AGENDA
CLEAR HILLS COUNTY
AGRICULTURAL SERVICE BOARD MEETING
January 14, 2019

The Agricultural Service Board meeting of Clear Hills County will be held on Monday, January 14, 2019 at 10:00 a.m., meeting in the Council Chambers of the County Administration Office, 313 Alberta Avenue, Worsley, Alberta.

1. CALL TO ORDER

2. AGENDA

3. ADOPTION OF PREVIOUS MINUTES
   a. November 19, 2018 2

4. Delegation(s)

5. BUSINESS ARISING

6. OLD BUSINESS
   a. Activity Report 5
   b. Date Time & Place of ASB Meetings 8
   c. Board Reports 9
   d. Provincial Agricultural Service Board Conference 17

7. NEW BUSINESS
   a. Events 62
   b. ASB Grant Program Review 88
   c. 2018 Year End Report 92
   d. Agricultural Plastics Program 100
   e. February 2019 meeting 111

8. REPORTS
   a. Community Development Manager Report 112
   b. Agricultural Fieldman Report 122

9. INFORMATION & CORRESPONDENCE 125

10. CONFIDENTIAL

11. ADJOURNMENT

MINUTES OF CLEAR HILLS COUNTY
AGRICULTURAL SERVICE BOARD MEETING
COUNCIL CHAMBERS, Worsley, Alberta
November 19, 2018

PRESENT	Brian Harcourt	Chair
	MacKay Ross	Member
	Baldur Ruecker	Deputy Chair Ruecker
	Julie Watchorn	Member
	Garry Candy	Member
ATTENDING	Audrey Bjorklund	Community Development Manager
	Sarah Hayward	Community Development Clerk
	Greg Coon	Agricultural Fieldman
ABSENT	David Janzen	Council Representative

CALL TO ORDER

Chair Harcourt called the meeting to order at 10:13 a.m.

AGENDA

AG121(11/19/18) **RESOLUTION by Member Watchorn that this Agricultural Service Board adopts the agenda governing the November 19, 2018 Agricultural Service Board meeting as presented. CARRIED.**

AG122(11/19/18) **RESOLUTION by Member Ross that this Agricultural Service Board adopts the minutes of the October 15, 2018 Agricultural Service Board Meeting as presented. CARRIED.**

OLD BUSINESS

Activity Report

The Board is presented with the Agricultural Service Board Activity Report.

AG123(11/19/18) **RESOLUTION by Member Candy that this Agricultural Service Board accepts the November 19, 2018 Agricultural Service Board Activity Report as presented. CARRIED.**

Regional Agricultural Service Board Conference

The Board is requested to provide feedback and identify any follow-up items from the Peace Region Agricultural Service Board Conference that Clear Hills County hosted at the David Thompson Hall on October 30, 2018.

AG124(11/19/18) **RESOLUTION by Member Ross that this Agricultural Service Board accepts for information the discussion around the Peace Region Regional Agricultural Service Board Conference that Clear Hills County hosted at the David Thompson Hall on October 30, 2018. CARRIED.**

Board Reports

At this time the Board members will have an opportunity to present their reports on meetings attended and other agricultural related topics.

AG125(11/19/18) **RESOLUTION by Member Watchorn that this Agricultural Service Board accepts the November 19, 2018 Board members' written and verbal reports for information as presented. CARRIED.**

NEW BUSINESS
Events

The Board is presented with events for their consideration.

AG126(11/19/18) **RESOLUTION by Member Ross that this Agricultural Service Board authorize the attendance of all members to attend the Provincial Agricultural Service Board Conference on January 21-23, 2019 in Calgary, Alberta. CARRIED.**

AG127(11/19/18) **RESOLUTION by Deputy Chair Ruecker that this Agricultural Service Board authorize the attendance of Member Candy, Deputy Chair Ruecker and Member Ross to attend FarmTech on January 29-31, 2019 at the Edmonton Expo Centre in Edmonton, Alberta. CARRIED.**

AG128(11/19/18) **RESOLUTION by Member Watchorn that this Agricultural Service Board authorize the attendance of Chair Harcourt, Deputy Chair Ruecker, Member Ross and Member Candy to attend the Alternative Energy Workshop on December 11, 2018 at the David Thompson Hall. CARRIED.**

AG129(11/19/18) **RESOLUTION by Chair Harcourt that this Agricultural Service Board authorize the attendance of Member Ross, Chair Harcourt, Member Watchorn and Deputy Chair Ruecker to attend the Innovative Crop Production workshop on December 5, 2018 at the Wanham COCO Hall. CARRIED.**

AG130(11/19/18) **RESOLUTION by Member Ross that this Agricultural Service Board authorize the attendance of Member Candy, Deputy Chair Ruecker, Chair Harcourt, Member Watchorn and Member Ross to attend Beavers in our Landscape on November 30, 2018 at the Ag Society Hall in Valleyview, Alberta. CARRIED.**

AG131(11/19/18) **RESOLUTION by Deputy Chair Ruecker that this Agricultural Service Board authorize the attendance of Member Ross to attend the North Farm Forum on November 29, 2018 at the Mayerthorpe Diamond Centre. CARRIED.**

Seed Royalty Consultations

Federal consultations aimed at gathering feedback on a plan to collect royalties or user fees on farm-saved seed are being held across the prairies. The Alberta session will be held on December 6, 2018 at the Renaissance Edmonton Airport Hotel in Edmonton, Alberta.

AG132(11/19/18) **RESOLUTION by Chair Harcourt that this Agricultural Service Board authorize the attendance of Member Ross and Deputy Chair Ruecker as the alternate to attend the Alberta session on Seed Royalties on December 6, 2018 at the Renaissance Edmonton Airport Hotel. CARRIED.**

January 2019 Meeting Date

The Board is requested to reschedule their January 2019 meeting, as the regular meeting conflicts with the Provincial Agricultural Service Board Conference that the Board will be attending in Calgary.

AG133(11/19/18)

RESOLUTION by Member Ross that this Agricultural Service Board reschedule the January 2019 Agricultural Service Board meeting to Monday, January 14, 2019 as the Board will be at the Provincial Agricultural Service Board Conference on the regular meeting date of January 21, 2019. CARRIED.

REPORTS
Agricultural Fieldman Report

At this time the Agricultural Fieldman will have an opportunity to present his report.

AG134(11/19/18)

RESOLUTION by Member Ross that this Agricultural Service Board accepts the November 19, 2018 Agricultural Fieldman's Report for information as presented. CARRIED.

Information & Correspondence

The Board is presented with correspondence for review.

1. V.S.I. Services (1980) Ltd. – Letter – (63-10-40)
2. SARDA – Newsletter – (63-10-02)
3. Clubbed to Debt – Article – (63-10-02)

AG135(11/19/18)

RESOLUTION by Deputy Chair Ruecker that this Agricultural Service Board receives the Information and Correspondence as presented. CARRIED.

ADJOURNMENT

Chair adjourned the meeting at 12:07 p.m.

_____
CHAIR

_____
AGRICULTURAL FIELDMAN

Clear Hills County

Request For Decision (RFD)

Meeting:	Agricultural Service Board
Meeting Date:	January 14, 2019
Originated By:	Greg Coon, Agricultural Fieldman
Title:	**ACTIVITY REPORT**
File:	63-10-02

DESCRIPTION:

The board is presented with the Agricultural Service Board Activity Report.

BACKGROUND:

The Activity report is helpful to administration and the board for tracking the status of resolutions and directions from the board. Items will stay on the report until they are completed. Items that are shaded indicate that they are completed and will be removed from the list once presented at the current Agricultural Service Board meeting.

ATTACHMENTS:

- Agricultural Service Board Activity Report

RECOMMENDED ACTION:

RESOLUTION by _____that this Agricultural Service Board (ASB) accepts the January 14, 2019 ASB Activity Report as presented.

Initials show support - Reviewed by: **Manager:** **AgFieldman:**

Senior Management Team Agricultural Service Board

Activity Report for January 14, 2019 Page 1 of 2

Budget Items:
CAO = Chief Administrative Officer
DO= Development Officer
EA = Executive Assistant

Completed Items:
CSM = Corporate Services Manager
AF = Ag. Fieldman
CDM = Community Development Manager

MOTION	DATE	DESCRIPTION	DEPT	STATUS
REGULAR AGRICULTURAL SERVICE BOARD MEETINGS				
June 12, 2017				
AG63	(06/12/17)	RESOLUTION by Member Ross that this Agricultural Service Board invite Northern Sunrise County Agricultural Fieldman to attend a future Agricultural Service Board meeting to discuss how the Alternative Land Use Service (ALUS) program works within their municipality.	AF	Presenting at Dec 2018 AAAF IST, AF will invite if usable outcomes.
September 11, 2017				
AG81	(09/11/17)	RESOLUTION by Member Ross that this Agricultural Service Board direct administration investigate creating a library of video tutorials for operating the various equipment in the rental equipment fleet.	AF	Under development
August 20, 2018				
AG74	(08/20/18)	RESOLUTION by Member Ross that this Agricultural Service Board table the Design and Plant your Edible Forest Garden workshops to the December Agricultural Service Board meeting.	CDC	As of Jan 10, 2019 no info on a 2019 session.
October 15, 2018				
AG93	(10/15/18)	RESOLUTION by Chair Harcourt that this Agricultural Service Board approach the Peace Country Beef and Forage Association to investigate planning a No-Till Conference for northern Alberta for the winter of 2019-2020.	AF	
AG103	(10/15/18)	RESOLUTION by Member Ross that this Agricultural Service Board recommend Council approve the 2019 Agricultural Service Board Operating Budget as presented.	CDM	Approved Nov 27, 2018 Council meeting
AG110	(10/15/18)	RESOLUTION by Councillor Janzen that this Agricultural Service Board approach Peace Country Beef and Forage Association to host a conference or workshop on economic field rotations and organic farming alternatives within Clear Hills County.	AF	
November 19, 2018				

Senior Management Team Agricultural Service Board

Activity Report for January 14, 2019 Page 2 of 2

Budget Items:
CAO = Chief Administrative Officer
DO= Development Officer
EA = Executive Assistant

Completed Items:
CSM = Corporate Services Manager
AF = Ag. Fieldman
CDM = Community Development Manager

MOTION	DATE	DESCRIPTION	DEPT	STATUS
AG120	(11/19/18)	RESOLUTION by Member Ross that this Agricultural Service Board table the Date, Time and Place of the Agricultural Service Board meetings to a meeting where all members are in attendance.	AF	January 14, 2019 RFD
AG133	(11/19/18)	RESOLUTION by Member Ross that this Agricultural Service Board reschedule the January 2019 Agricultural Service Board meeting to Monday, January 14, 2019 as the Board will be at the Provincial Agricultural Service Board Conference on the regular meeting date of January 21, 2019.	AF	
		Items in Waiting		
AG133	(12/12/16)	RESOLUTION by Member Watchorn that this Agricultural Service Board table the discussion around the CombCut Selective Mower and bring back information once the University of Saskatchewan field trial study is complete.		2020 OR 2021
AG21	(02/13/17)	RESOLUTION by Deputy Chair Ruecker that this Agricultural Service Board table motion AG109(10/17/16) regarding Glyphosate Tolerant Wheat until new information is available.		As of Nov 9 2018 no new info

Clear Hills County

Request For Decision (RFD)

Meeting:	Agricultural Service Board
Meeting Date:	January 14, 2018
Originated By:	Audrey Bjorklund Community Development Manager
Title:	**DATE, TIME AND PLACE OF BOARD MEETINGS**
File:	63-10-02

DESCRIPTION:

This item was tabled at the November 19, 2018 Organizational meeting because all members must be present to change the date, time and place of meetings.

BACKGROUND:

In 2018 the board met every third Monday except May when the meeting will be held on the first Monday of the month and there are no meetings held in April or September as per motion AG115(11/06/17).

In the past the board met on the third Wednesday of each month except April and August.

The board may change the day and time of meetings by resolution if the third Monday and 10:00 a.m. start time are not acceptable to the members. All members must be present to change the date, time and place of the meetings.

OPTIONS:

1. Set ASB meetings for the third Wednesday of each month except May when the meeting will be held the first Wednesday, and no meetings will be held in April and September at a selected time.
2. Set ASB meetings on the third Monday of each month except May when the meeting will be held on the first Monday, and no meeting will be held in April and September at 10:00 a.m.
3. Table the date, time and place of Board meetings until all members are present.

RECOMMENDED ACTION:

That this Agricultural Service Board... this Agricultural Service Board set Agricultural Service Board meetings for 2019 on the third Monday of each month except May when the meeting will be held on the first Monday, and no meetings will be held in April and September. Meetings will commence at 10:00 a.m. in the Clear Hills County Council Chambers at 313 Alberta Avenue Worsley, Alberta. At the call of the Chair, special meetings shall be posted 48 hours in advance.

Initials show support - Reviewed by: **Manager:** AB **AgFieldman:** GC

Clear Hills County

Request For Decision (RFD)

Meeting:	**Agricultural Service Board Meeting**
Meeting Date:	January 14, 2019
Originated By:	Greg Coon, Agricultural Fieldman
Title:	**BOARD REPORTS**
File No:	63-10-02

DESCRIPTION:

At this time the Board members will have an opportunity to present their reports on meetings attended and other agricultural related topics.

BACKGROUND / PROPOSAL:

ATTACHMENTS:

- Brian Harcourt written reports
- Julie Watchorn written reports

RECOMMENDED ACTION:

RESOLUTION by _____ that this Agricultural Service Board accepts the Board members' written or verbal reports of January 14, 2019 for information.

Initials show support - Reviewed by: **Manager:** ABJ **AgFieldman:** GC

Innovated Crop Production

December 5, 2018
Wanham, Alberta
By: Brain Harcourt

Innovated Crop Production..PCBFA..
Speaker.. Lana Shaw, P Ag, MSC.
Mixed Grain Intercroping.
Quotes and Comments.
Inter cropping is a big change!
Lots of people want change but very few do.
No easy answers"simple but wrong,complex but right".
Inter-seeding produces two or more products.
Products would have to be separated of course.
Harvest both at the same time so maturity is important.
Suggested grains, Canola and Field peas.
Seed to pick a main crop--a winner.
Total $ value yield and cost to separate.

Speaker..Calvin Yoder..Forage Seed Specialist..AB Ag +F..SR..AB.
Grass and Legume Seed Research, With B'lodge Research Station.
Quotes and Comments.
Past summer-testing chemical tolerances on grass and legumes
for weed control and fungicides on insects.Production of grasses and legumes
in our Peace Country is down by 31% and 20% in acres.
Manitoba-23%, Sask-25%, South AB, 18%.
2008, we produced 80M lbs of CRFescue, 2016 only 49M lbs.
Exports, CRF by far # 1 in pounds, #2 alfalfa, #3 rye grass.
US main buyer of CRF, some to Europe.
Buyers purchase as they need.
Farm sales of CRF 30M+, all legumes including alsike 700K lbs.
There 6 seed companies in the Peace to deal with or just get advice from.
Many options in the markets, check with the buyers.

Supply and demand dominates purchasing,
quality, germination,dockage, all play a part in the price offered.
CRF sales fairly strong last few years but prices not great.
Alsike price about $1.30, Timothy poor.
Seeding grasses very important to start with a clean field.
Apply a pre seed herbicide and spray again early in the weed season.
Watch for grasshoppers!
Apply N in the fall.
Seed alsike into wheat stubble...Not Canola!!

Grasses and legumes have low input costs and harvest in the fall.
Good for your soil.
Larger farmers show little interest in grass or legumes.

Consider risks,benefits, Workload, costs , yields,
maturities and time of year.
Keep good records!
Most of info was about how they do things in south east Sask.
Different soils and way different climate.
For more info.
SE_RESEARCHFARM.
South East Research Farm Inc.
Redvers Sask--306 452 7253
lshaw.serf@gmail.com

Powering Your Profits

Speaker..Gregory Sekulic..Ag Specialist.
Peace Canola Council of Canada.
Wildlife Friendly Farming for Fun and Profits.
From Growers to Exporters.
Quotes and Comments.
Canola acres are static.
Over 70% of wet lands have been drained, 12% in the last decade.
Farm consolidation well under way, sq flat fields, no fences, no trees
very few low spots.
Not much land cleared last few years.
20% of wet lands remaining are on farms.
Pollinators, honey bees, butterflies, wasps etc,
are under threat by bears!

In Western Canada there over 400 species of bees, 800 of spiders
1400 of parasitical wasps, 50 of caralid beetles
Some of these will eat cutworms and other pests.
Lygus bugs,diamond back moths and root maggots are their prey.
Think of the beneficial insects before you spray.
sekulic@canolacouncil.org
@sekulicccc
1 204 298 4364.

Speaker...Justine Cornelson..Ag. Specialist CCC.
Black Leg and Clubroot.
Canola...50 bushels/acre by 2025.

B.L..silent yield robber causing international trade problems.
C.R.. fast spreading over western Canada.
Quickly overcomes resistant varieties.
Soil born disease could last in the soil 20 years ,
up to billions of spores per gram of soil.
B.L..Stubble born disease that pinches off the stock
at ground level,leaf leasions and stem leasions.
5 steps to decreasing yields--0 to 5, each step 20% loss.
C.R..spores go where dirt goes.
Check field entrances. At 1000 spores you have a problem.

B.L..2018 prevalence in 12% of Alberta fields.
C.L.. in 2500 fields, 73 in AB.
BMP--Best management practices.
#1 Crop rotation, #2 scout for disease, field resistance used
burning helps, liming helps.
Control basic weeds,fungicides if necessary.
DO NOT TILL. Patch management if you can.
Clean your equipment.
B.L..scouting-pull up some plants, best at swathing,
watch for the low spots and waterways.
Seed resistant varieties.
clubroot.ca
blackleg.ca
@Cornelsenccc

Dean Gallimore..Taxes Tips and Traps..
CPA..CBV--Certified Business Evaluator.
Check your passive income!
Corporations have a big advantage until you want to sellout.
Land Rent is a passive income.
Check out a Bare Trust Agreement.
He is holding a 2 day conference in Red Deer Feb. 27-28, 2019.

Speaker..Steve Groff, Chesapeak Bay area, Pennsylvania area, USA.
"The Cover Crop Coach".
Quotes and comments.
Soil Health Overview and Effects on tillage of the soil.
Simple concept but complex.
Success is based on management, hard to build,hard to maintain,easy to destroy.
Manage the soil the way it was designed to function.
Many species of living roots at all times.
Cover crops are cash crops, intercropping is key.

Cover Crops

Plan ahead, have plan B. See "Can't buy soil health" U Tube.
Organic matter is a must!
Could take ten years to build the soil, every year it should improve.
If you use too much tillage the soil cannot harvest the rain as it should.
Be an opportunist, are you totally prepared?
The hi

If you use too much tillage the soil may not harvest the rain as it should.
Be an opportunist, are you totally prepared?
The history of each field is unique.
There should be no bare soil, interseed with 6 to10 varieties of seeds, you pick.
Is your soil better now than it was 20 years ago?
Educate rather regulate, legislation rarely works.
The Consumer is our new Boss.
Marketing is BIG and growing.
Cover crops, inter seeding, between the rows, makes fertilizers more efficient.
Manure, urine, saliva and even hair are all good.
Better to spend your $ management than the bag or the bottle.
Treat your soil like you would your body.
Do you only eat 4 months of the year.?

Can't improve soil health without plants.
Harvest hay in August then graze as long as possible.
"Bale Graze"on the poorest soil, roll them out and the cattle will do the rest.
Soil health is a life long effort.
The longer you are into a system the easier it become.
The more top cover the less compaction.
The Plow may cause some crusting, poor rain infiltration may occur.
Earthworms--36 per sg. yd is good.

CoverCropInnovators.com
Convenient, I-depth &Down -to-earth, Cover Crop Training.

Innovative Crop Production
Coco Hall-Wahnam,Ab
Julie Watchorn

Always start with clean land
A perennial root system is key
Year 1-3 Perennial cereal crop
Year4-6 annual crops

On going grass and legume seed research
- Herbicide tolerance trials on grasses and legumes
- Growth regulators on grasses and clover
- Weed control and fungicide studies
-Fertility studies
-Clover desiccation trials
-Grass seed testing trials

Canadian Seed Crops and Production Areas(% of total acres)
AB and BC peace region (31%)
-creeping red
-timothy
-bromegrass
-wheatgrass
-meadow fescue
-alsike clover red clover and alfalfa

Turf and Forage seed in the Peace River Region (AB and BC)
2008- 80.6 million pounds of seed sold
At a farm gate value of $45.4 million
2010- 41.8 million pounds sold
At a farm gate value of $20.0 million
2016- 48.8 million pounds

Valued at $43.7 million

There is 4 categories in turf and forage:
1-turf seed crops= kentucky blue grass
annual and perennial ryegrass
tall fescue
other fine fescue
2-forage grass seed=timothy
smooth and meadow bromegrass
orchard grass and wheat grass
3-forage legume= alfalfa
sweet clover, red clover and alsike clover
4-native seed= wheat grasses
green needle grass
fringe brome
others
Establishing Grass seed crops:
-start with clean land
-seed into canola stubble early spring
-use fertilize at time of seeding
-spray weeds early
-monitor grasshoppers

Creeping red fescue- used in lawn mixes with other turf mixes
less demand for it than previous years
Timothy- acres extremely high across western Canada
average yield is 400 lbs/acre

Smooth Brome-strong prices in previous years so acres increased
average yield is 350 lbs/acre
Meadow Brome-mostly domestic market

yields 400lb/acre for 2-3 years
Brome seed can not have foxtail, wild oats and quackgrass
Wheatgrass-have to be able to store it because it moves quickly
Perennial Ryegrass- average yield 400 lbs acre

Currently strong prices for red fescue, clovers, wheatgrass and perennial ryegrass
Prices have softened for most species in the last 2 years
Markets for most forage seeds are a lot smaller than in the past
Farms have changed over the past 10 years and less interest by large farms in growing forage seed crops
which is good news for grass and legume seed growers

Clear Hills County
Request For Decision (RFD)

Meeting:	Agricultural Service Board
Meeting Date:	January 14, 2019
Originated By:	Greg Coon, Agricultural Fieldman
Title:	**Provincial ASB Conference Resolutions**
File:	63-10-02

DESCRIPTION:

The Board is presented with the Resolutions and changes to the Rules of Procedure that will be debated and voted on at the Provincial ASB Conference that is being held next week.

BACKGROUND:

ATTACHMENTS:

1. Agenda
2. Provincial ASB Conference Resolutions Rules of Procedure
3. Provincial ASB Conference Resolutions of Rules Procedure *proposed changes*
4. Resolution 1-19: Loss of 2% Liquid Strychnine
5. Resolution 2-19: Wildlife Predator Compensation Program Enhancement
6. Resolution 3-19: Deadstock Removal
7. Resolution 4-19: Carbon Credits for permanent Pasture and Forested Lands
8. Resolution 5-19: Multi-Stakeholder Committee to Work at Reducing the use of Fresh Water by the Oil and Gas Industry in Alberta
9. Resolution 5-19: Step Program Agricultural Eligibility

RECOMMENDED ACTION:

RESOLUTION by… that this Agricultural Service Board accept for information the resolutions that will be debated and voted on at the Provincial Agricultural Service Board Conference being held in Calgary, Alberta on January 21-24, 2019.

Initials show support - Reviewed by: **Manager:** **AgFieldman:**

2019 Provincial ASB Conference

"Together, Towards, Tomorrow"

Agenda Package & Speaker Biographies

Hosted By: The South Region

Day 1: Monday, January 21

4:00 - 8:00 pm	Conference Registration (Grand Foyer and Imperial Ballroom)
6:00 - 8:00 pm	Reception and Light Supper (Grand Foyer and Imperial Ballroom)

Day 2: Tuesday, January 22

6:30 am	Coffee on (Grand Foyer and Imperial Ballroom)
6:45 - 8:15 am	Breakfast (Grand Foyer and Imperial Ballroom)
8:30 - 9:00 am	Morgan Rockenbach, Conference Chairman Danielle Smith, Master of Ceremonies National Anthem by Dawn Fortin Welcome Speeches
9:00 - 9:30 am	**"The historic description vs the current trend – AAAF professionals"** Garett Broadbent and Aaron Van Beers – Leduc County
9:30 - 10:15 am	**"Cattle Market trends and future"** Anne Wasko
10:15 - 10:30 am	Coffee Break (Grand Foyer and Imperial Ballroom)
10:30 - 11:00 am	**"Environmental Farm plan – Renewed focus of an old friend"** Paul Watson - EFP
11:00 – 12:00 am	**"Do More Ag and the focus on you"** Kim Keller, Do More Ag Sean Stanford, Agricultural Producer Deb Gray, Manager – Mental Health Promotion and Illness Prevention Dana Thomsen, Partner and Regional Agriculture Leader, MNP
12:00 - 1:00 pm	Lunch (Grand Foyer and Imperial Ballroom)
1:00 - 2:00 pm	**"Fort McMurray Fire"** Darby Allen - Keynote
2:00 - 2:30 pm	**"Meat Alternatives – Plant based Protein"** Dennis McKnight, CEO, Plant Protein Alliance of Alberta
2:30-3:00 pm	**"Shotgun Style Session"** TBD – But you won't be disappointed
3:00 – 3:20 pm	Coffee Break (Grand Foyer and Imperial Ballroom)
3:20 pm	Resolutions Session 1
End of Day- Free Evening	

Day 3: Wednesday, January 23

6:30 am	Coffee on at (Grand Foyer and Imperial Ballroom)
6:45 - 8:15 am	Breakfast in (Grand Foyer and Imperial Ballroom)
Master of Ceremonies - Danielle Smith	
8:30 - 9:00 am	**"First Calls – for more than utility conflicts"** Bill Hnatiuk, MD Crowsnest Pass
9:00 - 9:30 am	**"Irrigation District Partnerships"** Margo Redelback – AIPA
9:30 - 10:30 am	**"Stress Management Through Humour"** Lyndy Phillips
10:30 - 10:50 am	Coffee Break/ Trade Show Open (Stephan A/B)
10:50 -11:20 pm	**"Putting Ag Back into the Classroom"** Melissa Stanford and Jared Leavitt, SAEP
11:20 – 12:00 pm	**"Monitoring Soil Health in Agriculture Systems"** Dr Yamily Zavala – Soil Health and Crop Management Specialist, CARA
12:00 - 1:00 pm	Lunch (Grand Foyer and Imperial Ballroom)
1:00 – 1:30 pm	**"Interest Rates, Farm Ownership, How Deep is the Hole?"** Craig Klemmer, Senior Agricultural Economist, FCC
1:30 – 2:00 pm	**"Strength in Diversity"** Jeff Nelson – CEO, Nelson Family Ranch
2:00 - 3:00 pm	**"CBSA - Panel"** Melissa Downing, Alberta Provincial Coordinator, VBP+ Emily Murray, General Manager - McDonald's Beef, Cargill _____VBP+ Producer Deb Wilson, Vice President, TrustBix Inc.
3:00 - 3:20 pm	Coffee Break/ Trade Show Open (Stephan A/B)
3:20 pm	Resolutions- Session 2
6:00 pm	Cocktails (Grand Foyer and Imperial Ballroom)
7:00 pm	Banquet (Grand Foyer and Imperial Ballroom) Awards Presentations Charity Auction - Ronald McDonald House Charities John Phin – Accepting on behalf of RMHC Invitation to 2020 Provincial ASB Conference Entertainment: **Dueling Pianos**

Day 4: Thursday, January 24

6:30 am	Coffee on (Grand Foyer and Imperial Ballroom)
6:45 - 8:15 am	Breakfast (Grand Foyer and Imperial Ballroom)
Day Chairman-	
8:30-9:30 am	**"Trade talks, Ag impacts"** Carlo Dade, Canada West Foundation
9:30 – 10:30 am	**"Policy is not just Politics"** Cherilyn Nagel, Wheat Growers

The South Region Agricultural Service Boards would like to thank everyone for attending this year's Conference. Special thanks also goes out to speakers, presenters, trade show participants and sponsors for helping make this Conference a success.
Have a safe trip home!

Provincial Agricultural Service Board Conference Resolutions Rules of Procedure

1. Provincial Resolution Committee

a. Shall consist of members of the Provincial Agricultural Service Board (ASB) Committee. Specifically:
   i. Five Regional Resolutions Committee Chairs
   ii. Director or executive member of Rural Municipalities of Alberta (RMA)
   iii. First Vice President of the Association of Alberta Agricultural Fieldmen (AAAF) as Secretary
   iv. Manager of the ASB Grant Program representing Alberta Agriculture and Forestry
   v. Provincial ASB Committee Executive Assistant

2. Responsibilities of Provincial Resolution Committee Members

a. Chairman
   i. Chairman of the Provincial ASB Committee shall chair the presentation of Resolutions at the Provincial Conference
   ii. Present a report card on previous years' resolutions
b. Secretary
   i. Receive resolutions from Regional Conferences within five working days of each conference
   ii. Provide copies of draft Provincial resolutions to Provincial ASB Committee
   iii. Provide copies of approved Provincial resolutions to each ASB by December 1 of each year
   iv. Record proceedings of Provincial ASB Conference Resolution Session(s)
   v. Maintain minutes from Provincial ASB Conference
c. Manager ASB Grant Program
   i. Time speakers to ensure each ASB member has adequate time to speak to the resolution
   ii. Provide support to the Chair, Secretary and Executive Assistant
d. Executive Assistant
   i. Provide support to the Chair and Secretary
   ii. Ensure resolutions are in appropriate format
e. All other members shall:
   i. Assist with presentation of resolutions at the Provincial Conference
f. All costs incurred by the members of the committee for attending meetings will be reimbursed by each individual member's employer

3. Authority

a. The Provincial ASB Committee, in its' entirety, has authority to review Provincial resolutions
b. Responsibilities include:
    i. Request clarification for a resolution from the sponsoring ASB in terms of wording, intent, etc.
    ii. Amalgamation of two or more resolutions between jurisdictions if several resolutions are of similar topic and content after consultation and approval of the sponsoring municipalities
    iii. Request withdrawal of a resolution if the resolution:
        1. Has no bearing whatsoever with the agricultural industry
        2. Has been resolved prior to the resolution screening meeting, or
        3. Has been covered by another resolution
c. Determine order that resolutions will be presented in
    i. In the event of receipt by the Committee of two or more contradictory resolutions, the Committee will order the resolutions in such fashion that the contradictory resolutions are presented consecutively
    ii. If the first of the resolutions is passed, the contradicting resolution(s) will be deemed defeated, and will not subsequently be brought to the floor
    iii. If the first resolution is defeated, the contradictory resolution(s) will be brought to the floor of the conference for consideration
d. Resolutions passed at an ASB Provincial Conference will be advocated on for a period of five years from the date of approval. A list of expiring resolutions will be placed in the report card annually.
    i. If an ASB wishes the resolution to remain active, the resolution must be brought forward for approval again at the next ASB Provincial Conference
    ii. Only resolutions from the previous two years will be reported on in the annual Report Card on the Resolutions

4. Resolutions

a. Provincial Resolutions
    i. Resolutions Provincial in scope and having been passed by simple majority at a Regional Conference shall be submitted to the Secretary of the Provincial ASB Committee within five working days of the Regional Conference. Each resolution submitted for consideration must be accompanied by background information consisting of the history of the issue and potential impacts for the sponsoring municipality and province-wide impacts for municipalities.
    ii. After resolutions Provincial in scope are received by the Provincial ASB Committee Secretary, the Provincial ASB Committee will meet to review them
    iii. The Provincial ASB Committee shall forward resolutions to each ASB by December 1 each year. Each ASB shall provide sufficient copies for their delegates and staff. Hard copies of Provincial resolutions will be included in the Provincial Conference package available at registration.

b. Regional Resolutions
    i. Resolutions that are Regional in nature and that have been passed by a Regional Conference shall be sent by the Secretary of the Regional Resolutions Committee to whomever they are directed to for reply and a copy of the resolution and resolution response sent to the Provincial ASB Committee for information only.

c. Emergent Resolutions
    i. A resolution received by the Provincial ASB Committee that was not presented and voted on at a Regional ASB Conference may be considered by the Committee as a potential Emergent Resolution. It may be recommended for acceptance by the Provincial ASB Committee if the resolution is deemed an emergency issue of provincial significance regarding Agricultural Legislation or Agriculture Policy that has arisen since the Regional ASB Conferences, or if the sponsoring ASB can justify to the Committee why the resolution did not come to the floor of a Regional Conference.
    ii. If a resolution is denied Emergent status by the Provincial ASB Committee, the sponsoring ASB may appeal this ruling through the Chair to the floor of the Provincial ASB Conference Resolution Session, where it may be reconsidered as Emergent at the pleasure of the Voting ASB Conference Delegates. The vote for acceptance of an appealed Emergent Resolution must be carried by a 3/5 majority of voting Provincial ASB Conference delegates.
    iii. Sufficient copies of resolutions accepted as Emergent must be made available by the sponsoring ASB to all conference delegates.
    iv. Emergent Resolutions must be submitted to the Secretary of the Provincial ASB Committee 24 hours prior to the start of the Provincial Conference.

5. Procedures

a. Approved Provincial Resolutions
    i. Resolutions approved for debate at the Provincial Conference by the Provincial ASB Committee shall be handled in numerical order as recommended by the committee unless 3/5 of the voting delegates on the convention floor agree to accept a resolution out of that numerical order.
    ii. Each resolution must have a Mover and a Seconder
    iii. Only the "Therefore Be It Resolved" section will be read
    iv. The Chairman shall call on the Mover and Seconder to speak to the resolution and then immediately call for anyone wishing to speak in opposition.
        1. If there is no one to speak in opposition, the question shall be called
        2. If there are speakers in opposition, the Chairman shall at his discretion call for anyone other than the Mover or Seconder to speak to the resolution before the debate is closed
    v. Anyone wishing to amend a resolution must then speak to the resolution as written, or anyone wishing clarification must speak up. All amendments must have a Mover and Seconder.

vi. Only one amendment will be accepted at a time and only one amendment to the amendment will be accepted on any resolution.
vii. The Chairman has the discretion to request a written amendment.
viii. The Mover and Seconder are allowed five minutes in total to speak to the resolution or amendment. The Seconder may waive his right to speak and the Mover would be allowed the full five minutes.
ix. The Mover and Seconder have the right to close the debate and a maximum of two minutes each will be allowed for this.
x. All other speakers, for or against the resolution, are allowed a maximum of two minutes.

b. Emergent Resolutions
   i. Resolutions approved as Emergent according to Section 4 shall be dealt with last.
   ii. Chair will advise delegates of the ASB Committee comments with respect to recommending the resolution as emergent.
   iii. Chair will ask delegates is they wish to accept the resolution for debate.
      1. A mover and seconder are required to put a motion on the floor to accept the resolution for debate as emergent.
      2. Delegates have the right to speak to the motion regarding whether or not to accept the emergent resolution for debate.
   iv. A mover has the right to close debate.
   v. Chair will call the question.
   vi. 3/5 majority required for acceptance of the resolution as emergent
   vii. If accepted as an emergent resolution, follow procedure for Provincial Resolutions (Section 5a)

6. Voting and Speaking

a. Two municipal delegates at the conference from each municipality who shall display the voting credentials shall be recognized voters on any resolution.
b. An Agricultural Service Board member may have any person speak to a resolution by their request.
c. All Resolutions are passed or defeated by simple majority except where a change to legislation is asked for or acceptance of an emergent resolutions for debate, when a 3/5 majority is required.

7. Procedures for Approved Resolutions

a. Secretary of the Provincial ASB Committee shall submit approved resolutions to the Provincial ASB Committee members.
b. Executive Assistant and Secretary of the Provincial ASB Committee will submit resolutions to appropriate agencies and organizations for response.

i. Responses will be compiled, returned to the Secretary for distribution to the Provincial ASB Committee and individual ASBs, and posted electronically.

c. Chairman of the Provincial ASB Committee shall:
   i. Hold a committee meeting to review and discuss responses to resolutions.
   ii. Request a committee meeting with RMA Resolutions Committee.
   iii. Request a committee meeting with the Resource Stewardship Committee to discuss or clarify resolution responses if deemed necessary.
   iv. Request a committee meeting with the Ministers of appropriate ministries to discuss resolution responses if deemed necessary.
   v. Direct the ASB Committee to prepare and circulate a Resolutions Report Card itemizing actions that have been undertaken by the Committee in response to resolutions passed at previous conference.

8. Roberts Rules of Order

a. The rules contained in the current edition of Robert's Rules of Order Newly Revised shall govern the procedure of the Resolutions Committee in all cases for which they are applicable, except if the rules are not consistent with the Provincial ASB Conference Rules of Procedure. The Provincial ASB Conference Rules of Procedure will take precedence. Attached are example excerpts from Robert's Rules of Order that apply directly to the Resolution Process.

9. Amendments to Provincial Rules of Procedure

a. An amendment to these Rules of Procedure may be made by a simple motion from:
   i. The Provincial ASB Committee, or,
   ii. Any voting delegate at the conference

b. Amendments must be accepted by a simple majority of all voting delegates at the Provincial ASB Conference

c. Amendments that are "Carried" will take effect at the next Provincial ASB Conference

Provincial Resolutions Format

TITLE

WHEREAS

WHEREAS

WHEREAS

THEREFORE BE IT RESOLVED
THAT ALBERTA'S AGRICULTURAL SERVICE BOARDS REQUEST

SPONSORED BY:

MOVED BY:

SECONDED BY:

CARRIED

DEFEATED

STATUS

DEPARTMENT

BACKGROUND INFORMATION

Background information should include the history of the issue, potential impacts for the sponsoring municipality and the province-wide impacts for municipalities.

ROBERT'S RULES OF ORDER – Excerpts & CLARIFICATION OF PROCESSES

The Provincial ASB Committee offers the following excerpts from Robert's Rules of Order as well as a few other suggestions for clarification of the resolution process. The intent is for the entire assembly to have a clearer understanding of the rules of procedure in order for each member to participate to the fullest extent.

MOTIONS & RESOLUTIONS

- A motion is a proposal that the assembly take certain action, or that it express itself as holding certain views.
- It is made by a member obtaining the floor and saying, "I move that," and then stating the action he proposes to have taken.
- Thus a member "moves" that a resolution be adopted, or amended, or referred to a committee, or that a vote of thanks be extended, etc.;

HANDLING OF A MOTION

What precedes a debate?

- Before any subject is open to debate it is necessary for the following 3 actions to occur;
  1. A motion is made by a member who has obtained the floor;
  2. The motion is seconded (with certain exceptions);
  3. The question is stated by the chair.
- The chair must either rule the motion out of order, or state the question on it so that the assembly may know what is before them for consideration and action, that is, what is the *immediately pending question.*

Stating of the question by the chair:

- When the motion that is in order has been made and seconded, it is the duty of the chair to formally place it before the assembly by "***stating the question***"; that is, he states the exact question that is before the assembly for its consideration and action.
  - For example, in the case of a resolution, the chair may state the question by saying, "It is moved and seconded to adopt the following resolution".
- Until the chair states the question,
  - the mover has the right to modify his motion/resolution as he pleases, or to withdraw it entirely.
  - when the mover modifies his motion, the seconder has a right to withdraw his second.
- After the question has been stated by the chair, the motion becomes the property of the assembly,
  - the maker can not modify or withdraw his motion/resolution without the assembly's consent.
- While the motion is pending or being debated,
  - the assembly can change the wording of the motion by the process of amendment.

Debate

- After the chair states a question, it is before the assembly for consideration, debate and action.
- No member should speak twice to the same issue until everyone else wishing to speak has spoken to it once.
- Any member who wished to force an end to debate (prior to the chair) must first obtain the floor by being recognized to speak by the chair. Once the member has obtained the floor he must then move to *"Call or put the Question (before the assembly)"*. This motion must be seconded, and adopted by unanimous consent.
- All resolutions, reports of committees, communications to the assembly, and all amendments proposed to them, and all other before final action is taken on them (unless by a two-thirds vote the assembly decides to dispose of them without debate). debatable motions may be debated

Modifying a Motion

- A motion can be modified or amended after the chair states the question.
- ***Friendly amendments*** will only be considered for punctuation or spelling corrections.
    - As the chair would already have stated the motion, it is now the property of the assembly and therefore the chair will ask the assembly if there are any objections.
    - If no objection is made, the chair will declare the amendment adopted.
    - If even one member objects (which includes the mover and seconder), the amendment is subject to debate and votes like any other amendment.
- The chair will determine if ***an amendment is germane.***
    - An amendment must be germane to be in order.
    - To be germane, an amendment must in some way involve the same question raised by the motion to which it is applied.
    - An amendment cannot introduce an independent question.
    - An amendment can be hostile to, or even defeat the spirit of the original motion and still be germane.

Putting the Question and Announcing the Vote:

- When the debate appears to have closed, the chair asks,
    - "Are you ready for the question?" If no one rises he proceeds to ***put the question*** – or to take the vote on the question.
- In putting the question the chair should make perfectly clear what the question is that the assembly is to decide.
    - For example, "The question is on amending the resolution by [insert amendment]. Those in favor of the amendment, etc. The question is now on the resolution as amended, which is as follows [read resolution as amended]. Are you ready for the question?"
- The vote should always be announced, as it is a necessary part of putting the question. The vote does not go into effect until announced.
- If a vote is too close to call, a standing vote will be required. Voting delegates are to remain standing while the count is taken. The Chair will indicate when to sit once the vote is counted.

REQUEST FOR PERMISSION TO WITHDRAW OR MODIFY A MOTION

- Conditions for withdrawing or modifying a motion depend upon how soon the mover states his wish to withdraw or modify it.
    - Before a motion has been stated by the chair, it is the property of its mover, who can withdraw it or modify it without asking the consent of anyone. Thus, in the brief interval between the making of a motion and the time when the chair places it before the assembly by stating it, the maker can withdraw it.
    - After a motion has been stated by the chair, the mover requires permission from the assembly to withdraw or modify a motion.

SECONDING A MOTION

- A motion is seconded by a member saying, "I second the motion," or "I second it."
    - Members seconding a motion are also required to stand and identify themselves. This is especially important in large assemblies where non-members are scattered throughout the assembly.

"The assembly rules – they have the final say on everything!"
(Robert's Rules of Order)

"Silence means consent!"
(Robert's Rules of Order)

Note: Content is taken from Robert's Rules of Order as well as clarification of processes suggested by the Provincial ASB Committee.

ASB Provincial Rules of Procedure
Proposed Changes Comparison Document

Section	Original	Proposed Changes	Rationale
Title	Provincial Agricultural Service Board (ASB) Committee Rules of Procedure	Provincial Agricultural Service Board Conference Resolutions Rules of Procedure	Eliminate duplication between Provincial Rules of Procedure and Provincial ASB Committee Terms of Reference
Purpose	**Purpose** To achieve a collective voice for Agricultural Service Boards (ASBs) across the province that would facilitate and represent both the diversity and commonalities of ASBs. Through this collective voice, several additional objectives can be achieved such as: • Improved communication between the Manager of the ASB Grant Program from Alberta Agriculture and Forestry (AF) and ASBs • Opportunity to represent ASBs at ministerial and department meetings • Increase policy development capacity of provincial ASBs • Elevate significance of ASBs • Work cooperatively with AF and Alberta Association of Municipal Districts & Counties (AAMDC) on agricultural issues	~~Purpose~~ ~~To achieve a collective voice for Agricultural Service Boards (ASBs) across the province that would facilitate and represent both the diversity and commonalities of ASBs. Through this collective voice, several additional objectives can be achieved such as:~~ • ~~Improved communication between the Manager of the ASB Grant Program from Alberta Agriculture and Forestry (AF) and ASBs~~ • ~~Opportunity to represent ASBs at ministerial and department meetings~~ • ~~Increase policy development capacity of provincial ASBs~~ • ~~Elevate significance of ASBs~~ • ~~Work cooperatively with AF and Alberta Association of Municipal Districts & Counties (AAMDC) on agricultural issues~~	Belongs in Terms of Reference Delete from Rules of Procedure
Section 1: Membership of Committee	**1. Provincial ASB Committee** a. Shall consist of: i. Five Regional Resolutions Committee Chairs elected at the Regional Conferences, who shall be voting members ii. Director or executive member of the Association of Municipal	**1. Provincial Resolution Committee** a. Shall consist of members of the Provincial Agricultural Service Board (ASB) Committee. Specifically: i. Five Regional Resolutions Committee Chairs	Title changed to reflect difference between Provincial ASB Committee and Resolution Committee members

	Districts and Counties (AAMDC) iii. Manager of the ASB Grant Program representing Alberta Agriculture and Forestry (AF) iv. President of the Association of Alberta Agricultural Fieldmen (AAAF) v. First Vice President of the Association of Alberta Agricultural Fieldmen (AAAF) as Secretary vi. Recording Secretary, appointed annually by AF at the request of the Committee b. The five Regional ASB representatives must be made up of locally appointed and/or elected Agricultural Service Board members. One representative and one alternate shall be elected at each Regional ASB Conference in alternate years. Representatives serve a two year term. c. The Provincial ASB Committee shall elect a Chairman and Vice-Chairman from among the five Regional ASB representatives at their first meeting.	ii. Director or executive member of of Rural Municipalities of Alberta (RMA) iii. First Vice President of the Association of Alberta Agricultural Fieldmen (AAAF) as Secretary iv. Manager of the ASB Grant Program representing Alberta Agriculture and Forestry v. Provincial ASB Committee Executive Assistant	Membership of the Provincial ASB Committee is defined under the Terms of Reference Not all current members of the Provincial ASB Committee sit during the Resolution Session, therefore, this better defines who is responsible for presenting resolutions during the Resolution Session Acknowledges addition of Executive Assistant as part of the Resolution Process AAMDC changed to RMA to reflect their name change
Section 2: Responsibilities	**2. Responsibilities of Provincial ASB Committee Members** a. Chairman shall: i. Chair all Committee meetings ii. Chair presentation of Resolutions at the Provincial Conference b. Secretary shall: i. Receive resolutions from Regional Conferences	**2. Responsibilities of Provincial Resolution Committee Members** a. Chairman shall: i. Chair the presentation of Resolutions at the Provincial Conference ii. Present a report card on previous years' resolutions b. Secretary i. Receive resolutions from Regional Conferences within five working days of each conference	Removes overlap between Provincial Rules of Procedure and Terms of Reference Provides clearer definition of roles related to the Provincial Resolution Session

	ii. Call Provincial ASB Committee meetings in conjunction with Chair iii. Provide copies of draft Provincial resolutions for committee members iv. Provide copies of approved Provincial Resolutions to each ASB v. Record proceedings of Provincial ASB Committee meetings, and the presentation of Resolutions at the Provincial Conference. Minutes to be maintained by secretary. c. The Committee Members shall: i. Attend Provincial ASB Committee meetings ii. Assist in presentation of resolutions at the Provincial Conference iii. Act as a liaison between the Provincial ASB Committee and the individual ASBs within the region they represent d. AAMDC Representative shall: i. Represent AAMDC and serve as the liaison to the AAMDC Executive ii. Provide background information e. Manager, ASB Grant Program shall: i. Represent AF and serve as the liaison to the Minister ii. Provide background information f. AAAF President shall: i. Represent AAAF and serve as the liaison to the AAAF Executive	ii. Provide copies of draft Provincial resolutions to Provincial ASB Committee iii. Provide copies of approved Provincial resolutions to each ASB by December 1 of each year iv. Record proceedings of Provincial ASB Conference Resolution Session(s) v. Maintain minutes from Provincial ASB Conference c. Manager ASB Grant Program i. Time speakers to ensure each ASB member has adequate time to speak to the resolution ii. Provide support to the Chair, Secretary and Executive Assistant d. Executive Assistant i. Provide support to the Chair and Secretary ii. Ensure resolutions are in appropriate format e. All other members shall: i. Assist with presentation of resolutions at the Provincial Conference f. All costs incurred by the members of the committee for attending meetings will be reimbursed by each individual member's employer	

	ii. Provide background information g. Recording Secretary shall: i. Record and distribute minutes from meetings ii. Assist Chairman and Secretary with planning and arranging resources for meetings		
3. Authority	**3. Responsibilities and Authority of Provincial ASB Committee** a. The Provincial ASB Committee responsibilities include: i. Request clarification for a resolution from the sponsoring ASB in terms of wording, intent, etc. ii. Amalgamation of two or more resolutions between jurisdictions if several resolutions are of similar topic and content after consultation and approval of the sponsoring municipalities. iii. Request withdrawal of a resolution if the resolution: • Has no bearing whatsoever with the Agricultural industry • Has been resolved prior to the resolution screening meeting, or • Has been covered by another resolution iv. In the event of receipt by the Committee of two or more contradictory resolutions, the Committee will order the resolutions in such fashion that	**3. Authority** a. The Provincial ASB Committee, in its' entirety, has authority to review Provincial resolutions b. Responsibilities include: i. Request clarification for a resolution from the sponsoring ASB in terms of wording, intent, etc. ii. Amalgamation of two or more resolutions between jurisdictions if several resolutions are of similar topic and content after consultation and approval of the sponsoring municipalities iii. Request withdrawal of a resolution if the resolution: • Has no bearing whatsoever with the agricultural industry • Has been resolved prior to the resolution screening meeting, or • Has been covered by another resolution iv. Determine order that resolutions will be presented in 1. In the event of receipt by the Committee of two or more contradictory resolutions, the	Sections 3 b, c, d, e have been moved to the Provincial ASB Committee Terms of Reference to remove overlap between the two documents

	the contradictory resolutions are presented consecutively. v. If the first of the resolutions is passed, the contradicting resolutions(s) will be deemed defeated, and will not subsequently be brought to the floor vi. If the first resolution is defeated, the contradictory resolution(s) will be brought to the floor of the conference for consideration b. Authority to request meetings with the Minister of AF and other Ministries as required. i. Agenda for the ministerial meeting would be related to responses to resolutions as well as agricultural emergent issues and concerns c. Encourage timely responses to the Provincial ASB Resolutions d. Authority to request an annual meeting with Cabinet Policy Committee on Agriculture e. Communication with the Manager, ASB Grant Program, AF to: • Encourage the exchange of information • Provide direction and input on departmental initiatives • Provide a representative view of ASBs f. Resolutions passed at an ASB Provincial Conference will be advocated on for a period of five years from the date of approval. A list of expiring resolutions will be place in the report card annually.	Committee will order the resolutions in such fashion that the contradictory resolutions are presented consecutively 2. If the first of the resolutions is passed, the contradicting resolution(s) will be deemed defeated, and will not subsequently be brought to the floor 3. If the first resolution is defeated, the contradictory resolution(s) will be brought to the floor of the conference for consideration v. Resolutions passed at an ASB Provincial Conference will be advocated on for a period of five years from the date of approval. A list of expiring resolutions will be placed in the report card annually. vi. If an ASB wishes the resolution to remain active, the resolution must be brought forward for approval again at the next ASB Provincial Conference vii. Only resolutions from the previous two years will be reported on in the annual Report Card on the Resolutions	

	g. If an ASB wishes the resolution to remain active, the resolution must be brought forward for approval again at the next ASB Provincial Conference. h. Only resolutions from the previous two years will be reported on in the annual Report Card on the Resolutions		
4. Resolutions	**4. Resolutions** a. Resolutions Provincial in scope, and having been passed by simple majority at a Regional Conference shall be submitted to the Secretary of the Provincial ASB Committee within five working days of the regional conference. Each resolution submitted for consideration must be accompanied by background information consisting of the history of the issue and potential impacts for the sponsoring municipality and the province-wide impacts for municipalities. b. After Regional resolutions are received by the Provincial ASB Committee Secretary, the Provincial ASB Committee will meet to review them. c. Resolutions that are Regional in nature and that have been passed by a Regional Conference may be sent on to whomever they are directed to for reply. This shall be done by the Regional Resolutions Committee Secretaries. Copies of Regional resolutions shall be sent to the Provincial ASB Committee for information only. d. The Provincial ASB Committee shall forward resolutions to each ASB by December 1 each year. Each ASB shall provide sufficient copies for their	**4. Resolutions** a. Provincial Resolutions i. Resolutions Provincial in scope, and having been passed by simple majority at a Regional Conference shall be submitted to the Secretary of the Provincial ASB Committee within five working days of the Regional Conference. Each resolution submitted for consideration must be accompanied by background information consisting of the history of the issue and potential impacts for the sponsoring municipality and province-wide impacts for municipalities. ii. After resolutions Provincial in scope are received by the Provincial ASB Committee Secretary, the Provincial ASB Committee will meet to review them. iii. The Provincial ASB Committee shall forward resolutions to each ASB by December 1 each year. Each ASB shall provide sufficient copies for their delegates and staff. Hard copies of Provincial resolutions will be included in the Provincial Conference package available at registration.	4c has a change in wording to increase clarity of process for Regional Resolutions Sections have been reorganized and separated into Provincial, Regional and Emergent Resolution Sections for clarity

	delegates and staff. Hard copies of Provincial resolutions will be included in the Provincial conference package available at registration. e. A resolution received by the Provincial ASB Committee that was not presented and voted on at a Regional ASB Conference may be considered by the Committee as a potential Emergent Resolution. It may be recommended for acceptance as Emergent by the ASB Committee if the resolution is deemed an emergency issue of provincial significance regarding Agricultural Legislation or Agriculture Policy that has arisen since the Regional ASB Conferences, or if the sponsoring ASB can justify to the Committee why the resolution did not come to the floor of a Regional Conference. f. If a resolution is denied Emergent status by the ASB Committee, the sponsoring ASB may appeal this ruling through the Chair to the floor of the Provincial ASB Conference Resolutions Session, where it may be reconsidered as Emergent at the pleasure of the Voting ASB Conference delegates. The vote for acceptance of an appealed Emergent Resolution must be carried by a 3/5 majority of voting ASB Conference delegates. g. Sufficient copies of resolutions accepted as Emergent must be made available by the sponsoring ASB to all conference delegates. h. Emergent resolutions must be submitted to the Secretary of the Provincial Committee 24 hours prior to the start of the Provincial Conference.	b. Regional Resolutions i. Resolutions that are Regional in nature and that have been passed by a Regional Conference shall be sent by the Secretary of the Regional Resolutions Committee to whomever they are directed to for reply and a copy of the resolution and resolution response sent to the Provincial ASB Committee for information only. c. Emergent Resolutions i. A resolution received by the Provincial ASB Committee that was not presented and voted on at a Regional ASB Conference may be considered by the Committee as a potential Emergent Resolution. It may be recommended for acceptance by the Provincial ASB Committee if the resolution is deemed an emergency issue of provincial significance regarding Agricultural Legislation or Agriculture Policy that has arisen since the Regional ASB Conferences, or if the sponsoring ASB can justify to the Committee why the resolution did not come to the floor of a Regional Conference. ii. If a resolution is denied Emergent status by the Provincial ASB Committee, the sponsoring ASB may appeal this ruling through the Chair to the floor of the Provincial ASB Conference Resolution Session,	

		where it may be reconsidered as Emergent at the pleasure of the Voting ASB Conference Delegates. The vote for acceptance of an appealed Emergent Resolution must be carried by a 3/5 majority of voting Provincial ASB Conference delegates. iii. Sufficient copies of resolutions accepted as Emergent must be made available by the sponsoring ASB to all conference delegates. iv. Emergent Resolutions must be submitted to the Secretary of the Provincial ASB Committee 24 hours prior to the start of the Provincial Conference.	
5. Procedures	**5. Procedures** a. Approved Provincial Resolutions i. Resolutions approved for debate at the Provincial Conference by the Provincial ASB Committee shall be handled in numerical order as recommended by the committee unless 3/5 of the voting delegates on the convention floor agree to accept a resolution out of that numerical order. ii. Each resolution must have a Mover and a Seconder. iii. Only the "Therefore Be It Resolved" section will be read. iv. The Chairman shall call on the Mover and Seconder to speak to the resolution and then	**5. Procedures** a. Approved Provincial Resolutions i. Resolutions approved for debate at the Provincial Conference by the Provincial ASB Committee shall be handled in numerical order as recommended by the committee unless 3/5 of the voting delegates on the convention floor agree to accept a resolution out of that numerical order. ii. Each resolution must have a Mover and a Seconder iii. Only the "Therefore Be It Resolved" section will be read iv. The Chairman shall call on the Mover and Seconder to speak to the resolution and then immediately call for anyone wishing to speak in opposition.	No changes to section 5

	immediately call for anyone wishing to speak in opposition. 1. If there is no one to speak in opposition, the question shall be called 2. If there are speakers in opposition, the Chairman shall at his discretion call for anyone other than the Mover or Seconder to speak to the resolution before the debate is closed v. Anyone wishing to amend a resolution must then speak to the resolutions as written, or anyone wishing clarification must speak up. All amendments must have a Mover and Seconder. vi. Only one amendment will be accepted at a time and only one amendment to the amendment will be accepted on any resolution. vii. The Chairman has the discretion to request a written amendment. viii. The Mover and Seconder are allowed five minutes in total to speak to the resolution or amendment. The Seconder may waive his right to speak and the Mover would be allowed the full five minutes. ix. The Mover and Seconder have the right to close the debate and a maximum of two	1. If there is no one to speak in opposition, the question shall be called 2. If there are speakers in opposition, the Chairman shall at his discretion call for anyone other than the Mover or Seconder to speak to the resolution before the debate is closed v. Anyone wishing to amend a resolution must then speak to the resolution as written, or anyone wishing clarification must speak up. All amendments must have a Mover and Seconder. vi. Only one amendment will be accepted at a time and only one amendment to the amendment will be accepted on any resolution. vii. The Chairman has the discretion to request a written amendment. viii. The Mover and Seconder are allowed five minutes in total to speak to the resolution or amendment. The Seconder may waive his right to speak and the Mover would be allowed the full five minutes. ix. The Mover and Seconder have the right to close the debate and a maximum of two minutes each will be allowed for this. x. All other speakers, for or against the resolution, are allowed a maximum of two minutes.	

	minutes each will be allowed for this. x. All other speakers, for or against the resolution, are allowed a maximum of two minutes. b. Emergent Resolutions i. Resolutions approved as Emergent according to Section 4 shall be dealt with last. ii. Chair will advise delegates of the ASB Committee comments with respect to recommending the resolution as emergent. iii. Chair will ask delegates is they wish to accept the resolution for debate. 1. A mover and seconder are required to put a motion on the floor to accept the resolution for debate as emergent. 2. Delegates have the right to speak to the motion regarding whether or not to accept the emergent resolution for debate. iv. A mover has the right to close debate. v. Chair will call the question. vi. 3/5 majority required for acceptance of the resolution as emergent c. If accepted as an emergent resolution, follow procedure for approved provincial resolutions (Section 5a)	b. Emergent Resolutions i. Resolutions approved as Emergent according to Section 5 shall be dealt with last. ii. Chair will advise delegates of the ASB Committee comments with respect to recommending the resolution as emergent. iii. Chair will ask delegates is they wish to accept the resolution for debate. 1. A mover and seconder are required to put a motion on the floor to accept the resolution for debate as emergent. 2. Delegates have the right to speak to the motion regarding whether or not to accept the emergent resolution for debate. iv. A mover has the right to close debate. v. Chair will call the question. vi. 3/5 majority required for acceptance of the resolution as emergent c. If accepted as an emergent resolution, follow procedure for Provincial Resolutions (Section 6a)	
6. Voting and Speaking	**6. Voting and Speaking**	**6. Voting and Speaking**	No changes to Section 6

	a. Two municipal delegates at the conference from each municipality who shall display the voting credentials shall be recognized voters on any resolution. b. An Agricultural Service Board member may have any person speak to a resolution by their request. c. All Resolutions are passed or defeated by simple majority except where a change to legislation is asked for or acceptance of an emergent resolutions for debate, when a 3/5 majority is required.	a. Two municipal delegates at the conference from each municipality who shall display the voting credentials shall be recognized voters on any resolution. b. An Agricultural Service Board member may have any person speak to a resolution by their request. c. All Resolutions are passed or defeated by simple majority except where a change to legislation is asked for or acceptance of an emergent resolutions for debate, when a 3/5 majority is required.	
7. Procedures for Approved Resolutions	**7. Procedures for Approved Resolutions** a. Secretary of the Provincial ASB Committee shall submit resolutions to the Provincial ASB Committee members. b. Secretary of the Provincial ASB Committee will submit resolutions to the Minister of AF and distribute copies to appropriate organizations for response. i. Responses will be compiled, returned to the Secretary for distribution to the Provincial ASB Committee and individual ASBs, and posted electronically. c. Chairman of the Provincial ASB Committee shall: i. Hold a committee meeting to review and discuss responses to resolutions. ii. Request a committee meeting with AAMD&C Resolutions Committee. iii. Request a committee meeting with the Cabinet Policy	**7. Procedures for Approved Resolutions** a. Secretary of the Provincial ASB Committee shall submit approved resolutions to the Provincial ASB Committee members. b. Executive Assistant and Secretary of the Provincial ASB Committee will submit resolutions to appropriate agencies and organizations for response. i. Responses will be compiled, returned to the Secretary for distribution to the Provincial ASB Committee and individual ASBs, and posted electronically. c. Chairman of the Provincial ASB Committee shall: i. Hold a committee meeting to review and discuss responses to resolutions. ii. Request a committee meeting with RMA Resolutions Committee. iii. Request a committee meeting with the Resource Stewardship Committee to discuss or clarify	No changes to Section 7

	Committee on Agriculture to discuss or clarify resolution responses if deemed necessary. iv. Request a committee meeting with the Minister of AF to discuss resolution responses if deemed necessary. v. Direct the ASB Committee to prepare and circulate a Resolutions Report Card itemizing actions that have been undertaken by the Committee in response to resolutions passed at previous conference.	resolution responses if deemed necessary. iv. Request a committee meeting with the Ministers of appropriate ministries to discuss resolution responses if deemed necessary. v. Direct the ASB Committee to prepare and circulate a Resolutions Report Card itemizing actions that have been undertaken by the Committee in response to resolutions passed at previous conference.	
8. Roberts Rules of Order	**8. Roberts Rules of Order** a. The rules contained in the current edition of Robert's Rules of Order Newly Revised shall govern the procedure of the Resolutions Committee in all cases for which they are applicable, except if the rules are not consistent with the Resolutions Rules of Procedure. The Resolutions Rules of Procedure will take precedence. Attached are example excerpts from Roberts Rules of Order that apply directly to the Resolutions Process.	**8. Roberts Rules of Order** a. The rules contained in the current edition of Robert's Rules of Order Newly Revised shall govern the procedure of the Resolutions Committee in all cases for which they are applicable, except if the rules are not consistent with the Provincial ASB Conference Rules of Procedure. The Provincial ASB Conference Rules of Procedure will take precedence. Attached are example excerpts from Robert's Rules of Order that apply directly to the Resolution Process.	No changes to Section 8
9. Amendments to Provincial Rules of Procedure	**9. Amendments to Provincial Rules of Procedure** a. An amendment to these Rules of Procedure may be made by a simple motion from: i. The Provincial ASB Committee, or ii. any voting delegate at the conference	**9. Amendments to Provincial Rules of Procedure** a. An amendment to these Rules of Procedure may be made by a simple motion from: i. The Provincial ASB Committee, or, ii. Any voting delegate at the conference	No changes to Section 9

	b. Amendments must be accepted by a simple majority of all voting delegates at the Provincial A.S.B. Conference. c. Amendments that are "Carried" will take effect at the next Provincial ASB Conference.	b. Amendments must be accepted by a simple majority of all voting delegates at the Provincial ASB Conference c. Amendments that are "Carried" will take effect at the next Provincial ASB Conference	

All other sections of the Provincial Rules of Procedure remain as is.

RESOLUTION 1-19
LOSS OF 2% LIQUID STRYCHNINE

WHEREAS Under the authority of the *Pest Control Product Act* and based on the evaluation of currently available scientific information, Health Canada is proposing that products containing strychnine for control of Richardson's Ground Squirrels do not meet the current standards for environmental protection and, therefore, proposed to be cancelled;

WHEREAS There needs to be a product available to producers to effectively assist in the control of Richardson's Ground Squirrels;

THEREFORE BE IT RESOLVED
THAT ALBERTA'S AGRICULTURAL SERVICE BOARDS REQUEST
Health Canada and the Pest Management Regulatory Agency reconsider their decision and leave 2% Liquid Strychnine on the market available on a permanent basis to agricultural producers to utilize on their farms for control of Richardson's Ground Squirrels.

SPONSORED BY: Cypress County

MOVED BY: _____

SECONDED BY: _____

CARRIED: _____

DEFEATED: _____

STATUS: Provincial

DEPARTMENT: Pest Management Regulatory Agency

BACKGROUND INFORMATION

Health Canada and the PMRA have reviewed the label and use of 2% Liquid Strychnine. According to the review conclusion the recommendation is to remove the use of 2% Liquid Strychnine for use on ground squirrels. Richardson Ground Squirrels continue to pose a significant threat to agricultural production and strychnine has been used to reduce the impacts of severe infestations.

Strychnine being a single feed bait is efficient and effective and allows producers to treat small area and large area infestations when other parts of their integrated pest management practices have failed. Using multi-feed baits is ineffective due to the fact that there are too many other options for Richardson's Ground Squirrels to eat. Using shooting and trapping methods can be time consuming especially during peak times of production (seeding, spraying, irrigating, calving, branding, etc.). The use of fumigants can be unpredictable depending on soil conditions, as well they pose a high risk for primary poisoning as they will control all down hole inhabitants.

Strychnine is often attributed to unwarranted secondary poisoning, linked to species at risk (Burrowing Owls) and raptors. Although there could be a possibility of secondary poisoning, both of those birds of prey regularly prey on live rodents and far less often will they consume a dead gopher.

2% Liquid Strychnine is an essential tool in any agricultural producers integrated pest management toolbox as a consistent, effective tool in controlling Richardson's Ground Squirrel infestations.

RESOLUTION 2-19
WILDLIFE PREDATOR COMPENSATION PROGRAM ENHANCEMENT

WHEREAS Predation by carnivores and birds of prey continues to be a problem for ranchers and agriculture producers;

WHEREAS Many Municipalities have submitted multiple resolutions in this regard for these same problems;

WHEREAS To maintain the credibility of the program, livestock losses must be confirmed by Fish and Wildlife Officers, as killed or injured by predators;

WHEREAS The protection of life and property is a priority for the provincial government, which means providing a response to reports of problem wildlife, may sometimes shift the efforts of Fish and Wildlife Officers away from the predator control mandate;

THEREFORE BE IT RESOLVED
THAT ALBERTA'S AGRICULTURAL SERVICE BOARDS REQUEST
that the Ministers of Environment and Parks, Justice and Solicitor General, and all other relevant government ministries implement an enhanced Predator Compensation Program that could utilize the GPS location and date time features and photo capabilities of smart phone technology to provide photographic or video evidence to assist in the confirmation of livestock death and livestock injury in a timely and prompt manner, and reduce the number of physical site investigations Fish and Wildlife Officers must conduct.

SPONSORED BY: Clear Hills County

MOVED BY: _____

SECONDED BY: _____

CARRIED: _____

DEFEATED: _____

STATUS: _____

DEPARTMENT: Agriculture and Forestry
Environment and Parks
Justice and Solicitor General

BACKGROUND INFORMATION

Alberta's Wildlife Predator Compensation Program provides compensation for eligible food-producing livestock (cattle, swine, goats, sheep and bison) confirmed to be killed or injured by predators (bears, wolves, cougars, and eagles). The program provides compensation at the average market value for the type and class of animal lost.

To maintain the credibility of the program, livestock losses must be confirmed to be killed or injured by predators. Predators are opportunistic animals and are often found feeding on livestock carcasses that have died from other causes. Livestock producers seeking compensation for lost or injured animals are encouraged to contact Fish and Wildlife Officers as soon as possible to confirm that the animal was killed or injured by a predator. This is the point where if Fish and Wildlife Officers are not available to investigate, then the producer may not get compensation due to the delay in investigating the loss or injury of the livestock and the deterioration of evidence.

With the prevalence of smart phones and the level of technology these devices have for including the GPS location as well as date and time that a picture is taken, and high resolution cameras, allowing ranchers and agricultural producers to take pictures of loss or injury of livestock and emailing or texting these pictures to the local Fish and Wildlife Officer would be strong step forward in timely confirmation of predation and reduce the number of locations the Fish and Wildlife Officers would have to physically attend to investigate injury or loss of livestock to predation.

RESOLUTION 3-19
DEADSTOCK REMOVAL

WHEREAS rendering companies would travel the Province of Alberta picking up deadstock for free and turn the deadstock into by products;

WHEREAS Bovine Spongiform Encephalopathy (BSE) was discovered in Canada in 2003;

WHEREAS regulatory changes were made to remove Specified Risk Materials from carcasses causing rendering companies to charge a fee for service;

WHEREAS producers are trying to limit or manage the cost of removing deadstock and started disposing of deadstock on-farm;

WHEREAS on farm disposal of deadstock attracts livestock predators such as coyotes, wolves and bears;

WHEREAS large carnivore interaction with farm families has increased, causing public safety concerns;

WHEREAS the primary producer bears the cost of regulatory changes for the entire food production chain;

THEREFORE BE IT RESOLVED
THAT ALBERTA'S AGRICULTURAL SERVICE BOARDS REQUEST
That the Provincial Government compensate producers fifty percent (50%) of the deadstock pick up fees with producers bearing the remainder of costs.

SPONSORED BY: County of Wetaskiwin

MOVED BY: _____

SECONDED BY: _____

CARRIED: _____

DEFEATED: _____

STATUS: Provincial

DEPARTMENT: Alberta Agriculture and Forestry

BACKGROUND INFORMATION

Prior to BSE Alberta had a viable rendering industry that removed a significant amount of the dead livestock from our rural landscape. Implementation of a feed ban and specified risk material regulations has made on-farm pick up unrealistic.

On-farm disposal of dead livestock can be very challenging. Burial is difficult under frozen conditions and incineration is not often practical. Alberta's predators are becoming habituated to dead livestock and predation is the next step. For example, bears will dig up eight (8) feet of cover in a dead animal pit to access a dead carcass as they are *very* efficient excavators. Farm families and the general public are increasingly at risk as grizzly encounters become more common in the ranch country. Furthermore, research has proven that wolves will return to old dead pits on a regular basis, using them as waypoints as they travel their territories. *Wolves* have impacted cattle in the province causing significant losses.

Albertans enjoy a healthy and expanding wildlife population. In Alberta, money would be better spent being proactive, removing attractants such as deadstock and reducing scavenging of livestock to a minimum.

In 2010 a bounty program on coyotes in Saskatchewan cost $1.5 million and took out 71,000 coyotes. Saskatchewan has a compensation program for predation paying producers 100% compensation for confirmed kills and up to 80% for injured livestock.

Rendering costs for 2018 are as follows:

West Coast Reduction Ltd.	
Animal	Cost
Horse	$250.00/horse
Cattle	$0.14/lb (minimum $120+GST)
Pork	$0.04/lb
Poultry	Special pricing, confirm with manager
Sheep	No pick-up

RESOLUTION 4-19
CARBON CREDITS FOR PERMANENT PASTURE AND FORESTED LANDS

WHEREAS A significant amount of Carbon is stored within land used for permanent pasture, estimated at ten to thirty percent of the worlds carbon;

WHEREAS A significant amount of Carbon is stored within private land associated with agricultural operations that is left forested;

WHEREAS There is currently a carbon credit program available for annual crop growers but nothing for permanent pasture or forested lands;

WHEREAS Producers with permanent pasture and forested lands should be compensated for their contributions to reducing atmospheric carbon dioxide;

THEREFORE BE IT RESOLVED
THAT ALBERTA'S AGRICULTURAL SERVICE BOARDS REQUEST
that Alberta Agriculture and Forestry develop a process to allow farmers and landowners to access carbon credits for land used for permanent pasture or land that is left forested.

SPONSORED BY: Clearwater County

MOVED BY: _____

SECONDED BY: _____

CARRIED: _____

DEFEATED: _____

STATUS: Provincial

DEPARTMENT: Alberta Agriculture and Forestry

UF IFAS Extension
UNIVERSITY of FLORIDA

SL373

Carbon Sequestration in Grazing Land Ecosystems[1]

Maria Silveira, Ed Hanlon, Mariana Azenha, and Hiran M. da Silva[2]

This publication provides basic information about the important role of native and improved pastures (referred to as grazing land) in sequestering carbon from the atmosphere. Because of the relatively high sequestration rates and extensive area, grazing land represents an important component of terrestrial carbon dioxide (CO_2) offset and is a significant sink for long-term carbon sequestration and greenhouse gas mitigation. This publication contains information for stakeholders, students, scientists, and environmental agencies interested in enhancing ecosystems services provided by grazing lands.

Global Carbon Cycle

The global carbon cycle consists of complex processes that control the movement of carbon between the atmosphere, land, and oceans. Although natural processes dominate the carbon cycle, human-induced activities can also alter these carbon transfers. In the atmosphere, carbon is mainly present as carbon dioxide (CO_2). Large amounts of carbon are also present in the soil, primarily as soil organic matter. Soil organic matter plays a key role in determining soil quality and its potential to produce food, fiber, and fuel. During the past two decades, the global carbon cycle has received significant attention because of its role in global climate change.

Two important global topics are the rising atmospheric CO_2 concentrations caused by human-induced activities (primarily combustion of fossil fuels) and the potential effects on climate change. In addition to CO_2, increased atmospheric concentrations of nitrous oxides (N_2O and NO) and methane (CH_4) are also believed to cause global warming. Carbon dioxide, nitrous oxides, and methane (also known as greenhouse gases) can trap heat in the atmosphere and contribute to global warming. Levels of several important greenhouse gases have increased by 25% since large-scale industrialization began approximately 150 years ago, and this increase is primarily caused by energy use.

Plants remove carbon from the atmosphere during photosynthesis, a process done without human intervention. However, to address the contributions made by humans, the carbon must be stored or sequestered. Typically, carbon in plants undergoes several conversions. Some conversions are rapid, such as the addition of fresh plant material to the soil, while others may take long periods of time. For example, a large amount of carbon is already sequestered in our soil.

What Is Soil Carbon Sequestration and Why Is It Important?

Carbon sequestration refers to the process of transferring CO_2 from the atmosphere into the soil (Figure 1). Once carbon is transferred to the soil, carbon can be stored for decades or longer. This sequestering process may be accomplished by 1) increasing crop yields through the use of management practices such as fertilization, irrigation,

1. This document is SL373, one of a series of the Soil and Water Science Department, UF/IFAS Extension. Original publication date September 2012. Reviewed September 2015. Visit the EDIS website at http://edis.ifas.ufl.edu.

2. Maria Silveira, associate professor, Soil and Water Science Department, Range Cattle Research and Education Center; Ed Hanlon, professor, Soil and Water Science Department, Southwest Florida Research and Education Center; Mariana Azenha, PhD candidate, Sao Paulo State University, Brazil; and Hiran M. da Silva, PhD candidate, Federal Rural University of Pernambuco, Brazil; UF/IFAS Extension, Gainesville, FL 32611.

and grazing management, and 2) reducing decomposition of existing or new soil organic matter.

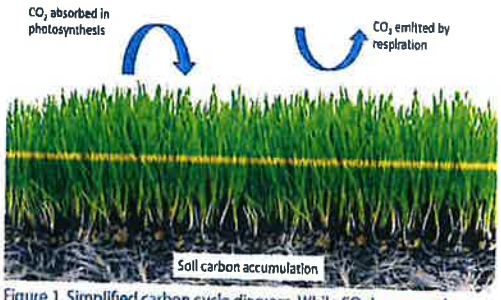

Figure 1. Simplified carbon cycle diagram. While CO_2 is removed from the atmosphere and incorporated into plant tissue via photosynthesis, it can also be re-emitted back to the atmosphere as plant (autotrophic) and soil microbial respiration (heterotrophic). The balance between carbon inputs and outputs determines the amount of carbon sequestered in the soil.
Credits: http://www.thinkstock.com

Soil carbon sequestration helps offset emissions from combustion of fossil fuels and other human-induced activities. During the past decade, U.S. agricultural soils overall have acted as a net sink of atmospheric CO_2, sequestering approximately 12 million metric tons of carbon per year. Although agricultural soils can also emit CO_2 to the atmosphere, adoption of best management practices (BMPs) for soil and cropping allowed agricultural soils to remove more carbon from the atmosphere than the soils release. Increasing carbon storage in soils offers significant accompanying benefits such as improved soil and water quality, reduced soil erosion, increased water conservation, and greater crop productivity.

Native and improved pastures are two types of land use that retain carbon in the soil. These land uses usually cause little soil disturbance, which reduces the carbon loss from organic matter and allows fresh plant materials from the grasses to become part of the soil organic matter over time. Figure 2 demonstrates a typical soil pit profile collected from a bahiagrass pasture in South Florida.

Soil Carbon Sequestration in Grazing Lands

Grazing lands can be important sinks of atmospheric CO_2 and play a major role in the overall carbon cycle fluxes. This land use contains approximately 10%–30% of the world's soil carbon reserves (Eswaran et al. 1993). Unlike tropical forests, where the majority of the carbon is stored in the vegetation, as much as 90% of the carbon pools in grazing-land ecosystems are located in the soil (Schuman et al. 2001), hence it can be readily transferred into more permanent storage in the soil. Because carbon stored below ground is more permanent than plant biomass, soil carbon sequestration in grazing lands provides a long-term alternative to mitigate atmospheric greenhouse gas emissions.

Figure 2. Typical soil pit profile collected in a bahiagrass pasture in South Florida. While the majority of the roots tend to concentrate in the top 4- to 8-inches depth, they can also occur at deeper soil depths. Soil carbon concentration is typically greater at the surface (4–6" depth) where carbon inputs (via root and aboveground biomass) are more abundant.
Credits: M.L. Silveira

Several factors promote greater soil carbon accumulation in pastures as compared to agricultural lands, including high density of roots, root exudation, and, as stated previously, a lack of physical soil disturbance because of the absence of tillage. Researchers have estimated that from 29.5 to 110 million metric tons of carbon can be sequestered annually in grazing lands in the United States (Follett et al. 2001). Because native and improved pasturelands encompass an extensive area in the United States (~1/3 of the land area), small changes in the amount of carbon sequestered in grazing-land soils have significant consequences in the global carbon cycle. Reports have shown that an increase (or loss) of only 1% of the soil carbon in the top 4 inches of grazing-land soils is equivalent to the total carbon emissions from all U.S. cropland agriculture (Follett et al. 2001). This trend underscores the importance of grazing lands to mitigate at least part of global atmospheric CO_2 emissions.

Carbon sequestration rates vary by climate, topography, soil type, management history, and current practices. The majority of the grazing lands in the United States are located in arid and semiarid ecosystems; however, grazing lands in eastern regions receive more precipitation and, consequently, have greater potential to respond to management inputs. For example, because of the warm climate and ability to grow crops year-round in Florida, there is the potential to return great amounts of carbon to the soil as above-ground (i.e., dead leaves) and below-ground (i.e., roots, root exudates) plant inputs. However, carbon accumulation in Florida's soils remains a major challenge because of the fast decomposition rates in warm and moist conditions. Appropriate management practices that favor carbon inputs and minimize decomposition are the key to increase carbon sequestration in Florida soils.

Management Practices That Enhance Soil Carbon Sequestration

Current pasture management strategies (e.g., fertilization strategy and grazing management) are generally aimed at increasing forage production to match animal stocking rates or forage demand from hay. However, pasture management can also promote carbon storage in the soil. In fact, most techniques used to improve forage production promote carbon inputs to the soil and increase soil carbon sequestration. For instance, fertilization, irrigation, grazing management, fire regimen, introduction of legumes, and use of improved grass species can boost plant productivity while promoting soil carbon sequestration. Opportunities for increasing soil carbon sequestration in response to management practices vary in intensity and are specific to each ecosystem.

Studies have shown that when low-fertility soils receive fertilizer or lime, forage productivity and soil carbon levels generally increase (Conant et al. 2001). Research also shows that grazing intensity can have major impacts on soil carbon accumulation. Although overgrazing is often associated with reductions in soil carbon concentrations, proper grazing management can result in greater soil carbon concentrations than non-grazed systems. Well-managed grazing lands generally maintain or even increase soil carbon accumulation compared with native ecosystems. Also, livestock benefit from well-managed lands because the grass usually has higher nutrient concentrations because of proper fertilization (Silveira et al. 2009).

Future Outlook

Native and improved grazing lands are a significant sink for long-term carbon sequestration and play an important role in mitigating global climate change. Because grazing lands occupy a vast area throughout the world, small changes in the amounts of carbon stored in this ecosystem can have significant consequences in the overall carbon cycle and atmospheric CO_2 levels. Although opportunities for increasing soil carbon sequestration in response to management practices are site-specific, grazing lands in Florida offer a unique opportunity to sequester large amounts of carbon.

However, global estimates show that a significant portion of grazing land area in the United States is being replaced by more intensive agriculture and urban development. This land-use trend is particularly true in Florida, where urban development is increasingly competing with natural resources for land. Reducing grazing land area and increasing management associated with land use intensification (i.e., converting extensively-managed pastures into intensively-managed agriculture or urban development) will change the amounts of carbon sequestered in grazing land soils. Continuation of this trend is expected to have major impacts on our regional climate, potential future carbon sequestration, and greenhouse gas emissions.

Carbon trading-related markets and the growing interest in carbon sequestration as mechanisms for environmental protection can change this scenario in favor of preserving grazing lands in Florida while reducing the rate of urbanization. While carbon markets potentially offer new income for farmers, the present outlook for this revenue is not bright. The recent recession and problems with assigning value for carbon sequestration have prevented a stable or significant carbon-trading market from developing in the United States. The European market, while still functioning, reflects a wait-and-see approach in both low carbon-credit trading volume and low prices. This agriculturally-based ecosystem service is unlikely to be adopted if there is no incentive to sequester carbon in grazing lands.

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RESOLUTION 5-19
MULTI-STAKEHOLDER COMMITTEE TO WORK AT REDUCING THE USE OF FRESH WATER BY THE OIL AND GAS INDUSTRY IN ALBERTA

WHEREAS there is a concern about the enormous loss of fresh water (see Reference 1) by the oil and gas industry in the hydro-fracking and water injection processes (see Reference 7 and 8);

WHEREAS the oil and gas industry is licensed over one billion cubic metres of fresh water annually;

WHEREAS fresh water is a critical resource to Alberta's agricultural producers;

WHEREAS free and easy access to fresh water for enhanced oil recovery acts as a disincentive for oil and gas companies to pursue alternate methods such as CO2 injection, light oil hydro-fracking or to drill deeper to locate and pipe saline water (see Reference 3 and 7) for injection purposes;

WHEREAS the Brazeau County Agricultural Service Board is concerned with the amount of fresh water used in the fracking and water injection process;

WHEREAS the Council of Brazeau County recently moved a Motion requesting a multi-stakeholder committee be struck to look at reducing the use of fresh water by the oil and gas industry;

THEREFORE BE IT RESOLVED
THAT ALBERTA'S AGRICULTURAL SERVICE BOARDS REQUEST

that the Provincial Agricultural Service Board Committee request the Government of Alberta to immediately strike a multi-stakeholder committee to work at reducing the use of fresh water by the oil and gas industry in the Alberta.

SPONSORED BY: Brazeau County

MOVED BY: _____

SECONDED BY: _____

CARRIED: _____

DEFEATED: _____

STATUS: Provincial

DEPARTMENT: Alberta Environment and Parks

BACKGROUND INFORMATION

A reliable water supply for a sustainable economy is one of the key goals of Water for Life, Alberta's Strategy for Sustainability. The Advisory Committee on Water Use Practices and Policy was formulated in 2003 to examine the use of fresh water for underground injection. The Government of Alberta working in partnership with industry, interest groups and non-government organizations developed the Water Conservation and Allocation Policy for oilfield injection, with a goal to reduce or eliminate the allocation of non-saline water for deep well injection. Applications for the use of fresh water for injection continue to be filed with the Energy Resources Conservation Board, and are approved on the basis that there is no economical alternative (saline water or carbon dioxide) that is available or because the diversion of ground water was previously approved through the licensing process. Currently the oil industry holds licenses for up to 32 million cubic meters of ground water diversion. The suggestion that use of non-saline ground water for enhancing oil field production is the most economical means is found on the premise that ground water has no dollar value. Such is not the case for those communities in Alberta that must pipe water to support the residents. Alberta's agricultural producers rely on the province's fresh water resources for crop and livestock production. Water is a critical resource to agricultural industry. With the ever-increasing drought conditions across the Prairie Provinces, ground water is becoming a scarce resource that must be conserved. Fresh water flooding of oil fields results in the water being lost to the eco-system forever.

REFERENCES

1. Potable Water – Drinkable – Fit to Drink

2. Fresh Water – Non-saline

3. Non-potable/Saline Water – Brackish – Unfit to Drink

4. Surface Water – Water collected on the ground or in a stream, river, lake, wetland, or ocean, it is related to water collecting as ground water or atmospheric water.

5. Ground Water – Water located beneath the ground surface is soil pore spaces and in the fractures of rock formation. A unit of rock or an unconsolidated deposit is called an aquifer when it can yield a usable quantity of water.

6. Water Table – Underground depth at which point the ground is totally saturated by water. The level of a water table can fluctuate considerably. When underground water deposits are large enough to be considered sustainable for use, they are known as aquifers.

7. Fracking – Source Watch

- **Fracking also referred to as hydraulic fracturing or hydro fracking.** A process in which a fluid is injected at high pressure into oil or methane gas deposits to fracture the rock above and release the liquid, (oil/gas) below.
- **Light-Oil Fracking** – Alternative method using light oil for fracking
- **Hydro-Fracking** – Process in which water is used as the fluid in fracking
- **C02-Fracking** – Process in which carbon dioxide is used as the injection fluid in fracking

8. Hydraulic Fracture – Formed by pumping the fracturing liquid into the wellbore at a rate sufficient to increase the pressure downhole to a value in excess of the fracture of the formation rock.

9. Water Cycle – AKA Hydrologic Cycle or H20 Cycle – Describes the continuous movement of water on, above and below the surface of the Earth.

10. ERCB – Energy Resources Conservation Board

11. EUB – Alberta Energy and Utilities Board

A resolution, passed and advocated for by the Rural Municipal Association (formerly Alberta Association of Municipal Districts and Counties) recently expired. Following is the resolution and its responses.

7-07F (expired): THEREFORE BE IT RESOLVED that the Alberta Association of Municipal Districts and Counties requests that the Government of Alberta implement an immediate moratorium on new water licenses for deep well flooding with fresh groundwater, in all areas of the province where groundwater IS AND MAY BE required for human consumption; and

FURTHER BE IT RESOLVED that the Alberta Association of Municipal Districts and Counties request the Government of Alberta to implement a one-year timetable for the cancellation of existing water licenses that allow deep well flooding with fresh groundwater, in all areas of the province where groundwater IS AND MAY BE required for human consumption; and

FURTHER BE IT RESOLVED that the Alberta Association of Municipal Districts and Counties draft a petition based on these two clauses and send it out to municipalities who want to participate, so that the will of the people can be expressed on this vital issue.

Government Response:

Environment and Water:

To minimize the use of fresh water for oilfield injection, industry must adhere to the Water Conservation and Allocation Policy for Oilfield Injection. Since 2006, there has been a significant reduction in the use of fresh water for oilfield injection, particularly in areas with limited water sources. Alberta Environment and Water is always striving to improve our policies and practices in an effort to meet the unique needs and challenges we face here in Alberta.

Energy/ERCB:

Alberta Energy is committed to the safe and sustained development of Alberta's energy resources. There have been significant reductions in the use of fresh water for oilfield injection since 2006, particularly in areas with limited water supplies. Oil and gas developers are strongly encouraged to use alternatives to fresh water in these areas and new oil development projects are required to demonstrate that all feasible options were evaluated and that only non-saline water resource use will prevent stranding oil resources. Policies on water use for oil and gas injection are being reviewed to ensure fresh water use is minimized by all upstream oil and gas activities including hydraulic fracturing.

Development:

While both the Ministry of Environment and Sustainable Resource Development and the Ministry of Energy note policies are either in place or under review to encourage minimal use of fresh water for the extraction of oil and gas reserves, neither indicates that a total cessation is contemplated or feasible. As such, the AAMDC finds this response Unsatisfactory and will continue to advocate on this issue through ministerial meetings.

Provincial Ministries: Energy, Environment and Sustainable Resource Development

Provincial Boards and Organizations: ERCB

RESOLUTION 6-19
STEP PROGRAM AGRICULTURAL ELIGIBILITY

WHEREAS: Farming operations, whether they are incorporated, or a sole proprietorship can be very labour intensive, especially in the fruit and vegetable sector;

WHEREAS: As of October 1, 2018, the minimum wage goes up to $15.00/hour creating an even greater expense to farming operations with high labour costs;

WHEREAS: The STEP program states that "Small businesses must be registered in Alberta and have a valid Alberta Corporate Access Number (ACAN);

WHEREAS: Opening up opportunities for students both high school and post secondary for summer employment in the agricultural industry whether the employer is incorporated or not will benefit both employer and employee and support local agriculture, local food production, agritourism, and farmers markets;

THEREFORE BE IT RESOLVED
THAT ALBERTA'S AGRICULTURAL SERVICE BOARDS REQUEST
the Government of Alberta review its Summer Temporary Employment Program to include farms and small businesses that are not incorporated.

SPONSORED BY: Cypress County

MOVED BY: _____

SECONDED BY: _____

CARRIED: _____

DEFEATED: _____

STATUS: Provincial

DEPARTMENT: Alberta Agriculture and Forestry
Alberta Culture and Tourism
Alberta Labour

BACKGROUND INFORMATION

Summer Temporary Employment (STEP)

The Summer Temporary Employment Program (STEP) is a Government of Alberta program whereby eligible organizations can apply for a wage subsidy to hire high school or post-secondary students into summer jobs.

From the website www.alberta.ca/step.aspx

"The STEP program provides funding to eligible Alberta employers to hire high school or post-secondary students into summer jobs from May to August."
"Summer positions created through STEP provide students with the opportunity to build meaningful work experience, increase their skills, gain workplace insight and help prepare them for the future. "

"It is up to the employers to find students they would like to hire through STEP"

"The Government of Alberta will provide an employer with a wage subsidy of $7 per hour for a minimum of 30 hours per week (on average) and a maximum of 37.5 hours per week."

At this time the program is only assessable to businesses that are incorporated. Small businesses must be registered in Alberta and have a valid Alberta Corporate Access Number (ACAN).

Many farms are not incorporated and operate as sole proprietorships. These farms can provide valuable summer employment opportunities in the agricultural sector closing the gap between rural and urban. Employing more students in agriculture will provide a valuable appreciation of agriculture, local food production and agritourism.

Canada Summer Jobs (CSJ)

Another program for obtaining summer employees is the Canada Summer Jobs (CSJ) program. CSJ is an initiative of the Summer Work Experience program. It provides wage subsidies to employers to create employment for secondary and post-secondary students.

Canada Summer Jobs welcomes applications from small businesses, not-for-profit employers, public sector and faith-based organizations that provide quality summer jobs for students.

CSJ provides funding to not-for-profit organizations, public-sector employers and small businesses with 50 or fewer full-time employees to create summer job opportunities for

young people aged 15 to 30 years who are full-time students intending to return to their studies in the next school year.

The Assessment criteria for this program does not mention agriculture From the website https://www.canada.ca/en/employment-social-development/services/funding/canada-summer-jobs/review.html

"Job supports the provision of services in the community:

- To persons with disabilities
- To newcomers to Canada (including Syrian refugees)
- To indigenous people
- To members of visible minorities
- To persons who are homeless or street-involved
- To other groups with social or employment barriers including literacy and numeracy
- To children or youth
- To seniors
- To the LGBTQ2 community
- Related to environmental protection
- Related to crime prevention
- Related to public health and safety
- Related to cultural development or historical preservation"

Clear Hills County
Request For Decision (RFD)

Meeting:	Agricultural Service Board
Meeting Date:	January 14, 2019
Originated By:	Greg Coon, Agricultural Fieldman
Title:	**EVENTS**
File:	63-10-02

DESCRIPTION:
The Board is presented with events for their consideration.

BACKGROUND:

- The Peace Agronomy Update was held on January 10, 2019 in Fairview.
- Member Ross requested this be added to Events: Organic Alberta Conference on January 25-26, 2019 at the Dow Centennial Centre in Fort Saskatchewan, Alberta.
- Winter Watering Systems Tour on February 2, 2019 at the Bonanza Hall.
- Cocktail Cover Crop Design Workshop on February 5, 2019 at the Centre in Debolt.
- Member Ross requested this be added to Events: Shelterbelt Workshop on February 6, 2019 at the St. Isidore Community Centre starting at 6:30 p.m.
- Member Ross requested this be added to Events: Bumblebee House Building Workshop on February 7, 2019 at the St. Isidore Community Centre starting at 6:30 p.m.
- Member Ross requested this be added to Events: Ranching Opportunities 2019 on February 7, 2019 at the Olds College Alumni Centre.
- Member Ross requested this be added to Events: Soil Health Mini Conference on February 13, 2019 at the Oyen Legion Center in Oyen, Alberta. Note: Part two is sold out.
- Peace Country Beef & Forage Association Annual General Meeting on February 22, 2019.
- Member Ross requested this be added to Events: 2019 Farm Market to Table on February 28 – March 1, 2019 at the Coast Nisku Inn & Conference Center in Nisku, Alberta.
- Member Ross requested this be added to Events: Alberta Beef Conference on March 12-14, 2019 Sheraton Red Deer Hotel.
- Livestock Care Conference on March 20 – 21, 2019 in Olds, Alberta.
- Member Ross requested this be added to Events: Soil Health & Crop Field Day on July 30, 2019 at the CARA Center in Oyen, Alberta.

OPTIONS:

1. Approve the attendance of one or more members to one or more of the events listed.
2. Accept for information.

ATTACHMENTS:

- Event Costs
- Organic Alberta Conference agenda
- Winter Watering Systems Tour poster
- Cocktail Cover Crops poster
- Shelterbelt Workshop & Bumblebee House Building Workshop poster
- Ranching Opportunities 2019 information

Initials show support - Reviewed by: **Manager:** ABJ **AgFieldman:** GC

- Soil Health Mini Workshop Poster
- PCBFA Annual General Meeting Poster
- Alberta Beef Conference agenda
- Livestock Care Conference agenda
- Soil Health & Crop Field Day workshop
- Calendars (January/February/March)

RECOMMENDED ACTION:

RESOLUTION by... that this Agricultural Service Board....

Initials show support - Reviewed by: **Manager:** **AgFieldman:**

Upcoming Events **Cost estimate per day per individual**

Event	Location	Dates	# of days	Registration	Kms roundtrip from Worsley	Mileage	Room	Meals	Personal Allowance	Per Diem	Total Cost per person per day
Peace Agronomy Update	Fairivew	January 10, 2019	1	$30	170	$91.80	$0.00	$0.00	$0.00	$187.04	$308.84
Organic Alberta Conf.	Fort Saskatchewan	February 2, 2019	2	$240	1246	$672.84	$240.00	$60.00	$40.00	$187.04	$1,966.92
Winter Watering Systems	Bonanza Hall	February 2, 2019	1	$15	316	$170.64	$0.00	$0.00	$0.00	$187.04	$372.68
Cocktail Cover Crops	Debolt	February 5, 2019	1	$30	466	$251.64	$0.00	$0.00	$0.00	$187.04	$468.68
Shelterbelt Workshop	St. Isidore	February 6, 2019	1		322	$173.88	$0.00	$0.00	$0.00	$187.04	$360.92
Bumblebee Workshop	St. Isidore	February 7, 2019	1		322	$173.88	$0.00	$0.00	$0.00	$187.04	$360.92
Ranching Opportunities	Olds	February 7, 2018	1	$50	1580	$853.20	$0.00	$0.00	$0.00	$187.04	$1,090.24
Soil Health Mini Conference	Oyen	February 13, 2019	1	$125	2022	$1,091.88	$240.00	$60.00	$40.00	$187.04	$1,743.92
PCBFA AGM	Fairivew	February 22, 2019	1	$75	170	$91.80	$0.00	$0.00	$0.00	$187.04	$353.84
Farm Market to Table	Nisku	February 28 - March 1, 2019	2	$50	1286	$694.44	$120.00	$60.00	$40.00	$187.04	$1,558.52
Alberta Beef Conference	Red Deer	March 12-14, 2019	3	$455	1482	$800.28	$360.00	$60.00	$80.00	$187.04	$3,316.40
Livestock Care Conference	Olds	March 20-21, 2019	2	$180	1580	$853.20	$240.00	$60.00	$40.00	$187.04	$2,087.28
Soil Health & Crop Field Day	Oyen	July 30, 2019	1	$25	1580	$853.20	$120.00	$0.00	$0.00	$187.04	$1,185.24
											$15,174.40

GROWING HEALTHY FARMERS, FIELDS AND FOOD

ORGANIC ALBERTA CONFERENCE

Draft Program Subject to Change

FRIDAY JANUARY 25, 2019 | Dow Centennial Centre, Fort Saskatchewan

7:30 a.m. - 8:15 a.m.	Registration		
8:15 a.m. - 8:40 a.m.	Opening Remarks		
8:40 a.m. - 9:20 a.m.	Scaling Stewardship: Synergies of Soil, Science and Spirit Doug Crabtree and Anna Jones-Crabtree, Vilicus Farm		
9:30 a.m. - 10:20 a.m.	Using Pollinator Strips in Cropping Doug Crabtree and Anna Jones-Crabtree, Vilicus Farm	When to Hire an Extra Hand Scott Dundas, Alberta Agriculture and Forestry	Teaching Livestock to Eat Weeds Grant Lastiwka, Alberta Agriculture and Forestry
10:30 a.m. - 11:00 a.m.	Break / Trade Show		
11:00 a.m. - 12:00 p.m.	A Systems Approach to Improving Soil and Plant Health	Women in Farming: Stories from the Field Trina Moyles, Author	Direct-Marketing: How to Get New Customers John Mills, Eagle Creek Farms and James Vriend and Jenny Berkenbosch, Sundog Organic Farm
12:00 p.m. - 12:30 p.m.	Lunch		
12:30 p.m. - 1:50 p.m.	Organic Alberta Annual General Meeting		
2:00 p.m. - 2:30 p.m.	Break / Trade Show		
2:30 p.m. - 3:20 p.m.	Intercropping: Benefits and Risks Joe Wecker, Wecker Farms	Permaculture from an Indigenous Perspective Derek Bruno and Elder Leo Bruno, Samson Cree First Nation	Direct-Marketing: Retaining Customers Andrew Mans, Mans Organics and Rosemary Wotske & Cam Beard, Poplar Bluff Organics
3:30 p.m. - 4:20 p.m.	Intercropping: An interactive workshop to make it work on your farm Ward Middleton, Midmore Farms Steven Snider, Little Red Hen Mill Joe Wecker, Wecker Farms Doug Crabtree and Anna Jones-Crabtree, Vilicus Farm	Conscious Communication on the Farm Mike Kozlowski, Steel Pony Farm	Special Topic in Livestock Management
4:30 p.m. - 6:00 p.m.	Hot Topic Discussions		
6:00 p.m. - 9:30 p.m.	Organic Food and Wine Gala and Banquet featuring Sally Fallon Nourishing Diets: How Paleo, Ancestral and Traditional Peoples Really Ate (Tickets purhased separately)		

GROWING HEALTHY FARMERS, FIELDS AND FOOD

ORGANIC ALBERTA CONFERENCE

Draft Program Subject to Change

SATURDAY JANUARY 26, 2019
Dow Centennial Centre, Fort Saskatchewan

7:30 a.m. - 8:30 a.m.	Registration		
8:40 a.m. - 9:20 a.m.	Tough Enough To Talk About It: Lessons in Dealing With Stress on the Farm Neil Harris, Alberta Health Services		
9:30 a.m. - 10:20 a.m.	Improving Soils Through Grazing Ben Stuart, Union Forage	Grain Buyer Networking Session	Improving Soils Through Cover Crops and Intercropping for Fruit and Vegetable Producers Andrew Mans, Mans Organics and Mike Kozlowski, Steel Pony Farm
10:30 a.m. - 11:00 a.m.	Break / Trade Show		
11:00 a.m. - 12:00 p.m.	Soil and Regenerative Agriculture Stuart McMillan, Legend Organic Farms		
12:00 p.m. - 1:00 p.m.	Lunch		
1:00 p.m. - 1:45 p.m.	What is Organic Farming? Bernie Ehnes, Back 40 Organics (Free to the public)	Soil Health: Micorrhizal Perspective Monika Gorzelak, Agriculture Canada	Sally Fallon Nourishing Traditions Seminar (Tickets purchased separately)
1:45 p.m. - 2:30 p.m.	Thinking of Organic Farming: What's involved in certification? Various Certifying Bodies (Free to the public)		
2:30 p.m. - 3:00 p.m.	Trade Show / Break (Free to the public)	Soil Testing: How do I get the right soil information for my farm?	
3:00 p.m. - 3:45 p.m.	Marketing your organic commodities Charles Newell, Newell's Organic Farm (Free to the public)		
3:45 p.m. - 4:30 p.m.	Producer Panel Thinking of Organic Farming: Agronomic decisions you need to make Stuart McMillan, Legend Organic Farms and Steven Snider, Little Red Hen Mill (Free to the public)	Trade Show / Break (Free to the public)	
4:00 p.m. - 5:00 p.m.	Thinking of Organic Farming: Our Farm Story Clay and Ashley Armstrong, Armstrong Acres (Free to the public)	Break / Trade Show	
4:30 p.m. - 6:30 p.m.	Consumer and Farmer Speed Dating with Eat Alberta (Public tickets $10)		

Draft Program Subject to Change

BUSINESS ROOM	
FRIDAY 9:30 a.m. - 10:30 a.m.	Hemp Markets and Opportunities with Manitoba Harvest Hosted by Manitoba Harvest
FRIDAY 10:30 a.m. - 11:00 a.m.	Farm Club Get Together Hosted by Organic Alberta
FRIDAY 11:00 a.m. - 12:00 p.m.	SAR Tool Hosted by ARECA
SATURDAY 9:30 a.m. - 10:30 a.m.	Organic Hemp Research Findings - Strategies to Improve Your Yield Hosted by Hemp Production Services
SATURDAY 1:00 p.m. - 2:00 p.m.	Organic Hemp Research Findings - Strategies to Improve Your Yield Hosted by Hemp Production Services
SATURDAY 2:00 p.m. - 3:00 p.m.	Introducing "Soil Booster Agricultural Blend" Hosted by Grassroots Organic Dirt Supplements Co. Inc.

Winter Watering Systems Tour 2019

SATURDAY, FEBRUARY 2nd, 2019

Registration & Lunch served at 11:30 am
CAP Grant Opportunities Presentation
Tour of 3 off-grid watering systems
Bonanza Hall

$15/Member, $25/Member Pair, $20/Non-Member, $35/Non-Member Pair
LUNCH INCLUDED

* * * * * * * * * * * * * * *

Saddle Hills COUNTY

PCBFA
PEACE COUNTRY BEEF & FORAGE ASSOCIATION

For more information
or to register:
peacecountrybeef.ca
info@pcbfa.ca
780-835-6799 ext.3

COCKTAIL COVER CROP DESIGN WORKSHOP

Tuesday, February 5th
The Centre in Debolt
10:00 am Coffee & Registration
10:30 am Workshop Start Time

Cost: $30/Member
$50/Member Pair
$40/Non-Member
$70/Non-Member Pair

LEARN HOW TO DESIGN A BLEND THAT WILL FIT YOUR FARM'S GOALS & MANAGEMENT

LOCAL INFORMATION, LOCAL EXPERIENCE

For More Information or to Register:
peacecountrybeef.ca | info@pcbfa.ca | 780-835-6799 ext.3

PCBFA
PEACE COUNTRY BEEF & FORAGE ASSOCIATION

MUNICIPAL DISTRICT OF GREENVIEW No. 16

SHELTERBELT WORKSHOP

WEDNESDAY, FEB 6 2019
AT 6:30PM
ST. ISIDORE COMMUNITY CENTRE

NORTHERN SUNRISE COUNTY

ALUS

AWES

THIS IS AN EDUCATIONAL WORKSHOP WITH THE AIM OF PROVIDING YOU WITH TOOLS FOR SUCCESSFUL TREE PLANTING

For more information please visit
www.northernsunrise.net
or call (780) 322-3831

NORTHERN SUNRISE COUNTY
We've got it all!

ALUS

AWES

Bumblebee House Building Workshop

BEE A FRIEND and create your very own mini bee sanctuary, providing a safe habitat for our friends!

Thursday, February 7, 2019 at 6:30 pm
St. Isidore Community Centre

FOR ALL THE BUZZZZZ....
PLEASE VISIT
WWW.NORTHERNSUNRISE.NET
OR CALL (780) 322-3831

RED BOW
Agricultural Partnership

Ranching Opportunities is a conference designed for producers involved in or interested in the profession of managing livestock. It was developed with the goal of promoting environmentally and economically sustainable livestock production. We offer innovative and thought provoking sessions tailored to the current industry issues facing livestock producers.

This event covers a wide range of topics related to on-farm best practices for natural resource and livestock management and economic development. Each year the organizing team ensures the topics are interesting and relevant to the current industry climate. Workshop sessions have included livestock handling demonstrations, off-site watering system demonstrations, manure management, producer panels on a variety of topics, market updates, livestock health and much, much more.

RANCHING OPPORTUNITIES 2019

Empowering Change & Innovation

Register

#ranchingopportunities

Click Here For
Accomodations

Wednesday February 13th 2019

SESSION ONE

9am to 2pm

SESSION TWO

3pm to 6pm

SPEAKERS

Dr. Elaine Ingham
Soil Food Web

Kevin Elmy
Cover Crops Canada

Dr. Yamily Zavala
CARA Soil Health Lab

WORKSHOP *(Limited Seats)*

Receive Hands-on training in the CARA Soil Health Lab with **Dr. Elaine Ingham** & **Dr. Yamily Zavala.**

REGISTER

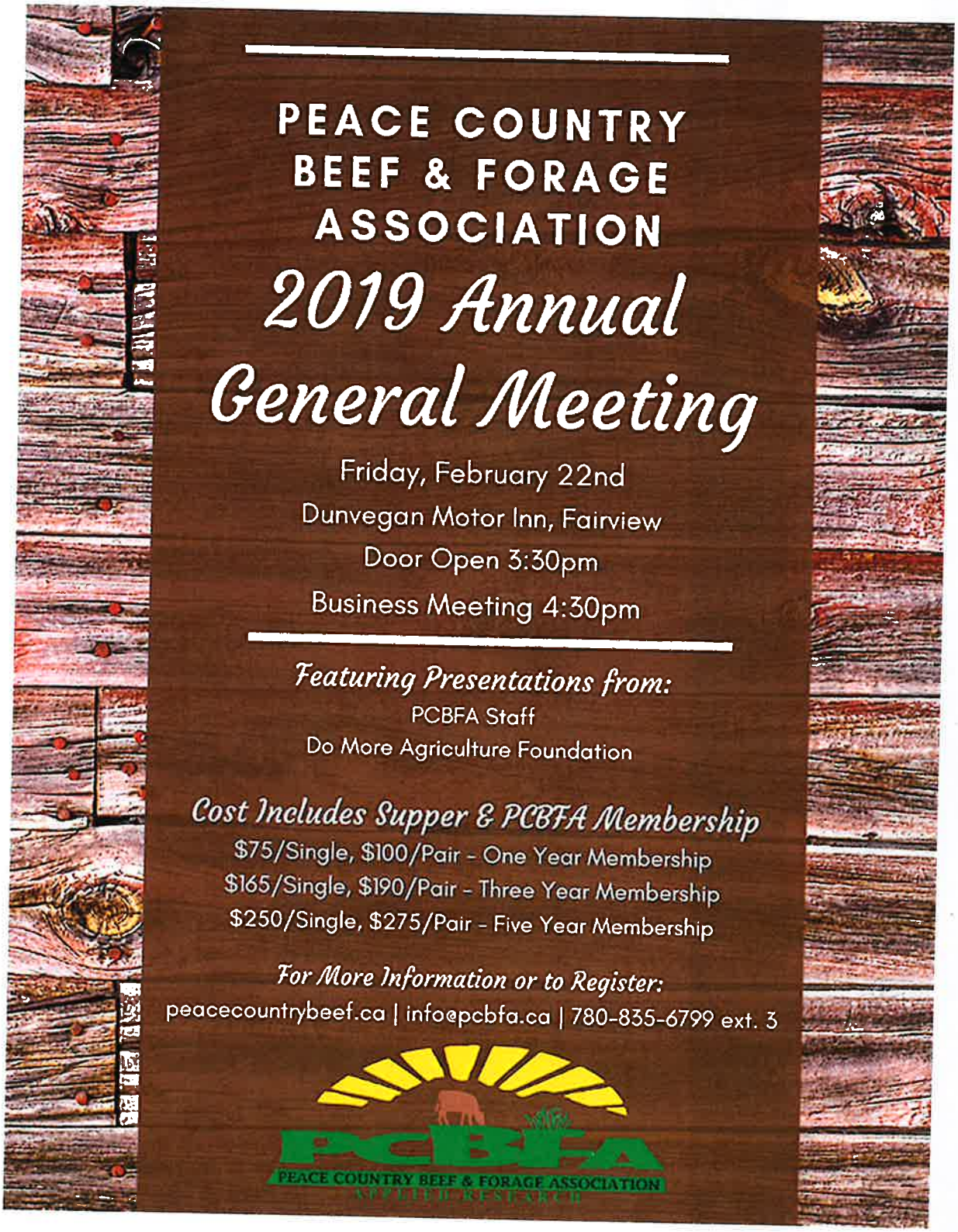
Call CARA at 403-664-3777 or through Eventbrite

WHERE

Oyen Legion Center
Oyen, Alberta

*Early bird price ends January 31

cara-3@telus.net
CARASoilHealthLab.ca


PEACE COUNTRY
BEEF & FORAGE
ASSOCIATION
2019 Annual
General Meeting
Friday, February 22nd
Dunvegan Motor Inn, Fairview
Door Open 3:30pm
Business Meeting 4:30pm
Featuring Presentations from:
PCBFA Staff
Do More Agriculture Foundation
Cost Includes Supper & PCBFA Membership
$75/Single, $100/Pair - One Year Membership
$165/Single, $190/Pair - Three Year Membership
$250/Single, $275/Pair - Five Year Membership
For More Information or to Register:
peacecountrybeef.ca | info@pcbfa.ca | 780-835-6799 ext. 3
PCBFA
PEACE COUNTRY BEEF & FORAGE ASSOCIATION

2019 Farm to Market to Table

Name: 2019 Farm to Market to Table

Date: February 28, 2019 - March 1, 2019

Registration: Register Now

Event Description:

FARM to MARKET to TABLE

ALBERTA FARMERS' MARKET ASSOCIATION SINCE 1994

Alberta Farm Fresh Producers Association

JOIN US...for a conference for Farm Direct Marketers, Farmer's Market Vendors, Agri-Tourism and Local Foodies

DATE: February 28 - March 1, 2019
LOCATION: Coast Nisku Inn & Conference Centre, Nisku, Alberta

PROGRAM INCLUDES

Plenary/Breakout Sessions | Tradeshow | AFMA & AFFPA AGM Meetings | 2nd Annual SIPS & Awards Banquet
Optional tour of the Leduc Food Processing Development Centre (pre-registration required)

Keynote Speakers: Geoff Stewart from Rig Hand Distillery + Kreg Alde from Broken Tine Orchard

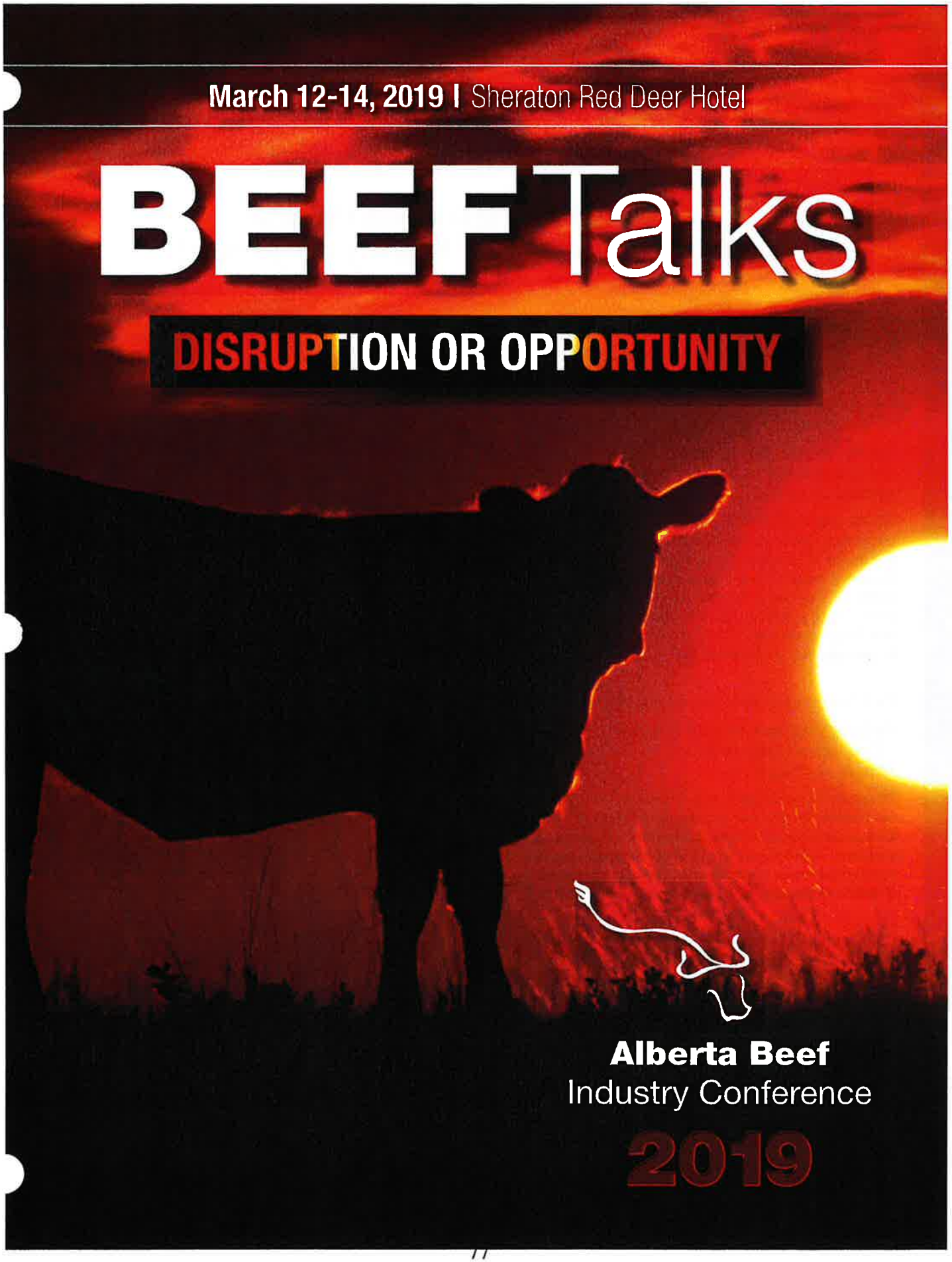
PRE-CONFERENCE WORKSHOP: Introductory Fruit Production Workshop with the Alberta Farm Fresh Producers Association

REGISTRATION

EARLY BIRD PRICING: Register before February 8th and save $50 (discounted rate applied at completion of registration)

Member rates available for AFFPA Members | AFMA Members | Chamber Members | 4-H Members
* Contact AFFPA & AFMA for registration **PROMO CODE** OR use your Chamber login

FOR MORE INFO *visit www.albertafarmfresh.com or www.albertafarmersmarket.com*


March 12-14, 2019 | Sheraton Red Deer Hotel
BEEF Talks
DISRUPTION OR OPPORTUNITY
Alberta Beef
Industry Conference
2019

Attend Alberta's Premier Beef Industry Event

Be part of the conversation this year at the 2019 Alberta Beef Industry Conference!

MARCH 12, 2019
PRE-CONFERENCE WORKSHOPS

Navigating the Temporary Foreign Worker Program Staying Compliant from LMIA to Work Permit

Ken Nickel-Lane | Managing Director
Newland Chase
10:00am – 12:00pm

We will walk participants through a step-by-step process of preparing a Labour Market Impact Assessment (LMIA) and will go through a case study of a Temporary Foreign Worker file, discussing common errors that lead to compliance issues during audits and inspections. We will take participants through an internal audit process, so that they are equipped to audit their own Temporary Foreign Worker files and are well-positioned for success when faced with an audit or on-site inspection.

Calf Vaccinations Emerging Knowledge and Trends

Dr. Claire | Windeyer, Associate Professor UCVM, Adjunct Professor WCVM
10:00am to 12:00pm

Discussion on the emerging knowledge and trends in calf vaccinations. We will take into consideration overall cow/calf management systems, where opportunities for vaccinating are limited once cattle are moved to pasture and vaccination opportunities occur when calves are fairly young, immune systems are immature, and maternal antibodies are still high.

Regulations Limitations Collaboration Opportunities: What E-ID can do for you!

Anne Brunet-Burgess | GM, CCIA
Deborah Wilson | Sr. VP, BIXco Inc.
12:30pm to 2:00pm

CCIA and BIX Systems, will help you sort through the proposed regulations affecting all producers, the BIX System/CCIA collaborative process, the limitations of sharing data, and the tremendous opportunities that exist by leveraging electronic identification (E-ID) technologies. Light bites and refreshments served from noon.

Canadian Beef Sustainability Pilot Update

Emily Murray | GM, McDonald's Beef - Cargill
Shawn Wilson | TM, Zoetis
2:00pm – 3:30pm

Plan to attend this multi-focused workshop that will inform attendees on numerous programs benefiting the Canadian beef industry. Attendees will hear about the Zoetis SelectVac Gold Plus program that supports producers cow/calf & feedlot health outcomes, as well as updates from CRSB and the Canadian Beef Sustainability project.

An In-depth Look into Alberta's Electricity and Natural Gas Markets

3:00pm – 4:00pm

Partake in an interactive session about the Alberta electricity and natural gas markets hosted by, AltaGas Ltd. AltaGas and ALPS have been supplying agricultural customers across Alberta with competitively priced energy options and customized industry-specific service. We will shed some light on the unique and ever-changing Alberta market structure, the various parties involved and how they impact your invoice. The session is only available to current ALPS members or those agricultural operations not currently involved but looking to know more about it.

WSGA | AGM
2:00pm – 4:00pm

ACFA | AGM
3:30pm – 6:00pm

Opening Banquet - *6:00pm*

MARCH 13, 2019
CONFERENCE PROGRAMING

Danny Hooper | Master of Ceremonies

If the future is different than the past, is your business ready?

Amber Mac | Relentless Adaptation & Digital Innovation Speaker – Co-Host of The AI Effect
Marty Seymour | Director, Industry & Stakeholder Relations, Farm Credit Canada
8:35am

The pace of change is happening faster than ever before. We obsess over innovation. But is innovation overrated? If you look at the smart companies that are prized for "innovation," you see that they are actually masters of "adaptation". Marty and Amber will challenge you to think outside the box as they explore modern technologies and future innovations. This one-of-a-kind presentation will not only be engaging, it will provide insightful perspective on the future of our industry and how you can be a master of adaptation.

Trade, Innovation, Prosperity

10:30am

Hear why expert negotiators are needed for securing the conditions our beef producers need to develop profitable relationships with customers across the globe. This session will provide an insider's perspective on governments' approach to trade matters and the impact it has on the Canadian beef industry.

Sustainability in Beef - the Nexus between Productivity and Environmental Performance

Dr. Frank Mitloehner | Professor and Air Quality Extension Specialist, Department of Animal Science, University of California
11:15am

Over the last 50 years, there has been an extraordinary reduction in carbon footprint of the cattle industry in North America, which is viewed by many as a vindication of modern production practices. While this achievement is of major importance, attention should be given to the areas of environmental mitigation opportunities that still exist, especially in the areas of carbon emission reductions, welfare and health. Optimizing productivity and welfare will allow for further reductions in the environmental footprint per unit of product while addressing other critical sustainability areas.

Workshops | Tradeshow | Education Sessions | Networking | Social Functions

SCHEDULE

March 12, 2019

10am – 12pm	Navigating the TFW Program
10am – 12pm	Calf Vaccinations – Emerging Knowledge and Trends
12:30pm – 2pm	What E-ID can do for you!
2pm – 3:30pm	Canadian Beef Sustainability Pilot Update
2pm – 4pm	WSGA AGM
3pm – 4pm	In-depth Look into Alberta's Energy Market
3:30pm – 6pm	ACFA AGM
6pm	Opening Banquet

March 13, 2019

8:15am	Welcome
8:30am	If the future is different than the past, is your business ready?
10:30am	Trade, Innovation, Prosperity
11:15am	Climate Change – Debunking the Myths
2:00pm	The rise of the conscious carnivore? The good, the bad and the awfully ugly.
2:45pm	Western Canada's Economy: Risks and Opportunities; Offense and Defense
3:45pm	Trade Show Reception
5:30pm	Taste of Alberta and Live Auction
5:30pm	Host Bar
9:30pm	Alltech Tasting Room

March 14, 2019

8:00am	2019-20 Weather Forecast
9:30am	CanFax Cattle Market Update
10:00am	Global Beef & Protein Outlook
10:45am	Global Economic Outlook Amidst Rising Uncertainty
11:30am	Cowboys & Indians – Causing Disruption to Create Economic Prosperity

(Subject to change)

The rise of the conscious carnivore? The good, the bad, and the awfully ugly.

Dr. Sylvain Charlebois | Professor, Food Distribution and Policy, Faculty of Management Professor, Faculty of Agriculture Dalhousie University, Canada Scientific Director (interim), Institute of Agri-food Analytics
2:00pm

For years, voluntarily committing to a special diet was a tacit choice. It appears these choices are now allowing a growing collective to go on the offensive. Estimates from a recent wide-ranging Dalhousie University study suggest that Canada harbours more than 2.3 million vegetarians, and upwards of 850,000 vegans. The number of vegetarians in Canada is almost equivalent to the population of Montréal, one of Canada's largest cities. So, what's going on? The meat industry is certainly being challenged these days by more activists advocating against meat consumption. Some are suggesting we ban meat consumption altogether. Still, meat does have a future, but it's getting complicated out there.

Western Canada's Economy: Risks and Opportunities; Offense and Defense

Brad Wall | Special Advisor Osler, Hoskin & Harcourt LLP Former Premier of Saskatchewan
2:45pm

Brad is known for continuously championing Alberta's Agriculture industry. He will enlighten attendees on the current political landscape and its impact on western Canada.

MARCH 14, 2019

2019-20 Weather Forecast

Dr. Art Douglas | Creighton University
8:00am

The Alberta Beef Industry Conference is pleased to welcome back Art Douglas to discuss our upcoming weather forecast. This year's session will look at the impact of upcoming weather patterns and the effect they have on the agricultural community.

CanFax Cattle Market Update

Brian Perillat | Manager, CanFax
9:30am

This session will focus on the beef industry's supply/demand dynamics, and current Canadian price trends. Key factors to watch for the Canadian cattle industry for the upcoming year and beyond will also be outlined.

Global Beef & Protein Outlook

Brett Stuart | Founding Partner, Global AgriTrends
10:00am

A view of the global beef landscape including a discussion of President Trump's Trade Actions, global beef supplies, trade agreements, a major swine disease in China, and a watchlist for 2019.

Global Economic Outlook Amidst Rising Uncertainty

Brett House | Vice-President and Deputy Chief Economist, Scotiabank
10:45am

What's ahead for the global economy? This presentation will analyze the prospects for and threats to continued growth amidst rising interest rates, increasing protectionism, and heightened policy uncertainty.

Cowboys & Indians – Causing Disruption to Create Economic Prosperity

Chief Clarence Louie | Osoyoos Indian Band and CEO of Business Development

Chief Clarence Louie is one of the most innovative Indigenous leaders in Canadian history. Being a true entrepreneur at heart, Chief Louie saw the need to eliminate First Nation dependency by attaining self-sufficiency. By engaging with his band members and raising the bar, Chief Louie has turned a bankrupt band into a multi-faceted corporation that employs hundreds of people and is a major economic generator in the South Okanagan.

Join us at the Taste of Alberta & Auction

Dinner Entertainment | John Hastings, Comedian
There is no doubt that John is an incredible performer. He has been performing stand-up since 2006. He has won the Just For Laughs Montreal Comedy Festival Homegrown Comedy Competition, and has been called "one to watch" by the Comedy Network.

Should you have any questions regarding the 2019 conference please feel free to contact us at: 403-250-2509 or by email at jbrunette@cattlefeeders.ca
Register online at www.abiconference.ca

@ABBeefConf

Alberta Beef Industry Conference

Registration online at: www.abiconference.ca

BEEFTalks

Disruption or Opportunity

Company Name _____

Mailing Address: _____ Prov _____ Postal _____

Phone: _____ Email: _____

Delegate's Name: _____ Company: _____

Delegate's Name: _____ Company: _____

Pre-Conference Mini Sessions | March 12, 2019 *Please Indicate sessions*

☐ Navigating the TFW Program ☐ Calf Vaccinations ☐ Canadian Beef Sustainability Pilot

☐ What E-ID Can Do For You ☐ Alberta's Electricity and Natural Gas Markets (free) _____$25

Conference (March 13 & 14 2019) Early_____$455 Late_____$555
Early Rates End February 1, 2019.

Spouse's Name: _____ _____$355

Young Producer's Name (Under 30 Only): _____ _____$250

Yes, I would like to sponsor a student or young producer at the conference. _____$250
Your company name will be displayed on the student or young producers name tag and recognition of your contribution will be noted during the conference.

Additional Dinner Tickets **Full Delegate & Spousal Registrations include all meals**

Tuesday - Opening Dinner _____$85 Wednesday - Taste of Alberta _____$95 $_____

Are you donating an auction item?
_____I will bring the item with me to conference
_____The item will be delivered to ACFA prior to February 15

Subtotal $_____
GST R106692858 - 5% $_____
TOTAL $_____

Approximate Value _____

Description _____

Credit Card _____ **Type (V/MC):** **Exp:** **CVD**

Name on Card: _____ **Signature:** _____

FAX: 403 - 209 - 3255 | MAIL: #6, 11010 - 46 Street SE Calgary AB T2C 1G4
Refunds less $75.00 administration fee until February 1, 2019. Fee is non-refundable after this date.
Delegate substitution is permitted at anytime.

Hotel Information

Sheraton Hotel & Conference Centre
3310 – 50 Ave Red Deer AB
Toll Free Reservations:
1-800-662-7197

Sandman Hotel
2818 Gaetz Ave Red Deer
Red Deer AB
Toll Free Reservations:
1-800-726-3626

Black Knight Inn
2929 – 50 Ave
Red Deer AB
Toll Free Reservations:
1-800-661-8793

Red Deer Lodge
4311 – 49 Ave
Red Deer AB
Toll Free Reservations:
1-800-661-1637

Disclaimers: All supplies and equipment of any kind brought onto the premises by the exhibitor before, during or after the show shall be at the exhibitors own risk. Tradeshow management, facility management and their employees and agents shall be protected and held harmless from all claims made by or on account of loss or damage to property, injury or death resulting from the use or occupancy of the space allotted as per this agreement.

2019 Livestock Care Conference Agenda

Wednesday March 20, 2019

8:00 am – 12:00 pm	TLAER Introductory Course- Dr. Rebecca Gimenez
12:00 pm – 1:00 pm	Lunch (not provided by AFAC)
1:00 pm – 5:00 pm	**FCC** Meet the Experts Session (By Invite Only)
6:00 pm – 10:00 pm	Reception- AAA Baron of Beef, Beer Tastings & Trivia Night ($50/ticket)

Thursday March 21, 2019- Moderated by Dianne Finstad

7:45 am – 8:45 am	AFAC Annual General Meeting
8:00 am – 9:00 am	**Registration Open**
9:00 am – 9:15 am	Message from Oneil Carlier, Agriculture Minister (unconfirmed)
9:15 am – 9:30 am	Welcome and AFAC update – *Annemarie Pedersen*
9:30 am – 10:30 am	**KEYNOTE:** Technical Large Animal Emergency Rescue – *Dr. Rebecca Gimenez (Sponsored by the Alberta Veterinary Medical Association)*
10:30 am – 11:00 am	**MORNING BREAK**
11:00 am – 11:30 am	**Equine RRSP**- Retirement, Rescue, Slaughter and Public Attitudes - *Bettina Bobsien*
11:30 am – 12:15 pm	Growing Pains (AMU/AMR Panel)- *Cassandra Kirkpatrick, Tom Inglis, Keith Lehman & more..*
12:15 pm – 1:15 pm	**LUNCH BREAK & AWARDS OF DISTINCTION PRESENTATION**
1:15 pm – 2:00 pm	Regulatory Panel: Sample ALERT Call- *Lindsey Anderson- RCMP, Janet Patriquin- Farmers Advocate, Ken Dean- Alberta SPCA & more..*
2:00 pm – 2:45 pm	Navigating "tough" conversations in animal welfare- *Becky Taylor & Sage Pullen McIntosh (Sponsored by Rural Roots Ag Days & Cole's Ag Communications)*
2:45 pm – 3:30 pm	**AFTERNOON BREAK & EMERGENCY LIVESTOCK HANDLING EQUIPMENT TRAILER TOUR**
3:30 pm – 4:00 pm	Poultry Behaviour- *Karen Schwean Lardner (Sponsored by Poultry Health Services)*
4:00 pm – 4:30 pm	Feedlot Assessment Tool- *Joyce Van Donkersgoed*
4:30 pm	Conference Adjournment

Soil Health & Crop Field Day

Monday, July 30th, 2018
9:00 am - 1:00 pm
CARA Center, Oyen
$25 (includes lunch)

Regional Variety Trials

Specialty Crop Demos

Cocktail Cover Crop Demos

Fertility Trials

Crops to see:

Wheat, Durum, Barley, Peas, Lentils, Flax, Camelina, Plantain, Chicory, Phacelia, Quinoa and more!

CEU credits available

Featured Speakers

Dr. Yamily Zavala, *CARA*

Clair Langlois, *AF Cereal Extension Specialist*

Manjula Bandara, *AF Special Crops Research Scientist*

Neil Whatley, *AF Crop Specialist*

Derek Flad, NorQuin

Bob West, *R.A. West International*

Dr. Elaine Ingham, *Soil Food Web*

Kevin Elmy, *Friendly Acres Seed*

Please pre-register
Phone: 403-664-3777
or email: cara-3@telus.net

Sponsors

Special Areas Board | Municipal District of Acadia #34 | Alberta Agriculture and Forestry | Alberta Canola Producers Commission | Alberta Barley | Alberta Pulse Growers | NorQuin | Alberta Wheat

January 2019

Sun.	Mon.	Tue.	Wed.	Thu.	Fri.	Sat.
		1	2	3	4	5
6	7	8 Council Mtg.	9	10 Peace Agronomy Update	11	12
13	14 ASB Meeting	15	16	17	18	19
20	21 ASB Provincial Conference	22 Council mtg.	23	24	25 Organic Alberta Conference	26
27	28	29 FarmTech GC	30	31		

January 10th – Peace Agronomy Update, Fairview

January 21st-24th ASB Provincial Conference in Calgary

January 25th – 26th – Organic Alberta Conference at the Dow Centennial Centre in Fort Saskatchewan

January 29-31st FarmTech in Edmonton (Garry Candy)

Legend:
BH – Brian Harcourt
BR – Baldur Ruecker
MR – MacKay Ross
GC – Garry Candy
JW – Julie Watchorn
DJ – David Janzen
All – All available members

February 2019

Sun.	Mon.	Tue.	Wed.	Thu.	Fri.	Sat.
					1	2 Winter Watering Systems Tour
3	4	5 Cocktail Cover Crop Design	6 Shelterbelt Workshop	7 Bumblebee House Building Ranching Opportunities	8	9
10	11	12	13 Soil Health Mini Conference	14	15	16
17	18 Family Day County Closed	19	20	21	22 PCBFA AGM	23
24	25	26	27	28 Farm Market to Table	March 1	

February 2nd – Winter Watering Systems Tour at the Bonanza Hall
February 5th – Cocktail Cover Crop Design Workshop at the Centre in Debolt
February 6th – Shelterbelt Workshop at the St. Isidore Cenre starting at 6:30 p.m.
February 7th – Bumblebee House Building Workshop at the St, Isidore Centre starting at 6:30 p.m.
February 7th – Ranching Opportunities at the Olds College Alumni Building
February 13th – Soil Health Mini Conference at the Oyen Legion Centre in Oyen, Alberta.
February 22nd – PCBFA Annual General Meeting at the Dunvegan Motor Inn
February 28th – March 1st – Farm Market to Table at the Coast Nisku Inn & Conference Center in Nisku, Alberta.

Legend:
BH – Brian Harcourt
BR – Baldur Ruecker
MR – MacKay Ross
GC – Garry Candy
JW – Julie Watchorn
DJ – David Janzen
All – All available members

March 2019

Sun.	Mon.	Tue.	Wed.	Thu.	Fri.	Sat.
					1	2
3	4	5	6	7	8	9
10	11	12 Alberta Beef Conference Council Mtg.	13	14	15	16
17	18 ASB Mtg.	19	20 Livestock Care Conference	21	22	23
24	25	26 Council Mtg.	27	28		

March 12th – 14th – Alberta Beef Conference at the Sheraton Red Deer Hotel
March 20th – 21st – Livestock Care Conference in Olds, Alberta.

Legend:
BH – Brian Harcourt
BR – Baldur Ruecker
MR – MacKay Ross
GC – Garry Candy
JW – Julie Watchorn
DJ – David Janzen
All – All available members

Clear Hills County
Request For Decision (RFD)

Meeting:	Agricultural Service Board
Meeting Date:	January 14, 2019
Originated By:	Greg Coon, Agricultural Fieldman
Title:	**ASB Grant Program Review**
File:	63-10-02

DESCRIPTION:

The Board is presented with information regarding the ASB Grant Program review.

BACKGROUND:

Alberta Agriculture and Forestry (AF) announced they are beginning a review of the Agricultural Service Board Grant Program, with the goal of improving the effectiveness and impact of the program.

AF is seeking input and participation in this review from each Ag Fieldman in the province through an on line survey, which was completed December 15th, 2018.
AF is also conducting face to face sessions for ASB members across all five regions. The Peace region session will be held February 26th, 2019, at the Chateau Nova Hotel in Peace River. AF is requesting each municipality sends two ASB members to the session. Attendees must be registered with AF before February 19th, 2019.

ATTACHMENTS:

- ASB Review Launch Letter
- ASB Member Face to Face Invitation

RECOMMENDED ACTION:

RESOLUTION by... that this Agricultural Service Board send _____ and _____ to the face to face session in Peace River on February 26th 2019.

Initials show support - Reviewed by: **Manager:** AB **AgFieldman:** GC

Alberta Agriculture and Forestry

Agricultural Service Board Unit
6547 Sparrow Drive
Leduc, Alberta T9E 7C7
Canada
Telephone: 780-980-4878
www.alberta.ca

October 1, 2018

Dear ASB Members and Agricultural Fieldmen

Subject: Agricultural Service Board Program Review

Agriculture and Forestry (AF) is beginning a review of the Agricultural Service Board (ASB) Program, beginning in the fall of 2018. The goal of the review is to verify previously identified issues, identify any new issues, and identify potential solutions to improve the effectiveness and impact of the ASB grant program.

Your input and participation in this program review is important to help us assess and improve the program. You can provide input in the following ways.

1. An on-line survey will be sent to all agricultural fieldmen in the fall of 2018, to be completed before December 15, 2018.
2. Face-to-face facilitated sessions for ASB members across all five ASB regions (i.e. Southern, Northwest, Peace, North East, and Central) will take place in February-March, 2019. We are hoping each ASB from each of the five regions will be able to provide two board members to participate in their respective regional sessions. Physical location addresses, dates, and times for these sessions will be set later in the fall of 2018.

When the review and recommendations are completed by the ASB Program Steering committee will review the results and produce a report with recommendation to send to AF's Deputy Minister for decision. The ASB Program Steering Committee will consist of one representative member of ASB Provincial Committee, one representative member of Association of Alberta Agricultural Fieldmen, and AF staff.

AF has not completed a full ASB program review since 2005. A partial ASB program review, initiated by the Ministry of Municipal Affairs in 2010, resulted in the ASB Grant merging with the Alberta Environmental Sustainable Agriculture Grant with the following outcomes:

1. Targeted prevention and control of agricultural diseases, pests, weeds, and delivery of soil conservation programs as outlined in the *Agricultural Service Board Act.*
2. Effective agricultural policies and plans that address the specific needs and issues of each municipality.
3. Enhanced awareness, understanding, and implementation of agricultural best practices and programs for the responsible stewardship of land, air, water and biodiversity.
4. Strong collaborative relationships between AF, municipalities, agencies and other agricultural stakeholders to achieve shared goals.

AF enjoys an exceptional partnership with ASBs, who have been key player in achieving these expanded outcomes over the last eight years. We are look forward to your full participation in the 2018-19 ASB program review as we continue to grow our strong working partnership.

If you have any questions regarding the review please contact me at doug.macaulay@gov.ab.ca or 780-908-4878.

Sincerely,

Doug Macaulay

Doug Macaulay
ASB Program Manager

Agricultural Service Board Unit
Room 303, J.G. O'Donoghue Building
7000 - 113 St. Edmonton AB

Alberta Government

December 20, 2018

Alberta Agriculture and Forestry is inviting Agricultural Service Board members to attend one of five **ASB Member Face-to-Face Sessions** to be held across the province during the month of February.

South	February 6, 2019 (Wed.)	**Lethbridge** – Agriculture Centre, 100, 5401 - 1 Ave. South
Northwest	February 12, 2019 (Tues.)	**Barrhead** – Provincial Building, 6201 - 49 St.
Central	February 14, 2019 (Thurs.)	**Lacombe** – Memorial Centre, 5214 - 50 Ave.
Northeast	February 20, 2019 (Wed.)	**St. Paul** – Provincial Building, 5205 - 49 Ave.
Peace	February 26, 2019 (Tues.)	**Peace River** – Chateau Nova Hotel, 10010 - 74 St.
9:00 am Registration & Coffee ♦ **9:30 am** Start ♦ **3:30 pm** Adjournment		

The purpose of these sessions is to exchange information, share perspectives, and tap the collective wisdom of ASB members in a constructive **Review of the ASB Grant Program**. The dialogue harvest from all five regions will be considered along with results of the November 2018 Ag Fieldmen Survey. Participants' views will be reflected in recommendations to the Minister of Agriculture and Forestry, and will shape renewed Program Terms and Conditions (2019).

Participating ASB members can expect to:

- Explore grant-funded Program innovation ideas that will strengthen ASBs' ability to respond to change, remain relevant and valued in the future.
- Determine how best to capture and communicate the primary impact, benefits of ASB programming. Reflect on the ASB's profile with decision-makers, other government jurisdictions, partners and stakeholders; implications for continued program viability.
- Uncover practical ways to strengthen the Resolution process and outcomes linked to policies, practices and legislation.
- Generate practical tips and suggestions for improving the working relationship between Agriculture and Forestry and Agricultural Service Boards in implementing the ASB Grant Program.

The size of the dialogue sessions will be limited to enable better participation and exchange of ideas at the table. You are asked to identify two ASB members to represent your municipality at your designated region's locale.

To Register, email Pam Retzloff / pam.retzloff@gov.ab.ca with the following information:

- Session Location
- ASB Name
- ASB Member Rep #1 Name + Email
- ASB Member Rep #2 Name + Email

The registration deadline is **one week prior** to the scheduled region Dialogue Session. (See schedule above) Confirmed registrants will be forwarded an Agenda and information package within 3 days of submitting their attendance details. Lunch will be provided to registrants.

If you have any questions, please contact me at doug.macaulay@gov.ab.ca or 780/980-4878.

Yours truly,

Doug Macaulay
Manager, Agricultural Service Board Unit
Alberta Agriculture and Forestry

Clear Hills County
Request For Decision (RFD)

Meeting:	**Agricultural Service Board**
Meeting Date:	November 19, 2018
Originated By:	Greg Coon, Agricultural Fieldman
Title:	**2018 Year End Report**
File:	63-10-02

DESCRIPTION:

The Board is presented with the 2018 yearend report of Agricultural Services.

BACKGROUND:

Wolves: 39 wolves $13,650.00

VSI Active Members: 183
Administration will bring final number for 2018 VSI once the 4th quarter numbers are received.

County
Weed Notice: 14
Enforcements: 1

Village of Hines Creek
Weed Notice: 3
Enforcements: 3

ATTACHMENTS:

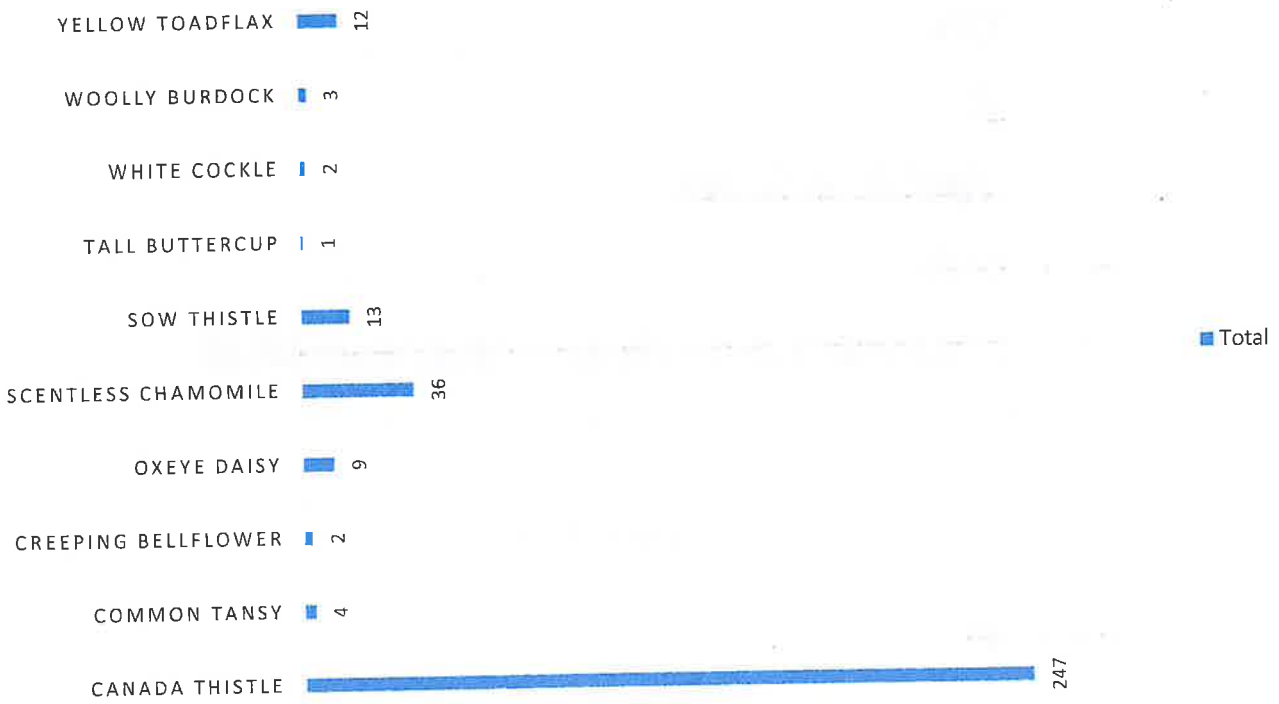
- Weed Inspection summaries
- Rental Equipment Revenue & Expense 2018-2015
- Rental equipment 3 year usage summary
-

RECOMMENDED MOTION:

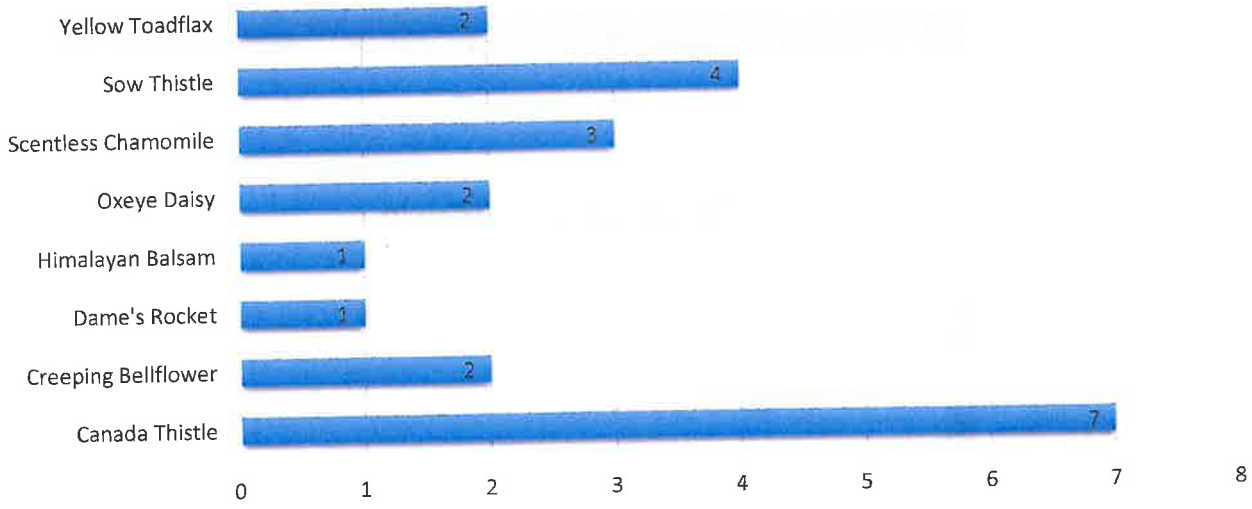
RESOLUTION by... that this Agricultural Service Board accept for information the 2018 year end of agricultural services.

Initials show support - Reviewed by: **Manager:** **AgFieldman:**

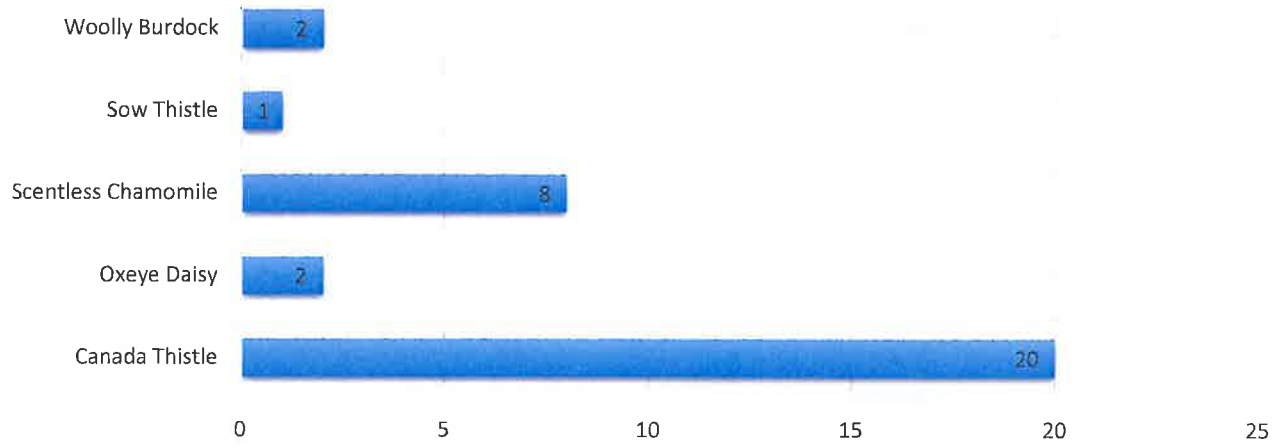
CLEAR HILLS COUNTY



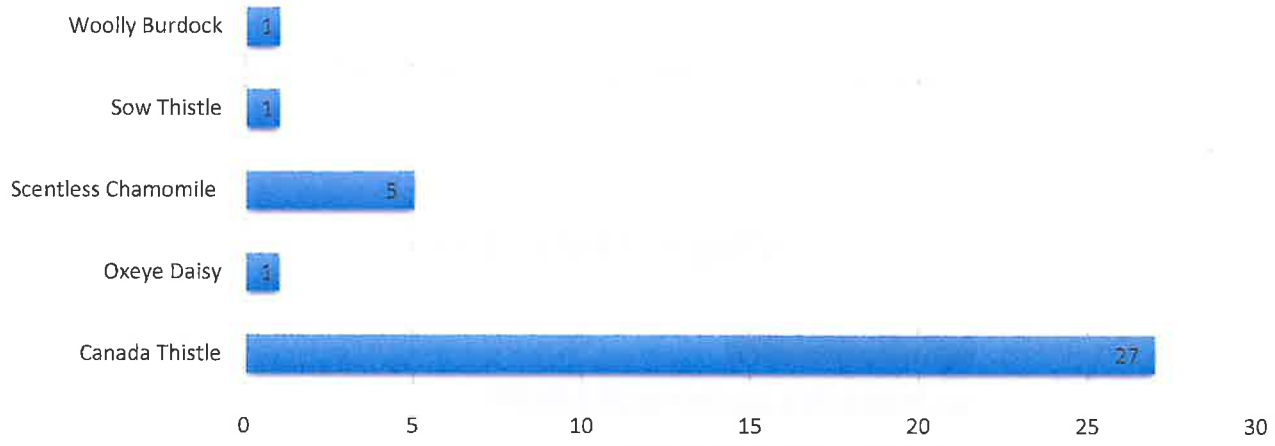
Village of Hines Creek



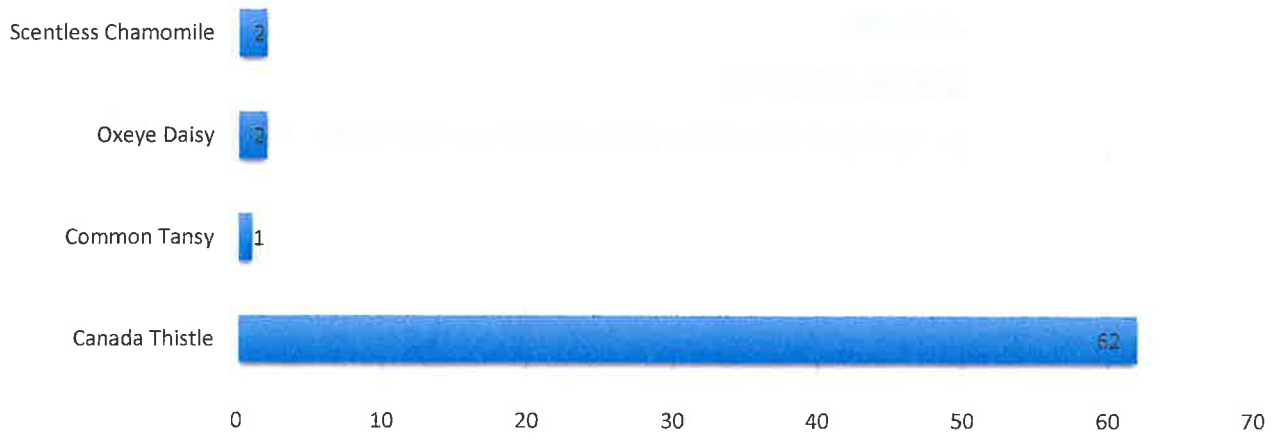
Bear Canyon



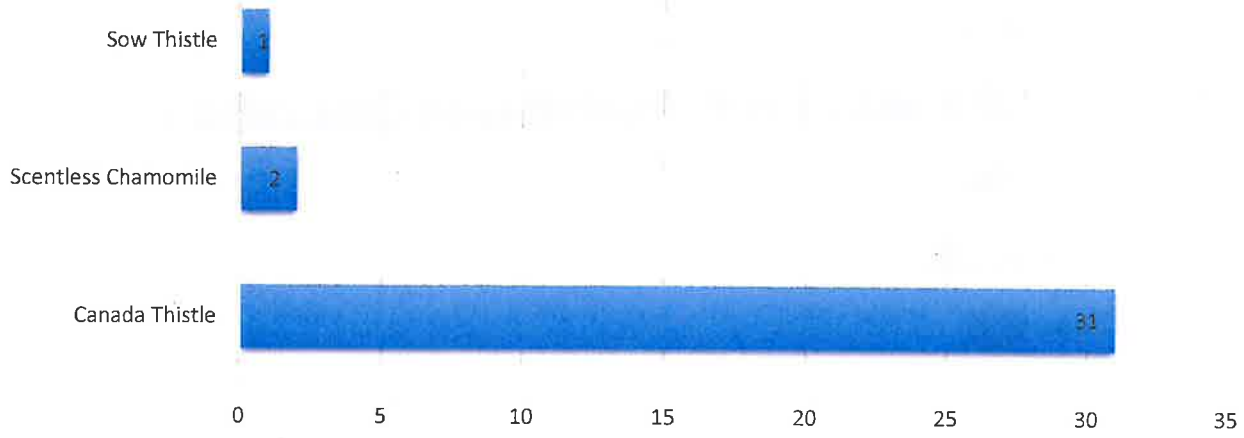
Cleardale



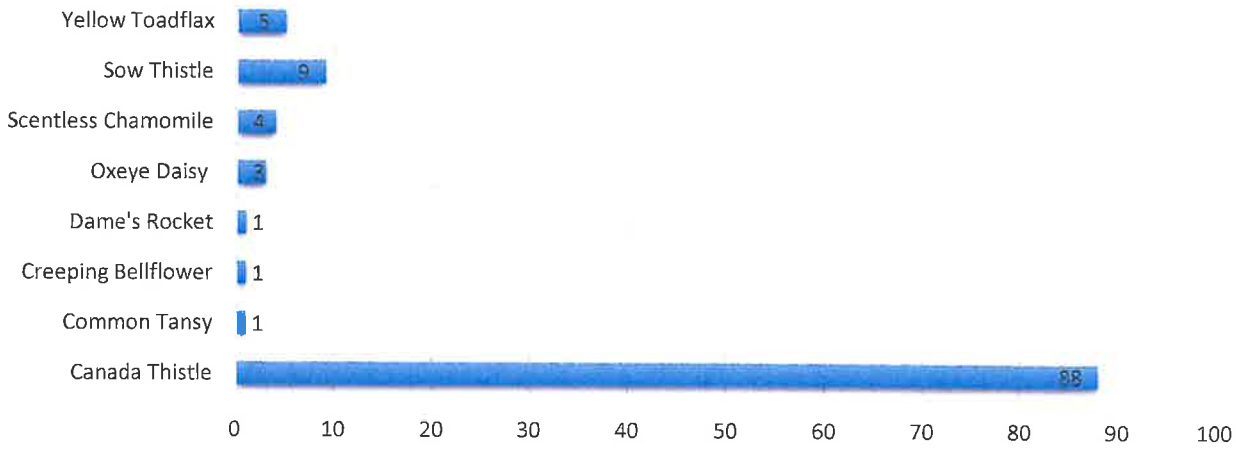
Worsley/Clear Prairie



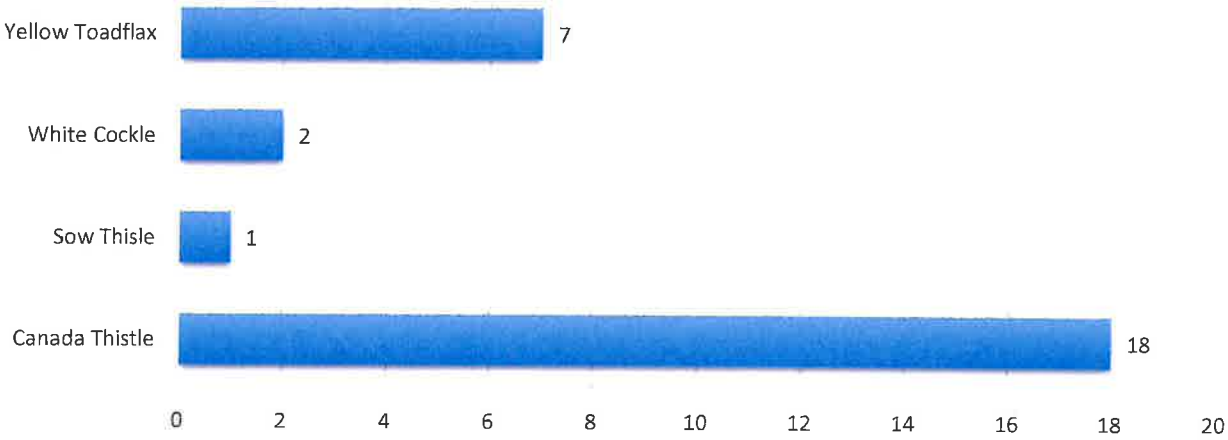
Eureka River

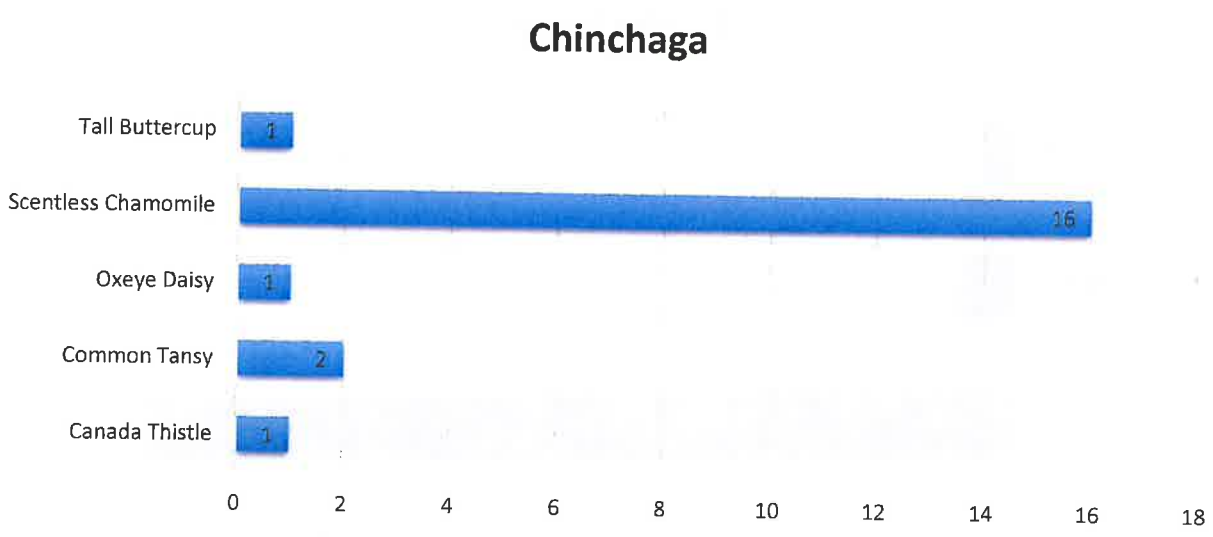


Hines Creek/Royce



Whitelaw




Chinchaga
Tall Buttercup
Scentless Chamomile
Oxeye Daisy
Common Tansy
Canada Thistle
1
16
1
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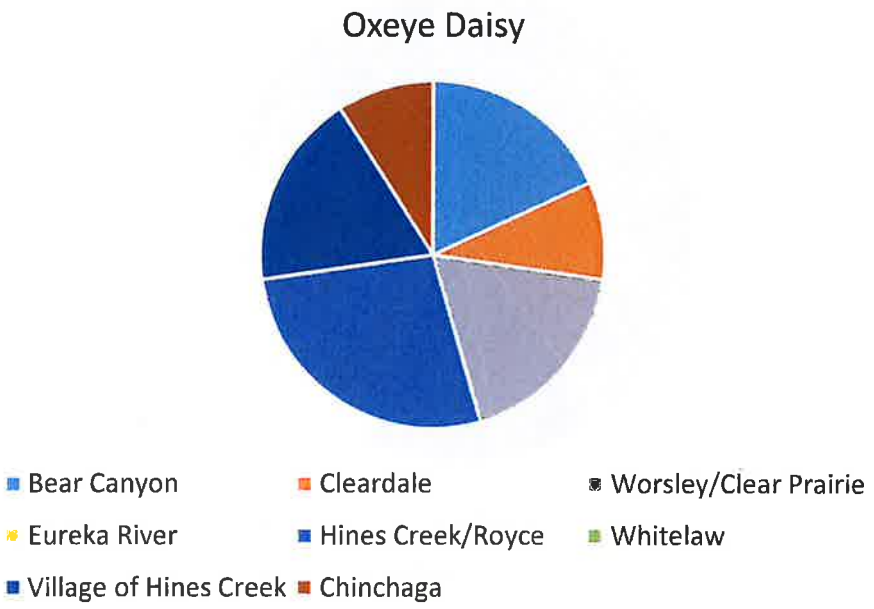
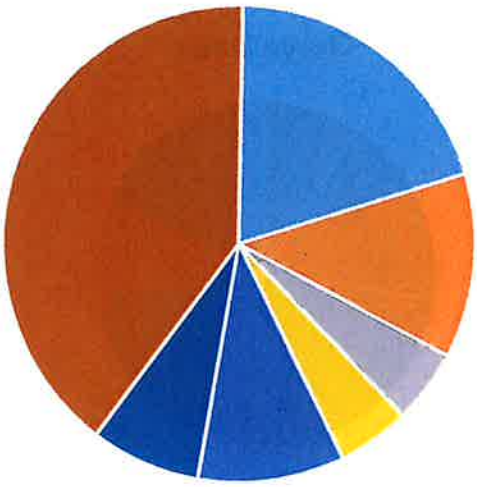

Oxeye Daisy
Bear Canyon
Cleardale
Worsley/Clear Prairie
Eureka River
Hines Creek/Royce
Whitelaw
Village of Hines Creek
Chinchaga

Scentless Chamomile



Bear Canyon
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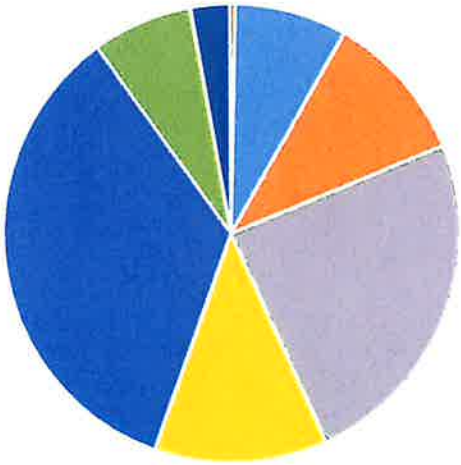
Eureka River
Hines Creek/Royce
Whitelaw
Village of Hines Creek
Chinchaga

Canada Thistle



Bear Canyon
Cleardale
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Eureka River
Hines Creek/Royce
Whitelaw
Village of Hines Creek
Chinchaga

Rental Equipment Usage January 1, 2018 - Deember 31, 2018

Equipment	Rental Deposits	Rental Rates	Total Users	Total Days	Total Revenue (Year to date)	2017 Total Users2	2017 Total Days2	2017 Total Revenue	2016 Total Users3	2016 Total Days3	2016 Total Revenue3	2015 Total Users4	2015 Total Days4	2015 Total Revenue3
Backpack Sprayer	$ 50.00	$ -	1	1	$ -	0	0	$ -	1	1	$ -	0	0	$ -
Bale Scale	$ 100.00	$ 30.00	1	1	$ 30.00	4	4	$ 120.00	3	3	$ 90.00	12	12	$ 360.00
Chairs	$ 50.00	$0.5/chair	10	10	$ 405.50	8	8	$ 292.00	9	11	$ 321.00	7	9	$ 459.50
Community Centre	$ 50.00	$ 50.00	16	16	$ 750.00	11	18	$ 900.00	5	6	$ 300.00	7	17	$ 850.00
Corral Panels	$ 50.00	$ 50.00	5	6	$ 300.00	9	15	$ 600.00	3	4	$ 100.00	9	10	$ 500.00
Eco-Bran Applicator	$ 50.00	$ 50.00	0	0	$ -	3	3	$ 150.00	1	1	$ 50.00	2	2	$ 100.00
Grain Bag Roller	$ 50.00	$ -	21	21	$ -	11	15	$ -	7	11	$ -	12	14	$ -
Grain Bagger	$ 350.00	$ 350.00	4	16	$ 5,600.00	2	5	$ 1,750.00	3	3	$ 1,050.00	0	0	$ -
Grain Bag Extractor	$ 350.00	$ 350.00	7	10	$ 3,500.00	9	12	$ 3,325.00	3	3	$ 1,050.00	3	5	$ 1,750.00
Grain Vac	$ 400.00	$ 200.00	35	37	$ 6,800.00	26	30	$ 5,900.00	25	26	$ 5,200.00	25	29	$ 5,600.00
Grill	$ 50.00	$ 5.00	5	18	$ 80.00	5	9	$ 25.00	3	11	$ 55.00	10	16	$ 80.00
Hand Held Rope Wick	$ 50.00	$ 10.00	0	0	$ -	0	0	$ -	2	2	$ 20.00	0	0	$ -
Land Leveller	$ 260.00	$ 130.00	6	6	$ 780.00	6	15	$ 1,950.00	3	3	$ 390.00	6	12	$ 1,560.00
Loading Chute	$ 50.00	$ 25.00	9	9	$ 225.00	21	23	$ 550.00	17	18	$ 450.00	17	17	$ 425.00
Manure Spreader	$ 300.00	$ 150.00	8	21	$ 3,150.00	4	4	$ 450.00	2	8	$ 1,200.00	7	20	$ 3,000.00
Mulch Applicator	$ 50.00	$ 25.00	1	1	$ 25.00	1	1	$ 25.00	0	0	$ -	0	0	$ -
Extra Hoses	$ 50.00	$ 1.00	4	12	$ 114.00	0	0	$ -	2	2	$ 67.50	2	3	$ 2.00
Post Pounder	$ 250.00	$ 125.00	17	19	$ 2,187.50	20	29	$ 3,576.00	14	16	$ 2,000.00	25	37	$ 4,625.00
Pull/Push Roller Applicator	$ 50.00	$ -	0	0	$ -	0	0	$ -	0	0	$ -	0	0	$ -
Quad Mount Rope Wick	$ 50.00	$ -	0	0	$ -	0	0	$ -	0	0	$ -	0	0	$ -
Quad Mounted Sprayer	$ 50.00	$ -	3	3	$ -	3	3	$ -	5	5	$ -	3	3	$ -
Quad Pull Type Sprayer	$ 50.00	$ -	3	3	$ -	2	2	$ -	4	4	$ -	1	1	$ -
Rock Picker	$ 600.00	$ 300.00	1	7	$ 1,950.00	2	2	$ 600.00	2	2	$ 600.00	1	2	$ 600.00
Rock Rake	$ 600.00	$ 300.00	1	1	$ 300.00	1	1	$ 300.00	1	2	$ 600.00	2	10	$ 3,000.00
Roller Mill	$ 50.00	$ 20.00	6	9	$ 180.00	3	4	$ 70.00	1	2	$ 40.00	1	1	$ 20.00
Rotowiper	$ 150.00	$ 75.00	0	0	$ -	1	1	$ 75.00	2	3	$ 150.00	1	4	$ 300.00
Scare Cannon #91060254	$ 50.00	$ -	0	0	$ -	0	0	$ -	0	0	$ -	0	0	$ -
Signs	$ 60.00	$ -	2	2	$ -	2	2	$ -	1	1	$ -	6	6	$ -
Skid Mount Sprayer	$ 50.00	$ -	2	2	$ -	3	3	$ -	2	2	$ -	1	1	$ -
Steam Tables	$ 50.00	$ 5.00	0	0	$ -	0	0	$ -	0	0	$ -	0	0	$ -
Tables	$ 50.00	$1.00/table	10	11	$ 204.00	7	7	$ 73.00	5	5	$ 111.00	9	13	$ 75.00
Toilets	$ 100.00	$ 40.00	3	3	$ 80.00	5	6	$ 240.00	1	3	$ 120.00	6	11	$ 550.00
Tree Spade	$ 300.00	$ 50.00	8	14	$ 650.00	6	16	$ 550.00	7	8	$ 1,200.00	6	8	$ 1,200.00
Truck Mount Sprayer	$ 200.00	$ 100.00	5	5	$ -	0	0	$ -	0	0	$ -	0	0	$ -
Wash Station	$ 50.00	$ 10.00	2	2	$ 20.00	2	3	$ 10.00	3	5	$ 40.00	7	8	$ 80.00
Water Pumps	$100.00 (Summer) $1,000.00 (Winter)	$75.00(Summer) $200 (Winter)	24	53	$ 5,350.00	35	63	$ 6,350.00	26	44	$ 4,300.00	42	81	$ 9,200.00
Zero Till Drills	$ 300.00	$300.00/20 feet	7	9	$ 1,200.00	6	6	$ 1,800.00	5	6	$ 1,800.00	3	3	$ 900.00
Wire Roller	$ 50.00	$ 25.00	5	8	$ 200.00	3	4	$ 100.00	6	9	$ 225.00	Not purchased yet		
Post Hole Auger	$ 50.00	$ 25.00				2	2	$ 50.00	2	2	$ 50.00	Not purchased yet		
Sickle Mower	$ 100.00					1	1	$ 100.00	0	0	$ -	Not purchased yet		
BBQ Trailer	$ 100.00	50	6	6	$ 200.00	9	10	$ 450.00	3	3	$ 150.00	Not purchased yet		
			238	342	$ 34,281.00	233	327	$ 30,381.00	179	235	$ 21,729.50	233	355	$ 35,236.50

Revenue	$ 34,281.00
Expenses	$ 30,912.72
Profit	$ 3,368.28

Revenue	$ 30,381.00
Expenses	$ 28,872.66
Profit	$ 1,508.34

Revenue	$ 21,729.50
Expenses	$ 34,944.59
Loss	$ (13,215.09)

Revenue	$ 35,236.50
Expenses	$ 67,782.04
Loss	$ (32,545.54)

Clear Hills County
Request For Decision (RFD)

Meeting:	Agricultural Service Board
Meeting Date:	January 14, 2019
Originated By:	Greg Coon, Agricultural Fieldman
Title:	**Agricultural Plastics Program**
File:	63-10-02

DESCRIPTION:

The Board is presented with an update on the Agricultural Plastics Recycling program from the Agricultural Plastics Recycling Group.

BACKGROUND:

The Alberta government announced they are moving forward with funding for a three-year pilot project of $750,000. The Agricultural Plastics Recycling Group (APRG) has submitted an application to access the $750,000 of funding to cover the costs of a market assessment and a pilot project over a three-year period (2019-2021) with the expectation that there will be a rollout into a permanent program by 2022.

There is a communications strategy for the pilot to help communicate to all stakeholders, so expect to see more details released once the application is accepted by the Province.

ATTACHMENTS:

- Agricultural Plastics Recycling in Alberta – Whitepaper
- Letter to APRG Members and Provincial Stakeholders
- Problem statement and Outcomes

RECOMMENDED ACTION:

RESOLUTION by… that this Agricultural Service Board accept for information the update from the Alberta Plastics Recycling Group on the Agricultural Plastics Recycling program.

Initials show support - Reviewed by: **Manager:** **AgFieldman:**

Agricultural Plastics Recycling in Alberta – Whitepaper

December 6, 2018

Executive Summary

This document intends to provide an update on the state of agricultural plastics management in the Province of Alberta. It provides a history of the recycling pilot programs, surveys and research that have been done in the past decade and the current need for a provincial agricultural recycling program. It also explores the programs in other provinces as positive examples of environmental stewardship. It is the Agricultural Plastics Recycling Group's (made up of 20 stakeholder associations and connected members and partners) recommendation for the Government of Alberta to put in place recycling legislation for grain bags and twine as soon as possible.

This whitepaper will be reviewed and updated at each APRG meeting with current information. This draft is dated **December 6, 2018.**

Introduction: The Agricultural Plastics Recycling Group (APRG)

In December 2016, a working group formed to advance the discussion and action on the topic of agricultural plastics recycling. The APRG gathered stakeholders for further discussion about a provincial solution for ag plastics recycling because of concerns over the lack of options for the waste material, combined with the absence of policy for a provincial agricultural plastics diversion program. From January to June 2017, the group met with over half a dozen producer groups and communicated to over 30 producer groups in the province (representing dairy, beef and crop agricultural producers among others) to update them on the topics and issues of ag plastics waste and recycling.

In August of 2017, a group of 70 representatives from municipalities and producer groups gathered for discussions about challenges and opportunities around agricultural plastics recycling. This was the start of discussions to form policy recommendations to present to the Government of Alberta.

To include a wide group of stakeholders, the APRG extended invitations to join to agricultural producer groups, retailers, manufacturers and others in November 2017.

Managing Ag Plastics Waste – Background

Agricultural plastics, in the form of baler twine, grain bags, bale wrap, silage plastic and feed bags of various sizes and materials are a problematic waste for agricultural producers and agricultural businesses and pose an environmental threat. Anecdotal evidence, as well as data from surveys (see links throughout the document), suggest plastics use is increasing with limited options for safe disposal. In 2013, CleanFARMS Inc., in partnership with Alberta Agriculture & Rural Development (ARD), initiated an Alberta Agricultural Waste Characterization Study, to identify and quantify significant sources of paper and plastic waste on Alberta farms. The study showed that the total agricultural film waste, including grain bags and silage plastic, is an estimated 3300 to 6400 tonnes per year in Alberta. At the same time, estimates for waste twine were 2000 to 6000 tonnes per year. These volumes represent a significant waste of resources, as well as pose a logistical waste management challenge. Landfills may prohibit or limit the disposal of some agricultural plastics, more specifically twine, because of the handling challenges it presents such as potential damage to equipment. Burning on farms was listed as one of the top disposal options for four out of five agricultural plastics categories in a 2012 Agricultural Plastics Recycling Agricultural Producers Survey (pg.20). Research shows that harmful compounds are

released from burning plastic at low temperatures such as open burning, and emissions such as dioxins and furans accumulate in soil and bio-accumulate in fat as they move up the food chain.

> *"Overall, 82% of agricultural plastics users say they are concerned about how they deal with agricultural plastics, while 87% say it is important to them to be able to recycle agricultural plastics – in fact, just under half (44%) say it is very important. The majority, however, do not feel that they can do so – 74% say it is difficult for them to recycle agricultural plastics, with half (48%) saying it is very difficult, and 63% are dissatisfied with their current access to recycling agricultural plastics."* 2012 Agricultural Plastics Recycling Agricultural Producers Survey (pg.20)

Prior to these surveys, in 2007, the Recycling Council of Alberta (RCA) established a working group with representatives from the Alberta Plastics Recycling Association (APRA), the plastic manufacturing sector, retailers, recycling project operators, Alberta Agriculture, Alberta Environment, and recyclers to look at options for agricultural plastic waste. This working group established a number of initiatives, including a series of pilot projects, to assess the viability of recycling agricultural plastics in this province. One of the conclusions of the group's work was the need for a provincial environmental stewardship program to provide sustainability for agricultural plastics recycling. As evidence from the pilot program shows, a provincial program would create equal access to recycling in all parts of the province, as well as guarantee volumes of waste to create economies of scale for plastics recycling.

Since the conclusion of the pilot projects, pockets of recycling have been established, and an increasing number of communities are interested in developing recycling programs. For example, Mountain View Regional Waste Management Commission has funded agricultural plastics recycling for a number of years. At the same time, counties, including Rocky View, Yellowhead, and Wheatland are collecting film materials such as grain bags and silage plastic, for recycling into products like garbage bags. The only challenge is, these programs only supply a recycling option to a very small percentage of the population.

Agricultural plastics management practices have been researched by the Alberta Government in a number of studies that point for the need for proper management including: Market-Based Solutions for Used Agricultural Plastics: Survey of Municipalities, Market-Based Solutions for Used Agricultural Plastics Part 2: Survey of Municipal Waste Authorities, Agricultural Plastics Recycling – Agricultural Producers Survey, Agricultural Plastics Recycling – Municipal Waste Authorities Survey.

The Solution

The largest challenge to expand recycling opportunities to all areas of the province remains the lack of a provincially-regulated ag plastics recycling program. With a provincial program, accessibility to recycling would increase, and agricultural producers in all agricultural-intensive regions of the province would have access to a well-resourced and environmentally beneficial recycling program. Environmental stewardship programs also ensure financial fairness, as those benefiting from the use of the product are the ones who contribute funding to have the material recycled.

This assertion has been supported by a number of organizations, including the recent resolutions passed by Alberta's Agricultural Service Boards in 2016, that the Ministry of Environment and Parks and the Ministry of Agriculture and Forestry research, develop, and implement an agricultural plastics recycling program modelled after the pilot program in the Province of Saskatchewan. *See appendix for the full resolution.*

Who will oppose?

ARPG's participants include organizations representing industry, agriculture, municipalities and recyclers, who support agricultural plastics recycling program as a provincially-regulated program. Questions from the stakeholder groups include costs (such as environmental handling fees) that could be associated with a program. Cost is the largest area of apprehension for the producer groups representing agricultural producers. However, agricultural producers are a key stakeholder in this issue as the primary users of agricultural plastics, and those burdened with a lack of sustainable options for management of waste plastics. The majority agree that there is greater demand for recycling solutions than concern over cost and that an effective program will include consultation and communication about costs before the program starts.

Impacts to the Public

The stakeholder group has also considered the perspectives of the broader public and how they may be impacted, despite not being directly involved in the purchase, use, or end of life management of agricultural plastics. In many cases today, Albertans that live in municipalities with local recycling programs for agricultural plastics are paying for these programs through their municipal taxes. This cost-burden will be reduced or eliminated if the recycling program is transferred away from the municipality, toward those that either make or use the plastics. It is unknown whether the creation of an agricultural plastics program will result in increased costs of consumer products and those changes will depend if agricultural producers pass along any increased costs from their operation. It is believed that if this were to occur, the increased cost would be negligible. There are more perceived benefits to the public, from a change in practice to recycling from the current practice of burning plastics on farm, than negative impacts.

Accountability – advisory group

The APRG also feels that policy should allow for an advisory committee where producer groups and stakeholders actively participate in the development of the program and contribute to decisions. Because a program would be designed as a service to the agricultural producers who use the plastic, it is logical that they would contribute to discussions about the program design.

Scope of materials

With input and representation from the users of the plastics (the agricultural producers and their organizations) and the recyclers and processors of the material, the APRG believes grain bags and twine offer a good starting point for a provincial program. These are the two largest contributors to material volumes and have current available markets. Collection, processing and transportation logistics have also been established through current collection and past pilot programs.

Research and pilots will be conducted on the potential to recycle an expanded list of materials, with the goal to revisit the regulation after the initial material collection has been implemented successfully, to consider expanding collection to other types of agricultural plastics.

Other plastics materials, include but are not limited to:

- Bale wrap, silage plastic, boat/machinery wrap, green house plastic, net wrap, rope (square bale and other), mineral bags, and feed/seed bags

Other Provinces

In Saskatchewan, The Agricultural Packaging Product Waste Stewardship Regulations, introduced after agricultural waste stewardship research, has made it mandatory that every grain bag seller develop and fund a program to recycle grain bags. This program started November 1, 2018. More information can be found **here**.

In Saskatchewan's EPR model, the first importers are responsible to ensure there is a program to recycle grain bags. In their case, the importers have selected an organization to run the program for them and to charge an environmental handling fee of 5-7% to cover the costs of the grain bag collection and recycling.

A series of government-funded pilot programs are available in Manitoba to recycle bale/silage plastic, twine and grain bags. Going forward, there is interest in taking an approach similar to Saskatchewan's.

Efficiencies and harmonization among provincial programs are particularly important for agricultural plastics recycling because of the importance of a level playing field to the agricultural industry. A Western solution would also prevent issues such as cross-border shopping.

Prepared by the Agricultural Plastics Recycling Group (APRG):

Organization	Sector/Representation
Agricultural Service Board	Board Representation
Association of AB Agricultural Fieldmen	Ag Fieldmen
Alberta Agriculture & Forestry	Government (ex officio)
Alberta Barley	Barley Producers
Alberta Beef Producers	Livestock
Alberta Cattle Feeders Association	Livestock
Alberta CARE	Recycling and Waste Management
Alberta Environment & Parks	Government (ex officio)
Alberta Federation of Agriculture	Producers
Alberta Milk Producers	Dairy Producers
Alberta Plastics Recycling Association	Plastics Recycling
Alberta Urban Municipalities Association (AUMA)	Urban Municipalities
Committed Ag Supply	Retailer
Crop Sector Working Group	Crop Producers
Merlin Plastics	Recycler
Olds College	Academia
Peavey Mart	Retailer
Recycling Council of Alberta	Recycling and Resource Conservation
RPC BPI Agriculture	Material Manufacturer
Rural Municipalities Association (RMA)	Municipalities
TAMA Canada	Retailer

Attachments:

a. Ag Service Board's Resolution
b. AAMDC Resolution

Summary of Endorsed ASB and AAMDC Resolutions Related to Ag Plastics Recycling		

12-15 (ASB)	**Agriculture Plastics Recycling**
	• *Resolution Ask*
	  ○ Implement a stewardship program with funding for collection and recycling of agricultural plastics
	• *Resolution Response*
	  ○ Environment – not currently considering a recycling program but working on an education program in collaboration with Agriculture on environmental impact of burning plastics and current options for disposal
	  ○ Would need a regulation to implement a stewardship program and would require environmental fees
	  ○ ARMA – not currently within mandate to act on ag plastics
	  ○ Will be reviewing with Board of Directors and Minister and will provide input informally
		Resolution Status: Unsatisfactory

7-15F (AAMDC)	**Agriculture Plastics Recycling**
	• *Resolution Ask:*
	  ○ That Alberta Environment and Parks develop a recycling program for agricultural plastics in Alberta
	• *Resolution Response*
	  ○ Agriculture and Forestry – Worked with Environment and Parks and CleanFARMS on a study showing that agricultural plastics contributed only 1% of waste sent to landfills. AF currently sits on a committee with AAMDC and other stakeholders to develop policy options for ag plastic recycling.
	  ○ Environment and Parks – Not currently considering a regulated recycling program for ag plastics.
		Resolution Status:
		Intent Not Met

December 10, 2018

Dear Agricultural Plastics Recycling Group (APRG) Members and Provincial Stakeholders;

I'm writing this letter on behalf of the APRG Advisory Committee. We are continuing our efforts to bring forward recommendations for the management of agricultural plastics. In November Minister Shannon Phillips, Environment and Parks and Minister Oneil Carlier, Agriculture and Forestry announced funding for a province-wide agricultural plastics recycling pilot project. We have now submitted the application with details on the pilot program and we hope to have the government's formal approval within the next two months. As it stands now, we will look to build this as a three-year program for grain bags and twine with waste characterization and market studies to ensure we have accurate data about what materials are being generated and look for responsible management options for all agricultural plastics. Other details on the program will need to be finalized and can be shared once we have government approval.

At our meeting on December 6, the APRG Advisory Committee, made up of representatives from the organizations listed on page two, approved our Terms of Reference and nominated an executive committee for the next year. The APRG will act in an advisory role with the mandate to assist in the development of recommendations to manage agricultural plastics including promoting ag plastics recycling actions and programs that are sustainable and implementing the terms set out in the pilot program business plan. Alberta Beef has been elected as the program administrator to receive the funding from the government and the committee will determine the pilot operations and details.

Executive:

Al Kemmere, RMA, Chair
Tammy Schwass, APRA, Secretary
Christina Seidel, RCA, Executive
Assar Grinde, AB Beef, Executive
Neil Gorda, AB Barley, Executive

We would like to thank all the groups and individuals that have contributed and collaborated to support a provincial solution to manage agricultural plastics. We will continue to keep everyone informed with updates and news as we receive them and please continue share updates with your members. If you have any questions, please do not hesitate to reach me or your committee representatives.

We wish you all a safe and happy holiday season,

Sincerely,

Al Kemmere, Chair
APRG Advisory Committee
akemmere@rmalberta.com

APRG Member Organizations:

Organization	Sector/Representation
Agricultural Service Board	Board Representation
Association of AB Agricultural Fieldmen	Ag Fieldmen
Alberta Agriculture & Forestry	Government (ex officio)
Alberta Barley	Barley Producers
Alberta Beef Producers	Livestock
Alberta Cattle Feeders Association	Livestock
Alberta CARE	Recycling and Waste Management
Alberta Environment & Parks	Government (ex officio)
Alberta Federation of Agriculture	Producers
Alberta Milk Producers	Dairy Producers
Alberta Plastics Recycling Association	Plastics Recycling
Alberta Urban Municipalities Association (AUMA)	Urban Municipalities
Committed Ag Supply	Retailer
Crop Sector Working Group	Crop Producers
Merlin Plastics	Recycler
Olds College	Academia
Peavey Mart	Retailer
Recycling Council of Alberta	Recycling and Resource Conservation
RPC BPI Agriculture	Material Manufacturer
Rural Municipalities Association (RMA)	Municipalities
TAMA Canada	Retailer

Agricultural Plastics Recycling Group –

Stakeholder Advisory Committee

PROBLEM STATEMENT AND OUTCOMES

April 27, 2018

Background

Agricultural plastics such as grain bags, twine, silage plastic, bale wrap and netting are essential on-farm tools. While end of life management can be challenging, limited recycling markets are available for some of these materials, and Alberta farmers have demonstrated their desire to support end of life stewardship programs.

In December 2016, a working group was formed to advance discussion and action on this topic. The working group, the Agricultural Plastics Recycling Group (APRG), started to reach out to stakeholder groups that use these products and help manage them at the end of their life.

From January to June 2017, meetings were held with a number of groups (including producer groups representing dairy, beef and crop farmers, Ag Service Boards and municipalities, among others). The APRG also hosted a half-day meeting in August 2017, where close to 70 representatives from producer groups and municipalities came together.

Based on this outreach and various resolutions from stakeholder groups, the APRG's goal is the establishment of a province-wide program for the recycling of agricultural plastics.

The group's mandate is to develop recommendations that may include a policy framework that considers multiple operating models, including; industry stewardship, delegated administrative organization/multi-stakeholder, and extended producer responsibility models to present to the provincial government.

Problem Statement

Growth and change in the agriculture industry has led to greater use of agricultural plastics by agriculture producers to help manage their storage, improve efficiencies and improve cost-effectiveness. While there are some local initiatives for some plastics, there is a lack of western Canadian or Alberta-wide options for environmentally safe end of life management of all agricultural plastic. The lack of comprehensive end of life management of agricultural plastics will continue to have adverse impacts on the environment and human health.

Program Principles

- Level playing field among all agricultural producers (ie. Amongst unique sectors and those who purchase imported plastics and local plastics)
- The program's financial responsibility is equitable amongst stakeholders – costs do not get downloaded on the municipality or gov't
- Program is based on outcomes with target enforcement penalties
- Addresses the immediate and long term needs of ag producers

- Program is measurable, transparent, and can be adapted for ultimate efficiency and effectiveness
- Program acts in the best interest of human and environmental health

Desired Policy Outcomes

- The following policy outcomes have been outlined by the APRG as a desired outcomes of a future end-of-life management program for agriculture plastics. There are some immediate outcomes and some that are long-term or "ultimate".

Outcomes

- An end-of-life management system for agricultural plastics that is self-sufficient and self-sustaining
- Adaptable and flexible end-of-life management that can adjust to changing global trends and events
- Western provinces collaborate to develop harmonized end-of-life programs to meet economy of scale requirements
- Elimination of improper disposal of agriculture plastics resulting in negative environmental and human health impacts. (ie. Burning and burying)
- When agricultural producers buy ag plastics, they know it will be 1. Recycled 2. What the process is for that to happen and how to participate
- Recognition (or continued acknowledgement) of agriculture producers as stewards of the environment who are part of the solution (entrenched social license for ag producers)
- Agriculture producers consistently recycle agricultural plastics.
- Expansion of end-of-life management programs to all agricultural plastics.
- Diversion of agriculture plastics into end-of-life management systems (75% of agricultural plastics).
- Development of an end-of-life management system that adheres to the waste hierarchy and continually seeks improvement and efficiency.
- The normalization of a recycling program for farmers such that recycling agriculture plastics is part of their day-to-day operations but acknowledge the extra on-farm steps to recycle the materials will require a culture change amongst agricultural producers.
- Manufacturers design agriculture plastic products that are recyclable
- Mechanism driving to an outcome: Program establishes a reporting structure to monitor and manage agriculture plastic recycling in Alberta
- Address the urgent issue of orphan and growing stockpiles of agricultural plastics at collection sites and on farms

Clear Hills County

Request For Decision (RFD)

Meeting:	**Agricultural Service Board**
Meeting Date:	January 14, 2019
Originated By:	Greg Coon, Agricultural Fieldman
Title:	**FEBRUARY 2019 MEETING DATE**
File:	63-10-02

DESCRIPTION:

The Board is requested to change the date of the February meeting as the third Monday is Family Day. Depending on what the Board decided regarding Date Time and Place of meetings in 2019

BACKGROUND:

Depending on what the Board decides at this same meeting about Date, Time and Place of Board Meetings in 2019 this date change may not be necessary.

ATTACHMENTS:

OPTIONS:

1. Move the February 2019 Meeting to_____.
2. Cancel the February 2019 Meeting.

RECOMMENDED ACTION:

RESOLUTION by_____ that this Agricultural Service Board reschedule the February 2019 Agricultural Service Board meeting to 2019 because the regularly scheduled meeting on February 18, 2019 falls on a statutory holiday, Family Day

Initials show support - Reviewed by: **Manager:** AF:

Clear Hills County
Request For Decision (RFD)

Meeting:	Agricultural Service Board
Meeting Date:	January 14, 2019
Originated By:	Audrey Bjorklund, Community Development Manager
Title:	**CDM Report**
File:	63-10-02

DESCRIPTION:

The Board is presented with the Community Development Manager's report

BACKGROUND:

Invitation to Council meeting:

The Board is invited to join Council on February 12, 2019 as a delegation and to join them for lunch.

Per Diem (Honorarium) Cost of Living Increase:

Effective January 1, 2019 a 3.1% cost of living allowance (cola) was applied to the per diem Board members receive. The rate for 2019 is 192.84. Attached is the updated Policy 1126 and the 2017-2019 Per Diem table.

Expense Claims:

The board is provided with a sample Expense Claim to assist with capturing all eligible expenses and preventing delays in having expense claims processed. Also attached is the Travel and Expense Policy 1127.

ATTACHMENTS:

- Policy 1126 Per Diem Payment to Council and Board/Committee Members
- Sample Expense Claim
- Policy 1127 Travel and Expense Policy

RECOMMENDED ACTION:

RESOLUTION by... that this Agricultural Service Board accept for information the Community Development Manager's report to January 14, 2019.

Initials show support - Reviewed by: **Manager:** AB; **AgFieldman:** BE

Clear Hills County

Effective Date: **May 1, 2018**	Policy Number: **1126**
Title: **PER DIEM PAYMENT TO COUNCIL AND BOARD/COMMITTEE MEMBERS**	

1. Policy Statement

1.1 Clear Hills County will establish a per diem rate to reimburse Council Members and Members at Large for attending board and committee meetings.

2. Definitions

2.1. Per Diem is the daily amount paid to a Councillor or Board Member for attending meetings of committees to which they are appointed, attending various other meetings that are specified in this policy's procedures, and attending special meetings that are duly authorized by Council.

3. Per Diems:

3.1 Per Diem will be paid at the rate of $185.00 to Councillors for:

3.1.1. Conducting annual evaluations of the Chief Administrative Officer at a pre-approved meeting outside of a Regular or Special Council Meeting;

3.1.3. Board/Committee workshops and conferences for appointed Board Members only when attendance is authorized/approved by the Board/Committee and approved by Council;

3.1.4. County organized and authorized road tours or project inspections within Clear Hills County boundaries.

3.1.5. Attendance at Conferences and Zone Meetings authorized by Council.

3.1.6. Meetings with/or on behalf of residents and community groups to which attendance is authorized by Council resolution (this would include open houses and public meetings).

3.2. Per diems shall be paid for items listed in Section 3.1 when travel of 50 kilometers one way is required, up to a maximum of two meetings per day.

3.3 Per diems may be changed by review of Council and supported by 2/3 majority vote.

3.4 Annual cost of living adjustments will be applied to the per diem rates.

3.5 Meeting Rates (per diems) shall be paid after the submission of a valid claim form and verified and authorized by the Chief Administrative Officer.

3.6 Councillors will not be paid a per diem for attendance at:

- political party and constituency functions

- any other function usually considered to be a social or public function including but not limited to; barbeques, parties, grand openings, golf tournaments, ribbon cutting ceremonies, graduation invites, cheque presentations, trade shows.

3.7 All other Board and Committee Members shall receive a per diem at the following rates:

MEMBER	PER DIEM
Agricultural Service Board:	$185.00
Subdivision and Development Appeal Board:	$185.00
Council Appointed Representatives on Committees/Boards:	$185.00
Chair of Regular or Special Council Meetings	$225.00

3.8 Council recognizes that as part of carrying out Council business it is essential to participate in activities such as conferences. The following conferences are considered pre-approved for Council attendance and will be paid at the rate per 3.1:

a)	AAMDC Spring Conference	All Council
b)	AAMDC Fall Conference	All Council
c)	Spring & Fall AAMDC Zone Meetings	All Council
f)	Federation of Canadian Municipalities	All Council

3.8.1 Administration will advise Councillors of the above conferences and upon receiving the completed registration form and instruction from Councillors, Administration will submit the registration form and make other travel and accommodation arrangements as deemed necessary.

3.9 When a representative from Council is sent by a Board or Committee to a conference or convention on behalf of that Board or Committee, the representative is then reimbursed by that Board or Committee.

3.9.1 Councillors and Board Members shall obtain approval from their respective Board and Council prior to attending seminars, workshops, conferences and all other functions if Council is being requested to fund attendance. The Councillor or Board Member must submit a written request on the benefit that would accrue to the County.

3.9.2 Council will not authorize any per diem payments after attendance when not in accordance with 3.7.1.

4. Per Diem Claims

4.1 All Council and Board/Committee per diem claims must be reviewed by Administration to ensure compliance with policy and shall indicate approval with the Chief Administrative Officer or designate signature. The Reeve will sign the per diem claim to indicate that they have been received.

4.2 The Deputy Reeve shall sign per diem claims submitted by the Reeve, to indicate it has been received, and may in the absence of the Reeve sign all other per diem claims.

5. End of Policy

ADOPTED: Resolution C061(01/26/10) Jan 26/10

AMENDED: Resolution C566(07/27/10) Jul 27/10

AMENDED: Resolution C144(02/22/11) Feb 22/11

AMENDED: Resolution C010-13(01/08/13) Jan 08/13

AMENDED: Resolution C010-14(01/14/14) Jan 14/14

AMENDED: Resolution C240-17(05/09/17) May 09/17

AMENDED: Resolution C192-18(04/10/18) April 10/18

Schedule A To Policy 1126 – Per Diem Payment To Council and Committee Members

Member	2017	2018 *1.1% Cola*	2019 *3.1% Cola*
Agricultural Service Board	**$185.00**	**$187.04**	**$192.84**
Subdivision and Development Appeal Board	**$185.00**	**$187.04**	**$192.84**
Council Appointed Representatives on Committees/Boards	**$185.00**	**$187.04**	**$215.28 ***
Chair of Regular or Special Council Meetings	**$225.00**	**$227.48**	**$261.83 ***

*12% increase per Council motion C568-18(11-13-18) RESOLUTION by Councillor Bean that Council increase the per diem payment to Council by 12% effective January 1, 2019 to alleviate the loss incurred by Council Members from the changes to the income tax treatment of Council remuneration. 2/3 majority vote required. CARRIED.

Name: ASB Member's first and last name

EXAMPLE

DATE	DESCRIPTION OF TRIP OR OTHER EXPENSES	HON (CHECK BOX IF APPLICABLE)	PERSONAL ALLOWANCE (CHECK BOX IF APPLICABLE)	KM	MEALS B 15.00	MEALS L 20.00	MEALS D 25.00	OTHER (HOTEL, TAXI, ECT.)	GL CODE
January 14, 2019	ASB Meeting	✔ $192.84	☐ $40.00	72					2-63-10-10
January 21, 2019	Travel to ASB Conference in Calgary – drove to GP airport	✔ $192.84	☐ $40.00	250			25.00		2-63-10-10
January 22,	Conference & taxi to and from hotel	✔ $192.04	✔ $40.00					83.75	2-63-10-10
January 23	Conference & taxi & from to conference centre	✔ $192.04	✔ $40.00				32.00	83.75	2-63-10-10
January 24	Travel home	✔ $192.04	☐ $40.00	250					2-63-10-10
		☐ $192.04	☐ $40.00						
TOTAL: (TO BE FILLED OUT BY PAYROLL CLERK)		$	$		$	$	$	$	

If you have multiple expenses to claim for one day it is fine to use more than one line rather than group them together: i.e. hotel expense on one line, taxi amount on the next. This also makes it easier to match receipts with amounts being claimed.

Be sure to check off your honorarium and fill in your kilometers.
Personal Allowance applies when you will be away from home for a full 24 hour period. The day you leave and the day you return do not qualify for this allowance.
Staff are NOT allowed to fill these in for you if you forget.

Receipts must be attached to support the amounts for meals that are being claimed above the policy set amounts or for other expenses such as taxis, hotels, etc. Debit or Credit card slips are not considered receipts by the auditors and will not be accepted as proof of expense claimed.
Only meals that are not being provided as part of the function being attended are to be included on the expense claim.
Meals that are charged to rooms also require receipts to verify there is no alcohol included, otherwise the charge is deducted from the reimbursement. If no receipt can be obtained the daily allowance for that meal can be checked off in the appropriate meals column.

ALL EXPENSE CLAIMS MUST HAVE BOTH SIGNATURE OR WILL RESULT IN DELAY OF PAY. ONCE SIGNED IT WILL BE PAID IN THE NEXT COUNCIL PAY RUN

Signature of Claimant: MUST BE SIGNED BY ASB MEMBER HERE

Approved By: _____

Date: _____

Total Mileage:
(Flat Rate)

_____X0.54/Km

$_____

Clear Hills County

Effective Date: **May 1, 2017**	Policy Number: **1127**
Title: **TRAVEL and EXPENSE POLICY**	

1. Policy Statement

1.1 Clear Hills County will provide for reimbursement to Council, Council Committee/Board Members and Staff for travel, meals, accommodations and subsistence expenses incurred during the performance of their duties.

2. Definitions

2.1 Official Meetings will include:

a) Regular Council meetings.

b) Special Council meetings.

c) Policy and Priorities meetings.

d) Board or Committee meetings as appointed.

e) Approved workshops and conferences for appointed Board Members or Staff.

f) Meetings with/or on behalf of residents and community groups to which attendance is authorized by Council resolution (this would include open houses and public meetings).

2.2 Mileage is a reimbursement of kilometers for travel expenses to a Councillor/Board/Committee Member, and Staff in their personal vehicle while attending an official meeting, or an event that Council has authorized attendance as per Policy 1126, section 3.4.

2.3 Reimbursement for overnight accommodation when approved to attend an official meeting, workshop or conference (receipts are required). If receipts are not available or if private accommodation is used, the subsistence is the reimbursement of the personal expense to a Councillor/Board/Committee Member and Staff while attending an official meeting. The following constitute as subsistence:

a) Taxi, shuttle, air or bus fares;

b) Motel/Hotel;

c) Registration for any official meeting;

d) Personal Allowance which is paid for personal expenses when a Councillor/Board/Committee Member and Staff is required to spend the night for any official meeting; and the allowance is for each full 24 hour period. Such expenses include tips for luggage handling, wear and tear on personal luggage, local call charges by hotel, laundry, and dry cleaning.

e) Private accommodations.

3. Travel Reimbursements

3.1 Councillors/Committee/Board Members and Staff shall be reimbursed for mileage and meals as per Sections 3 and 4 when attending approved meetings.

3.2 Councillors will not be reimbursed their expenses (including registration, meals, subsistence) or paid a personal allowance for attendance to social events or political party and constituency functions.

3.3 Where mode of travel is being considered, the most direct, economical and logical mode of travel shall be utilized.

3.4 Council and Board Members shall be reimbursed for mileage (for a minimum of 25 kilometers per meeting) for pre-approved meetings at the rate of $0.54 per kilometer. Council and Board Members and Staff shall be reimbursed for mileage at a rate of $0.54 per kilometer.

3.5 Travel must be directly related to the distance required to attend any conference, convention, seminar or any other meeting and to travel directly to and from that conference, convention, seminar or any other meeting.

3.6

4. Meals and Subsistence

4.1 The Council will review the rates for meals and subsistence annually during the annual budget preparations.

4.2 The Members and Staff shall be reimbursed for meals at the following rates, effective January 28, 2014:

MEAL	REIMBURSEMENT
Breakfast	$15.00
Lunch	$20.00
Dinner	$25.00
	$60.00

4.3 Any other claim for business meal reimbursement must include original receipt (and the name(s) of the person(s) accompanied).

4.4 The Members and Staff shall be reimbursed for subsistence at the following rates, effective January 28, 2014

SUBSISTENCE	REIMBURSEMENT
Taxi, Shuttle, Air or Bus Fare	with receipts
Hotels/motels	with receipts
Registration	with receipts

Personal Allowance (includes phone calls)	$40.00per night/ 24 hr period
Private accommodations	$90.00per night

4.5 Administration will reserve accommodations for Members using a County credit card. This card is for room confirmation only. Upon arrival at the accommodations, Members will be required to pay for their room and then submit a receipt for re-imbursement or an item on their expense claim, as a pre-paid expense.

4.6 Any claim for travel and subsistence, which is not supported by the appropriate supporting documents, will not be approved for payment. Attached receipts must be originals.

5. Information Service Equipment

5.1 Councillors will be responsible for supplying their own information service equipment and supplies e.g. Computer, printer/fax, paper, ink etc.

5.2 Councillors will be paid a monthly allowance for use of these items only if they have adequate equipment to receive agendas and all communications effectively and efficiently.

Monthly Internet Reimbursement- to a maximum of $75.00 with receipt

Monthly Information Service Equipment per Diem- $45.00

6. Expense Claims

6.1 The Reeve will sign the expense claim for Council Members to indicate that they have been received.

6.2 The Deputy Reeve shall sign the expense claim submitted by the Reeve, to indicate it has been received, and may in the absence of the Reeve sign all other expense claims

End Of Policy

ADOPTED: Resolution C062(01/26/10) Jan 26/10

AMENDED: Resolution C589(08/10/10) Aug 10/10

AMENDED: Resolution C144(02/22/11) Feb 22/11

AMENDED: Resolution C751-13(12/10/13)	**Dec 10/13**
AMENDED: Resolution C031-14(01/28/14)	**Jan 28/14**
AMENDED: Resolution C033-14(03/11/14)	**March 11/14**
AMENDED: Resolution C75-17(02/14/17)	**Feb 14/17**
AMEDNED: Resolution C214-17(04/25/17)	**April 25/17**

Clear Hills County

Request For Decision (RFD)

Meeting:	**Agricultural Service Board Meeting**
Meeting Date:	January 14, 2019
Originated By:	Greg Coon, Agricultural Fieldman
Title:	**AGRICULTURAL FIELDMAN REPORT**
File No:	63-10-02

DESCRIPTION:

At this time the Agricultural Fieldman will have an opportunity to present his report.

BACKGROUND / PROPOSAL:

ATTACHMENTS:

- Greg- Agricultural Fieldman Report-January 14, 2019

RECOMMENDED ACTION:

RESOLUTION by _____that the Agricultural Service Board accepts the January 14, 2019 Agricultural Fieldman report for information.

Initials show support - Reviewed by: **Manager:** **AgFieldman:**

JANUARY 14, 2019

PEST CONTROL

- Coyotes Claimed:

Total #	Total $
248	$11,160.00

Note: The program has been cancelled permanently.

- **Wolves Claimed:**

Total #	Total $
39	$13,650.00

OTHER TOPICS

- Seeking quotes on a UTV mounted sprayer.
- Seeking quotes on modifying our car hauler to use as UTV hauler.
- Attended IST in Calgary. Acquired pest credits as well as Form 7 certification.
- Will be modifying water pump trailers to include a hose reel holder mounted permanently on each trailer.
- Planning for trade show has begun. Sponsorship/exhibitor packages have been sent out. Banquet entertainment has been booked. Dave Shaw Complex has been booked.
- ASB Regional Conference at David Thompson Hall was a success. Budget and actual revenue is below. The surplus was sent to the Peace Region AAAF as per PRAAAF policy.

Item	Estimated #	Actual #	2018 Regional ASB Conference $/unit	Estimated $	Actual $
Revenue					
Registrations	90	81	$50.00	$4,500.00	$4,050.00
Sponsors	4	4	$800.00	$800.00	$800.00
Total				**$5,300.00**	**$4,850.00**
Expenses					
Lunch & Coffee	125	100	$12.00	$1,500.00	$1,200.00
Hall Rental	1	1	$500.00	$500.00	$500.00
Gifts	90	70	$17.30	$1,557.00	$1,211.00
Door Prizes	3	3	$12.75	$38.25	$38.2
Total				**$3,595.25**	**$2,949.25**
Surplus/Deficit				**$1,704.75**	**$1,900.75**

Clear Hills County

Request For Decision (RFD)

Meeting:	**Agricultural Service Board Meeting**
Meeting Date:	January 14, 2019
Originated By:	Greg Coon, Agricultural Fieldman
Title:	**INFORMATION & CORRESPONDENCE**
File No:	63-10-02

DESCRIPTION:

The board is presented with correspondence for review.

BACKGROUND:

Attached are documents for the Board's information:

ATTACHMENTS:

- Cereal Seed Royalty – Article – (63-10-02)
- Alberta's Agricultural Service Boards – Stats – (63-10-02)
- New Clubroot Strains – Article – (63-10-02)
- VSI Services – Letter – (63-10-40)
- About Porcine Epidemic Diarrhea – Questions & Answers – (63-10-02)

RECOMMENDED ACTION:

RESOLUTION by _____that this Agricultural Service Board receives the information & correspondence of January 14, 2019 as presented.

Initials show support - Reviewed by: **Manager:** **AgFieldman:**

Cereal seed royalty gets thumbs down at consultations

Government is asking farmers what they think about seed royalties — and the answer is 'not much'

1

By Alexis Kienlen
Reporter
Published: December 18, 2018
Cereals, Crops
Be the first to comment

The two proposed seed royalty models have come with many questions from producers.

Photo: File/Allan Dawson

The idea of charging royalties on cereal seed didn't go over well with many Alberta farmers who attended a federal government consultation on proposed royalties.

"The overarching thing is that control would be imposed and that would be my concern," Trochu farmer Kevin Niemi said in an interview. "A royalty is like a seed tax that is coming in after the fact. There would be administration and monitoring, and that is control."

"This is not correct what is happening here. This is legal theft of our seed," Peter Eggers, an organic producer from La Glace, also said in an interview. "It is only about extraction from the land and money out of my pocket and someone else's pocket."

The consultation was the last of four conducted by Agriculture and Agri-Food Canada and the Canadian Food Inspection Agency to get feedback on the idea of royalties, and two proposals for collecting them. The goal, attendees were told, is to make cereal breeding more attractive for the private sector.

Among the 100 people attending the meeting at an airport hotel earlier this month were producers, seed growers, commercial seed growers, seed sellers, and representatives from producer associations.

They heard about the two royalty systems — end point royalties and trailing contracts — that emerged after two years of fact-finding and deliberations by members of a federally appointed Grains Roundtable.

Niemi was upset that he was unable to find any information about the seed royalty review on the website of the Alberta Wheat Commission.

"The seed industry has been able to lobby and go after the regulator," said Niemi. "Here we are with the regulator and the most affected are the last to know. It's a power grab."

Alberta Wheat general manager Tom Steve sat on the roundtable.

He said the goal was to find ways that would encourage investment into wheat breeding. Certified seed only accounts for 20 per cent of seeded acreage and the rest is planted with saved seed, which provides no return for the developers of those varieties.

Tom Steve.
photo: Supplied

"At that rate of seed use, the system doesn't generate enough royalties to earn a return on investment for breeding institutions," said Steve. "We do have some outside limited private investment on wheat breeding, but it is small."

The vast majority of varieties are bred by university and federal government scientists, with tax dollars and producer checkoffs providing the funding.

"The question over time is whether there is a mechanism to increase the level of outsider investment to take the pressure off the public purse, and producers for that matter, and create more opportunities by having breeding companies compete with the universities and Agriculture Canada," said Steve.

The two proposed royalty models come with many questions, and there hasn't been enough work done to assuage farmers' concerns, he admitted.

"If I have one criticism about the process, it's that the economic analysis on the models hasn't been done," he said. "We don't have answers specific to how an end point royalty system would work or how a trailing royalty around farm-saved seed would work. There's a lot of practicality on what the rate would be. Would it be on some varieties? How would it be enforced? None of these questions are answered."

The whole issue is "an emotional topic," he added.

During the afternoon session in which attendees had gathered at tables to discuss the proposals, Eggers said he took the mike and asked the farmers in the room who was against the proposed changes.

"I put them on the spot — they put their hands up," he said, adding everyone at his table was in agreement and there were only a couple of farmers in the room who didn't.

Eggers said he is willing to pay a higher price for good seed, but he is against an involuntary checkoff system where he doesn't know how his money will be spent.

"We had the right to save seed and that has been everybody's right for thousands of years. And now we could lose it," he said.

Steve said that reaction is "understandable."

"In our view, the sector needs to do a better job of explaining to the farmer what the value proposition is every year," he said. "If you're paying for that seed every year, or you're paying a royalty after the first use of it, you need to see the value — you need to see a higher value or a higher yield or a higher disease resistance.

"And that hasn't been well established in the minds of the farmer. They're accustomed to the current system and they haven't seen a variety come along where they would like to pay that extra dollar for."

Alberta Wheat has not taken a position on a preferred model, but was to discuss it at its AGM this month and at future meetings.

"There will be multiple opportunities for discussion on this — no decisions have been made," said Steve. "Some of the (negative) reaction around this was the perception that this was cut and dried."

Alberta's Agricultural Service Boards

Agricultural Service Board Grant Program

The Agricultural Service Board Grant (ASB) Program promotes long-term sustainability of the agriculture industry and rural communities and the development and delivery of environmental extension programming. ASBs are responsible for implementing and enforcing legislative requirements under the *Agricultural Service Board Act*, the *Weed Control Act* (WCA), the *Agricultural Pests Act* (APA), the *Soil Conservation Act* (SCA) and assist with the control of animal disease under the *Animal Health Act* (AHA).

2017-18 Annual Impacts

- **$11.4 million** in annual grants awarded to **69** Agricultural Service Boards to support legislative requirements
- **$1.8 million** in annual grants to **51** Agricultural Service Boards for environmental programming
- ASBs work to protect **50.5 million acres** of farmland, **62,000 farm operators** and **43,000 farms** from agricultural pests, weeds and soil erosion by enforcing the APA, WCA, and the SCA
- **180 full-time, 102 part-time and 407 seasonal employees supported**
- 20% of ASBs who receive an ASB grant receive a field visit by AF staff each year

Partnerships in Action
Together we can support our agriculture sector and meet the needs of our rural communities as they continue to evolve.

Weed Control

- **37,000** prohibited and noxious weed infestations investigated and managed
- **2,061 *Weed Control Act*** notices issued
- Over **100,000 kilometers** of weeds on municipal roadways controlled by Integrated Pest Management systems such as mechanical, chemical and cultural methods such as hand picking or biological control technologies
- **100%** of the **67 Seed Cleaning Plants** Operating in Alberta are inspected

agriculture.alberta.ca
September 2018

Alberta Government

Alberta's Agricultural Service Boards

Pest Management

- **9,616** fields inspected for clubroot
- **2,566** fields inspected for virulent blackleg
- **747** fields inspected for *Fusarium*
- **2,969** insect fields surveyed for insects such as Grasshopper, Wheat Midge, Bertha Armyworm and Diamond Back Moth
- **149** ***Agricultural Pest Act*** notices issued

Environmental Protection and Soil Conservation

- **212** Environmental Farm Plans
- **125** GF2 Projects completed with support from our ASB partners
- **4124** one-on-one environmental messages delivered
- Over **16,600** attended **319** environmental events
- Over **660,000** physical and over **210,000** digital versions of the **380** Environmental focused written materials
- **349** fields inspected for soil erosion issues

Alberta Agriculture & Forestry ASB Key Contacts Program

AF matches with interested ASBs are almost all in place. Key contacts attend ASB meetings to present general updates or topic specific updates, provide information on government programs and grants and take questions and concerns back to AF.

Key contacts work with ASBs and fieldmen to strengthen our existing partnerships and look for new ways to collaborate and share information.

ASB Program Contacts:

Doug Macaulay, Manager
Leduc, Alberta
(780) 980-4878

Alan A. Efetha, Provincial ASB Specialist
Lethbridge, Alberta
(403) 381-5852

Pam Retzloff, ASB Program Coordinator
Edmonton, Alberta
(780) 427-4213

Alberta Government

WESTERN EDITION NOVEMBER 2018
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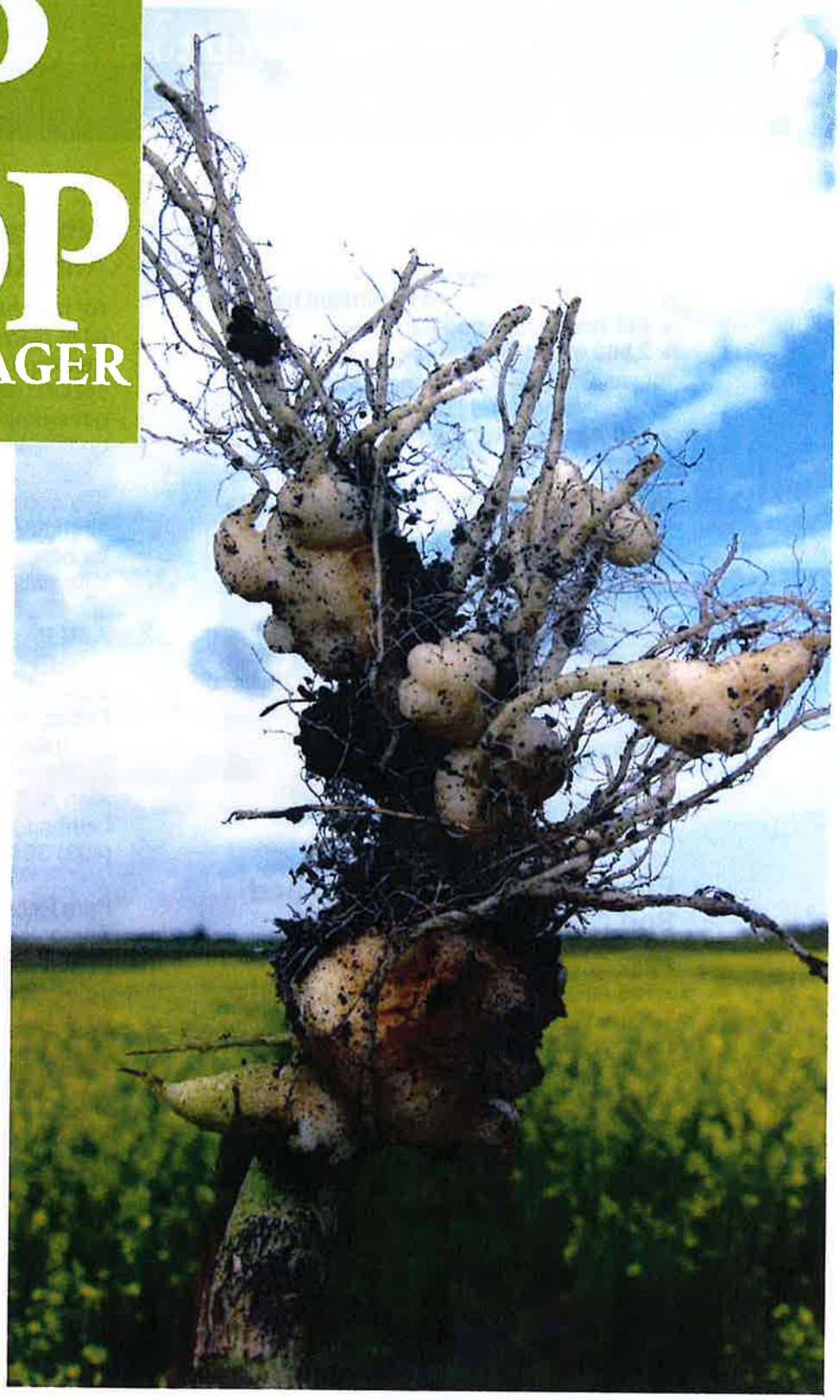

NEW CLUBROOT STRAINS

New pathotypes are highly virulent on resistant cultivars

PG. 14

CONTROLLING SCLEROTINIA WITH RNAi

New technology offers hope

PG. 6

BETTER AND BETTER FLAX

Highlights from the Prairies' flax-breeding program

PG. 26


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TOP CROP MANAGER

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NOVEMBER 2018 • WESTERN EDITION

PESTS AND DISEASES

6 | Controlling sclerotinia with RNAi
New technology offers hope for sclerotinia control.
By Julienne Isaacs

PESTS AND DISEASES

14 | New strains of clubroot identified
New pathotypes are highly virulent on clubroot-resistant canola cultivars.
by Donna Fleury

PLANT BREEDING

26 | Better and better flax
Highlights from the Prairies' only flax-breeding program.
by Carolyn King

PHOTO COURTESY OF MARK BELMONTE.

PHOTO COURTESY OF STEPHEN STRELKOV.

PHOTO COURTESY OF BRANIMIR GJETVAJ PHOTOGRAPHY.

FROM THE EDITOR

4 Trade wins and woes
by Stefanie Croley

PLANT BREEDING

10 Enhancing the beneficial root microbiome in canola
by Donna Fleury

CANOLA

20 New frontiers for canola meal
by Julienne Isaacs

SOYBEANS

24 Use bin-run soybeans at your own risk
by Bruce Barker

CANOLA

30 Innovative flea beetle control
By Julienne Isaacs

SOIL AND WATER

32 Solonetzic soils: more compact, more complex
by Ross H. McKenzie

CANOLA

36 Developing diversified clubroot resistance in canola
by Donna Fleury

FOCUS ON: FINANCIAL MANAGEMENT

40 Focusing on finance, not just the farm
by Stephanie Gordon

44 No successor? No problem.
by Stephanie Gordon

PESTS AND DISEASES

50 Refining cabbage seedpod weevil thresholds
by Bruce Barker

CANOLA

52 Another dimension of canola-pulse rotational combos
by Carolyn King

ON THE COVER: Researchers in Alberta have been working to understand the strains of the clubroot pathogen that can overcome clubroot resistance. PHOTO COURTESY OF STEPHEN STRELKOV.

Readers will find numerous references to pesticide and fertility applications, methods, timing and rates in the pages of *Top Crop Manager*. We encourage growers to check product registration status and consult with provincial recommendations and product labels for complete instructions.

STEFANIE CROLEY | EDITOR

TRADE WINS AND WOES

When the news broke that the United States and Canada came to a last-minute agreement on a trade deal to replace NAFTA, a collective sigh of relief could be heard from coast to coast to coast.

At first glance, the United States-Mexico-Canada Agreement, or USMCA, seems like an overall win for Canada. The new agreement preserves the trade dispute settlement mechanism and safeguards Canadian auto plants.

Despite mixed reactions from Canada's agriculture industry, USMCA seems to benefit a large majority of the group. Most significantly for export-oriented producers, the new deal will secure continued access for Canadian wheat and barley to the U.S. market – the largest export market for Canadian wheat and the second largest market for Canadian barley. Canada's canola producers will also benefit, as open trade for canola will continue and margarine has been added to the list of canola processed products (which currently includes canola seed, oil and meal) that will remain tariff-free. And more modernizations are expected to be announced, including chapters on biotechnology, plant breeding techniques and adjustments to the wheat grading system.

But when American President Donald Trump began threatening the disbanding of NAFTA a year ago, he made it clear that concessions would have to be made, and other sectors of Canadian agriculture are less than thrilled with the negotiations. If the deal is approved, farmers in the United States will have greater access to Canada's dairy industry, worth about 3.6 per cent of Canada's current dairy market, according to the Dairy Farmers of Canada. The new agreement would also mean additional access to the Canadian chicken, turkey and egg farming sectors.

Allowing world leaders (who possess more power than they know what to do with) to wait until the eleventh hour to make a decision that will impact the economies and livelihoods of three countries seems like a recipe for disaster. Regardless, it's impossible to please everyone – especially when negotiating a deal that will collectively affect 579 million North Americans in some way. But while USMCA overall appears to be a beneficial agreement for Canada and specifically Canadian grain producers, our close ties to the dairy, poultry and egg industries mean the win is bittersweet.

This isn't the end, though. Although the negotiations are complete, all three countries must now vet and approve the agreement. Trump, Prime Minister Justin Trudeau and outgoing Mexican President Enrique Peña Nieto could technically sign the deal by the end of November (before Mexico's new president takes office on Dec. 1). But legislatures of each member country must introduce legislation to ratify and implement the deal, pushing the timeline to the second half of 2019 thanks to elections in Canada and the United States. Only time will tell how this plays out.

TOP CROP MANAGER

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CONTROLLING SCLEROTINIA WITH RNAi

New technologies offer hope for sclerotinia control.

by Julienne Isaacs

The fungus *Sclerotinia sclerotiorum*, which causes stem rot, is a major economic disease in canola that impacts the crop across all of Canada's growing regions.

According to Mark Belmonte, associate head and associate professor in the department of biological sciences at the University of Manitoba, sclerotinia is a challenging disease for canola researchers and breeders because no true genetic resistance has yet been found in the *brassica* germplasm. In addition, the disease can be difficult to control using traditional fungicides.

But there are new controls on the horizon.

Belmonte's lab, in collaboration with Steve Whyard, associate professor in the department of biological sciences, is working on the development of a foliar fungicide that will use a natural biological mechanism to fight sclerotinia.

That mechanism is called RNA interference, or RNAi, and if most Canadian producers don't yet know the term, they will very soon. RNAi-based pest control technologies are currently in the pipeline for a wide range of economic pests and diseases impacting a range of crops, including Colorado potato beetle, flea beetle and bollworm, as well as nematodes, viral diseases, mildews and rusts.

RNAi works by exploiting the natural ability of the fungus to destroy viral RNA. Researchers can match the RNA sequence of an RNAi trigger to essential genes in the fungus itself, "silencing" those genes. RNAi triggers are composed of double-stranded RNA (dsRNA), which can either be expressed by the plant itself, if it is genetically modified to do so, or applied topically to a plant's leaves, via a spray for example.

Belmonte and his lab, together with Whyard, and including MSc student Phil Walker and PhD student Nick Wytinck, are working on both approaches in order to attract the technology to different markets. North American and Australian markets are relatively open to genetic modification technologies, but many more markets – in Europe and Asia, for example – are still closed to GM technologies. For this reason, the foliar fungicide approach, in general terms, has more currency.

ABOVE: **An untreated leaf from a canola plant infected with sclerotinia (left), next to a leaf from a canola plant treated with an RNAi-based foliar insecticide.**

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This September, the Belmonte-Whyard RNAi research group received $442,714 in cluster funding through the Canola Council of Canada for a three-year grant investigating the protection of canola from pathogenic fungi using RNAi technologies. Their work on the grant will focus on the development of a foliar fungicide.

Testing in the lab and the field

One of the acknowledged benefits of RNAi is its specificity: because RNAi is built on genetic sequences unique to targeted organisms, there is theoretically very little chance of off-target impacts.

But a great deal of effort must go into ensuring this, Belmonte says.

The lab's first step will be to take a bioinformatics or computational approach to making sure that the sequences they are targeting are in fact unique to sclerotinia fungi, he says, by checking them against all publically available sequences in the public database.

Not all potentially targeted organisms are sequenced, however, so a large part of the work will involve sequencing other likely fungi found in Western Canada, in order to make sure that these fungi – many of which are potentially beneficial –are not caught in the crossfire.

Belmonte's team will follow this with lab work testing RNAi molecules for off-target impacts on insects and other fungi. So far, preliminary modeling has shown no off-target impacts.

"That's really important to us – to make sure the molecules are doing what they're supposed to be doing," he says.

In past years, a key difficulty impeding the potential success of RNAi-based technologies has been the problem of mass-producing these molecules at scale.

But Belmonte says his lab is engaging with industry partners who have the capability to mass-produce RNAi molecules at a low cost using "cell-free" methods. These companies are going beyond the discovery phase with their work and can produce RNAi material at a scale "that would be economically advantageous to the grower," he says.

It's also a priority to introduce RNAi controls that are compatible with existing spray equipment and other products producers rely on. In greenhouse trials, Belmonte's lab is testing RNAi-based sprays at average spray timing – the 30 per cent bloom stage, when sclerotinia typically starts to show up in the field.

"We're working really hard and companies are investing heavily in this type of technology because they see that there's so much benefit to the grower, to put another tool in their toolbox," he says.

Curtis Rempel, vice-president of crop production and innovation for the Canola Council of Canada, says RNAi technologies would be really welcome additions to the management toolkit.

"They have enormous promise to be very targeted interventions with no off-target effects and provide management options that have potential to be environmentally friendly," he says.

Rempel cautions that the regulatory landscape is still an unknown, as no RNAi-based products have yet been registered by Health Canada's Pest Management Regulatory Agency. But the Canola Council urges the scientific community and federal regulators to do their due diligence in evaluating the benefits versus risks of new RNAi products. "We need to do our due diligence as a regulatory community and as consumers but we shouldn't throw something out that has promise to better our society," Rempel says.

Belmonte says the RNAi team is working with regulatory agencies at every step to ascertain what kind of experiments and field tests are needed in order to bring the technology to market.

"My hope is that we'd be able to get this type of technology to growers within the next five years," Belmonte says.

"The goal is to protect crops in a way that's going to sustain the environment, to protect the ecology of the land while improving yield and the grower's bottom line."

PHOTO COURTESY OF BRUCE BARKER.

No true genetic resistance has yet been found for sclerotinia, a disease difficult to control using traditional fungicides.

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PHOTOS COURTESY OF MARC ST-ARNAUD.

ENHANCING THE BENEFICIAL ROOT MICROBIOME IN CANOLA

Improving crop performance of canola in the Canadian Prairies.

by Donna Fleury

Increasingly, research is showing that canola root-associated microbiomes can impact crop growth and nutrient uptake. Some of the soil micro-organisms are beneficial to plants that protect them against pathogens, mitigate the impact of abiotic stress, improve plant nutrition or stimulate plant growth by phytohormones. Gaining a better understanding of the influence these organisms have on each other and the complex webs of interactions that can be enhanced to optimize crop production is important for canola and other crops in Western Canada.

Researchers Marc St-Arnaud and Mohamed Hijri at the University of Montreal, and collaborators with Agriculture and Agri-Food Canada in Western Canada and Quebec are studying the root and rhizosphere microbiomes of canola. Through various projects, researchers are trying to better understand the core root microbiome of canola, and whether or not it is distinct from other crops such as wheat and pea. They are also trying to determine agronomic practices and crop rotations that favour the establishment of a beneficial root microbiome in canola-based rotations to optimize the efficiency of plant production. Field experiments have been conducted at several locations in Western Canada, while most of the DNA, molecular genetics and other lab analysis are conducted at the University of Montreal.

"Results from recent projects have shown that the microbiome associated with crops is very different between key species," St-Arnaud explains. "Crop diversification also has a significant impact on the microbiome." In one recently completed project, graduate student Jean-Baptiste Floc'h, compared the results of field

ABOVE: **Andrew Blakney, PhD student, and post-doc Jacynthe Masse preparing DNA for sequencing the canola microbiome to identify the beneficial microbes.**

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Post-doctoral researcher Wang Li extracting RNA from canola roots to analyze the microbial genes involved in canola growth.

experiments conducted in 2013 and 2016 at three locations in Western Canada: Lacombe, Alta., Lethbridge, Alta., and Scott, Sask. The study was based on the canola phase of an existing long-term five cropping system field experiment, including one of two types of canola (Roundup Ready and Liberty Link), and compared continuous canola to very diversified rotations. The results showed that crop diversification has significant impact on the structure of rhizosphere fungal communities. "We also discovered and described a canola core microbiome, which included a very diverse number of microbes that have a positive correlation to canola yield." Floc'h will be continuing research into the canola microbiome through a PhD program started in the fall of 2018.

"One of our priorities is to find a way to increase the proportion of beneficial organisms, through agronomic practices such as seeding density, fertilizer rates or other treatments, and their effect on the microbiome population. "We are also studying the effect of crop rotation and intensity on the beneficial or detrimental organisms in the microbiome," says St-Arnaud. "As part of this study, we are also trying to look at all of the microbes associated with the canola rhizosphere, not only to identify which organisms are there but also which ones are the most active and what they are doing in the soil. The beneficial nature of the micro-organisms is being determined based on identity and abundance of important functional genes, as well as on crop performance. One other factor that has shown to have a significant influence on the combination of micro-organisms in the soil is the effect of rainfall and temperature. We have found big differences between a rainy year and a dry year, particularly in areas like Swift Current where rainfall can be variable. Therefore, understanding the microbiome population and proportion of beneficial organisms under variable field conditions is also a priority."

In another project conducted in 2014 using a similar long-term cropping system at three locations in Western Canada (Lacombe and Beaverlodge, Alta., and Brandon, Man.), researchers compared the canola root-associated microbiome with those of wheat and pea grown alongside canola in the same fields. They also compared the effect of selected agronomic treatments, including two canola seeding rates (recommended rate and 150 per cent of the recommended rate) and two fertilizer rates (recommended rate and 150 per cent of the recommended rate) on the canola microbiome. The effect of crop and treatment on the diversity of bacterial, fungal, and archaeal assemblages associated with the roots and rhizosphere soil was assessed. The results showed that canola has a core microbiome distinct from those of wheat and pea and that the root and rhizosphere microbiomes significantly responded to the agronomic treatments. Researchers also found treatment-specific changes in the relationship between bacterial and fungal microbiome members.

"Along with crop rotation, we also found that different crop cultivars can be an important factor influencing the microbiome," Hijri adds. "Farmers should be aware that some cultivars respond better than others in terms of biodiversity of the microbiome, and will want to consider that in cultivar selection. As well, unlike most other crops, canola is one of the rare plants that cannot form mycorrhiza and the symbiotic association between the plant roots and soil fungi. Therefore, the impact of more intensive canola rotations may also reduce the proportion of other important beneficial fungi more than first considered."

Other research underway is a focus on studying the microbial

genes involved in nitrogen (N) dynamics in canola production. Hijri explains, "nitrogen can be a very costly input for growers, and the N cycle is a very dynamic and complex cycle in soils. We are trying to develop a better understanding of the microbes involved in the N cycle, and how that knowledge can be used to improve N use in canola production. The project is in the early stages, but the results so far are promising and we anticipate results should be available in the coming year."

Although many of the microbes are beneficial, there are also some detrimental ones in the soil. For example, the *Olpidium brassicae* group, which was identified in early studies in the canola microbiome in Western Canada, contains serious pathogens to canola and their rotation crops that are still not well understood. "We are trying to better understand the taxonomy, the host range and the potential role of *O. brassicae*-related species in plant health, and the interaction of *O. brassicae* and allied species with other bacteria and fungi in canola. In an earlier study, we did find that *O. brassicae* was significantly reduced in the roots of canola planted at higher seeding density. Ultimately we hope to find a way to encourage the good microbes in the microbiome to limit the impact of detrimental ones such as *Olpidium* species in canola production systems."

Other efforts are underway to evaluate strategies that can be used to improve crop production, such as interventions with beneficial microbes, for example using inoculants at seeding, or other strategies such as developing soil amendments with commercial microbes that can boost or stimulate indigenous microbial communities to help increase the diversity of microbes. "Our research so far has confirmed that the more diversified the crop rotation system, the more diversified the microbiome, which helps make canola more resistant to new organisms or increase beneficial organisms," St-Arnaud says. "Along with crop diversity, we expect that some agronomic practices will help improve crop performance. Combined with potential soil amendments and commercial microbes currently being explored, we will continue to study strategies that growers will be able to use to enhance the canola microbiome to help improve crop performance and health and optimize crop production."

NEW STRAINS OF CLUBROOT IDENTIFIED

New clubroot pathotypes are highly virulent on clubroot-resistant canola cultivars.

by Donna Fleury

Clubroot continues to be a disease risk to canola crops across Alberta, with more than 2,700 clubroot-infested fields now confirmed, along with a few isolated cases in Saskatchewan and Manitoba. Although good clubroot resistant (CR) varieties have been available for about 10 years, there are an increasing number of fields in Alberta where new strains of the pathogen *Plasmodiophora brassicae* have overcome the resistance. Particularly in fields under short or intensive canola rotations, inoculum levels have been building up. Increasing inoculum levels allow the pathogen to evolve and select for new pathotypes or strains that appear to be highly virulent on all canola cultivars currently on the market.

Over the past few years, researchers in Alberta have been trying to better understand the strains of the clubroot pathogen that are able to overcome clubroot resistance. "One of our research efforts is focused on monitoring canola fields across Alberta to understand where resistance is holding up and where it seems to be breaking down, and to characterize the different pathotypes," explains Stephen Strelkov, professor of plant pathology at the University of Alberta. "We quickly realized that we needed to develop a new classification system for these new pathotypes, as the commonly used pathotype classification systems were unable to identify or distinguish 'new' *P. brassicae* strains that overcome resistance from 'old' strains."

For example, the first of the new resistance-breaking strains of *P. brassicae* to be identified in Canada was initially classified as pathotype 5 on the existing Williams' differential set, however this classification did not reflect their virulence on CR canola. Therefore, this new virulent pathotype was called "5X" to distinguish it from the old pathotype 5. However, the term "5X" was soon applied to all strains able to overcome resistance, even after it became clear that not all new strains were alike and some had distinct virulence patterns. This created an urgent need for a new system to identify and distinguish *P. brassicae* strains and keep up with the emerging new virulence phenotypes that were being identified.

Strelkov and research scientist Sheau-Fang Hwang of Alberta Agriculture and Forestry, developed a new system

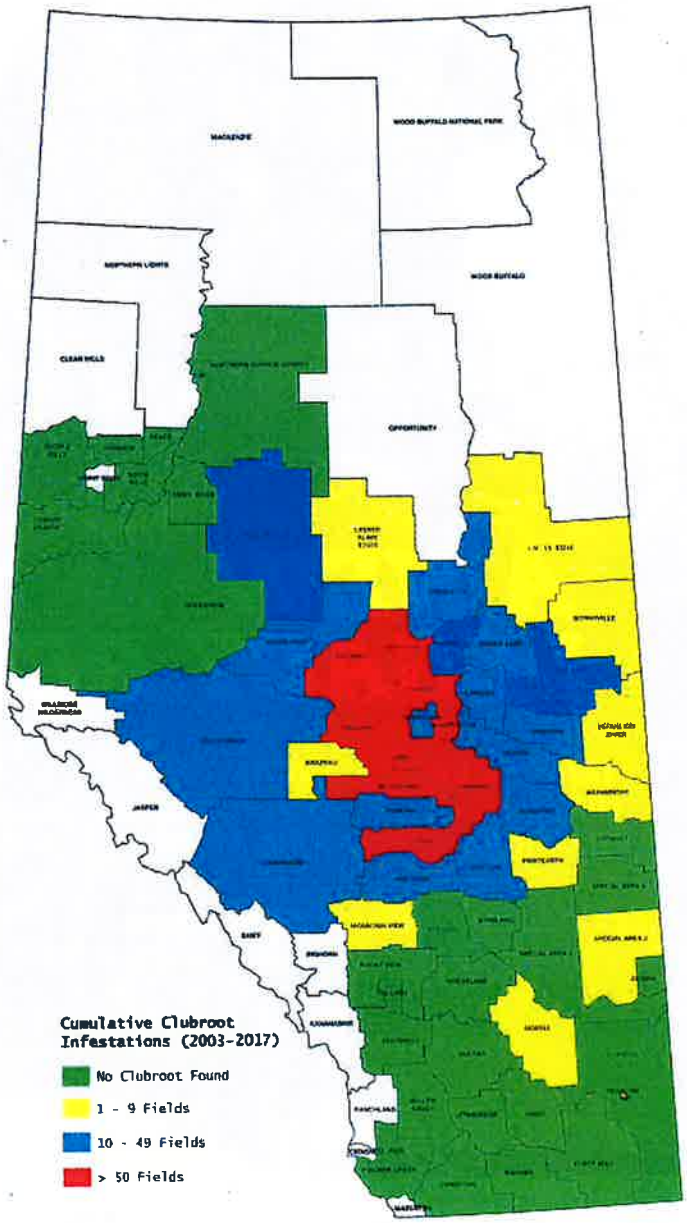

PHOTO COURTESY OF STRELKOV ET AL, 2018.

Alberta Clubroot Distribution Map


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PHOTO COURTESY OF STEPHEN STRELKOV.

Canola root infected with clubroot.

to distinguish pathotypes using hosts that were more relevant to canola in Western Canada. This new model, called the Canadian Clubroot Differential (CCD) Set consisted of 13 more relevant differential hosts and several canola genotypes, which have proven to be able to differentiate among multiple distinct virulence phenotypes among pathogen populations able to overcome resistance. To make it easier to recognize and distinguish between pathotype strains and virulence patterns, the old number system is combined with a new lettering system. For example, old pathotype 3 is now 3H. The most common of the new pathotypes is 3A, while the name 5X was kept for the first of the virulent pathotypes. "After three years of hard work we now have a Western Canadian foundational model to work from," Hwang says. "We have been able to divide pathotypes into several groups, which helps breeders better select for resistance. With the foundation in place, we recognize that the CCD model needs refining, but at least now there is a base to move forward from."

Researchers are also trying to understand how much diversity is in the population, and to determine the relationship and genetic similarities or distinct differences of the pathogen strains. "We are using molecular analysis or genotyping to determine the differences, with pathotype 5X, for example, proving to be genetically very distinctly different from the old pathotype 5," Strelkov says. "This genetic information is useful, providing us with a bit of a family tree that can help us understand which pathotypes are more closely related or not. This allows us to group the pathotypes and then develop molecular markers than can speed up screening to distinguish between different pathotypes and how they are behaving on resistance. Molecular markers allow us to screen many more samples very quickly, reducing the need for further testing to a subset of plants that are producing strange reactions or to verify our results. Eventually some of this material may be used by diagnostic labs in their testing protocols."

Another question is whether pathotypes such as 5X or 3A are really "new" pathotypes or not. "We wanted to know if these pathotypes were here from the beginning and went unnoticed, or did they arise through other mechanisms such as mutation or sexual recombination," Strelkov explains. "We went back to historical clubroot gall collections of eight Alberta counties from 2005 to 2016 to see if these new pathotypes were present, using

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PHOTO COURTESY OF STEPHEN STRELKOV.

In 2017, 20 of 113 fields surveyed in the Peace Region tested positive for clubroot.

recently developed molecular markers. In fact, we found that in quite a few of the galls, these new pathotypes were present at very low levels, lurking in the background and favored by planting susceptible varieties to this new pathotype. The results showed that these pathotypes were usually found at very low levels in galls from non-CR canola. They also confirm that the proliferation of virulent strains resulted from selection pressure imposed by planting CR canola, eventually resulting in pathotype shifts." In 2017 the analysis was expanded to include a limited number of samples from other regions in Saskatchewan and Manitoba. So far the good news is resistance is holding up in those provinces. Additional samples are being collected in 2018 and will be tested again.

Resisting clubroot resistance

Also of note is for the first time in 2017, 20 of 113 fields surveyed in the Peace Region tested positive for clubroot. "We tested samples from those 20 fields using PCR and DNA testing and found that in 15 of 20 fields, the new pathotype 5X was identified," Hwang explains. "According to the DNA, about 0.005 per cent of pathotype 5X spores were buried in the samples, suggested it is lurking in the soil at low levels, but more intensive rotations increase the selection pressure for these novel pathotypes that can overcome resistance. Applying a new calculation that I just developed for the first time on the number of spores released by a clubroot gall, that translates to over 800,000 pathotype 5X spores from each infected canola plant. We know that each canola plant can have

20 grams of gall tissue, and each gram of gall can contain 800 million spores. This means one mature canola plant could release 16 billion spores."

Hwang emphasizes that rotations of two or three years between canola are required to help reduce the levels of infections from those 16 billion spores per mature canola plant gall. "Three-year intervals between canola rotations actually result in significantly higher canola yields than a two-year rotation, however, pathogen levels are reduced with both rotations. It's not just about reducing novel pathogens, it is important to reduce the whole pathogen population in the field because as long as population levels are kept low, then the disease can be delayed and yield losses kept lower. According to a survey we completed in 2015 in four counties in central Alberta on 5,598 fields, most growers are using good practices and rotations, with only about 10 or 15 per cent using very tight rotations of no break or one year in between canola. The results from the 2017 Peace Region survey were similar."

"Three-year intervals between canola rotations actually result in significantly higher canola yields than a two-year rotation, however, pathogen levels are reduced with both rotations.

For growers, there is no single magic bullet, but genetic resistance remains the easiest and most effective clubroot management strategy. However, to maintain the effectiveness of these resources, other good management strategies such as extended rotations of at least two to three years is recommended. "We are researching other strategies such as fumigation to try to reduce population densities, particularly in field hot spots or field entrances," Hwang adds. "We need to take a holistic view and determine how other factors such as weeds impact clubroot pathogen development. We also know that the pathogen prefers acidic conditions and is less favored in higher pH soils. A graduate student project is underway to trial the potential use of lime amendments and different formulations, with early results very promising. The next major project is to find a way to measure specific density of spores in the field."

Strelkov and Hwang will continue to screen for new pathotypes and refine the CCD model. A better understanding of the pathotypes helps inform plant breeding and the focus of resistance strategies. "It is important to be breeding for prevalent pathotypes, so the right resistance is there when new canola varieties are released," Strelkov says. "We continue to do this pathology work so breeders know how to target their efforts and also to have materials with which to screen against. Resistance stewardship and a more integrated approach will be needed for sustainable clubroot management as we try to balance clubroot resistance with evolving pathogen strains and virulence."

NEW FRONTIERS FOR CANOLA MEAL

Research seeks to turn canola meal into a high-value "co-product" with applications in human food and feed.

by Julienne Isaacs

Canola contributes around $26.7 billion annually to the Canadian economy, according to figures from the Canola Council of Canada. However, most of its value lies in the oil, while canola meal has traditionally been considered a byproduct suitable only for animal feed.

This might change with the start of a new research project, which just received $876,000 in Agriculture and Agri-Food Canada, Canola Council and grower association cluster funding. The project aims to boost the protein content and quality of canola meal, turning this byproduct into a high value co-product of canola oil.

Researchers on the grant include Rob Duncan, associate professor and breeder in the University of Manitoba's department of plant sciences, James House and Rotimi Aluko in the university's department of food and human nutritional sciences, Agriculture and Agri-Food Canada collaborators in Saskatoon including Isobel Parkin, Janitha Wanasundara and Sally Vail and Lee Anne Murphy with Murphy et al Inc.

"We've gotten some smaller funding but this is our biggest funding source to date going into protein related traits and development," Duncan says. "This is a big step for the entire industry to add value to the crop."

Duncan says the team's research will be geared toward increasing the functional and nutritional value of canola meal as a feed source, and perhaps also a food product for human consumption.

Over the grant's five-year term, Duncan's team will focus on three objectives. They'll start by looking for diversity within the brassica family to find sources of improved protein quality, digestibility, cruciferin and napin in the natural germplasm of canola and its Brassicaceae relatives, as well as oil content, fatty acid content and fibre, among other qualities. Once they have gained this information, the team will look at the genotypic information of this germplasm to discover what factors control the protein quality and digestibility.

The team's third goal is to analyze how these sources of genetic diversity interact with canola processing methods, and how that interaction impacts protein quality and digestibility.

This focus on individual cultivars is important, Duncan says, because in the past research on canola meal has always been performed on composite samples, never individual cultivars.

"Is this cultivar better for digestibility? Does this cultivar have different cruciferin or napin levels? Does one cultivar handle processing better than others?" Duncan asks. "As a breeder, what I'm interested in is understanding whether cultivar A or cultivar B has better protein qualities."

PHOTO COURTESY OF LEE ANNE MURPHY.

ABOVE: A "canola tofu" round with characteristics similar to a silken soy-based tofu.

Adding value to the industry

Duncan's priority as a researcher has always been finding ways to extract value from the whole canola plant.

"From an economic and an environmental standpoint, the more value we can extract from the plant, the more benefit to

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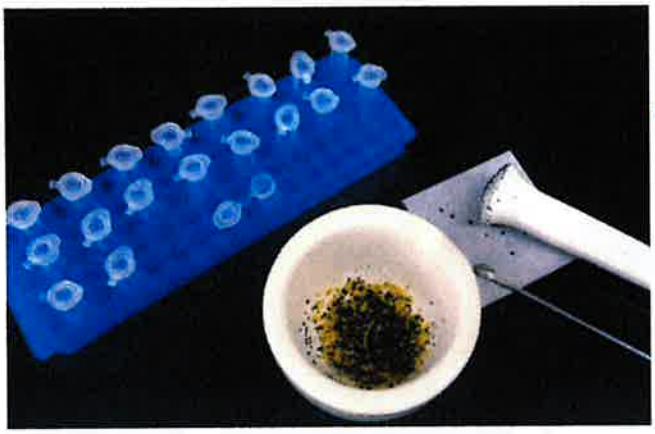

Manual grinding of canola seed into meal to determine protein characteristics.

Seed and meal samples of *Brassica napus* for determining protein quality.

PHOTOS COURTESY OF ROB DUNCAN.

the country, the industry and to the farmers growing that plant," he says.

Duncan says it's possible to couple high-value quality traits in one canola cultivar, and in fact this has already been done. For example, DowDuPont's ProPound canola, which is set to launch next year, contains a high-value meal trait that is combined with their specialty oil trait.

But Duncan's research looks at another kind of efficiency. His research program has been focused on canola's two main seed storage protein types – cruciferin and napin. Both types have good applications in food industries, but because testing has been done on the composite level, drawing from a mixture of genotypes, no one genotype has been bred for high cruciferin and napin.

"The efficiencies are poor," Duncan explains. "If we could offer a genotype that will constantly contain high cruciferin or napin, the protein isolates could be used in protein bars and beverages."

There is, however, only so much room in a canola seed. If oil content is increased, protein content decreases, says Duncan. "But we're not just emphasizing content in this research, rather the quality. If you have really high oil content that's not to say that you couldn't have high cruciferin in the resulting meal."

Because this team is just starting on this protein research, Duncan says it could take more than ten years to bring a new cultivar to market.

Food applications

The third focus of Duncan's team's project – understanding how processing methods affect quality – is just as important as the initial trait discovery process, he says. If a variety has improved protein quality traits, but those traits break down during heating in processing, you've gained little.

According to Lee Anne Murphy, vice-president of agricultural research firm Murphy et al Inc., who is part of the same cluster project, this exact problem is a key obstacle facing stakeholders interested in upping protein content in canola meal.

"High heat damages the ability of the protein to be used in food formats. That is why the cluster project's focus on understanding the impact of processing on protein quality is so important," she says.

Murphy's company has a partnership with the Manitoba Canola Growers Association that has worked on characterizing oil, press cake (meal) and co-stream products from cold pressed canola.

"One of our discoveries was that the protein from canola meal can be used in food formats including a 'canola tofu,'" she says. "We've also developed prototypes that mimic the hardness and elasticity of silken soybean tofu, as well as a shelf stable powder version and a meat mimic – think deep fried nugget."

Murphy says all these applications can be made using equipment that the soy industry has used for decades, which means existing plant-based food manufacturers can expand product offerings while minimizing capital investment.

Canola meal has a largely untapped potential for use in food ingredients and food products, Murphy claims, and unlike many other novel plant proteins it's readily available in large volumes.

"We hope the feedback on end uses will help focus and direct the research and discovery efforts to shorten the time to commercial adoption," Murphy says.

Involving growers in this work from the beginning is key to the project's success, she adds. "We hear over and over that the major obstacle to adding value is a reliable, consistent supply of high-quality raw material.

"With canola, we have that as the starting point."

For more canola research updates, please visit us online at www.topcropmanager.com.

USE BIN-RUN SOYBEANS AT YOUR OWN RISK

Old bin-run soybeans seed yielded about five bushels per acre less than the new, most popular varieties.

PHOTO BY BRUCE BARKER.

by Bruce Barker

The patent on the first-generation Roundup Ready soybean trait expired in 2011, leaving the temptation for growers to save their own seed or purchase bin-run seed from others. However, using bin-run Roundup Ready soybean seed comes with agronomic and legal implications.

"Whether it is off-patent Roundup Ready soybeans or bin-run conventional soybean seed, I tend to lump them into the same category from an agronomic perspective," says Dennis Lange, pulse specialist with Manitoba Agriculture. "With bin-run seed, there's no guarantee of what's in the bag, no germination guarantee, no way to ensure purity of the seed or even know what variety is in the bag. It is just the word of the salesman you're buying the seed from."

Several years ago, Lange analyzed Manitoba crop insurance yield data comparing Roundup Ready varieties that would be obviously off-patent to a few of the most popular Genuity Roundup Ready 2 Yield trait technology soybeans currently grown and available only as Certified Seed. He found that the old bin-run seed yielded about five bushels per acre less than the new, most popular varieties.

Possible reasons for the yield drag of older bin-run seed is the improvement of many important genetic traits over the past 10 to 12 years. These include earlier maturity, higher yield potential, Iron Deficiency Chlorosis tolerance, and Soybean Cyst Nematode resistance.

"In addition to the improved genetics of today's soybeans, I always recommend Certified Seed from the agronomic side. You have guaranteed germination and know that you are getting the variety you are buying. It's free from impurities and off-types," Lange says. "It's up to the individual to decide, but certainly from an agronomic perspective, going with Certified soybean seed has advantages."

Legal implications

Lorne Hadley, executive director of the Canadian Plant Technology Agency, notes that just because a variety goes off patent, other contracts and agreements may prevent a soybean grower from using off-patent Roundup Ready seed. The CPTA is a member-driven not-for-profit organization that supports intellectual property within the Canadian Seed industry.

"There are several issues with the Roundup Ready 1 trait. There are still some varieties being sold as Certified seed that carries that trait, and it may also be stacked with other traits. These varieties may still be protected by some sort of grower agreement," Hadley says.

To avoid legal ramifications of using bin-run seed, growers should check to see if the variety can be legally saved and replanted. This may be the case for some very old varieties or some conventional varieties. However, while the patent on the trait may have expired, other forms of intellectual property protection, such as varietal patents, continue to be valid. Soybean growers may also have signed other contracts with seed companies where they are not allowed to save or trade seed between farmers.

"There's not a lot of upside to bin-run seed. The biggest risk is not knowing what is in the bag if you are purchasing it from someone else. For example, maturity is a big challenge for growers and you might be getting a variety that requires high heat units to mature that isn't adapted to the area you farm," Hadley says.

It's up for growers to decide whether they want to take that risk with bin-run seed or place a safe bet on Certified seed.

ABOVE: **Bin-run soybean seed had a five bushel-per-acre yield drag.**

TAKING THE RISK OUT OF STRAIGHT CUTTING

How one producer pulled the trigger

Straight cutting canola continues to expand in Canada, this year more producers left the crops standing and accepted the risk in exchange for larger seed sizes and more flexibility at harvest.

How do they manage the risk?

In Kirriemuir, Alberta Dallas Vert found the solution for his operation was Production Cost Insurance. "The risk is always there on canola and I always wanted to straight cut it. I never ever had the opportunity to be covered to do it."

A couple years ago Dallas heard talk of a new insurance product that was completely different from traditional insurance. It sounded so good, that at first Dallas didn't believe it could be true.

"I went online and looked it up. And then I talked to Grant at one of the farm forums and I thought it was too good to be true. I didn't believe what he was trying to tell me. I thought there was a loophole somewhere that the guy can get out of, because insurance doesn't usually work that way."

There was no loophole. The insurance was revenue insurance—also called Production Cost Insurance. A product that's rapidly taken hold in Canada and the United States. The private insurance from Global Ag Risk Solutions, based in Moose Jaw, Saskatchewan is helping farmers be a little more aggressive. It's not a single incident insurance, it insures them through the whole growing season and through multiple forms of risk. Not just weather.

In short, you insure that you will earn a certain income. Then you have the freedom to do whatever you need to do to hit or get past your target. This protects you from unexpected expenses like added inputs and unpredictable market fluctuations. As Global Ag Risk client Blake Brownridge from Arcola, Saskatchewan says, "I'm rewarded for what I do on my farm. If I try to do different things, then I know that I'm covered."

"The canola variety that came out that year was quite expensive, but it was a good variety match for our area. So, I pulled the trigger and I did it—and it was awesome!"

Dallas Vert, owner of Kirriemuir Ag and Oil in southeast Alberta.

That freedom is what gave Dallas the confidence to start straight cutting his canola.

"The canola variety that came out that year was quite expensive, but it was a good variety match for our area. So, I pulled the trigger and I did it—and it was awesome! I'm going to continue doing it. All I needed was the risk coverage to do it and trying to cover the expensive seed. And it's there now."

With Global Ag Risk Solutions, producers have the peace of mind to farm how they want to farm, something that's helped Dallas and his family sleep a lot better at night.

"I'm pretty sure those two swathers are going to go down the road and it's going to put more money in my pocket."

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BETTER AND BETTER FLAX

Some highlights from the Prairies' only flax breeding program.

by Carolyn King

Being the only flax breeder in Western Canada puts the onus on Helen Booker to target traits that are of keen interest to flax growers, processors and users. Her program is working on a wide range of advances – from stronger disease resistance, greater adaptation to northern conditions, and increased yields, to larger seeds, yellow seed coats and higher alpha-linolenic acid (ALA) levels in the oil.

"Western Canada has gone from three flax breeding programs to one in the last couple of years," says Booker, who has been the flax breeder at the University of Saskatchewan's Crop Development Centre (CDC) since 2009. She notes that the Agriculture and Agri-Food Canada (AAFC) flax program in Morden, Man., has shifted from breeding to agronomy research, and a private flax breeding program run by various companies over the years has closed up shop.

Fortunately, Booker's program is able to piggyback on the resources and infrastructure in place for the CDC's other breeding programs. Also, Booker and her predecessor, Gordon Rowland, have developed some great flax cultivars that provide royalties to the breeding program from seed sales. Plus, collaborations with other researchers are feeding valuable data and tools into her breeding activities. And Booker and her collaborators have been able to access research funding from federal, provincial and grower sources to continue the program's advances.

Breeding goals

"One of the major goals of my program is to increase the area of adaptation where flax can be grown successfully," Booker says. "Primarily, flax is still a crop of the southern Prairie provinces, mainly because it requires a relatively long growing season. However, if we can [decrease the days to maturity] and move flax production farther north, so it's not competing head-to-head with soybean, then we could potentially increase the production area."

She explains that flax production in the Prairies' northern growing areas offers several advantages. "In the north, there is less drought and lower evapotranspiration, so yield potential is higher. Also, ALA levels are higher when the crop is grown under cooler night temperatures, so seed quality tends to be good in northern areas. ALA is the major fatty acid in flax associated with its industrial uses [such as varnishes and paints] and with the healthy omega-3 fatty acid."

Of course, Booker also wants to improve outcomes in the areas where flax is currently grown. So, she is aiming to increase yields in all production areas by improving such things as resistance to major diseases like pasmo, powdery mildew and Fusarium wilt, and resistance to drought.

Another goal is to improve harvestability. She notes, "Sometimes the flax seed capsules, the bolls, have matured but the stem remains green, and the stem is a very strong because it's a bast fibre crop. So, if we can get the stems and the bolls to mature

<LEFT: Booker's newest yellow flax variety, CDC Dorado (foreground), flowers and matures earlier than reference cultivars CDC Bethune and Omega, and has a high ALA content.

BOTTOM: An example of parent plants (crosses indicated by the tags) in Booker's flax breeding program.

PHOTOS COURTESY OF BRANIMIR GJETVAJ PHOTOGRAPHY.

<LEFT: Helen Booker is working to improve a wide range of traits in her flax breeding program at the University of Saskatchewan.

at the same time, then harvesting will be a lot easier."

As well, she is working to improve seed quality traits that are important to the industrial, human health, and animal nutrition markets, such as increasing the ALA content.

Latest varieties

Some of Booker's latest varieties have a yellow seed coat. "Flax cultivars in Canada can now have either a brown or a yellow seed coat. In the past, yellow seed coat cultivars were Solin varieties; breeders used the yellow seed coat to identify cultivars with a low ALA content so those cultivars wouldn't get confused with commodity flax, which has a high ALA content," she explains. "However, the market for low ALA flax oil never developed significantly. So, we asked the Canadian Food Inspection Agency to decouple that yellow seed coat trait from the low ALA trait. They agreed, and we deregistered the Solin varieties. So, we're now able to release yellow seed coat lines with the high ALA trait."

According to Booker, the yellow seed coat is an advantage for some uses because the seed coat doesn't contain tannins. For example, if you mix ground yellow flaxseed into food products like pastas or bakery products, it won't cause discolouration.

"In 2017, I released a yellow seed variety called CDC Dorado. A seed grower group in southern Alberta called SeedNet is distributing it. CDC Dorado is the highest ALA line released by the CDC. It's at 64 per cent ALA; most of the cultivars have around 55 per cent," Booker says.

"In the longer growing season zone of the Prairies, CDC Dorado has a seven per cent yield advantage over AC Nugget, the yield standard for the yellow linseed cultivars. It has a medium seed size. It's immune to flax rust and moderately resistant to Fusarium wilt. And it has a high meal protein content of 44 per cent, so the meal is a good protein source for animals."

In 2016, she registered a yellow cultivar called CDC Melyn, which is being distributed by Wayfinder Farms in Saskatchewan. Its yield is equal to AC Nugget's, it is immune to flax rust and moderately resistant to Fusarium wilt and has an ALA content of 61 per cent.

This year, Booker registered a brown linseed variety called CDC Rowland. "The breeder seed was grown this year. SeCan will distribute it, and they'll have it ready for farmers in a couple of years," she says.

"CDC Rowland is named after my predecessor, Gordon Rowland, who started the flax breeding program at the CDC. It has a really high yield potential. Across Western Canada, its yield is 112 per cent of CDC Bethune, which is the yield standard. It has a late maturity rating equal to Flanders, and the yield potential actually is higher in the south. So in the longer growing season portion of the Black and Gray soil zones, it's 117 per cent of Bethune. In the Brown soil zone, it's about 116 per cent of Bethune.

"It has a large seed size, at 6.8 grams of 1,000-seed weight, which is significantly larger than the other CDC cultivars. It is immune to flax rust, and moderately resistant to flax wilt and powdery mildew. It has a medium oil content of 45 per cent and an ALA content of 59 per cent."

Phenotypes, genotypes, genomics, genes

Over the past decade, a lot of work has been done in Canada to evaluate and characterize existing flax germplasm sources. For instance, Rowland and AAFC's Sylvie Cloutier led a major Genome Canada project (2009 to 2014) that sequenced the flax genome and developed numerous genomics tools such as genetic maps and molecular markers. This work has continued, and they recently released an improved version of the flax genome sequence that rivals in quality the best crop reference sequences currently available.

To help in the use of those tools, Axel Diederichsen with Plant Gene Resources of Canada (PGRC) created a set of about 400 accessions, called the flax core collection. This core collection is drawn from the PGRC's flax world collection, which contains about 3,400 accessions of flax germplasm collected from all over the world. The core collection preserves the range of diversity present in the world collection.

Booker, along with AAFC researchers including Scott Duguid, Sylvie Cloutier, Khalid Rashid and Frank You and others, worked together to evaluate the core collection for many agronomic, seed quality, fibre and disease resistance traits, at Morden and Saskatoon. The resulting dataset is a great resource for flax breeding. This research was funded by Genome Canada, AAFC, Western Grains Research Foundation, Saskatchewan Flax Development Commission, Flax Council of Canada and others.

The AAFC researchers have genotyped the core collection and they are working on studies to identify the locations in the flax genome that affect various key traits. Booker and her AAFC colleagues will be submitting a proposal for a large-scale research project that would include a continuation of that work towards pinpointing the specific genes involved in important traits.

In a Growing Forward 2 project, Rashid and CDC plant pathologist Randy Kutcher screened the PGRC's entire flax world collection at the pasmo nurseries at Morden and Saskatoon, respectively. "They were able to identify some accessions that are moderately resistant or resistant to pasmo," Booker says. She adds, "The flax lines in the world collection are not necessarily improved germplasm; they don't have the agronomic, disease resistance, and quality traits that are required for a cultivar to be grown in Canada. So we'll be using those resistant and moderately resistant lines as a germplasm resource to breed into, or introgress, pasmo resistance into our improved material."

Last year, Booker led a short project under Growing Forward 2 that involved QTL-seq. QTL-seq is a bioinformatics "pipeline" (a series of steps to analyze data) to rapidly analyze millions of DNA sequences to figure out how they relate to specific traits. "We obtained a flax population that was segregating for either resistance to powdery mildew or resistance to Fusarium wilt or both. We sequenced all the individuals in that population. Then we selected the extremes from the population, so the resistant or susceptible phenotypes," she explains.

By analyzing the sequence information for those resistant and susceptible groups, the researchers identified locations on the genome associated with resistance. "We identified a single location for powdery mildew resistance. Fusarium wilt involved a lot of small-effect locations, so we weren't able to identify a single location that conditioned resistance to that disease," she says.

Booker's group is now doing further work with this flax population, trying to zoom down to find actual candidate genes that may be contributing to powdery mildew resistance. If they can identify the resistance genes, they will then develop molecular markers for those genes and use those markers in her breeding program. She notes, "In Saskatoon, we can't reliably screen for resistance to powdery mildew because we only get a powdery mildew epidemic about once in a decade. However, if we have a genetic marker, then we can screen for resistance in that way."

Going wild

Another area of her program involves transferring useful traits from the wild relatives of flax into cultivated flax lines. "The wild progenitor of flax is *Linum bienne*, or pale flax. It is easily crossable with cultivated flax, *Linum usitatissimum*," explains Booker.

As part this research, she's working on a step-wise approach to introgress pasmo resistance into an adapted background. First, she crossed *Linum bienne* with a CDC flax cultivar. Then she inbred those bienne-usitatissimum hybrids in the nursery until they became stable at the F6 (sixth generation) stage. The F6 hybrid lines didn't perform very well agronomically because of the wild germplasm in their background, but Booker selected individual plants that showed resistance or moderate resistance to pasmo when tested in the pasmo nursery at Saskatoon by Kutcher's group. Then she crossed those individuals back into CDC cultivars to try to improve some of the other traits in this material, while retaining pasmo resistance.

She says, "We'll test offspring of these crosses in the pasmo nursery at Saskatoon next year. We'll make single-plant selections of the most

resistant plants, and they will be retested again the following year in the pasmo nursery. We can keep this process going until the lines and the resistance are stable and then, they'll go into performance testing."

Her research group has also started making "wide crosses" – crosses with more distantly related wild relatives of flax, which can be quite challenging.

Better analysis of variety trial data

Booker and her CDC colleague Gaofeng Jia recently published their work to develop a more up-to-date statistical pipeline for estimating agronomic traits using data from multi-environment field tests, such as variety trials.

"Most agronomic traits, for example yield, are impacted by not only the genotype but also the environment. So it's hard to pin down yield in multi-environment tests," she explains. "The pipeline that we developed was best able to predict yield potential in flax when looking at multiple environments."

She will be using this analysis pipeline to calculate more accurate yield potential estimates for new flax cultivars in the Prairie-wide regional tests of registered cultivars, and she will provide those estimates in the Seed Guide flax tables. To better reflect shared environmental conditions, the flax yield data will be grouped into three regions: the Brown soil zone; the longer-season region of the Black and Gray soil zones; and the shorter-season region of the Black and Gray soil zones.

Booker says this new approach will be more helpful for growers when choosing varieties suited to the conditions on their farm. And it will allow breeders to better pinpoint the best performing and most stable genotypes as their lines go through multiple field trials.

Overall, Booker and her collaborators have lots of studies underway that will contribute to the development of even better flax varieties. And she says many new projects will be coming along soon as the Canadian Agricultural Partners research funding program is rolled out. The future looks bright for continued improvement of flax varieties for Western Canada.

INNOVATIVE FLEA BEETLE CONTROL

Researchers look into a foliar spray, a more versatile and targeted treatment, to control flea beetles.

by Julienne Isaacs

2018 was a bad year for flea beetles in Manitoba canola, according to John Gavloski, extension entomologist for Manitoba Agriculture.

"There was a fair amount of foliar spraying and some re-seeding," Gavloski says. "Flea beetles seem to have overwintered quite well and were out in high numbers, plus the canola was stressed due to dry conditions, so it wasn't growing quickly."

There's no year in which flea beetles aren't a problem for canola producers; the damage simply varies in degree. The Canola Council of Canada estimates that annual crop losses due to flea beetle in North America likely exceed $300 million.

And controls are limited: while producers currently rely almost exclusively on neonicotinoid seed treatments (thiamethoxam, imidacloprid and clothianidin) for flea beetle control, Health Canada's Pest Management Regulatory Authority is proposing to phase out outdoor uses of these chemistries over the next three to five years due to their impact on aquatic organisms.

Should this phase-out occur, producers are likely to shift from neonicotinoids to the diamide group (Lumiderm, Fortenza) as the insecticide component of their seed treatments. These insecticides also offer control of cutworm, says Gavloski. But producers clearly need more options for control.

Foliar RNAi

Enter RNA interference, or RNAi, a biological method that uses RNA molecules to inhibit or "silence" gene expression in targeted organisms.

There are two ways RNAi can be harnessed for crop protection: by transgenically modifying a plant to express the RNAi molecule in its leaves, or by applying this molecule topically to the plant using a foliar insecticide.

Bayer Crop Science's Ag Biologicals and Syngenta have both been working on RNAi-based foliar insecticide technologies for several years.

Bayer's product, according to Kristin Huizinga, regulatory affairs manager for RNAi, is still in its early stages, but field trials are promising. She says next steps include additional field trials as the company works to refine testing design to match on-farm conditions.

"The first step in the regulatory submission process may occur in the early 2020s, at which point we likely plan to submit a dossier to the United States Environmental Protection Agency to support a product launch in the middle of the next decade," Huizinga says.

PHOTO COURTESY OF JOHN GAVLOSKI.

ABOVE: **Adult flea beetles on a canola plant at Carman, Man.**

According to Chris Davison, head of corporate affairs for Syngenta Canada, Syngenta is also in its early research stages with a foliar spray for the control of flea beetles. "We expect it will be several years yet," he says.

Davison says there are many challenges that need to be met as Syngenta develops any novel method of pest control. "In particular, it is important to understand the performance of products under a range of different conditions as well as be able to produce the material at the right quality and cost effectively, to highlight just a few considerations," he says.

Both companies are working with regulatory bodies and other stakeholders as they develop their products.

Because RNAi is so new, the regulatory process represents untested waters in Canada, but any new pest control products must pass the PMRA's rigorous health and safety risk assessments.

Because the RNAi process is based on RNA sequences specific to proteins in a target pest, there theoretically should be no effect on other organisms, although researchers must do their due diligence in testing for off-target impacts.

Benefits and drawbacks

Jodi Beattie, project lead for Bayer's flea beetle research, says the advantage of a foliar spray is that producers can target their use of the product to those times when pests reach economic threshold levels.

"A foliar application of any kind gives a farmer added versatility and timeliness of when to treat the crop," she says.

Producers are used to using foliar insecticides, adds Davison.

Regardless of the method of application, the clear benefit of RNAi is its specificity. Because the process is based on RNA sequences specific to proteins in a target pest, there theoretically should be no effect on other organisms, although researchers must do their due diligence in testing for off-target impacts.

This means RNAi-based controls shouldn't impact beneficial insects in the field, says Gavloski.

But there is one potential downside: after consuming dsRNA on a canola plant's leaves, flea beetles don't die instantaneously.

"They may feed for a day or two and then die. For some insects, it wouldn't be a big deal. But for flea beetles, it depends," Gavloski says. "If populations are extremely high, how much damage will occur after application before they die?"

Gavloski says producers' alternatives for control are extremely limited. Few cultural controls for flea beetle exist in canola, and while crop rotation is recommended for many other reasons, it doesn't have much of an impact on flea beetles, which can fly in to the crop from neighbouring fields.

RNAi-based controls might not be a silver bullet, but there's no such thing, anyway, in a business as complicated as agriculture. From the producer's perspective, innovation in the pest control pipeline is absolutely necessary.

"It's good to have multiple tools in the toolbox," Gavloski says.

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SOLONETZIC SOILS: MORE COMPACT, MORE COMPLEX

The hardpan layer of Solonetzic soil makes soil management and crop production a challenge, but deep ripping or plowing can help reclaim the soil.

by Ross H. McKenzie

Solonetzic soils have a subsurface soil horizon layer characterized by a higher level of sodium (Na) and often an accumulation of clay. This hardpan layer makes soil management and crop production a challenge. These soils occur most commonly in Alberta and Saskatchewan (Figures 1 and 2), and less commonly in Manitoba.

Solonetzic soils have developed on parent material containing sodium salts that originated from marine shales or have developed on lower relief landscapes that are affected by ground water discharge that is higher in sodium. Typically, the hardpan "B" soil horizon, or subsoil, varies from five to 30 centimetres (two to 12 inches) below the surface soil.

The combination of high sodium and clay cause the subsoil, where most roots live, to be extremely hard when dry. When wet, the subsoil swells to a very sticky mass with very low water permeability. Years of swelling and shrinking of clay, coupled with the high sodium, causes the subsoil to develop into a hard columnar structure. These physical characteristics restrict root and water penetration into the subsoil. This limits the rooting ability of crops into the subsoil and restricts the plants' ability to take up water and nutrients, affecting crop yields. Solonetzic soils are often intermixed with normally developed soils, resulting in a wavy crop growth pattern.

A soil is considered Solonetzic when it has a Bn soil horizon, with the "n" indicating a high sodium content. When Solonetzic soils form, there tends to be downward movement of clay from the surface soil (A horizon) into the B horizon, forming a Bnt horizon. The "n" indicates an accumulation of sodium and "t" indicates an accumulation of clay. The B soil horizon commonly overlies a C subsoil horizon with sodium salts, gypsum (calcium sulphate) and/or lime (calcium carbonates). A leached Ae horizon occurs within the surface soil when clay has moved downward from the A horizon and the "e" indicates an eluviated layer.

Reclamation management of Solonetzic soils

Since the 1950s, a range of physical and chemical practices have been tried with varying degrees of success. Deep plowing and deep ripping have been tried alone and in conjunction with amendments such as lime or gypsum.

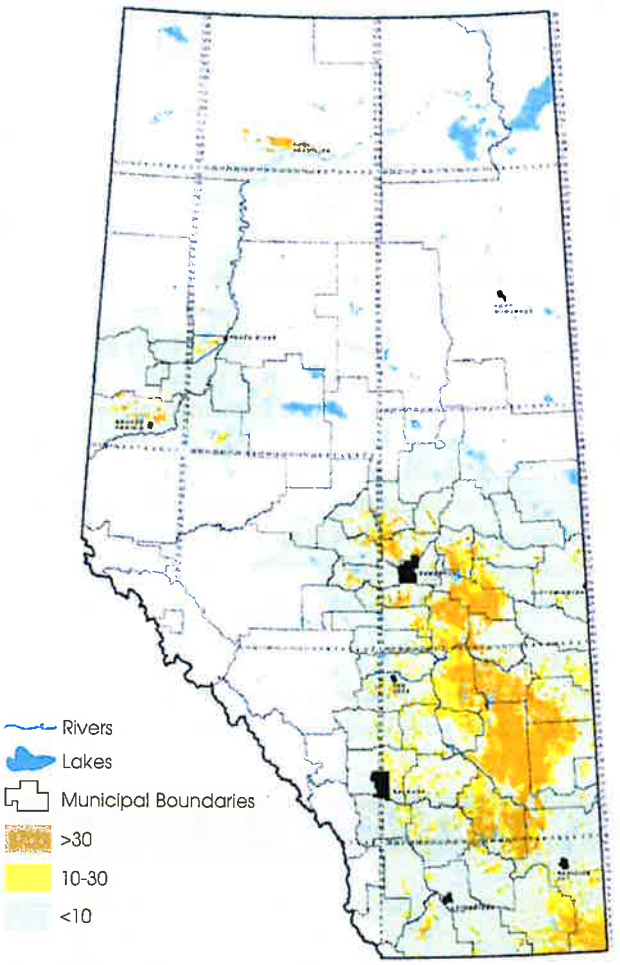

PHOTO COURTESY OF ALBERTA AGRICULTURE

ABOVE: **Figure 1: Solonetzic soils in Alberta.**

Limited water percolation into subsoil of Solonetzic soils is a major concern. Deep tillage to break up the hard B horizon has been used to increase water penetration and improve moisture storage. However, the success is short term as the sodium and clay enriched hardpan often reforms. Generally, success has been better in higher precipitation areas. When Solonetzic soils

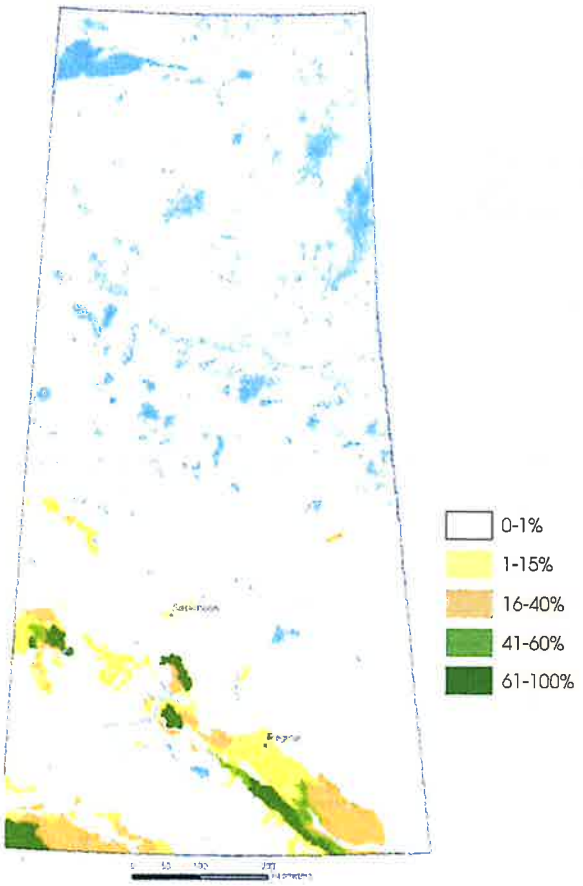

PHOTO COURTESY OF THE UNIVERSITY OF SASKATCHEWAN DEPARTMENT OF SOIL SCIENCE.

Figure 2: Solonetzic soils in Saskatchewan.

are also saline (high in soluble salts), deep tillage is not recommended and may even encourage further soil salinization.

Reclamation and improvement of Solonetzic soils can be expensive. The Solonetz soil group is the most challenging to reclaim and manage. Solonetz soils in native grass, particularly in the drier regions of the prairies, are often best left in their natural condition and used for carefully managed livestock grazing.

Reclamation of Solodized Solonetz and Solod soil Great Groups have better potential for successful reclamation.

Deep plowing

Deep plowing has been used with reasonable success on suitable Solonetzic soils. Deep plowing is used to bring up C horizon soil that is rich in calcium in the forms of lime and gypsum, to intermix with the Bnt hardpan. When this is done successfully, it allows calcium to replace sodium on exchange sites on the clay particles to improve the soil structure and prevent reformation of the hardpan. Over time the displaced sodium will leach out of the B horizon. To be successful, the lime/gypsum layer must be within plowing depth, and the soil must be dry to ensure good soil shattering and intermixing of the B and C horizons.

Often the A horizon of Solonetzic soil is acidic and when lime from the C horizon is mixed with the top soil, this can neutralize the soil pH to also provide soil improvement. However, the quality of the top soil is degraded in the mixing process and the soil organic matter content is greatly diluted. This can leave the surface soil rough, lumpy and will greatly reduce seedbed quality. The year after deep plowing, putting a field into forage for three to five years will allow time for the calcium and sodium exchange process to take place to improve B horizon quality and will help to improve surface soil quality.

Deep ripping

Deep ripping, also referred to as subsoiling, has been used as an alternative to deep plowing. To be effective, the soil will have a Bnt hardpan but with lower to moderate levels of sodium. The soil must be dry to ensure good fracturing of the hardpan. Unfortunately, ripping does not accomplish intermixing of the B and C soil horizons. Soil improvement and increased crop yields are mostly due to the physical shattering of the B horizon to improve water percolation and plant root penetration through the B horizon. When soil sodium levels are lower, the hardpan may not reform. When soil sodium levels are moderate, redevelopment of the hardpan may occur over time. Ripping is less successful when the B horizon is moist or wet at the time of ripping, or if soil sodium levels are moderate or high.

Before undertaking deep plowing or deep ripping of Solonetzic soils, farmers should consult with a well-qualified and experienced soil specialist to determine if their soils have suitable characteristics for successful reclamation. Utility companies should be contacted to locate buried lines prior to tilling deeper than 30 centimetres (12 inches).

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SOLONETZIC GREAT GROUPS

The Canadian System of Soil Classification has divided the Solonetzic soil order into four Great Groups: Solonetz, Solodized Solonetz, Solod and Vertic Solonetz.

Solonetz soil is less common on the Prairies and has formed on soils with high levels of sodium. The change between the topsoil and subsoil is more abrupt.

Solodized Solonetz soil is more common on the Prairies. This soil has an Ae horizon, or surface soil, greater than two centimetres thick. Leaching has developed an acidic ashy-white Ae soil horizon above the hardpan from which clay and organic matter have been leached.

Solod soil develops with continued leaching of sodium and degradation of columnar tops. These soils often have an acidic topsoil and a subsoil that breaks apart more readily. Of all the Solonetzic soil types, Solod soils have the best potential for improvement and annual crop production. With continued breakdown of the Bnt horizon and leaching of sodium from the B horizon, the soil degrades to become a Solodic Chernozem soil, with some of the physical features of a Solonetzic soil but without the high level of sodium.

Vertic Solonetz soil occurs on heavy clay soils and has a Bn or Bnt horizon.

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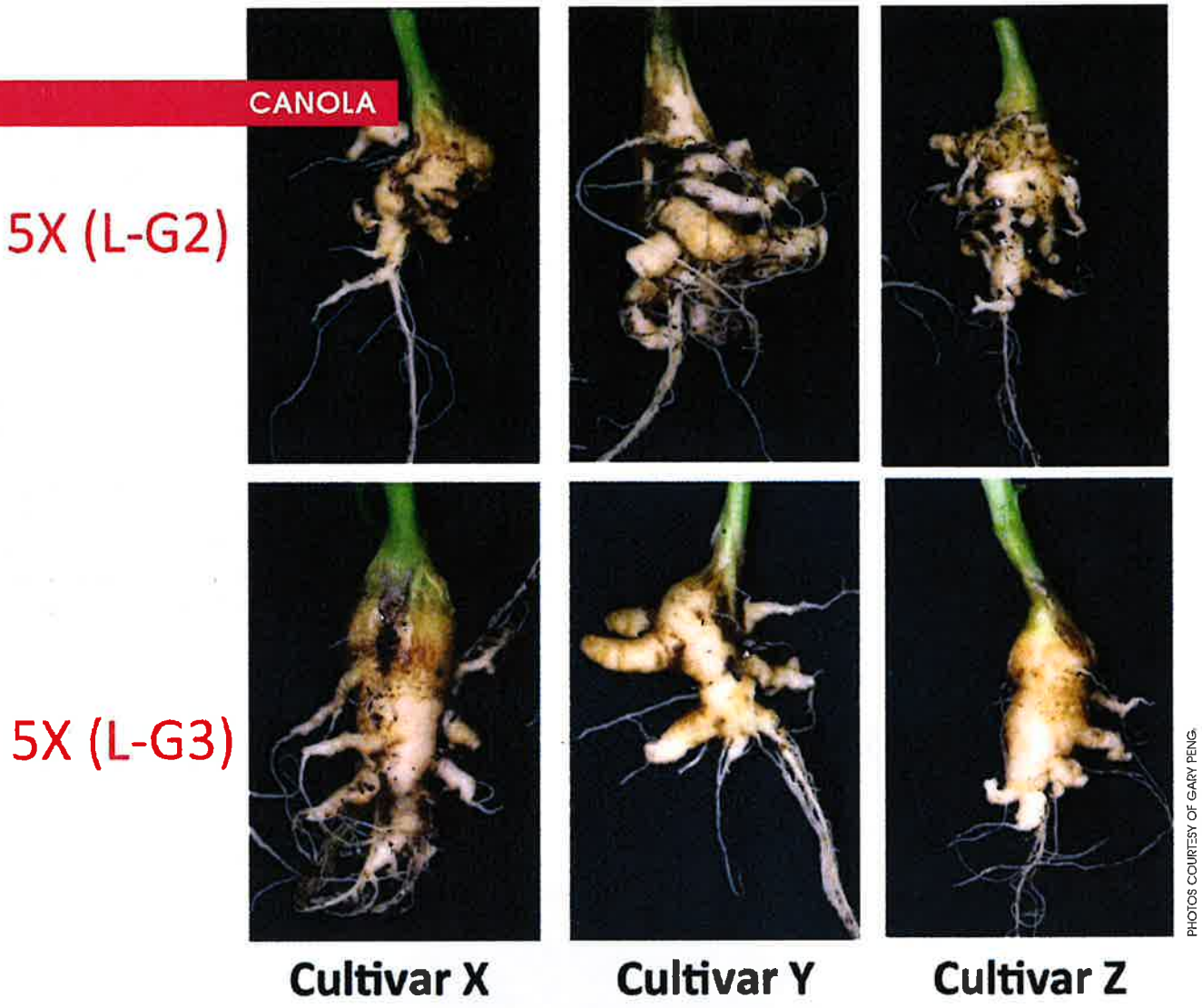


PHOTOS COURTESY OF GARY PENG.

DEVELOPING DIVERSIFIED CLUBROOT RESISTANCE IN CANOLA

Advancements and new tools for broad spectrum and more durable clubroot resistance.

by Donna Fleury

Cultivar resistance is considered the most effective and practical approach for clubroot management on canola. However, almost all of the current cultivars were based on a single clubroot resistance (CR) gene, which can be eroded when the pathogen *Plasmodiophora brassicae* changes in virulence. A new pathogen strain pathotype 5X, which began to appear in 2013 in some Alberta fields, was discovered to be virulent to each of the clubroot resistant cultivars in the marketplace. Researchers continue to work towards developing diversified clubroot resistance in canola.

"We are constantly looking for a new type of clubroot resistance that would be more broad spectrum and efficacious," says Gary Peng, research scientist with Agriculture and Agri-Food Canada in Saskatoon. "Over the past few years several researchers have been searching for new resistance genes for clubroot, but have realized that many of the genes being mapped or characterized are fairly similar. Even though we find more genes on different chromosomes, when we look at their function against various pathotypes, there is no single gene that is really resistant to all of the pathotypes identified in Canada, particularly the new ones identified at the University of Alberta. The challenge remains, how are we going to proceed from here in terms of cul-

ABOVE: **New pathotypes of *Plasmodiophora brassicae* (clubroot) cause resistance breakdown of canola varieties, which were resistant to pathotype 3.**

tivar resistance?"

In a recent project, Peng and his team set out to assess if any of the CR genes previously identified would be efficacious against pathotype 5X of *P. brassicae*, and to explore various molecular and biochemical tools and advanced technologies, including transcriptome, proteome, metabolome and synchrotron-based FTIR spectroscopy that can be used for studying CR mechanisms. These technologies can be used to identify metabolic or signaling pathways relating to clubroot resistance, potentially differentiating the modes of action among different CR genes. The ultimate goal is to develop canola germplasm carrying more diverse CR genes for sustainable and durable clubroot resistance that could be incorporated into elite canola breeding lines singly or by stacking.

"We started this process looking at tools that we could use to assess the performance of different resistant genes, initially using transcriptome analysis (RNA sequencing) to compare overall differential gene expression between resistant and susceptible lines," Peng explains. "Our initial assessment of CR candidates against pathotype 5X of *P. brassicae* began with screening of 24 resistant candidates (to pathotype 3) against mixed and single populations of pathotype 5X from Alberta fields where resistant cultivars failed in 2013. We identified several candidates resistant to mixed 5X populations, and the CR genes also showed resis-

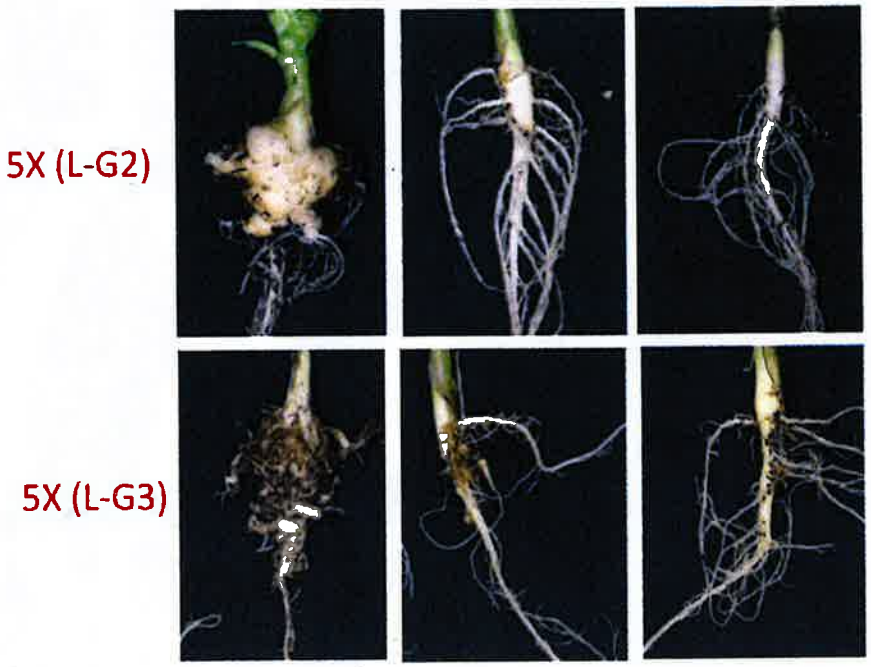
It takes time and a process to get these new resistance products out to the market . . . but new resistant hybrids won't replace the good practices growers use, such as extending crop rotations, even by one year.

tance to all other *P. brassicae* pathotypes found earlier in Canada (pathotype 2, 3, 5, 6, 8). Through RNA sequencing, specific functional resistance genes involved with the clubroot resistance have been identified."

Researchers explored various advanced technologies to better understand the resistance mechanisms associated with these newly identified genes. One of the key discoveries was that cell wall modification was strongly indicated, especially callose polysaccharides associated with cell infection by the pathogen. The callose deposit increases the strength of the cell wall against infection. To better understand the pathways associated with the callose deposition or production, Peng turned to synchrotron-based Fourier transform mid-infrared (FTIR) spectroscopy tools at the Canadian Light Source (CLS). A synchrotron is a source of brilliant light that scientists can use to gather information about the structural and chemical properties of materials at the whole tissue, cellular and molecular level.

"Through this FTIR technology, we were able to closely examine and analyze the various root cell wall components, even at the micro and nano scale," Peng explains. "We were able to identify clear changes in the cell-wall composition of roots associated with the recently discovered CR gene *Rcr1* as compared to susceptible roots, especially the increase in lignin composition. The gene *BrPAL1* was confirmed to be responsible for the upregulation of cell-wall components, including lignin and phenolics, which may play a role in defense responses against clubroot, such as strengthening the cell wall itself and providing antimicrobial properties."

This study has provided researchers with a new direction for looking at the deployment of CR genes. Combining traditional tools such as microscopy and other biochemical analysis with FTIR as a potential new rapid and precise screening tool can help speed up the process. "For example, we may be able to use specific regions, such as the cell wall modification we just identified, as a fingerprint for screening for resistance," Peng says. "We can look at various mechanisms of resistance against different pathotypes and determine whether more modes of action can be involved. We can also assess how that will affect the longevity of resistance if we expose a stack of multiple genes to the same population of the pathogen."



Reaction of canola hybrids with stacked clubroot resistance (CR) genes to the pathotype 5X populations L-G2 and L-G3 5 weeks after inoculation (middle and right). Without proper stacking, these CR genes are ineffective against the 5X (left).

Researchers have also successfully developed a range of new and improved canola germplasms carrying single/multi CR genes against the new strain of *P. brassicae* pathotype 5X, as well as the common pathotypes found in Canada. The new CR gene *Rcr6* appears promising against all pathotypes or variants recently found in Canada, but it will be more challenging to incorporate it into *B. napus* without sacrificing the yield or quality of canola varieties. However, it can be incorporated readily into *B. carinata*. CR genes on the A3 chromosome appeared less effective against pathotype 5X when used alone, but reduced clubroot development by approximately 80 per cent when combined with a CR gene on A8. To support the fight against clubroot in canola, several stable populations of CR *B. napus* germplasm carrying a single CR gene have been transferred to many breeding companies for the production of new resistant canola hybrids.

"We are discovering that the clubroot pathogen population is more diverse than what we knew before, and there will likely be further variants to be identified," Peng adds. "Therefore, it will be important to better understand the resistance mechanisms with the CR germplasms developed for effective deployment. Resistance remains one of the most important components of our clubroot management package, and is most practical and easy to use. Research and breeding efforts will continue to develop new resistance materials, recognizing there is a limitation of resistance sources at the gene level. It takes time and a process to get these new resistance products out to the market. However, at the same time, new resistant hybrids won't replace the good practices growers use, such as extending crop rotations, even by one year such as from a two-year rotation to a three-year rotation. Extending rotations brings down the inoculum levels quite significantly, which will help the performance of some varieties and help extend the durability of new resistant varieties as they are developed and commercialized."

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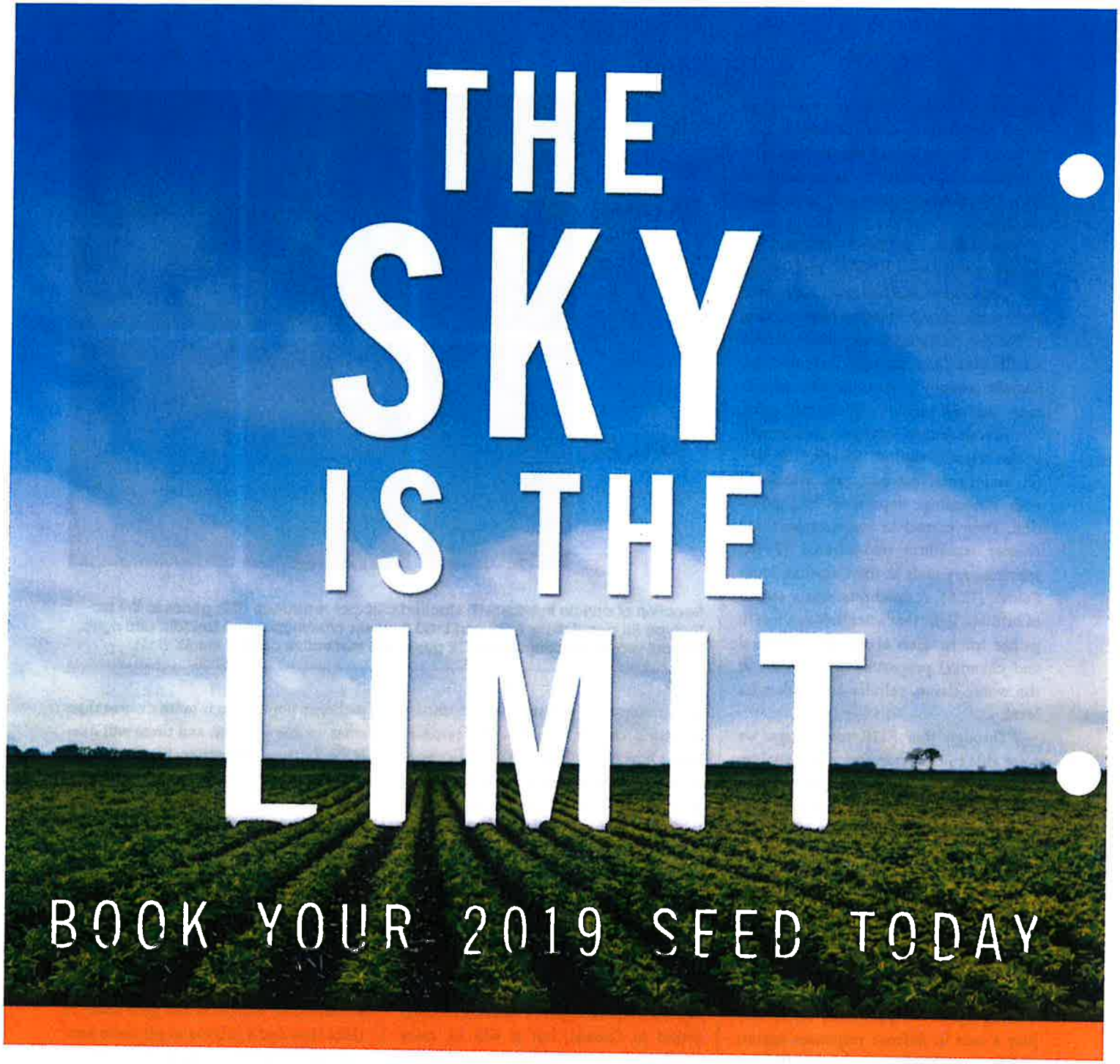

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FOCUSING ON FINANCE – NOT JUST THE FARM

The farming operations of today demand a different skillset from the farms of yesterday. Management and finance skills are becoming a must-have and the lack of interest in the finance side can make or break a successor's future achievements.

BY
Stephanie Gordon

The plan was all set – the 7,000-acre grain farm would transition from father to son, as would two other enterprises, each earning about one million dollars in revenue annually. Out of everyone in the family, only one son was interested in farming.

During a meeting with their financial advisor, his interest in farming was apparent: "I don't want my butt glued to that chair." But for that size of farming operation, that's exactly where he needed to be. He wanted to farm – but he didn't want to manage a business.

Terry Betker, president of Backswath Management, shares this story to highlight the concern that for some farms, the attention isn't where it needs to be. Backswath Management provides consulting to farms about business management and succession planning. Failed successions are usually the result of a lack of management training.

"That whole part of the business often gets less attention than looking after the agronomy or the production side of the business," Betker says.

The lack of interest in the finance side of farming remains a hurdle during succession planning. A majority of farms are reluctant to mentor on the financial side of the business because they're not interested in it either and it's easy to set aside. "Other stuff is pretty important, and it's what their passion is, so it's easier to speak to the next generation about the agronomy, or the livestock, than it is the finance," Betker explains. Some farmers may not understand the details themselves so they delay teaching it to their successors. "If their children ask them questions, or maybe the balance sheet doesn't look that strong . . . it's easier to push it off."

Passing along the financial side of the business is usually the final step in a succession. For owners, once the financial side of the business has transitioned, it becomes real that they're passing along the farm. This element adds to the reluctance to mentor on the financial side of the business.

HOW IMPORTANT ARE FINANCE SKILLS FOR TODAY'S FARM?

Without crops, there isn't cash, but finance and management skills are increasingly important for today's farming operations. Weather fluctuations, trade uncertainties, higher capital investments, debt financing, narrowing margins and higher risk – to name a few – make management acumen a must-have skill for any successor.

In his role as a consultant, Betker talks quite a bit with lenders. "I've listened to lenders speak often about wishing that farmers would come to them with a better understanding of their financial position," he says. The lenders want to invest in farmers who are confident about understanding their financial situation and can discuss it. "Then [the lenders] are going to use that more purposefully in deciding whether or not to lend the money and at what cost."

As investments increase, debt financing becomes a necessary option. Future successors will benefit from having a basic level of financial acumen because it's tied to whether or not they will be able to finance future investments.

In addition to higher risk and narrowing margins, "I can't think of very many farms that are going to transition from mom and dad to the next generation, where those farms look like where their parents started," Betker says. As operations grow, so does the demand for skills off the field. The family in the opening example did not start with a 7,000-acre grain farm, so current successors are jumping into management roles within large operations without the gradual learning opportunity their parents had. Successors need to pair a passion

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"It all comes back to financials and if it's economical," says Garrett Sawatzky, who teaches agricultural finance.

FAILED SUCCESSIONS ARE USUALLY THE RESULT OF A LACK OF MANAGEMENT TRAINING. BUT WHY?

1. Passing along the financial side of the business is one of the final steps in a succession – this emotional aspect adds to the owner's reluctance to mentor on the finances and finalize the transition.

2. Operations are growing, and so is the demand for skills off the field. Incoming successors are inheriting large operations without the same gradual learning opportunity their parents had.

3. Lenders want to work with farmers who know their operation's finances. Future successors will benefit from having a basic level of financial acumen because it's tied to whether they can finance future investments.

for farming with proper preparation and mentorship on the management side.

Barry McBlain took over his family's cash crop farm in Brant, Ont., and his son is taking over for him. They farm about 3,000 acres of soybeans, wheat and corn. For an operation of that size, McBlain says having management skills are hugely important. "And it's probably the harder part because it can be pretty dry sometimes. Everybody wants to go plant . . . or dig up plants and look at the roots, but when the sun is shining not many people want to sit in the office and go over numbers with the banker."

Both McBlain and his son completed diplomas in agriculture at the University of Guelph and continue to learn more about the finance and succession side of the business through ongoing events and courses.

"You don't go from playing peewee hockey to the NHL, and same for business, you can't go from grade eight to running a farm like the farms are set up today. You have to pay your dues whether that means going to school [or] going out working somewhere else," McBlain says.

WHAT DO YOU GET OUT OF FORMAL EDUCATION?

Garrett Sawatzky is entering into his fifth year teaching at the University of Manitoba School of Agriculture's diploma program. The agricultural finance diploma spans two years and covers topics like financial management, marketing, economics, tax, succession planning and human resource management, among others. Sawatzky teaches financial management and is involved with the management planning project, a two-year project where students develop a business plan for their own farm or a case study farm.

The project culminates with a presentation in front of a panel of professors, agronomists, bankers, and farm leaders where the student explains and defends their projected plan. "For most of them, it's literally the most applicable thing they can ever do if they want to return to the farm," Sawatzky says. Past students look back on the project as a rewarding experience and feedback has always been very positive.

As to whether or not a formal education is necessary, it is recommended. "The way I see it, it really ramps up what you'll know at an earlier age, and I'm not saying

you won't learn this stuff eventually as you farm…[but] the earlier the better," Sawatzky says. He also adds in the benefit of being able to network with your classmates also in the agriculture industry.

Betker also teaches within the diploma program, and while he still recommends formal education, he acknowledges its shortcomings. "[It's] challenging for someone coming right out of high school to go into a diploma program and learn about farm management when they haven't practically done much farm management, and really have an appreciation for the importance of what it is they're learning," Betker says. As a professor, he sees the difference among students fresh out of high school and those who have worked on a farm for a couple of years and then decide to take the diploma program.

Even though the skills might not be put to use right away, an education lays a solid foundation, and exposure through programs like 4-H (a non-profit youth development organization that, depending on the area, runs monthly classes to learn and develop new skills such as farm safety) can help. McBlain takes it back to his 4-H days and the crops club. "You didn't realize at the time what that was ingraining in you . . . the importance of keeping track of your cost of production and financials."

"You get an education so when you're sitting in a meeting, you're not wasting anybody's time and you can accomplish something," McBlain says.

WHAT CAN A SUCCESSOR DO?

Like succession planning, comfort with every financial aspect of the business is not going to happen overnight. Sawatzky encourages successors to keep on learning and talk to people who know more than them. There are resources and seminars available through Farm Credit Canada, Farm Management Canada, banks and other institutions. The most important thing for Sawatzky is "just know where you are financially at any given time."

Accounting, management and human resources can be outsourced, but it's important to know where you stand and understand the recommendations given and implications of each decision.

For successors looking to go beyond just maintaining an existing operation, "try and anticipate what [your] future skills are going to be. Not just finance, agronomy, marketing, but things like leadership, negotiations, governance and [conflict] resolution," Betker adds.

Every year Betker asks his class a question – how many of you are from a farm? This past year, in a classroom of about 80 students, Betker saw the largest number of hands go up that said they weren't from a farm. These students didn't come from a farming background but wanted to manage a farm. The farms of today are different from the farms of yesterday, and now, a viable career option for those who didn't grow up on a farm. For some successors, or outside parties, ensuring success means focusing on finance and not just the farm.

NO SUCCESSOR? NO PROBLEM

For farm owners without an obvious successor, selling your farm is not the only option. There are several ways to navigate through this issue, including negotiating with potential buyers and using recruiting firms to find a suitable successor.

BY
Stephanie Gordon

Succession planning can be a daunting task for farm owners, especially for those who don't have any qualified successors to take over over the operation – an increasingly occuring problem.

Lori Culler is the founder and owner of AgHires, a job board and recruiting firm for farms and agribusinesses across Canada and the United States. She receives one to two requests to help find a successor per year, and she's noticed the question about finding a successor come up more during the past three or four years than in her entire recruiting career. "That's what we're seeing, where the next generation maybe isn't interested in that farming operation, but that farmer or business wants to see it continue on. They don't want to just sell it off, they have a passion to see it continue," Culler says. On the other side of the equation, she hears about candidates looking for these opportunities but aren't sure where to look because opportunities for ownership don't become available often.

DELAYING THE PROCESS

Jeff Noble, director of business and wealth transition at BDO Canada, works closely with agriculture clients in Ontario on succession planning. Even when there are qualified successors, multi-generational concerns and strong attachments to the land delay the succession planning process for farmers. When there isn't an obvious successor, it's even easier to delay the process because there's more confusion surrounding next steps. But putting succession planning off isn't doing a farmer any favours, Noble says. His first step when working with farmers is to help them understand one day they're going to leave the farm.

"It's as certain as death and taxes. You're going to leave your farm on your own terms, whether that's handoff to the kids or [through a] sale to the kids or sale to your neighbour, or sale to a land developer, . . . one way or another, you're going to leave the farm," Noble says, acknowledging it's a hard concept to come to terms with.

Starting early allows for one to explore more options. "The longer they wait the fewer options they have, and secondly the longer they wait, they may find themselves at a point when someone else is making decisions for them," says Noble.

FIND AN OUTSIDE SUCCESSOR – HIRE YOUR BUYER

There are recruiting services for the agriculture industry, such as AgHires, Agristaffing.com, AgStep, as well as local recruiters, depending on the area. While AgStep focuses on recruiting for agribusinesses, both AgHires and Agristaffing.com advertise on-farm jobs and agribusiness roles and have helped farms find a successor in the past.

Finding a successor is not any easy task and both firms take the time to vet candidates and their long-term goals. For Culler at AgHires, cultural fit is key. "You can have someone with a great looking resume but if they don't match on leadership style, or how to manage employees, their take on customers and their customer interaction, if that's not in alignment and a fit, the successorship won't work for either side," Culler says. "We're very selective with our submissions, and with a successor you really just can't get it wrong."

However, it's the owner's responsibility to come to terms with what they are looking for in the handoff of the farm. What role do they want to play after it happens? Culler has seen some farmers continue to stay active within their operation, while others have a firm deadline of when they want to complete the transition. It's important that farm owners come prepared with a wish list so there's less confusion for the candidate about what to expect.

Culler has noticed that some of the best fits usually bring something extra to the table. Clients are looking for


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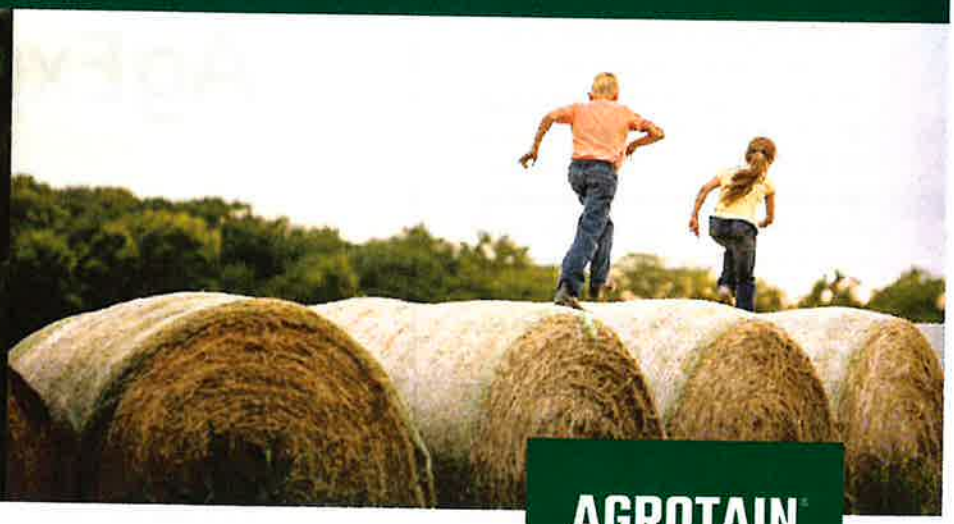

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someone to take what they've built and grow it, instead of just maintain their operation. Candidates who stand out have experience in other areas or partnerships in other industries so there's potential to diversify the existing operation, but the proper fit is also important.

"We're not forcing a fit . . . That's the worst thing you can do; ignore the signs or what the candidate is saying or what the client is saying. Those small details matter," Culler says.

Keith Stoltz, owner of Agristaffing.com, has recently connected a 700-acre cash crop farm in Ontario with a potential successor. In this particular case, they advertised for a general operations manager with the opportunity for ownership after five years. Stoltz acknowledges it's a difficult process: "Everyone is afraid that there won't be a great fit." It's important for all involved to understand ownership isn't going to happen overnight and finding out the long-term goals is crucial to ensuring benefit among both parties.

SELL THE LAND

In another of Noble's cases, the farm's owners are parents in their early eighties with three adult children who haven't farmed since high school. The farm has been in the family for five generations and the decision to sell the farm is wrapped up in emotion. However, Dad is starting to have some health issues and the family is feeling forced into making a decision, receiving half a dozen offers from other farmers and real estate developers to buy the farm. "Nobody likes that, because when you're feeling under duress or being forced to do something, you typically feel like you're not going to make the best decision possible."

Noble says they have more options than they think. There are many different kinds of sales and there's always an opportunity to negotiate with your buyer so the deal aligns with your own goals.

There are two ways to sell the land: An inside sale involves selling to one or more family members, employee(s), or a combination, and an outside sale means selling to another farmer, real estate developer or land bankers.For this particular family, Noble is working on an outside sale and arrangement with the purchaser to let the parents stay in the farmhouse for as long as they're able to stay. For any transaction, there's flexibility to negotiate to stay on the land.

In this case, the family wants to see the farm remain a farm, instead of selling to a real estate developer. This solves a big part of the puzzle. When it comes to succession planning, it's about planning with the end in mind.

"Without having those conversations, you probably think you have two choices: either you'll drop dead one day on your farm, which leaves a mess for everybody, or you'll sell the farm and have to leave," Noble says. "There's probably any number of things in between those two extreme options that might work out better."

Noble advocates for strong, early and frequent communication among families in order to determine the best outcome for all involved and ensure a smooth transition. Even without a successor, there are plenty of options available that will see the farming operation continue, but it's important to start exploring them sooner rather than later.

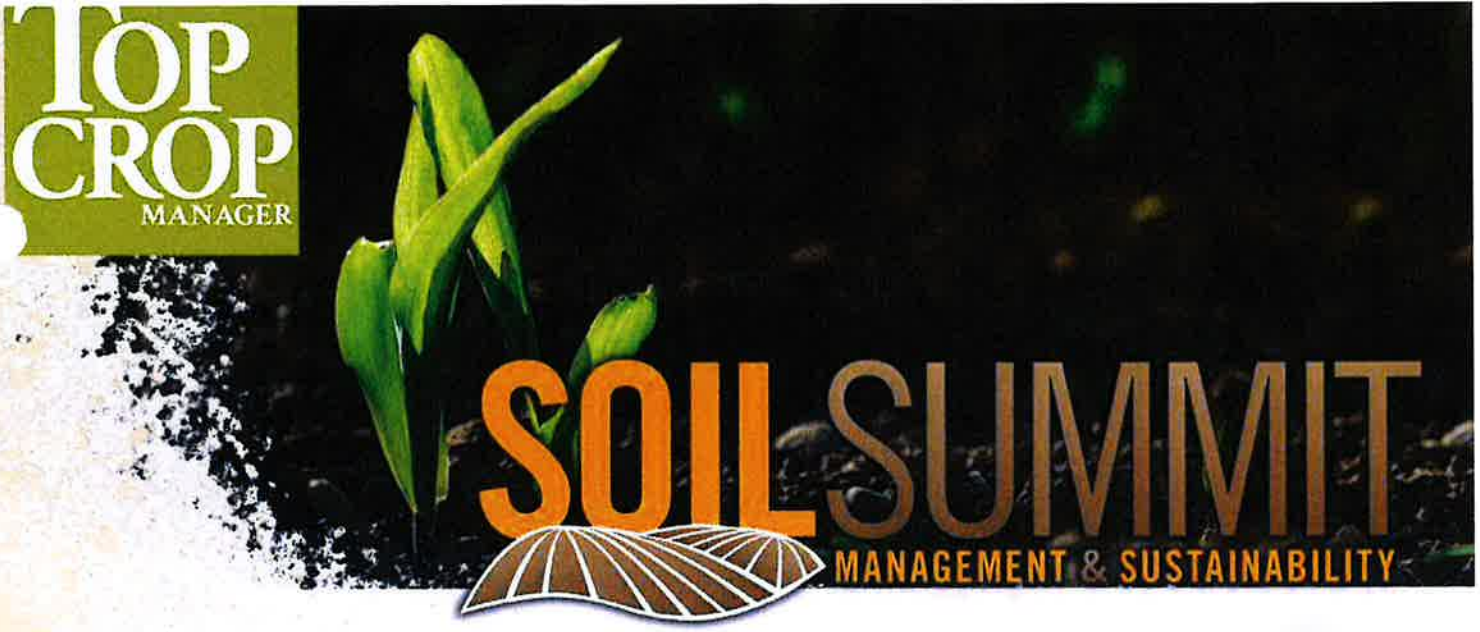

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PHOTO BY MICHAEL DOLINSKI

REFINING CABBAGE SEEDPOD WEEVIL THRESHOLDS

Wider range provides flexibility in risk management.

by Bruce Barker

Cabbage seedpod weevil was first found in canola crops in southern Alberta in 1995, and has since spread to central Alberta, much of Saskatchewan and recently reached Manitoba. Originally, a nominal threshold level canola growers were advised to spray was three to six weevils per one 180-degree sweep at the early flower stage based on experience from Washington State. This was later revised to three to four per sweep, and then modified again to 20 weevils per 10 sweeps (two per sweep). Now, new research and a change in philosophy on economic thresholds have the nominal economic threshold set at 25 to 40 weevils per 10 sweeps.

"We did a farm study on 70 fields in southern Alberta over four years to establish the economic injury level for cabbage seedpod weevil. It was established at 20 weevils per 10 sweeps," says Héctor Cárcamo, research scientist at Agriculture and Agri-Food Canada in Lethbridge, Alta. "However the nominal conomic threshold level was set higher to accommodate additional factors."

The economic injury level is the break-even point where the economic yield loss equals the cost of insecticide application. The nominal economic threshold can be different based on a number of factors such as changing canola prices, crop staging, how quickly an insect can cause damage to the crop and the impact of beneficial predators on the insect.

Keith Gabert, Canola Council of Canada agronomy specialist for south-central Alberta, says the new threshold provides greater flexibility for canola growers when making a spray decision.

"Previously, when there was just one number, growers would get concerned if they reached the threshold level. With a range, they realize there's no need to panic if you hit the 25 weevils threshold. Growers can continue scouting and wait to see if the numbers increase enough to justify spraying," Gabert says. "We think using a range is better than a single number because it gives growers a bit more guidance to make decisions."

The range also better accommodates different crop stages based on seeding date. Cárcamo's research found that early-

ABOVE: A revised threshold of 25 to 40 weevils per 10 sweeps has been established.

PHOTO COURTESY OF TOP CROP MANAGER.

A good assessment of weevil numbers can be obtained with four samples per field, according to new scouting recommendations.

seeded April canola fields were most at risk from weevil damage and benefited from insecticide control but only when the nominal economic threshold level was reached.

Fields seeded later into early-to-mid May were less susceptible to weevil infestation. These fields were found to reach economic thresholds when cool spring conditions delayed weevil spring activity or if seeding was generally delayed in the area. Late seeded fields after mid-May seldom required weevil management.

The range also better accommodates a grower's tolerance to insect damage, as well as their preference to encourage beneficial predators and protect pollinators. Cárcamo says he knows some growers like to encourage beneficials and hold off spraying until three or four times the threshold.

"In most fields by mid-July this summer we were finding fairly high numbers of a parasitic black wasp. That's another reason not to spray or to use the higher range of the threshold," Cárcamo says.

Another aspect of Cárcamo's research was to look at how spraying for cabbage seedpod weevil impacted later season Lygus bug infestations. He found that lygus bugs were generally not a problem on early seeded canola fields, usually only posing a risk on canola fields planted in May. As a result, he did not see a benefit in lygus bug control at early flower when spraying early seeded canola fields when weevils were below threshold.

Revised scouting procedures

Based on Cárcamo's research, scouting recommendations have been refined as well. The previous recommendation was to sample 10 locations within a field, but was found to be too onerous. Often, this resulted in fewer sweeps being conducted, usually along the field edges were weevils could be more abundant, resulting in higher counts and unnecessary spraying.

Cárcamo found that a good assessment of weevil numbers could be obtained with four samples per field. Scout at 10 to 20 per cent flower. Do one set of 10 walking sweeps (180 degrees) at the field edge and another set 50 metres into the field. Repeat the two sets at the opposite end of the field.

Gabert says the revised sweep net protocol makes it easier for farmers and agronomists to sample properly.

"The new sampling protocol is a fairly reasonable request for crop scouts and growers, and should mean better spray decisions," Gabert says. "I would also caution that if the canola field is uniform and your numbers are wildly different between locations, consider scouting in additional locations within the field to get an accurate average."

If a grower decides to spray, insecticide application should target the adults at the 10 to 20 per cent flower stage to prevent the adults from laying eggs in the developing pods. This is the stage when 70 per cent of the plants have at least three to 10 open flowers and the first pods are large enough to accommodate egg laying at about an inch in length. This is usually about one week after the first flower is seen in the field. Additionally, if there is no pod development, hold off on spraying because there aren't any pods for the weevil to lay eggs.

ANOTHER DIMENSION OF CANOLA-PULSE ROTATIONAL COMBOS

Does growing canola before a pulse crop affect nitrogen fixation?

by Carolyn King

Growers who want to include more pulse crops in their rotations need information on where in the rotation to add the pulses for the most benefits. So, a Saskatchewan project is underway to look more closely at one possible rotational effect: whether growing canola right before a pulse crop affects the amount of nitrogen fixation in the pulse.

Diane Knight, a professor in the department of soil science at the University of Saskatchewan, is leading the project. She explains that this current project grew out of conflicting findings from two previous studies that she led.

The first study made use of an existing, long-term crop rotation experiment at Scott, Sask. That long-term experiment started in 1998, so the rotations' effects on the soil environment were well established by the time Knight conducted her study from 2008 to 2010. She examined the effects on nitrogen fixation in pea of several crop sequences: continuous pea, pea-wheat, pea-canola-wheat, and pea-wheat-canola-wheat.

"At the Scott site, we found that, when canola was in the rotation, there was actually more fixation in the pea year," Knight says. "We weren't sure if the increased fixation was due to the canola itself or to the fact that the rotations with canola had a broader mix of crops. So, it was interesting just to see that the rotation influenced the amount of nitrogen fixation."

The second study, which took place from 2011 to 2014, evaluated rotational effects on nitrogen fixation in the context of an existing rotation experiment at Swift Current. The rotations included pea, lentil and chickpea in various sequences with wheat and mustard, which is a Brassica crop like canola. Knight and her research team compared the effect on nitrogen fixation depending on whether wheat or mustard was grown right before the pulse crop.

"At the Swift Current site, we saw quite a drastic reduction in nitrogen fixation after a mustard crop, particularly in the lentil and the pea and a little bit less so in the chickpea," she notes.

"So, we started to wonder what is it about these Brassica crops that was affecting nitrogen fixation quite differently it seemed, depending on where you were in the province?"

To follow up on these differing results, Knight and her research group developed the current project. It is assessing the effects of canola versus wheat grown right before field pea or lentil at multiple Saskatchewan sites. The researchers want to determine how widespread is the problem of canola's inhibition of nitrogen fixation and to identify soil characteristics that might be influencing whether or not this problem occurs.

PHOTO COURTESY OF TOP CROP MANAGER.

ABOVE: A Saskatchewan project aims to see if growing canola before a pulse crop inhibits nitrogen fixation in some situations.

The project runs from 2017 to 2020 and is funded by the Saskatchewan Pulse Growers. One of Knight's Masters students is working on the project. The fieldwork is taking place in farmers' fields in the context of the existing rotations in the fields.

"When looking at rotational effects, we need to have fields with ongoing rotations that have been repeated over and over again in

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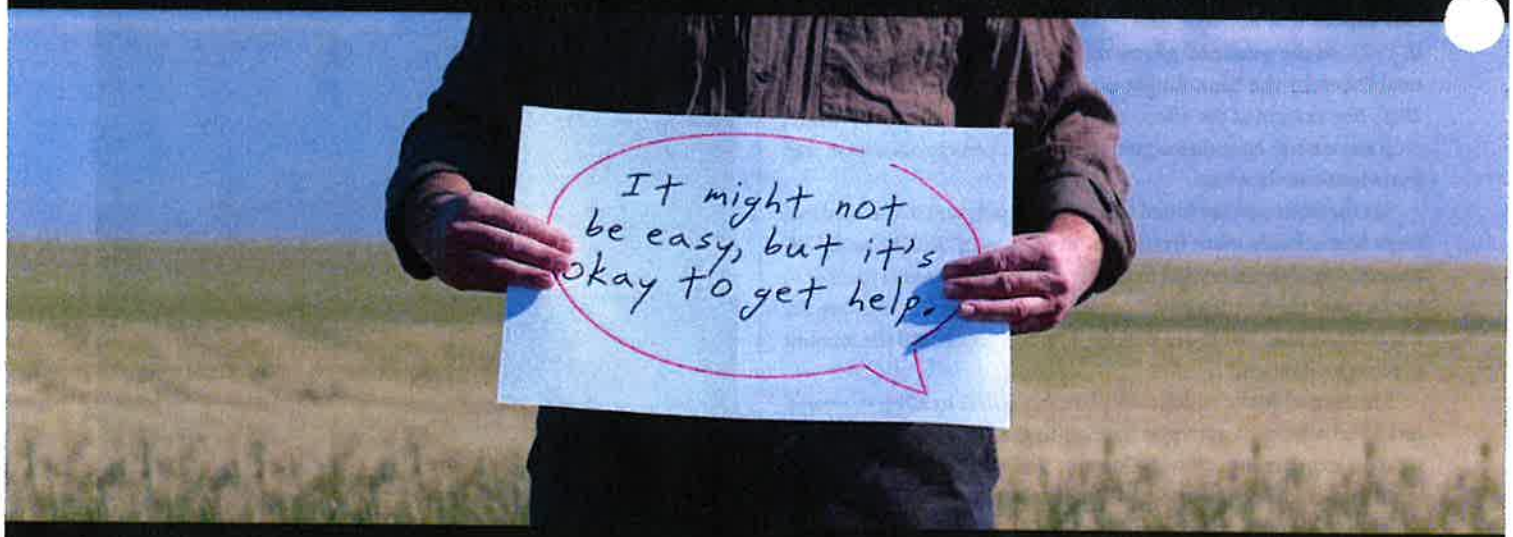

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Researchers are monitoring the frequency of diseases common to both canola and pulse crops to see if that could play a role in inhibiting nitrogen fixation.

order to see impacts that are really affecting farmers' crops," Knight explains.

The project is comparing pairs of nearby fields, where one field has a pulse on wheat stubble and the other has the same pulse on canola stubble. Each pair is within about a mile of each other so the soil and weather conditions will be similar. The project team is aiming to collect data from at least six pairs of fields per year over the project's three field seasons, and to include sites in each of the Brown, Dark Brown and Black soil zones every year.

The researchers are measuring things like the amount of nitrogen fixation and yields of the pulse crops. They are also collecting and analyzing soil samples to see if an inhibition of nitrogen fixation might be associated with particular soil zones and/or particular soil properties. And they are monitoring the incidence of diseases common to both canola and pulse crops to see if that might play a role in inhibiting nitrogen fixation.

> **"We started to wonder what is it about these Brassica crops that was affecting nitrogen fixation quite differently it seemed, depending on where you were in the province?"**

Knight explains that one possible reason for the conflicting results from Scott and Swift Current might be the difference in the amount of soil organic matter at the two sites. The Swift Current site has a sandy Brown soil with quite low organic matter, while the Scott site has a Dark Brown loam.

"One of the things that organic matter can do is to hold onto compounds. Organic matter particles have negatively charged surfaces so they grab onto substances with positive charges and keep those substances from moving around and impacting things," she says.

"It may be that in low organic matter soils, some specific compounds in canola might be inhibiting the rhizobia bacteria for nitrogen fixation. But higher organic matter soils – and higher clay soils [because clay particles are also negatively charged] – may prevent these inhibitory compounds from negatively affecting the rhizobia."

Although crop disease was not an issue in the Scott and Swift Current studies, it could potentially play a part in inhibiting nitrogen fixation. As growers know, Brassicas and pulses are susceptible to some of the same diseases, so growing a pulse right after a Brassica could increase the amount of these shared diseases in the pulse crop, compared to growing the pulse right after wheat.

An increase in such shared diseases might influence nitrogen fixation in a couple of ways. One factor is that anything that inhibits either the rhizobia or the plant will affect the symbiotic relationship between them. "So, you have to have vigorous, healthy pulse plants to get good nitrogen fixation," Knight explains.

Another factor is that increased levels of shared soil-borne disease organisms, such as root rot pathogens, could mean that these pathogens outcompete the rhizobia for places to enter the pulse's roots. She notes, "Rhizobia always enter into the roots from root hairs. With a lot of the root rots, those root hairs are the first to go [as the pathogen begins attacking the roots]. So, there may not even be entry points for the rhizobia to attach to and start to get into the root."

Although it's too early in the project to discuss the results, Knight says the work is going well so far. "We hope to have really strong recommendations for growers so that we can say either yes, growing canola before a pulse is a good idea, or no, it is not a good idea, and hopefully develop specific recommendations for soil zones or possibly soil textures."

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RECEIVED

DEC 17 2018

CLEAR HILLS COUNTY

December 9, 2018

Mr. Allan Rowe
Clear Hills County
PO Box 240
Worsley, AB T0H 3W0

Dear Allan,
Enclosed are two (2) copies of the 2019 VSI contract for Clear Hills County. The copy with the attached tentative schedules is yours to keep. Please sign and return the other copy to me. → Council signing folder.

The VSI Board of Directors approved a maximum basic 3.3 % increase in fees to stay in line with the Alberta Veterinary Medical Association (AB.VMA) recommended fees. The AB.VMA final fee decision for 2018 is still pending. Once notified (middle of December) we will re-adjust our draft fee schedule to follow their fees, up to a maximum increase of 3.3%. At that time an updated fee schedule will be forwarded. The impact on our schedule will be re-calculated, but will be equal or less than today's estimate. In addition, the VSI Board of Directors recommended the addition of a 10% contingency fee to guard against the need to requisition further funding later in the year.

The $61,000.00 figure in your contract was reached as follows:

a) The cost of your claims, for the period October 1, 2017 to September 30, 2018, was increased by 13.3% to cover the maximum fee increase & 10% contingency

b) Estimated net administration costs of $2,600, were added to the above total.
   Note: Your estimated net administrative costs, including GST, are based on 9.2% of total administrative costs of $32,056.

c) Finally, you contract figure was rounded off to the nearest $500.00

Please **do not remit** any **funds at this time**. Your requisition will be determined in late January or early February, after all your 2018 claims have been processed. Your requisition will consist of your actual claims for 2018 increased by 13.3% maximum along with an estimate of net administrative costs.

Appropriate adjustments will be made to your requisition statement to account for any deficits, or surpluses, in your VSI account as of December 31, 2018.

Please feel free to call me if there are any questions or if you see any errors in my estimates.

Thank you

Rik Vandekerkhove, Manager

Encl.

About Porcine Epidemic Diarrhea (PED) - Questions and Answers

What is PED and where is it present?
PED is a highly contagious viral disease of swine. PED causes diarrhea and vomiting in pigs and significant mortality in nursing piglets.

PED was first reported in North America in May 2013 in the United States (US). The disease has spread to a large number of states. The strain of the virus is from China where the disease is widespread.

The first case of PED in Canada was confirmed by the Canadian Food Inspection Agency (CFIA) in January 2014 on a swine farm in Ontario.

Can humans or other animals contract PED?
No, only swine are affected. This includes wild boar, warthogs and other wild pigs.

Is it still safe to eat pork?
Yes. There is no risk to human health.

How is PED spread?
PED is spread by moving infected pigs or their feces. Trucks contaminated by pig manure are believed to be the most common way the virus is spread. Trucks can become contaminated in high-traffic areas such as assembly yards and slaughter plants.

Is PED present in Alberta?
The first-ever reported case of PED in Alberta was confirmed by Alberta Agriculture and Forestry (AF) on January 7, 2019.

Alberta has been working with the pork industry to create prevention and preparedness plans to address PED.

How can producers recognize PED?
PED causes diarrhea in pigs of all ages, but is most severe in nursing piglets. Death rates in piglets may be as high as 80 to 100 per cent over three to five weeks. Symptoms in older pigs can be very mild. Older pigs recover, but take longer to get to market.

Is PED a reportable disease in Alberta? How are cases reported?
Yes. All suspect and confirmed cases must be reported to the Office of the Chief Provincial Veterinarian within 24 hours at 780-427-3448, or after hours at 1-800-524-0051.

What should a producer do if they suspect PED in their herd?
If a producer suspects PED in their herd they need to call their veterinarian immediately and get the animals tested. It is important to respond quickly to stop the spread of the disease.

What is the treatment for PED?
Currently, there is no treatment for PED.

How can the spread of PED be contained?
Producers need to work with their veterinarian to develop and maintain good biosecurity practices around truck and pig movement for their farm. Close attention should be paid to keeping pig trucks clean, especially those trucks that may have been to the U.S. and other places that have the virus.

How can those who transport hogs help control PED?
Transportation companies can work with producers and their veterinarians to develop good biosecurity protocols around transporting hogs, including truck washing and keeping drivers' boots clean.

Will winter weather kill PED if it is present in transport trucks?
No. PED will survive in manure that is frozen or dirty wash water frozen on a truck. This is why PED tends to spread more in the late winter months.

Can PED be spread through producers having contact with one another or visiting the same public places?
The risk is considered negligible. Basic biosecurity measures that producers have in place should prevent the disease from spreading this way. Producers should change from barn boots and clothes before leaving the farm. Clothing and boots worn to public areas should not be worn on the farm without thorough cleaning. As an added measure, producers can wash personal vehicles when returning from locations where hog manure may be present.

Do special steps need to be taken to dispose the carcasses of pigs infected by PED?
Yes. The Destruction and Disposal of Dead Animals Regulation requires that animals that have died from a reportable disease must be disposed of in accordance with the direction an Agriculture and Forestry veterinary inspector. Natural disposal must not be used.

What can individual producers do protect their hogs from PED?
Producers can do a lot to protect their hogs. They are the most important people in stopping the disease. They must develop good biosecurity protocols with their veterinarian and ensure they are always followed. Producers need to work with their transporters to make sure trucks are always clean.

What is the impact of PED on hog operations? Is PED always fatal to the pigs that contract it?
On farms that are only growing market hogs PED causes mild diarrhea that resolves within a few days. These pigs rarely die from the disease but can take longer to get to market.

Farms that have sows and piglets are severely affected as up to 100% of the nursing piglets may die over a 3-5 week period, until the herd develops immunity. This can mean one month's production of piglets is lost. The virus can be eliminated from the farm over a few months if the farm is cleaned and managed carefully, but sometimes it does reoccur.

Will Alberta farms with PED positive pigs be quarantined?
No, they will not be quarantined by Canadian Food Inspection Agency (CFIA) or AF. However, producers may be asked to change their management practices to reduce the risk of spreading the disease and protect other Alberta producers.

PED, like other diseases, needs to be managed by ensuring good biosecurity practices are in place. For example, only healthy animals should leave farms.

Will Alberta stop hogs and trucks from jurisdictions with PED from entering the province?
No. Sound biosecurity measures on farms are the best tool for addressing the spread of PED.

What kind of financial assistance would be available to farmers who lose hogs to PED?
Producers have access to a number of insurance products they can invest in to mitigate business risks for their operations. Producers participating in AgriStability may be protected against large profit margin declines.

Is PED a threat to Alberta's trade in hogs and pork products?
PED does not affect the pork meat and is not spread through pork products. Therefore, PED is not a threat to trade except for live swine exports for breeding stock.