coordinator or visit www.albertaverifiedbeef.com

NOTE: If there is enough interest CARA will organize a VBP+ workshop for producers. Give CARA a call or email car-3@telus.net if you are interested in attending a workshop.



Hanna Crop Walk

Thursday July 21

9:30 am – Noon

Cereals, Canola & Crop Scouting

Crop specialists will discuss diseases & harvest issues

Robinson Project Site

11km West of Hanna on Highway 9

Consort Crop Walk

Tuesday July 26

9:30 am – Noon

Field Pea, Canola & Crop Scouting

Crop specialists will discuss diseases & harvest issues

Redel Project Site

8km West of Consort on Highway 12

For more information & to register please call
CARA at (403)-664-3777 or
email cara-3@telus.net

Sponsored By:



Grazing Options Field Day

Featuring
High Legume
Pasture Project



Learn from producers' experiences and why they're keen to graze high legume pastures. The focus will be on establishment and how to be successful with high legumes.

First stop on our tour will be at CARA's High Legume Pasture Project site with Gould Ranching south of Consort.

We will also visit fields with corn planted for grazing as well as other grazing option sites.

August 18

Registration and Coffee: 8:30 am

Lunch will be provided

Consort Sportex, 5602 50 Ave, Consort, Alberta

Pre-register by contacting CARA at 403-664-3777 or cara-3@telus.net



July Weed of the Month: Leafy spurge (*euphorbia esula* L.)



Interesting Fact: The milky latex associated with leafy spurge can cause irritation, blotching, blisters and swelling in sensitive individuals. The milk is present when the stem or leaves are broken.

Reproduction:

Despite being a successful seed producer, leafy spurge primarily reproduces vegetatively through its extensive lateral root system. Long roots have the capability to produce shoots and can reach nearly 15 feet laterally and about 30 feet deep. As many as 300 buds have been counted on these long roots. When the seed pods mature, seeds can be thrown several feet as the pod shapes open.

Identification:

Lifecycle: Perennial

Growth form: Forb

Flower: Flowers are yellowish-green, small, arranged in numerous small clusters and with paired heart-shaped yellow-green bracts below. Flowers may appear from May through July.



Seeds/Fruit: Seeds are oblong, grayish to purple, contained in a 3-celled capsule.

Leaves: Leaves are alternate, narrow, 1-4 in long.

Stems: Mature plants are up to 3 ft. tall. Stems are thickly clustered.

Roots: Extensive lateral root systems

Seedling: Seed leaves (cotyledons) are linear to lanceolate, with smooth margins.



Impacts:

Leafy spurge can invade rangeland that is in excellent condition, making it worthless for cattle and horse grazing and reducing land values.

Leafy spurge is an aggressive, long-lived, perennial weed that tends to displace all other vegetation in rangeland, pasture, and native habitats. Leafy spurge decreases rangeland diversity, threatens native plants and degrades wildlife habitat. It produces a large number of seeds and underground shoot buds. These two reproductive techniques allow it to rapidly displace native species, and form a leafy spurge monoculture.

Rapid re-establishment of treated stands often occurs after an apparently successful management effort because of the large nutrient reserve stored in the roots of leafy spurge plants. Also, leafy spurge produces an allelopathic compound that inhibits the growth of other plants.

Treatment:

Persistent monitoring of areas with known or potential infestations is crucial to managing leafy spurge. New infestations are much more easily controlled than established infestations. 100% eradication of leafy spurge is rarely achieved, but infestations can be reduced to manageable levels.

Herbicides are most commonly used to control leafy spurge. Bio-controls such as sheep and goats can also be used but have not been tried yet in the Special Areas. Neighbouring municipality Flagstaff County has been using goats to reduce their leafy spurge infestation and have so far seen positive results within a 10 acre area.

Another method of leafy spurge biocontrol involves the release of species specific beetles that feed on the invasive plant. The Special Areas has numerous release sites of these beetles and have seen recent success of growing populations with reduced spurge infestation. While the beetles are relatively slow, only moving a few meters per year, this is an important part of our overall leafy spurge control strategy.



Left: A leafy spurge biocontrol beetle is seen feeding on a plant. Right: Symptoms of leafy spurge biocontrol beetle feeding including brown and yellow plant tissue. Located in Special Area 2.

This weed is extremely difficult to control therefore a management scheme that combines chemical and biological control methods over four to five years is recommended

SEEN THIS WEED? Give your local Ag Fieldman a call!

Special Area 2: Jesse Williams (403) 854-1114 (or send a text!)
Special Area 3: Don Hogan (403) 664-3006
Special Area 4: Justine Simpson (403) 577-3523
MD of Acadia No. 34: Stacy Scheuerman (403) 664-9560

How well do you know Diseases?

With the amount of rain the Special Areas & MD of Acadia have been receiving this year, the chances of disease development within your crop is growing. Check out some of these diseases that your field may be susceptible too.



Blackleg

Identifying Characteristics:

Spots are round or irregularly shaped, dirty white, and dotted with many small, black pycnidia. Disease can be seen on cotyledons, leaves, stems and pods.

Found on these crops:

Canola



Sclerotinia stem rot

Identifying Characteristics:

Pale-grey to white lesions will develop on the stem and branches of the plants. Stems become bleached and dried out, tending to shred and crack. Black fruiting bodies (sclerotia) will be found within the infected plant stems.

Found on these crops:

Canola



Common bunt

Identifying Characteristics:

Affected plants are usually stunted with slender heads which often remain green longer than healthy heads; the glumes tend to gape open, exposing the bunt balls.

Found on these crops:

Wheat



Loose smut

Identifying Characteristics:

The most obvious symptom is seen at heading time as the diseased heads emerge from the boot. The kernels and glumes have been converted to masses of black spores.

Found on these crops:

Barley
Wheat



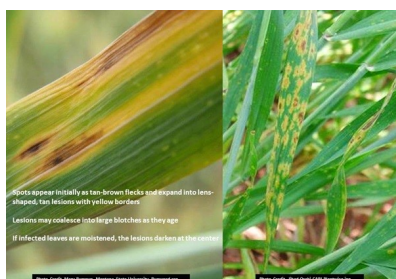
Ascochyta

Identifying Characteristics:

Early symptoms on leaves appear as small purplish spots with irregular margins. On older leaves, lesions enlarge, causing the dehydration of plant tissues. Infected seeds may be asymptomatic or may become shrunken and discolored.

Found on these crops:

Field Peas



Tan spot

Identifying Characteristics:

Tan spot develops on both upper and lower leaves. The lesions first appear as tan-brown flecks that expand into lens-shaped lesions.

Found on these crops:

Wheat
Durum



Fusarium head blight

Identifying Characteristics:

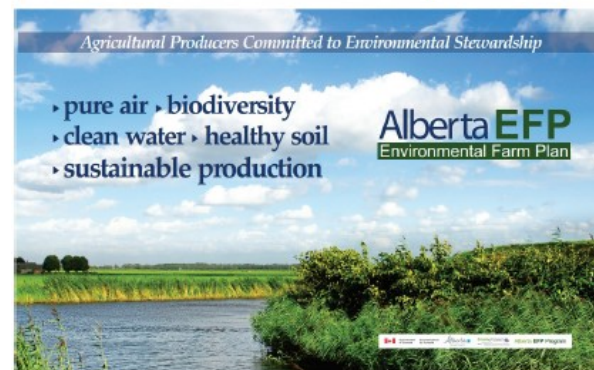
Look for a ring of pink or salmon colour at the base of the florets. Only partially-filled seeds will be found in the infected spikelets.

Found on these crops:

Wheat
Barley
Oats



Alberta Insect Pest
Monitoring Network





CARA's Upcoming Summer Events

July 16	International Rangeland Pre-Congress Tour The IRC Pre-tour will be visiting Veno Ranches
July 26 9:30 am - noon	Crop Walk– Consort Crop scouting, variety & fertility trials of field peas & canola
July 27 & 28	Southern Alberta Grazing School For Women Elkwater, AB– SOLD OUT
July 28 9:30 am - noon	Crop Walk– Hanna Crop scouting & cereal variety trials
August 3 9:30 am - 3:30 pm	Annual Soil Health & Field Day - Oyen, AB Cereals, Pulses, Flax, Cocktail Cover Crops, Crop Diseases, Fertility, Soil Health & More
TBA	Crops for Cocktail Cover Crops Field Day Explore crops for cocktail mixes & corn demos
August 18	Grazing Options Field Day - Consort Sportex
TBA	EFP & GF2 Info Sessions - Multiple locations
TBA	Solar Energy Workshop Alberta Solar Co-op, Growing Forward 2 funding, Solar Energy Society of AB, solar panel tour

STARLAND COUNTY HOSTS

2016 ASB SUMMER TOUR

THURSDAY JULY 28th 2016

REGISTRATION NOON
TOUR STARS 12:45
STEAK DINNER 6:00
COST \$25.00
DOOR PRIZES & AIR CONDITIONED BUS

SAM'S SALOON ROWLEY @ NOON

Manure Management
Red Deer River Watershed Alliance

Canola Plots

Off-Site Solar Waterer

Husqvarna Auto-Mower Demonstration, Mason Farm

Bio-Haven Floating Island
Michichi Dam Campground

Livestock Facility Site Relocation
Growing Forward 2

Solar Installation

VERY LIMITED SEATING AVAILABLE - 40 SEATS ONLY!
REGISTER NOW! Call Dara or Al at (403) 772-3793 or email dara@starlandcounty.com

Salinity Causes & Cures

Advice for Cropland and Pasture!

July 26

Wheatland County Office
(Strathmore)
9:15 a.m. - 3:00 p.m.

FarmersEdge
Jack Payne—Salinity causes, types, diagnosis, and cures

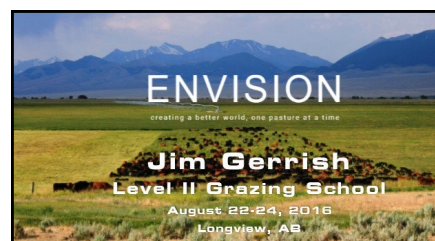
Big Deal Galloways
Russel Horvey—Forages to reduce soil salinity, good pasture management

WID
Western Irrigation District—challenges and solutions to irrigation salinity

Valley View Ranch
Rod Vergouwen—Field site

Brought to you by:
FOOTHILLS FORAGE GRAZING ASSOCIATION
Sponsored by WID

Register before July 21st by calling 403-700-7406 or emailing rachel@foothillsforage.com



More of a Digital Person?

If you would like to receive this newsletter via email, please contact Olivia at cara-3@telus.net

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