MUNICIPAL DISTRICT OF GREENVIEW NO. 16

"A Great Place to Live, Work and Play"

REGULAR AGRICULTURAL SERVICE BOARD MEETING AGENDA

Wednesday, March 29 , 2017 | 9:30 AM | Council Chambers, Administration Building

#1	CALL TO ORDER		
#2	ADOPTION OF AGENDA		
#3	MINUTES	3.1 Regular Agricultural Service Board Meeting Minutes held January 18, 2017 – to be adopted	3
		3.2 Business Arising from the Minutes	
#4	DELEGATIONS	4.1 Peace Forage Seed Association (PFSA)	6
		4.2 Peace Country Beef and Forage Association (PCBFA)	8
		4.3 Problem Wildlife Officer	10
#5	OLD BUSINESS	5.1	-
#6	NEW BUSINESS	6.1 Agri -Show Sponsorship	12
#7	STAFF REPORT & ASB MEMBERS BUSINESS & REPORTS	7.1 Staff Report	14
#8	CORRESPONDENCE	8.1 Forage Facts - March	23
		8.2 Back Forty – February 2017	25
		8.3 Farm Credit Canada Accepting Applications	49
		8.4 Help Shape Farm and Ranch Labour Legislation	51
		8.5 Water Quality for Surface and Subsurface Agriculture Drainage Factsheet	54
		8.6 Ag Plastic Facts	58

Minutes of a
REGULAR AGRICULTURAL SERVICE BOARD MEETING
MUNICIPAL DISTRICT OF GREENVIEW NO. 16
M.D. Administration Building
Valleyview, Alberta on Wednesday, January 18, 2017

#1 CALL TO ORDER

Chair Allen Perkins called the meeting to order at 9:31 a.m.

PRESENT

A.S.B. Member – Councillor	Bill Smith
A.S.B. Member – Councillor	Dale Smith (9:33 a.m.)
A.S.B. Member - Chair	Allen Perkins
A.S.B. Member - Vice Chair	Shelley Morrison
A.S.B. Member	Warren Wohlgemuth
A.S.B. Member	Laurie Mitchell

ATTENDING

Assistant Manager, Agriculture Services	Dave Berry
Community Services, Executive Assistant	Teresa Marin
Recording Secretary	Beverly Spence

ABSENT

Manager, Agriculture Services	Quentin Bochar
A.S.B. Member	Larry Smith

#2 AGENDA

MOTION: 17.01.01 Moved by: Shelley Morrison
That the Agenda be adopted as presented.
CARRIED

#3.1 ORGANIZATIONAL ASB MEETING

MOTION: 17.01.02 Moved by: Laurie Mitchell
That the minutes of the November 23, 2016 Organizational Agricultural Service Board Meeting to be adopted as presented.
CARRIED

3.2 REGULAR ASB MEETING

MOTION: 17.01.03 Moved by: Shelley Morrison
That the minutes of the November 23, 2016 Regular Agricultural Service Board Meeting to be adopted as presented.
CARRIED

#3.3 BUSINESS ARISING FROM MINUTES

3.3 BUSINESS ARISING FROM MINUTES

#4.0 DELEGATIONS

4.1 SARDA

SARDA DELEGATION

MOTION: 17.01.04 Moved by: Dale Smith
That the Agriculture Service Board accept the presentation from SARDA as information.

CARRIED

Chair Allen Perkins recessed the meeting at 10:24 am.

Chair Allen Perkins reconvened the meeting at 10:44 am

#5 OLD BUSINESS

N/A

#6 NEW BUSINESS

N/A

#7 STAFF REPORT & ASB MEMBERS BUSINESS & REPORTS

7.0 STAFF REPORT & ASB MEMBERS BUSINESS & REPORTS

MEMBER LAURIE MITCHELL:

- No report.

COUNCILLOR BILL SMITH:

- No report.

COUNCILLOR DALE SMITH:

- Attended the Peace Country Beef Congress Meeting.

MEMBER WARREN WOHLGEMUTH:

- No report.

MEMBER SHELLEY MORRISON:

- Attended an AgriClear Cattle Marketing Seminar.

CHAIR ALLEN PERKINS:

- No report.

STAFF REPORTS

MOTION: 17.01.05 Moved by: Warren Wohlgemuth
That the Agriculture Service Board accept the Manager's report and ASB members reports as information.

CARRIED

#8 CORRESPONDENCE

8.1 LATEST ISSUE OF THE BACK FORTY DECEMBER 2016

8.2 WHEAT MIDGE FORECAST 2017

8.3 2017 PEACE AGRONOMY UPDATE

8.4 THORHILD COUNTY DECLARES STATE OF AGRICULTURAL DISASTER

8.5 AGRICULTURE DISASTER DECLARATION

8.6 FARM TRANSITION WORKSHOPS

8.7 PROBLEM WILDLIFE FREQUENTLY ASKED QUESTIONS

8.8 WINTER WATERING TOUR

8.9 WORKING WELL

8.10 SEPTIC SENSE

8.11 SARDA AGM 02 21 2017

8.12 2016 RESEARCH & EXTENSION PROGRAMS

8.13 AG TRADE SHOW FLYER 2017

8.14 CALENDAR DECEMBER JANUARY FEBRUARY

CORRESPONDENCE LISTING

MOTION: 17.01.06 Moved by: Dale Smith
That the Agricultural Service Board accept the correspondence listing as presented.

CARRIED

9.0 IN CAMERA

#9 IN CAMERA

10.0 ADJOURNMENT

#10 ADJOURNMENT

MOTION: 17.01.07 Moved by: Shelley Morrison
That the Agricultural Service Board Meeting adjourn at 11:26 a.m.

CARRIED

Agricultural Service Board Chair

Manager, Agricultural Services

REQUEST FOR DECISION

SUBJECT:	**Peace Forage Seed Association (PFSA)**		
SUBMISSION TO:	AGRICULTURAL SERVICES BOARD	REVIEWED AND APPROVED FOR SUBMISSION	
MEETING DATE:	March 29, 2017	CAO:	MANAGER: QFB
DEPARTMENT:	AGRICULTURE	GM:	PRESENTER: QFB

RELEVANT LEGISLATION:

Provincial (cite) – *N/A*

Council Bylaw/Policy (cite) – *N/A*

RECOMMENDED ACTION:

MOTION: That the Agriculture Service Board accept the presentation from PFSA as information.

BACKGROUND/PROPOSAL:

PFSA is presenting about GE (genetically enhanced) Alfalfa and it's ramifications upon introduction into the Peace Block, for the ASB member's information.

BENEFITS OF THE RECOMMENDED ACTION:

1. ASB will be aware of what the implications are, regarding the introduction of GE Alfalfa into the Peace region.

DISADVANTAGES OF THE RECOMMENDED ACTION:

1. There are no perceived disadvantages to the recommended motion

ALTERNATIVES CONSIDERED:

Alternative #1: ASB may choose to not accept the presentation for information as presented.

FINANCIAL IMPLICATION:

N/A

Direct Costs:

Ongoing / Future Costs:

STAFFING IMPLICATION:

N/A

PUBLIC ENGAGEMENT LEVEL:

Greenview has adopted the IAP2 Framework for public consultation.

Using that framework outline the proposed level of public engagement associated with the recommended action.

INCREASING LEVEL OF PUBLIC IMPACT

Inform

PUBLIC PARTICIPATION GOAL

Inform - To provide the public with balanced and objective information to assist them in understanding the problem, alternatives, opportunities and/or solutions.

PROMISE TO THE PUBLIC

Inform - We will keep you informed.

FOLLOW UP ACTIONS:

N/A

ATTACHMENT(S):

N/A

REQUEST FOR DECISION

SUBJECT:	**Peace Country Beef & Forage Association (PCBFA)**		
SUBMISSION TO:	AGRICULTURAL SERVICES BOARD	REVIEWED AND APPROVED FOR SUBMISSION	
MEETING DATE:	March 29, 2017	CAO:	MANAGER: QFB
DEPARTMENT:	AGRICULTURE	GM:	PRESENTER: QFB

RELEVANT LEGISLATION:

Provincial (cite) – *N/A*

Council Bylaw/Policy (cite) – *N/A*

RECOMMENDED ACTION:

MOTION: That the Agriculture Service Board accept the presentation from PCBFA as information.

BACKGROUND/PROPOSAL:

PCBFA is presenting a year in review and upcoming events presentation for the ASB member's information.

BENEFITS OF THE RECOMMENDED ACTION:

1. ASB will be aware of what was completed in 2016, and what is being proposed for 2017

DISADVANTAGES OF THE RECOMMENDED ACTION:

1. There are no perceived disadvantages to the recommended motion

ALTERNATIVES CONSIDERED:

Alternative #1: ASB may choose to not accept the presentation for information as presented.

FINANCIAL IMPLICATION:

N/A

Direct Costs:

Ongoing / Future Costs:

STAFFING IMPLICATION:

N/A

PUBLIC ENGAGEMENT LEVEL:

Greenview has adopted the IAP2 Framework for public consultation.

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FOLLOW UP ACTIONS:

N/A

ATTACHMENT(S):

N/A

REQUEST FOR DECISION

SUBJECT:	**Greenview Problem Wildlife Officer**		
SUBMISSION TO:	AGRICULTURAL SERVICES BOARD	REVIEWED AND APPROVED FOR SUBMISSION	
MEETING DATE:	March 29, 2017	CAO:	MANAGER: QFB
DEPARTMENT:	AGRICULTURE	GM:	PRESENTER: QFB

RELEVANT LEGISLATION:

Provincial (cite) – *N/A*

Council Bylaw/Policy (cite) – *N/A*

RECOMMENDED ACTION:

MOTION: That the Agriculture Service Board accept the presentation from the Problem Wildlife Officer as information.

BACKGROUND/PROPOSAL:

Greenview Problem Wildlife Officer Presentation is for the ASB member's information.

BENEFITS OF THE RECOMMENDED ACTION:

1. ASB will receive information regarding Problem Wildlife Officers program and activities.

DISADVANTAGES OF THE RECOMMENDED ACTION:

1. There are no perceived disadvantages to the recommended motion

ALTERNATIVES CONSIDERED:

Alternative #1: ASB may choose to not accept the presentation for information as presented.

FINANCIAL IMPLICATION:

N/A

Direct Costs:

Ongoing / Future Costs:

STAFFING IMPLICATION:

N/A

PUBLIC ENGAGEMENT LEVEL:

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Using that framework outline the proposed level of public engagement associated with the recommended action.

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FOLLOW UP ACTIONS:

N/A

ATTACHMENT(S):

N/A

REQUEST FOR DECISION

SUBJECT:	**Peace Country Classic Day Major Sponsor**		
SUBMISSION TO:	AGRICULTURAL SERVICES BOARD	REVIEWED AND APPROVED FOR SUBMISSION	
MEETING DATE:	March 29, 2017	CAO:	MANAGER: QFB
DEPARTMENT:	AGRICULTURE	GM:	PRESENTER: QFB

RELEVANT LEGISLATION:

Provincial (cite) – *N/A*

Council Bylaw/Policy (cite) – *N/A*

RECOMMENDED ACTION:

MOTION: That the Greenview ASB direct administration to pursue major day sponsorship for the Peace Country Classic Agri-Show for the value of $1500.00 with funding to come from the 2017 Ag Operational Budget.

BACKGROUND/PROPOSAL:

The day sponsor package includes a table booth setup at the entrance of the Entrec Centre and allows for a meet and greet with the public as they arrive for the show. Sponsorship includes a large sign that hangs from the ceiling the month before the event, the cover of the Saturday insert, and the MD logo is on the program for that day. The MD logo will be prominently displayed on the website and on promotional TV screens in the Entrec Centre.

This sponsorship was already approved in an email straw poll (vote) conducted with the ASB members. This RFD is before you to formalize the decision, for good governance and transparency.

BENEFITS OF THE RECOMMENDED ACTION:

1. *Approving this RFD will formalize a decision made via an email vote, and will lead to transparency and good government*

DISADVANTAGES OF THE RECOMMENDED ACTION:

1. *There are no perceived disadvantages to this recommendation.*

ALTERNATIVES CONSIDERED:

Alternative #1: *The ASB could choose to not formalize a decision that required a vote taken outside of a regularly scheduled ASB meeting. By not choosing to accept the recommendation could lead to the perception of non-transparent governance.*

FINANCIAL IMPLICATION:

Funding for this request will come from the 2017 Ag Services Operating Budget.

Direct Costs: $1500.00

Ongoing / Future Costs: N/A

STAFFING IMPLICATION:

N/A

PUBLIC ENGAGEMENT LEVEL:

Greenview has adopted the IAP2 Framework for public consultation.

Using that framework outline the proposed level of public engagement associated with the recommended action.

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FOLLOW UP ACTIONS:

N/A

ATTACHMENT(S):

N/A

REQUEST FOR DECISION

SUBJECT:	**Manager's Report and ASB members Reports**		
SUBMISSION TO:	AGRICULTURAL SERVICES BOARD	REVIEWED AND APPROVED FOR SUBMISSION	
MEETING DATE:	March 29, 2017	CAO:	MANAGER: QFB
DEPARTMENT:	AGRICULTURE	GM:	PRESENTER: QFB

RELEVANT LEGISLATION:

Provincial (cite) – *N/A*

Council Bylaw/Policy (cite) – *N/A*

RECOMMENDED ACTION:

MOTION: That the Agricultural Service Board accept the Manager's report and ASB members reports as information.

BACKGROUND/PROPOSAL:

The Manager's report contains information pertaining to the departments operations for the time period from the previous meeting to time of writing of the agenda.

The ASB Member's report contains information pertaining to the members activities for the time period from the previous meeting to the current meeting.

BENEFITS OF THE RECOMMENDED ACTION:

1. *Having the ASB vote in favour of the Ag Department Staff report, will allow the ASB to be kept updated on the Ag Department activities*

DISADVANTAGES OF THE RECOMMENDED ACTION:

1. *There are no perceived disadvantages.*

ALTERNATIVES CONSIDERED:

Alternative #1: *The ASB may choose to not accept this report as information.*

FINANCIAL IMPLICATION:

N/A

Direct Costs:

Ongoing / Future Costs:

STAFFING IMPLICATION:

N/A

PUBLIC ENGAGEMENT LEVEL:

Greenview has adopted the IAP2 Framework for public consultation.

Using that framework outline the proposed level of public engagement associated with the recommended action.

INCREASING LEVEL OF PUBLIC IMPACT

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FOLLOW UP ACTIONS:

Once Council makes a decision what follow up actions will occur? (eg. Letters to be sent out, Policies to be drafted.)

ATTACHMENT(S):

- Agriculture Department Report

M.D. of Greenview Agricultural Services
Department Activity Report

For the Period: January 19, 2017 – March 29, 2017

ENQUIRIES – Manager, Asst. Manager, Administrative Assistant and Ag. Supervisor Trainee

Weeds	8
Pests	52
Trees	5
Workshops	25
Rentals	17
Equipment Purchasing	27
Extension	12
employment	5
Miscellaneous	101
TOTAL ENQUIRIES	**252**

MEETINGS / CONFERENCES / TRAINING

Manager

- Jan 24-27, 2017 – Provincial ASB Conference, Edmonton
- Feb 14, 2017 – Working Wells Workshop, Debolt
- Feb 15, 2017 – Septic Sense Workshop, Debolt
- Feb 23, 2017 – PCBFA Living with Wildlife Workshop, Grimshaw
- Feb 28-Mar 2, 2017 – Professional Vegetation Managers Association (PVMA) Biennial Spring Seminar, Edmonton
- March 7, 2017 - Ecosystem Services & Biodiversity Network Meeting, Nisku
- March 10, 2017 – Valleyview Seed Cleaning Cooperative Shareholder Meeting, Valleyview
- March 21-22, 2017 – AB Farm Animal Care (AFAC) Livestock Care Conference, Nisku
- March 23, 2017 – AB Invasive Species Council AGM, Lacombe

Asst. Manager Agriculture Services

- Feb 10, 2017 – PRAAAF Regional Meeting, Worsley
- Feb 14-16, 2017 – Steak Out the Consumer Beef Conference, Red Deer
- Feb 21, 2017 – PCBFA Soil Health Workshop, Spirit River
- Feb 23, 2017 – PCBFA Living with Wildlife Workshop, Grimshaw
- Feb 28-Mar 2, 2017 – Professional Vegetation Managers Association (PVMA) Biennial Spring Seminar, Edmonton
- March 3, 2017 – Valleyview Seed Cleaning Cooperative Directors Meeting, Valleyview
- March 10, 2017 – Valleyview Seed Cleaning Cooperative Shareholders Meeting, Valleyview March 21-22, 2017 – AB Farm Animal Care (AFAC) Livestock Care Conference, Nisku
- March 23, 2017 – AB Invasive Species Council AGM, Lacombe

Agriculture Supervisor Trainee Agriculture Services

- March 16, 2017 – SARDA/PCBFA Solar Power Workshop, Falher

STAFFING

On March 3 and March 8 interviews were conducted for the new weed inspector position for Grovedale area. An offer has been made to the prospective candidate at the time of writing this report.

All the other seasonal positions have been filled by returning staff.

RESOURCES, EQUIPMENT, AND FACILITIES

Request for Quotes have been sent out for the equipment that was approved in the Ag Services Capital budget. RFQs were sent out to various dealers for the following:

- 3 pt. Hitch Rotary Tiller
- Bin Crane
- Manure Spreader
- Bale Hauler
- No- Till Drill
- Grain Vac

RFQs have been evaluated and equipment has been ordered.

BUDGET

Nothing to report at this time.

EXTENSION EVENTS

SARDA and PCBFA have been conducting a number of Extension events in partnership with Ag Services and Ag Services has been posting the information to our web page, Face Book, and Twitter accounts.

The Feb 14 Working Wells Workshop had 16 people registered and 12 attended. The Feb 15 Septic Sense Workshop had 16 registered and 13 attended. Unfortunately the March 15 Predator Snaring workshop had to be temporarily cancelled due to infrastructure problems with the hall. There were 13 people registered, so we are trying to come up with an alternative date. There is also a Coyote Calling Clinic scheduled for March 30 at the Valleyview Gun Range

Please see following list of events:

- Jan 18, 2017 – Peace Agronomy Update, Fairview
- Jan 19, 2017 – Transition Planning Work Shop, GP
- Jan 21, 2017 – Winter Watering Systems Tour, Hines Creek
- Feb 7, 2017 – Peace Country Beef Cattle Day, Fairview
- Feb 14, 2017 – Working Wells Workshop, Debolt
- Feb 15, 2017 – Septic Sense Workshop, Debolt
- Feb 16, 2017 – Transition Planning Workshop, Grande Prairie
- Feb 21, 2017 – Soil Health & Carbon Day, Spirit River
- Feb 23, 2017 – Living with Wildlife Workshop, Grimshaw
- Feb 24, 2017 – PCBFA AGM, Fairview
- March 14, 2017 – Solar Power Workshop, Grande Prairie

- March 15, 2017 – Predator Snaring Workshop, Puskwaskau CANCELLED
- March 15, 2017 – Solar Power Workshop, Woking
- March 16, 2017 – Solar Power Workshop, Falher
- March 16-18, 2017 – SARDA Smoky River Trade Show, Falher
- March 20, 2017 – Shelterbelts, Eco Buffers& Beneficial Insects Workshop, Bezanson
- March 21, 2017 – Shelterbelts, Eco Buffers& Beneficial Insects Workshop, High Prairie
- March 29, 2017 – Surface Rights Workshop, Worsely
- March 30, 2017 – Coyote Calling Clinic, Valleyview Gun Range
- April 4, 2017 – Industrial Hemp & Flax, Whitecourt
- April 5, 2017 – ScienceOrama (Canola School), Lacombe
- April 6, 2017 – Working Wells Workshop, Grande Cache
- April 12, 2017 – Ag Drone School, Guy
- June 27, 2017 – CanolaPalooza, Lacombe

PROGRAMS

➢ VETERINARY SERVICES INCORPORATED

Agreement for 2017 has been signed. Five new cards have been issued.

➢ PEST AND NUISANCE CONTROL

WOLF HARVEST INCENTIVE

To date, 67 wolves have been presented for payment. Total 2016 incentive expenditures: $20,100.00.

Year	Number of Wolves	Amount
2012	70	21,000.00
2013	53	15,900.00
2014	48	14,400.00
2015	98	29,400.00
2016	154	46,200.00
2017	67	20,100.00
	404	**147,000.00**

WOLF PREDATION MANAGEMENT PROGRAM

There has been 0 new requests for assistance with verified wolf predation. There has been zero wolves removed.

COYOTE PREDATION MANAGEMENT PROGRAM

There has been 1 new requests for assistance with verified coyote predation. There has been 4 coyotes removed.

OTHER PREDATORS MANAGEMENT PROGRAM

There have been 2 new requests for assistance with other predator problems. There has been 2 weasels removed.

BEAVER

There has been 2 new requests for assistance with beaver caused flooding issues. There has been 4 beavers removed.

WILD BOAR BOUNTY

There have been 0 sets of Wild Boar ears turned in. Total 2017 incentive expenditures $0.00.

➢ RENTAL EQUIPMENT

There has been low activity with rental equipment.

Loc	Equipment	Equipment Number	S/N	Total Days	Cost/ Day	Total Charges
VV	1000 Earth Mover	SOIL3100		0	$ 150.00	$ -
CC	1000 Earth Mover	SOIL3101		0	$ 150.00	$ -
GD	900 Earth Mover	SOIL3070		0	$ 150.00	$ -
GD	425 Earth Mover	SOIL3072		0	$ 100.00	$ -
VV	12' Pull-Type Blade	SOIL3099	12502	0	$ 50.00	$ -
VV	Vee-Ditcher	VDIT3210	12502	0	$ 50.00	$ -
VV	Field Sprayer	ASB0004/SPRY3123	1400151	0	$ 50.00	$ -
CC	Field Sprayer	SPRY3076		0	$ 50.00	$ -
GD	Field Sprayer	SPRY3121		0	$ 50.00	$ -
VV	Boomless Sprayer - 300 Gal	SPRY3124	33262	0	$ 50.00	$ -
VV	Estate Sprayer - Pull Type	SPRY3007/3127/3128		0	$ 20.00	$ -
CC	Estate Sprayer - Pull Type	SPRY3008		0	$ 20.00	$ -
GD	Estate Sprayer - Pull Type	SPRY3206		0	$ 20.00	$ -
VV	Estate Sprayer - 3 pt hitch	SPRY3129	312101212	0	$ 20.00	$ -
VV	Water Tank and Trailer	TRL18		0	$ 25.00	$ -
GD	Water Tank and Trailer	TRL8		0	$ 25.00	$ -
VV	Quad Wick Applicator	SPRY3211		0	$ 10.00	$ -
CC	Quad Wick Applicator	SPRY3212		0	$ 10.00	$ -
GD	Quad Wick Applicator	SPRY3213		0	$ 10.00	$ -
VV	Quad Mount Sprayers	SPRY3010		0	$ 10.00	$ -
CC	Quad Mount Sprayers	SPRY3011		0	$ 10.00	$ -
GD	Quad Mount Sprayers	SPRY3012		0	$ 10.00	$ -
VV	Backpack Sprayers	SPRY3083		0	FREE	$ -
CC	Backpack Sprayers	SPRY3084		0	FREE	$ -
GD	Backpack Sprayers	SPRY3085		0	FREE	$ -
VV	Hand Wick Applicator	MISCR98		0	FREE	$ -
VV	Granualar Pesticide Bait Applicator	PEAC3207		0	$ 30.00	$ -
VV	Manure Spreader	MANU3209	02104185UMSL75	0	$ 200.00	$ -
VV	Fertilizer Spreader	FERT001	AG3W53000FV001001	0	$ 100.00	$ -
VV	50' Heavy Harrow c/w Granular Applicator	HARR3113	245514031	0	$ 150.00	$ -
GD	33' Heavy Harrow c/w Granular Applicator	HARR3082		0	$ 150.00	$ -
VV	30' Land Roller	ASB0005		0	$ 200.00	$ -
GD	30' Land Roller	ROLL0001	12-1374	0	$ 200.00	$ -
VV	14' Heavy Disc	ASB0001	AGCW08420EX035270	0	$ 400.00	$ -
GD	14' Heavy Disc	DISC1	AGCW084EX035262	0	$ 400.00	$ -
VV	Cattle Squeeze	SQUE3099		0	$ 25.00	$ -
CC	Cattle Squeeze	SQUE3097		0	$ 25.00	$ -
GD	Cattle Squeeze	SQUE3098		0	$ 25.00	$ -
VV	Loading Chute with 4 Panels	CHUT3115		3	$ 25.00	$ 75.00
CC	Loading Chute with 4 Panels	CHUT3097		1	$ 25.00	$ 25.00
GD	Loading Chute with 4 Panels	CHUT3096		0	$ 25.00	$ -
VV	Panel Trailer with 20 Panels + 1 Gate	TRL6	5PTBF1627E1019676	0	$ 25.00	$ -
GD	Panel Trailer with 20 Panels + 1 Gate	PANL3046/T69		0	$ 25.00	$ -
VV	Tag Reader	GALA3117/3118		0	FREE	$ -
VV	Burdizzo Clamps			0	FREE	$ -
VV	Dehorner	MISCR98		0	FREE	$ -
VV	Truck Mount Seeder	SEED3073		0	$ 10.00	$ -
VV	Quad Mount Seeder	SEED3074		0	$ 10.00	$ -
VV	Hand Seeder	MISCR98		0	FREE	$ -
VV	Post Pounder	ASB0002		0	$ 125.00	$ -
CC	Post Pounder	POST3126		0	$ 125.00	$ -
GD	Post Pounder	ASB0003		0	$ 125.00	$ -
VV	Bin Crane	CRAN2123	09 1473	0	$ 100.00	$ -
VV	Water Pump and Pipe - Alberta Ag.	PUMPR99		0	$ 200.00	$ -
VV	Survey Equipment	SURV3091		0	$ 10.00	$ -
VV	Metal Detector	METL3081		0	$ 10.00	$ -
VV	Hay Sampler, Measuring Wheel, Bin Probe	MISCR98		0	FREE	$ -
VV	Rodent Traps	MISCR98		0	$ 10.00	$ -
VV	Barbeque	TRL19		2	$ 100.00	$ -
VV	Picnic Tables	PICTABLES		0	$ 10.00	$ -
VV	Plastic Wrapper			0	$ 125.00	$ -
VV	Scare Cannons	MISCR98		0	FREE	$ -
	TOTAL REVENUE			6		$ 100.00

CROOKED CREEK TOTALS	1	$ 25.00
GROVEDALE TOTALS	0	$ -
VALLEYVIEW TOTALS	5	$ 75.00

VEGETATION MANAGEMENT

Of note to the ASB, a new species of invasive plant has been discovered in our MD and area. Invasive Phragmites which is a type of Reed Grass has been verified in the ditch along Hwy 43 in proximity to the Smoky River. Another site that has been verified is in Grande Prairie County along Hwy 40 in proximity to the Wapiti River. Also there is a third site by the Iosegun River along Hwy 43 that is waiting for confirmation on whether it is native or invasive.

ROADSIDE VEGETATION MANAGEMENT

The program is projected to spray approximately 2200 Km of MD roads.

SPOT SPRAYING / ATV / UTV

The program is projected to spray approximately 75 Ha

BRUSH SPRAYING

The program is projected to spray approximately 300 Ha of brush

- PESTICIDE CONTAINER STORAGE

  Empty jugs will be shredded and hauled away by the Clean Farms contractor in the fall.

- FENCELINE AND PRIVATE LAND SPRAY PROGRAMS
  There are currently zero agreements with work completed by Ag Services staff, and an additional zero agreements where landowner completed the spraying.

- SPRAY EXEMPTION AGREEMENTS
- Deadline of April 28, 2017. For 2017 there are 3 Agreements signed at this time.

- WEED CONTROL

#	Re-Inspections	Weeds Present	Personal Contact	Phone Calls	Weed Alerts	Weed Warnings	Notices	Enforce
0	0	0	0	0	0	0	142	0

Town	#	Weeds Present	Personal Contact	Weed Letters
Valleyview	0	0	0	0
Fox Creek	0	0	0	0

- AGRICULTURAL PESTS
  Grasshopper surveys will be completed early August this year. FHB Surveys will be completed. Club Root in canola, and Blackleg Surveys will be completed.

- SEED CLEANING PLANT
  The Valleyview Seed Cleaning Cooperative held a directors meeting on Jan 10, 2017. The direction coming out of that meeting was to propose the dissolution of the Seed Cleaning Cooperative at the next Shareholders meeting. An attempt to hold a shareholders meeting was made on March 3, 2017, but there were not enough people present to form a quorum. According to the By-Laws a second meeting has to be held 7 days later at the same time and location. Therefore on March 10, 2017 a second shareholder's meeting was attempted, again there was not enough people present to constitute a quorum, so according to the By-Laws a motion was made and carried indicating that those shareholders present at the meeting will constitute a quorum. The outcome from the shareholders meeting is to continue with the process of dissolution of the Valleyview Seed Cleaning Cooperative.

Miscellaneous

Estimated Usage	Swan Lake	Grovedale Fish Pond	Kakwa River	South View
Vehicles on site	23	0	0	0
User #'s	50-75	0	unknown	0
% Site capacity	30%	0	1%	0

Please note:

Grovedale Fish Pond has restricted vehicular access for the winter, and Southview has not been plowed out this winter.

March Forage Facts Newsletter is Here!

In this issue:

- Calving Season Reminders
- We're Hiring!
- Membership Renewal Notice
- What We Learned from Soil Health & Carbon Day
- Upcoming Events

Please click the below picture for the full newsletter.

Forage Facts

Published by the Peace Country Beef & Forage Association March 2017. Volume 12,

Calving Season Reminders

By: Jen Allen

Calving season is upon us, or for some has already began! It is important for us to remember to always plan ahead and be prepared in order to have a successful calving season. It just takes one quick emergency or a few calves to drop 3-weeks earlier than expected for someone to say "I told you so!" while you're scrambling to finish last minute tasks, or discover that some of your equipment from last season is faulty and needs to be repaired or replaced.

Therefore, it wouldn't hurt to do a quick inventory of your calving essentials and stock up on what is missing. Here is a list of items that should be ready a ble if needed to assist in calving from an article by Heather Smit that was published in the Janua issue of *Hereford World*:

Calving Checklist – Things to Ha Hand

- Halter and rope
- Disposable long-sleeve obstetric gloves
- OB lubricant in a squeeze bottle
- Plastic bucket for wash water an squeeze bottles for wash water
- Rags or roll cotton for washing th
- Clean OB chains/straps and hand
- Calf-puller
- Oxytocin and epinephrine
- Suction bulb for suctioning fluid f nostrils of a calf that's not breath
- Iodine or chlorhexadine for disin stumps
- Flashlight (with batteries that wo
- Injectable antibiotics for cows/ca scribed by your vet
- Sterile syringes and needles
- Bottle and lamb nipple for feedin
- Stomach tube (nasogastric tube) geal feeder
- Frozen colostrum or packages of colostrum replacer
- Electrolytes
- Toolbox to hold/carry needed ite handy place

Continued

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Stay up-to-date with all PCBFA's activities!

WE'RE HIRING!

PCBFA is currently looking to hire a *Summer Research Technician* for the 2017 season. Visit our Careers page on our website or contact us for more details!

Reminder! 2016 PCBFA Memberships expire on March 31

If you haven't done so already, be sure to renew your Membership for 2017 for on Being a PCBFA member allows you to receive relevant and local information first, d our projects and upcoming events, 2 free feed samples tested, and much mor

SARDA

BACK FORTY

Mission: To Facilitate the transfer of unbiased ideas and information between research institutions, industry and agriuclutur al producers.

WINTER ISSUE **February 2017**

Annual General Meeting and Extension Event

by SARDA Ag Research

Chevalier Centre, Falher
February 21, 2017
8:30am – 3:30 pm

SARDA will host its Annual General Meeting (AGM) and Extension Event on 21-Feb-2017 in the Chevalier Centre, Falher. The event is free and open to public. While a small portion of the event is dedicated to holding the required business meeting, we are excited to announce that we have three guest speakers participating. In addition to this, SARDA will present its first year research results on the Hail Project.

Director Opportunities

The SARDA Board is made up of 9 producers and 4 municipal reps. We require 4 individuals to put their names forward to stand as directors in 2017. Full term lasts 3 years. Individuals are nominated from the floor and voted in by the membership at the Annual General Meeting. The SARDA Board generally meets 4-6 times per year. In addition, Directors are encouraged to participate in one or more of the four standing committees. The SARDA Board supports and directs unbiased applied agriculture research and knowledge transfer in Peace Region.

Members and Directors must have current memberships to participate

IN THIS ISSUE

This publication made possible in part by:

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Continued from page 1

fully and vote at the AGM. Memberships can be purchased:

1. Online through www.sarda.ca (sidebar home page) , or
2. Forms and payments can be dropped at the SARDA Ag Research office located at the MD of Smoky River Building, or
3. Forms and payments can be mailed to Box 90, Falher, AB, T0H 1M0.

Please call Vance Yaremko at 780-837-2900 if you have questions or concerns about your membership status or if you wish to ask about becoming a Director.

Guest Speakers and Topics

Now that we have the business portion of the meeting covered, we would like to tell you about the exciting line up of Guest Speakers and their topics. These are in no particular order and I hope that you will plan on attending the event to welcome them to the Peace and to hear what they have to tell us.

Ken Coles is the General Manager of Farming Smarter, a non-profit research and extension organization based in Lethbridge, Alberta. He is a professional agrologist with 19 years of crop research experience. He is going to talk about the Night Spraying of Herbicides and Fungicides Project. Farming Smarter in Lethbridge, LARA in Bonnyville and SARDA Ag Research in Falher cooperated to complete this project.

Dr. Sheri Strydhorst is a Research Scientist with Alberta Agriculture and Forestry, based out of Barrhead. She is presenting her most recent research project data which focused on cultivar specific agronomic management to optimize input use efficiency. SARDA collaborated in this 3 year project

Robyne Bowness has over 24 years of research experience in the agricultural industry. Currently, she is working as a Pulse Research Scientist with Alberta Agriculture and Forestry, leading and collaborating on many pulse projects. She managed many research trials on pulse crops across Alberta and has been involved in the introduction and expansion of pulse crops across the prairies. She is planning to talk about growing red lentils in the Peace Region. SARDA also participated in this project.

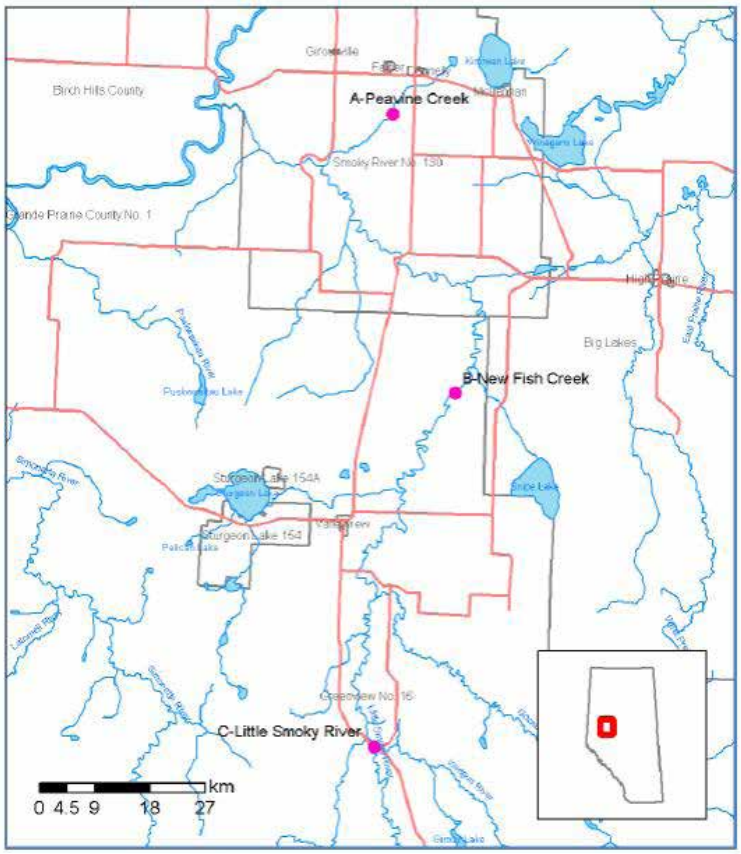
In addition to these, we will showcase the hail damage project that has completed its first year of trials. The trials are looking at hail damage at four different stages of growth on canola, peas and wheat, at three different locations in the Alberta; Lethbridge, Vegreville, and Falher. InnoTech, Farming Smarter and SARDA are collaborated on this project. AFSC adjusters work closely with the research groups to determine the levels of damage using crop insurance protocols. In addition, fungicide and nutrient packages were applied to some of the damaged crops to mitigate the damage. Believe it or not, we can simulate HAIL!

Attendees are asked to pre-register for catering purposes by February 15. Registration can be done online (www.sarda.ca) or by calling the office (780) 837-2900. The event will start at 8:30 am and will end by 3:30 pm. The event is free and SARDA will provide a hot lunch.

SARDA Watershed Report Card 2016

Prepared by:
Aquality Environmental Consulting Ltd.

Site	Grade	Comments
Peavine	C	Nutrients, bacteria and metals exceed guideline concentrations and affect water quality at this site.
Fish Creek	B	Nutrients, bacteria and metals exceed guideline concentrations and affect water quality at this site.
Little Smoky	B	Nutrients and metals exceed guideline concentrations and affect water quality at this site.



Grade		Description
A	Excellent	Guidelines are always met, best quality
B	Good	Guidelines are occasionally exceeded, but usually by small amounts
C	Fair	Guidelines are sometimes exceeded by moderate amounts; occasionally water quality is undesirable
D	Marginal	Guidelines are often exceeded, sometimes by large amounts
F	Poor	Guidelines are always exceeded by large amounts, water quality is below desirable levels, worst quality

Grades were determined using a modified version of AEP's River Water Quality Index. Values are derived from concentrations of nutrients, metals, bacteria and pesticides from the entire year's sampling.

Summary of Water Quality Sampling Program, 2016

Overview

The Smoky Applied Research and Demonstration Association (SARDA) began a water quality monitoring program in 2011, with the assistance of Aquality Environmental Consulting Ltd. Surface water samples were taken from three sites in SARDA's research area: Peavine Creek (Municipal District [M.D.] of Smoky River), New Fish Creek (M.D. of Greenview) and the Little Smoky River (M.D. Greenview) (Table 1). Sample locations, chosen by SARDA, were based on their proximity to agricultural lands, uses as drinking water intakes, and their likelihood of exposure to terrestrial inputs. Sampling in 2016 continues the monitoring program run from 2011 to 2015. Sampling events occurred twice per year in the same manner as the previous years' sampling program. Sampling occurred once in the late spring to early summer after the spraying of pre-emergent herbicides on croplands, and again in late summer to early fall following harvest. Samples were analyzed for pesticides, nutrients, metals, and bacteria. In 2016, sampling was carried out on May 31st for the spring/early summer sampling period and October 19th for the fall sampling period.

continued from page 3

Results

Pesticides

Samples were analyzed for 101 different pesticides; however, no pesticides were detected in 2016 (Figure 1). This is an improvement over the combined results from 2011 – 2015, where AMPA was detected twice (spring and fall 2014 at Peavine Creek), Clopyralid and Dicamba were detected once each (fall 2012 at Peavine Creek), MCPA was detected once (spring 2012 at Peavine Creek), Picloram was detected twice (spring and fall 2011 at Peavine Creek), and Glyphosate was detected nine times. Glyphosate is the active ingredient in Round-up® and several other common pesticides used in Alberta[1]. Glyphosate was detected at the Little Smoky River in spring 2011 at 0.003 µg/L, below the guideline of 65 µg/L[2]. In 2014, Glyphosate appeared to be widely used and was detected at all the sampling locations in spring and fall, but in 2015, was only detected in Peavine Creek in the spring and the Little Smoky River in the fall. The highest detected concentration of 0.00549 mg/L of Glyphosate was detected at Peavine Creek during the spring of 2015.

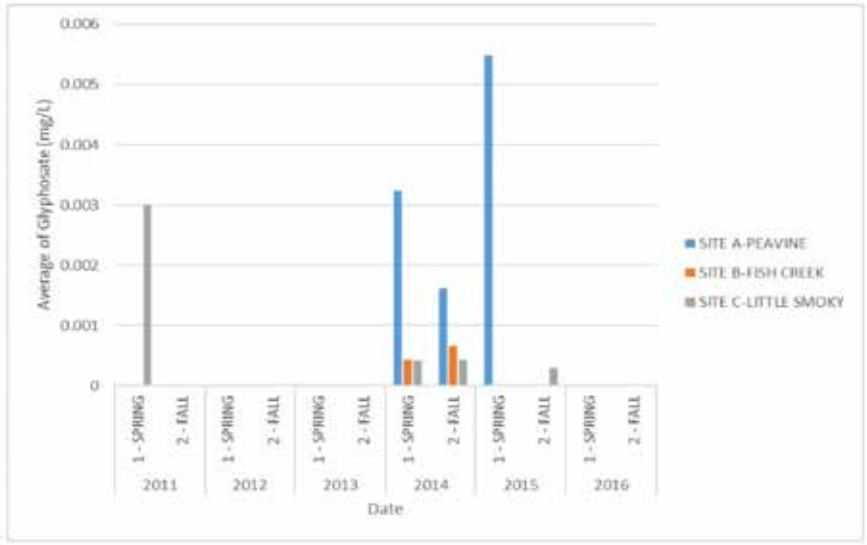


Figure 1. Glyphosate concentrations, 2011 – 2016.

Nutrients

In 2014, the Alberta Government revised the Environment Quality Guidelines for Alberta Surface Waters. Under the new guidelines, the decision was made to remove the previous guideline for Total Phosphorus (TP; previously 0.05 mg/L) and Total Nitrogen (TN; previously 1.0 mg/L) (ESRD 2014). These guidelines have been replaced with site specific guidelines for these nutrients. The Alberta Government is conducting supporting work to establish these guidelines for major rivers throughout the province. Typically, these guidelines would be derived from historical data, which is usually only avaiable for large rivers. SARDA may consider developing specific nutrient

[1] Scribner EA, Battaglin WA, Gilliom RJ, Meyer MT. 2007. Concentrations of Glyphosate, it's Degradation Product, Aminomethylphosphonic Acid, and Glufosinate in Ground- and Surface – Water Rainfall, and Soil Samples Collected in the United States, 2011-06. U.S. Geological Survey Scientific Investigations Report 2007,

[2]Government of Alberta. 2014. Environmental Quality Guidelines for Alberta Surface Waters. Edmonton, Alberta. http://esrd.alberta.ca/water/education-guidelines/documents/EnvironmentalQualitySurfaceWaters-2014.pdf.

[3]Alberta Environment. 1999. Surface Water Quality Guidelines for Use in Alberta. Environmental Assurance Division. Science and Standards Branch. Edmonton, Alberta. Retrieved from: http://www.gov.ab.ca/env /protenf/publications/SurfWtrQual-Nov99.pdf

[4] Alberta Environment. 1999. Surface Water Quality Guidelines for Use in Alberta. Environmental Assurance Division. Science and Standards Branch. Edmonton, Alberta. Retrieved from: http://www.gov.ab.ca/env /protenf/publications/SurfWtrQual-Nov99.pdf.

[5,6] CCME (Canadian Council for the Ministers of the Environment). 2014. Water Quality Guidelines for the Protection of Freshwater Aquatic Life, Agriculture, Irrigation, and Livestock. Accessed online at: http://st-ts.ccme.ca/?chems=all&chapters=2. .

[7] Government of Alberta. 2014. Environmental Quality Guidelines for Alberta Surface Waters. Edmonton, Alberta. http://esrd.alberta.ca/water/education-guidelines/documents/EnvironmentalQualitySurfaceWaters-2014.pdf

[8] Government of Alberta. 2014. Environmental Quality Guidelines for Alberta Surface Waters. Edmonton, Alberta. http://esrd.alberta.ca/water/education-guidelines/documents/EnvironmentalQualitySurfaceWaters-2014.pdf. Where guideline is dependent on other parameters which have not been measured, the most conservative value is used in calculating the guideline

[9] Lorenz, K.N., Depoe, S.L., and Phelan, C.A. 2008. Assessment of Environmental Sustainability in Alberta's Agricultural Watersheds Project. Volume 3: AESA Water Quality Monitoring Project. Alberta Agriculture and Rural Development, Edmonton, Alberta, Canada. 487 pp.

guidelines for each of the tributaries in the watershed. However, new guidelines could be adapted from those that are developed for the Peace River. For the purpose of this report, we have presented the previous guidelines for comparison purposes.

Total Phosphorus

Total phosphorus (TP) exceeded the previous guideline[3] (0.05 mg/L) at Fish Creek and the Little Smoky River in the spring of 2016, but was below detectable concentrations at Peavine Creek (Figure 2). In the fall, TP concentration exceeded the guideline at Peavine Creek, but was below detectable concentrations at Fish Creek and the Little Smoky River. Phosphorus concentrations largely comprised particulate/organic sources, with limited or absent contributions of dissolved phosphorus. There has been no clear inter-annual trend in TP concentrations over the six-year study. TP concentrations at Fish Creek and the Little Smoky River have generally been lower in the fall than in the spring, except for samples collected in 2015.

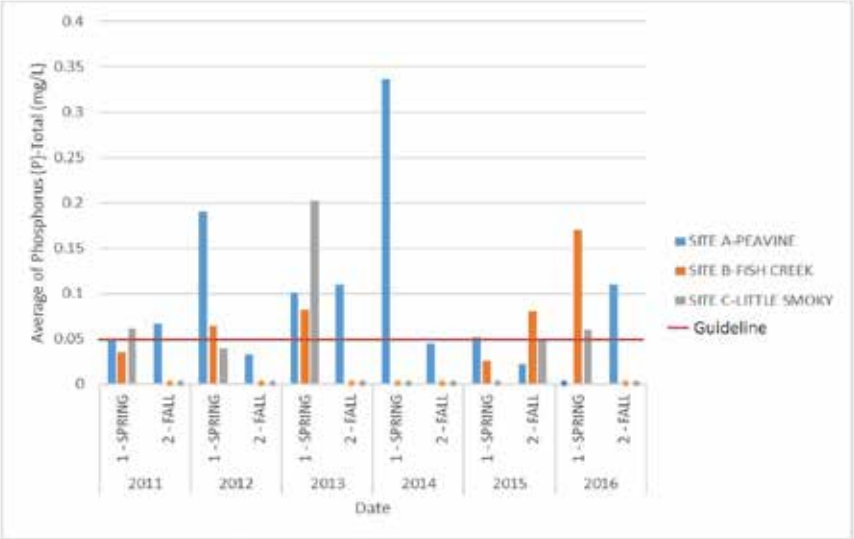


Figure 2. Total Phosphorus (TP) concentrations, 2011 – 2016. Asterisks on axis indicate values belo detection limits.

Total Nitrogen

Total nitrogen (TN) exceeded the previous guideline[4] of 1.0 mg/L at Peavine and Fish creeks in the spring of 2016 and Peavine Creek in the fall (Figure 3). Nitrogen concentrations largely comprised particulate/organic sources at most of the sites. Dissolved forms of nitrogen only contributed significantly to concentrations at Peavine Creek in the spring (nitrate) and the Little Smoky River in the fall (ammonia). Peavine Creek has generally stood out as the site with the highest TN concentrations overall. There is no clear seasonal pattern at Peavine Creek, but TN concentrations at Fish Creek and the Little Smoky River have generally been lower during the fall than during the spring, with the exception of 2015. In 2016, the TN concentration at Fish Creek and the Little Smoky River resumed the trend of being higher in the spring than the fall, and the spring 2016 TN concentration at Peavine Creek was higher than in the previous five years.

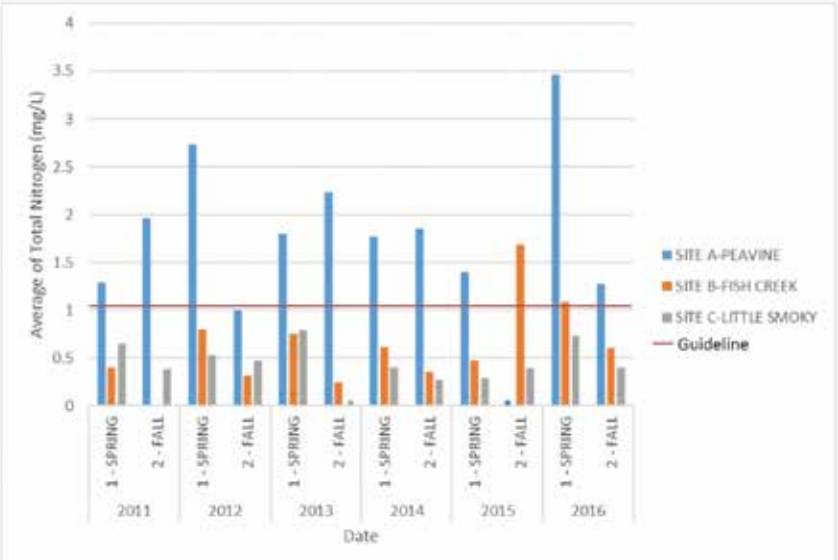


Figure 3. Total Nitrogen (TN) concentrations, 2011 – 2016. Asterisks on axis indicate values below detection limits.

Bacteria

Total coliform concentrations exceeded guidelines[5] (1000 CFU/100 mL) at Peavine and Fish creeks in the spring (Figure 4). E. coli concentrations fell below guidelines[6] (100 CFU/100

continued from page 5

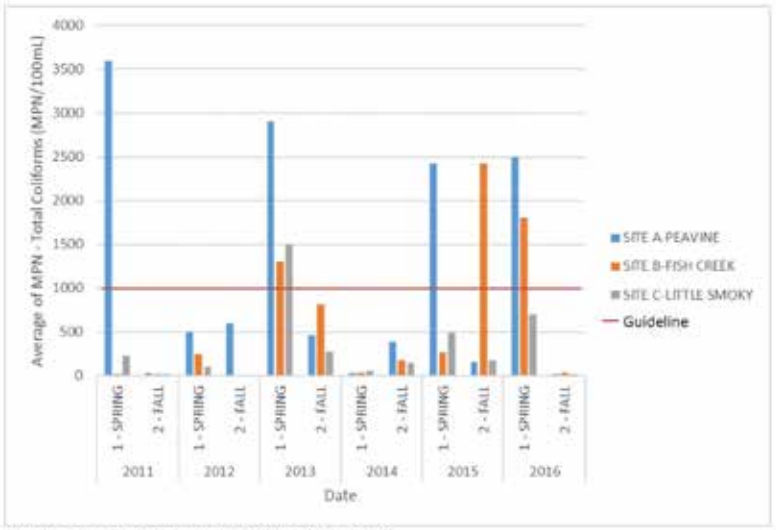


Figure 4. Total coliform concentrations, 2011 – 2016.

mL) at all sites in both the spring and the fall (Figure 5). There was no clear inter-annual pattern in E. coli concentrations.

Metals

Samples were analyzed for 33 different metals. Of these, six have exceeded current guidelines[7] for at least one sample collected during the six-year study (though not all metals have guidelines available) (Table 2). Exceedances were most common for iron (29 of 36 samples), aluminum (30 of

Table 2. Concentrations of metals with at least one exceedance, 2011 to 2016. nd = not detected at concentrations above laboratory detection limits. Values highlighted in red exceed guideline

Year	Sampling Period	Site	Aluminum (Al) mg/L	Cadmium (Cd) mg/L	Copper (Cu) mg/L	Iron (Fe) mg/L	Lead (Pb) mg/L	Zinc (Zn) mg/L
		EGASW-PAL[8]	0.05	hardness-dependent	hardness-dependent	0.3	hardness-dependent	0.03
2011	Spring	Peavine	0.0730	nd	0.0015	0.310	nd	0.0656
		Fish	0.4270	nd	0.0018	0.721	0.000500	nd
		Smoky	1.1800	nd	0.0038	1.450	0.001080	0.0074
	Fall	Peavine	0.1120	nd	0.0029	0.286	0.000550	0.3700
		Fish	0.0420	nd	nd	0.271	nd	nd
		Smoky	0.0720	nd	0.0010	0.412	0.000130	0.0058
2012	Spring	Peavine	0.0360	nd	0.0017	1.690	0.000100	0.0086
		Fish	0.9000	nd	0.0031	1.830	0.001050	0.0063
		Smoky	0.6960	nd	0.0020	1.340	0.000730	0.0053
	Fall	Peavine	0.0900	nd	0.0026	0.265	0.000130	0.2090
		Fish	0.0920	nd	nd	0.458	0.000110	0.0386
		Smoky	0.0640	nd	nd	0.458	0.000460	0.0258
2013	Spring	Peavine	0.0470	nd	0.0022	0.961	nd	0.0097
		Fish	0.8410	nd	0.0036	2.030	0.001170	0.0122
		Smoky	3.4900	0.000127	0.0083	6.750	0.004160	0.0384
	Fall	Peavine	0.0550	nd	0.0025	0.508	0.000150	0.0957
		Fish	0.0570	nd	nd	0.369	0.000120	nd
		Smoky	0.0340	nd	nd	0.355	nd	nd
2014	Spring	Peavine	0.1390		nd	4.970	0.000230	0.0061
		Fish	0.2440		0.0014	0.738	0.000330	nd
		Smoky	0.2250		nd	0.671	0.000230	nd
	Fall	Peavine	0.0420	nd	0.0055	0.155	0.000140	0.1910
		Fish	0.1150	nd	0.0014	0.362	0.000170	nd
		Smoky	0.0830	nd	nd	0.417	0.000130	nd

Table 2. Concentrations of metals with at least one exceedance, 2011 to 2016. nd = not detected at concentrations above laboratory detection limits. Values highlighted in red exceed guideline

Year	Sampling Period	Site	Aluminum (Al) mg/L	Cadmium (Cd) mg/L	Copper (Cu) mg/L	Iron (Fe) mg/L	Lead (Pb) mg/L	Zinc (Zn) mg/L
		EGASW-PAL[8]	0.05	hardness-dependent	hardness-dependent	0.3	hardness-dependent	0.03
2015	Spring	Peavine	0.0847	.0000218	0.00252	0.308	0.000094	0.1400
		Fish	0.1240	0.0000145	0.00171	0.408	0.000318	nd
		Smoky	0.0599	0.0000113	0.00094	0.269	0.000098	nd
	Fall	Peavine	0.0934	0.0000096	0.00058	0.382	0.000154	nd
		Fish	0.0519	0.0000062	0.00275	0.197	0.000114	0.3850
		Smoky	0.7590	0.0000342	0.00212	1.630	0.000866	0.0075
2016	Spring	Peavine	nd	0.00002	0.003	0.13	nd	0.002
		Fish	3.29	0.00013	0.009	6.39	0.0037	0.023
		Smoky	0.85	0.00004	0.002	1.89	0.0009	0.006
	Fall	Peavine	0.34	0.00001	0.004	1.13	0.0003	0.003
		Fish	0.5	0.00001	0.003	1.41	0.0003	0.006
		Smoky	0.27	0.00001	0.002	1.07	0.0002	0.005

36 samples), and zinc (8 of 36 samples). For 2016, no exceedances were noted at Peavine Creek in the spring, and two were noted in the fall (aluminum and iron). Fish Creek exceeded four metal guidelines in the spring (aluminum, cadmium, copper, and iron) and two in the fall (aluminum and iron). Little Smoky exceeded two metal guidelines in both the spring and fall (aluminum and iron). A greater number of exceedances was observed in the spring 2016 than in the fall, and concentrations were generally higher in the spring.

River Water Quality Index Site Ranking

Aquality developed a modified version of AEP's River Water Quality Index in 2013. The index was modified to include all parameters sampled by SARDA; however, the methodology and statistical formula used to analyze the data remained the same. The index considers the number of times a parameter exceeded guidelines and the magnitude of those exceedances, broken down across four categories of parameters: Nutrients and Related Variables, Bacteria, Metals, and Pesticides. The results from the sub-indices are averaged to provide an overall water quality index score for each site, with 100 being the best water quality and 0 being the poorest (Table 3). From these percentages, we can obtain a water quality rating for each site from excellent to poor. For 2016, the poorest water quality rating was observed at Fish Creek in the spring (64%), while the best water quality rating was observed at Fish Creek in the fall (89%) (Table 4). Peavine had similar ratings in both seasons (78% and 79%), as did the Little Smoky River (83% and 84%). The results from 2011 to 2016 show that overall water quality is usually poorer in the spring. Peavine has the lowest average water quality rating of 75% (Fair), while Fish Creek and the Little Smoky River have average ratings of 86% and 89% (Good), respectively. Metals and nutrients have been the primary impediments to water quality, based on the values from the individual sub-

Table 3. River water quality rating categories.

Percent Score	Rating
96-100	Excellent (A) – Guidelines are always met, best quality
81-95	Good (B) – Guidelines are occasionally exceeded, but usually by small amounts
66-80	Fair (C) – Guidelines are sometimes exceeded by moderate amounts; occasionally water quality is undesirable
46-65	Marginal (D) – Guidelines are often exceeded, sometimes by large amounts
0-45	Poor (F) – Guidelines are always exceeded by large amounts, water quality is below desirable levels, worst quality

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Table 4. Average yearly water quality ratings for all sites, 2011 to 2016.

Year	Sampling Event	Peavine Creek	Fish Creek	Little Smoky River
2011	Spring	62	89	78
	Fall	58	100	95
2012	Spring	70	83	89
	Fall	88	93	95
2013	Spring	65	73	65
	Fall	77	97	98
2014	Spring	73	92	92
	Fall	81	97	96
2015	Spring	70	96	100
	Fall	97	65	88
2016	Spring	78	64	83
	Fall	79	89	84

Table 5. Water quality sub-indices by year for all sites, 2011 to 2016.

Year	Sampling Event	Peavine Creek				Fish Creek				Little Smoky River			
		Nutr.	Bact.	Metals	Pest.	Nutr.	Bact.	Metals	Pest.	Nutr.	Bact.	Metals	Pest.
2011	Spring	68	49	67		100	100	66		58	100	54	100
	Fall	28	100	47		100	100	100		100	100	84	
2012	Spring	46	100	52	83	79	100	52	100	100	100	55	100
	Fall	100	100	50	100	100	100	73	100	100	100	80	100
2013	Spring	55	52	60	94	72	68	51	100	54	65	42	100
	Fall	52	100	56	100	100	100	89	100	100	100	90	100
2014	Spring	44	100	46	100	100	100	66	100	100	100	68	100
	Fall	71	100	51	100	100	100	89	100	100	100	83	100
2015	Spring	69	55	54	100	100	100	84	100	100	100	100	100
	Fall	100	100	87	100	58	55	47	100	100	100	52	100
2016	Spring	57	55	100	100	51	61	44	100	81	100	51	100
	Fall	57	100	57	100	100	100	54	100	76	100	58	100
	Overall	62	84	61	98	88	90	68	100	89	97	68	100

indices for all sites (Table 5). Peavine Creek has generally shown the greatest number of impediments to water quality, with both nutrients and metals usually falling within the Marginal category. At both Fish Creek and the Little Smoky River, metals generally fell within the Fair category; nutrients, while generally lower than the other parameter groups, still fell within the Good category, indicating that metals are the primarily responsible for impeded water quality at these sites. Index values at Peavine Creek and the Little Smoky River fell within the expected ranges based on historical values, while Fish Creek showed scores below those expected from previous years.

Overall Summary and Conclusions

Across most parameters and years, the site at Peavine Creek appears to have the most impaired water quality. Pesticides and nutrients have been highest at that site during most sampling events, as have total coliforms. However, in 2015, Fish Creek showed nutrient and total coliform concentrations at equal or higher concentrations than Peavine Creek. In 2016, the number of metal exceedances was highest at Fish Creek; cadmium and copper had the highest concentrations observed during the six-year project. The spring total phosphorous concentration was also highest at Fish Creek. The pattern of water quality at Fish Creek from fall 2015 through spring 2016 suggests that there may have been a change in conditions upstream from that site, based on more impeded water quality in the fall compared to the spring (a reversal of the historical seasonal pattern), and continued reduction of quality below historical seasonal index values in the following spring. In 2016, nutrients and metals were the greatest impediments to water quality across all sites, with high frequencies of exceedances noted for both groups of parameters. Concentrations of total nitrogen were within the ranges of values expected for moderate agricultural intensity at the Peavine Creek site, but there is low intensity agricultural activity at Fish Creek and the Little Smoky River9. Although there is a decrease in total nitrogen concentration observed at the Fish Creek site compared to 2015, it was stillhigher than the years prior to 2015. Concentrations of total phosphorus were within the ranges of values expected for low intensity agricultural activity at all sites9; however, total phosphorus exceeded the guideline at Fish Creek and the Little Smoky River in the spring, and at Peavine Creek in the fall.

Metals concentrations have been highly variable both within and between years, but the number of exceedances are similar for each location (23 at Peavine Creek, 24 at Fish Creek, and 27 at the Little Smoky River). All the metals with exceedances have natural sources in soils and minerals, and exceedances are likely associated with sediment-laden runoff. Metals exceedances are also dominated by aluminum and iron,

Bacteria do not appear to be a significant problem within the systems. No exceedances for E. coli have been recorded over the course of the monitoring program. Concentrations of E. coli were within the range of values expected for low agricultural intensity watershed[9]. While eight exceedances have occurred for total coliforms, there are a wide variety of natural environmental sources of total coliforms such as decaying vegetation.

Overall, the results suggest marginal to good water quality due to agricultural activity and erosion, with water quality in 2016 lying at or below values recorded over the previous 5 years. The lack of pesticide detections and the overall low concentrations of E. coli indicate that agricultural activity has limited impacts at most sites and times. The elevated nutrient concentrations at Peavine Creek and Fish Creek suggest greater impacts of agriculture, but these impacts still appear to be within the range of low- to moderately-intensive agricultural watersheds.

Sampling is scheduled to continue in 2017, with an annual summary report to be completed following sampling.

Abstracts

from the 2016 Project Report

SARDA had the largest number of projects ever in 2016. The following are a selection of abstracts of the project reports that will be included in the 2016 Project Report which will be available to the membership by April, 2017. To ensure you receive your copy, please renew or purchase a membership by visiting www.sarda.ca and follow the links or call the office at 780-837-2900.

Canola growth, production and quality are influenced by seed size and seeding rate

Canola (Brassica napus L.) is the most widespread profitable cash crop in Canada. In 2014 and 2015, direct-seeded experiments were conducted in sixteen western Canada environments. “Small” canola seed (average 3.32 to 3.44 g/ 1000) was compared to “large” canola seed (average 4.96 to 5.40 g/ 1000) at five seeding rates (50, 75,100, 125 or 150 seeds/ sq.m).

Large canola seeds increased crop density and crop biomass; and decreased plant mortality, days to start of flowering, days to end of flowering, days to maturity and percent green seed. Seed size did not influence harvested seed weight, seed oil content or seed protein content.

Increasing the seeding rate improved canola yield for small seeds , but not for large seeds. Increasing seeding rates also increased crop density, plant mortality, crop biomass and seed oil content but decreased days to start of flowering, days to end of flowering, days to maturity, percent green seed and seed protein content. Seeding rate had no impact on 1000 seed weights.

Because higher seeding rates often provide some of the same benefits as large seed, canola growers and the seed industry should balance seed size and seeding rate to obtain the best agronomic performance from canola.

Crops affect water depletion and root growth of subsequent crops

The project objectives were to optimize crop production by identifying improved crop rotations and benefits over continuous canola and wheat cropping systems. Canola (C), wheat (W), pea (P), barley (B) and flax (F) crops were used to compare continuous canola (CC) and wheat (WW) systems to 10 crop rotations, i.e. WC, PWW, CWW, CCW, PCW, CPW, WBC, BWC, FWC, and FCW. One crop from each of the 12 treatments was grown from 2009 to 2015, using a RCBD design with 4 replications and using recommended agronomic practices. Similar amounts of soil test based fertilizer rates were applied to a given crop in the given year. Soil water depletion (2013, 2014 and 2015) and early season root growth in 2015 were measured.

Soil water data in 2013, 2014 and 2015 indicated more water depletion by cereals, especially barley, than other crops like canola, flax and peas. Peas and flax tended to cause less water depletion than other crops. Greater water depletion by cereals may have positive and negative aspects, depending on the growing conditions of the area.

Both wheat and barley tended to have higher length, surface area, and volume of the roots than canola and flax. Also flax had much lower root and shoot masses than canola, wheat and barley crops. Canola and flax root growth in 2015 was better under the stubbles of wheat than canola. Wheat root growth under the canola and wheat stubbles was not different.

Contribution margins of crop rotations and continuous canola or wheat

Crop rotations are a long-standing farming practices to improve crop yield. Canola (C), wheat (W), pea (P), barley (B) and flax (F) crops were used to compare continuous canola (CC) and wheat (WW) systems to 10 crop rotations, i.e. WC, PWW, CWW, CCW, PCW, CPW, WBC, BWC, FWC, and FCW. One crop from each of the 12 treatments was grown from 2009 to 2015. Amongst

the 12 treatments, the top 6 ranked were the CPW (#1), WBC (#2), continuous canola (#3), CCW (#4), BWC (#5) and PCW (#6) treatments (Fig. 1; Table 2). Treatments in the bottom half were WC (#7), FCW (#8), CWW (#9), FWC (#10), PWW (#11) and WW (#12).

Thus the CPW (#1), WBC (#2), BWC (#5) and PCW (#6) rotations, having 3 crops in rotation and ranked in top half of the range for CM, could be considered better choices. Other treatments in the top half of range continuous canola (#3) and CCW (#4, with 2 canola crops in 3 years), may be considered higher risk cropping systems.

Seed size and seeding rate effects on canola emergence, development, yield and seed weight

We determined the effect of canola seed size and seeding rate on canola emergence, development, yield and seed weight. In 2013, direct-seeded experiments were conducted at nine western Canada locations. Four canola seed sizes (1000-seed weights ranging from 3.96 to 5.7 g) and one un-sized treatment (4.4 g average) were seeded at two rates (75 and 150 seeds/ Sq. m).

Higher seeding rates led to higher canola emergence and stubble density at harvest. Higher seeding rates also increased early crop biomass, 1000-seed weights and seed oil content; and reduced days to start of flowering and days to crop maturity. Changing seeding rate did not affect the seed yield ((P=0.136) Seed size effects on canola emergence, yield or seed quality were not significant. Increasing seed size had a positive linear association with early canola biomass and 1000-seed weights, whereas, both days to flowering and days to the end of flowering had a negative linear association with seed size. Greater biomass from large seeds increased crop competition with weeds and also hastened flowering, shortened the flowering period and reduced the risk that canola will be exposed to high temperatures that can negatively impact flowering and pod development.

Spring Triticale Varieties Forage Yield, Nutrients Composition and Suitability for Beef Cattle Production

The objective was to explore the potentials of five spring triticale (xTriticosecale Wittmack) varieties (AC Ultima, Bunker, Companion, Pronghorn, Taza and Tyndal) for integration into beef cattle feeding systems in the Peace region of Alberta. Tests were done from 2009 to 2012, using RCBD in each year. The crop was cut at late milk stage to determine the silage (SY), dry matter (DMY) and protein (CPY) yields, and nutrition quality. The mean DMY was similar ($P > 0.05$) for all varieties, ranging from 8.14 to 8.53 t/ha.

The forage DM was higher in 2009 and 2012 growing seasons (8.91 and 9.40 t/ha, respectively) and lower in 2010 growing season (5.93 t/ha) than in 2011 (8.33 t/ha). The tested varieties have potentials for pregnant cows that are in the second and third trimester stages, in terms of protein (7.72-8.32%) and some macro (particularly Ca & K) and micro (especially Fe & Mn) mineral elements and energy contents (62.1-64.1% TDN, 1.51-1.57 Mcal/kg ME). Levels of relative feed value (RFV) was high (110-121) and more than the minimum suggested RFV for mature beef cattle. But levels of P, Mg, Na, S, Cu and Zn were insufficient to meet the suggested amounts needed by a dry gestating cow. The growing seasons appeared to have significant ($P < 0.05$) effects on most of the measured parameters. The implications of these findings on uses of triticale forage in ruminant nutrition and the need for more studies are discussed.

Root growth and soil properties response to six years of fertilizer rates and tillage system

The project objectives were to assess the effects of different soil test based fertilizer rates (0, 60, 100 and 140%) and seeding systems (direct and conventional), from 2010 to 2015, on canola and cereals (wheat / barley) growth, production and soil properties. This report covers some of the results as others have been presented in previous SARDA Ag Research reports.

The length, surface area, volume and number of tips for canola and barley roots were greater with 100% than 0% fertilizer rate and under DS than CT system. The length, surface area and volume of

SARDA requires pre-registration for ALL SARDA events.

Event Name	Location	
CIGI Combine to Customer	Winnipeg	
SARDA AGM & Extension Event	Chevalier Centre Falher	
CanoLab	Lakeland College Vermillion	
Living with Wildlife Workshop	Grimshaw Legion Grimshaw	
Solar Power Workshops	Entrec Center, Evergreen Park, Grande Prairie	
	Westmark Hall 13 km west of Woking	
	Log Cabin Falher	
SARDA Ag Research Agricultural Trade Show	Falher Regional Recreational Centre Falher	
	Log Cabin Falher	
	Falher Regional Recreational Centre	
	Falher Regional Recreational Centre	
	Log Cabin Falher	
	Chevalier Centre Falher	6
	Falher Regional Recreational Centre	
	Falher Regional Recreational Centre	
	Log Cabin Falher	
	Chevalier Centre	
Safe Spaces for Wildlife and People BearSmart Event	Edson Golf Club Edson	
Electric Fence Workshop Bear Smart Event	Edson Golf Club Edson	

Time	Date	Cost	Comments
3 events	February 12-15 February 21-24 March 12-15	FREE	Contact bkennedy@albertawheat.com
8:30 am	February 21	FREE	PRE-Register for catering purposes by Feb. 15 780-837-2900 or extension@sarda.ca
2 events 8:30 am	February 22 February 23	$200	Earlybird fee $150 Register at www.albertacanola.com
9:00 am	February 23	$15	To Register contact PCBFA at 780-835-6799 or jen@pcbfa.ca
9:30 am	March 14	FREE	RSVP to Jill, County of GP 780-532-9727 or jhenry@countygp.ab.ca
9:30 am	March 15	FREE	RSVP to Jen at 780-835-6799 or jen@pcbfa.ca
8:30 am	March 16	FREE	RSVP to Shelleen at 780-837-2900 or extension@sarda.ca
12 noon: to 7:00 pm			Booth displays and outside equipment displays
12:00 noon to 6:00 pm			TS Seminars -visit www.sarda.ca for more info.
8:00 am -10:00 am	March 17	FREE	Pancake Breakfast
10:00 am - 6:00 pm			Booth displays and outside equipment displays
10:00 am - 6:00 pm			TS Seminars -visit www.sarda.ca for more info.
:00 pm - 12:00 mid night			Famer Appreciation Event Norma McKnight - Adult Comedy Howie Miller - Adult Miller Tickets on SALE @ www.sarda.ca
8:00 am - 10:00 am	March 18	FREE	Pancake Breakfast
10:00 am - 5:00 pm			Booth displays and outside equipment displays
10:00 am - 5:00 pm			TS Seminars -visit www.sarda.ca for more info.
10:00 am - 5:00 pm			Rural Farm Family Safety Day Norma McKnight Show 2 shows
8:15 am - 4:30 pm	March 28-29	FREE	RSVP by February 28 to Fauve.Blanchard@gov.ab.ca
8:15 - 3:00 pm	March 30	FREE	RSVP by February 28 to Fauve.Blanchard@gov.ab.ca

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barley roots were greater than canola while the number of tips were in a similar range for both crops.

More vigorous crops with 100% fertilizer caused faster and greater soil moisture depletion than 0%.

The aggregate stability results showed positive effects of reduction in tillage intensity and fertilizer application, with larger effects for the seeding system than fertilizer.

The 2016 spring soil samples indicated higher fertilizer rates increased stratification for some soil properties and stratification was greater under DS than CT. The OM, ENR and P concentrations showed a greater decline with increase in soil depth at higher fertilizer rates; whereas greater increase with soil depth was noticed for the pH, Ca and Mg. No change in stratification was noticed due to fertilizer rate for the concentration of mobile nutrients like NO3 and S.

Advanced Agronomic Practices in Wheat, Barley and Pea to Maximize Yield and Harvest ability

Interim Report of Findings for SARDA – Year 3 of 3

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Objectives:

1. Using a systems approach, determine synergistic benefits of stacking multiple agronomic practices: PGRs; supplemental UAN; Agrotain; and/or foliar fungicides to increase yields and economic returns of wheat and feed barley.
2. Determine if wheat or feed barley cultivars respond differently to the intensive agronomic practices listed in objective 1.
3. Determine the benefits of various fungicide modes of action and application timings for use on feed barley.
4. Using a systems approach, determine which agronomic practices (PGRs, inter-row seeding) improve field pea harvest ability.

Summary of 2014, 2015 and 2016 findings

This 3 year study was completed in 2016. However, data analysis from some 2016 site years and multi-year data analysis is currently underway. Data from Falher in 2014, 2015 and 2016 is included in this report. This report contains preliminary results and trends must be supported with final data analysis. In 2014, 2015 and 2016 small-plot (~2x5m plots) experiments were conducted at Lethbridge– irrigated, Lethbridge-dryland, Killam–Thin black, Bon Accord– Thick black, & Falher– Grey Luvisol.

Note: All plots received recommended soil test based fertilizers at seeding and other agronomic management inputs as needed.

2016 Peace River Region Annual Canola Survey

The 2016 Annual Peace Canola Survey was completed by Agriculture & Agri-Food Canada staff based at Beaverlodge[1] and Saskatoon[2]. Since 2003, the annual survey has been performed with the main objectives of

- Collecting insect pest data throughout the region and
- To detect the introduction of the cabbage seedpod weevil into the Peace River region.

In 2016, a total of 156 commercial fields of Brassica napus (e.g., each field ≥80 acres in size) were surveyed and no B. rapa was encountered. Fields were spaced approximately 10 km apart and surveying was performed through the main canola production areas of the Peace River region in both British Columbia and Alberta during early- to mid-flower stages. Canola crop stages were measured using Harper and Berkenkamp (1975) and ranged from 4.1-4.4 although the mode stage was 4.2 for the 156 commercial fields of B. napus surveyed. Fields were surveyed by sweep-net using 50 - 180° sweeps.

Summary of Water Quality Sampling Program, 2016

The Smoky Applied Research and Demonstration Association (SARDA) began a water quality monitoring program in 2011, with the assistance of Aquality Environmental Consulting Ltd. Surface water samples were taken from three sites in SARDA's research area: Peavine Creek (Municipal District [M.D.] of Smoky

River), New Fish Creek (M.D. of Greenview) and the Little Smoky River (M.D. Greenview) (Table 1). Sample locations, chosen by SARDA, were based on their proximity to agricultural lands, uses as drinking water intakes, and their likelihood of exposure to terrestrial inputs. Sampling in 2016 continues the monitoring program run from 2011 to 2015. Sampling events occurred twice per year in the same manner as the previous years' sampling program. Sampling occurred once in the late spring to early summer after the spraying of pre-emergent herbicides on croplands, and again in late summer to early fall following harvest. Samples were analyzed for pesticides, nutrients, metals, and bacteria.

In 2016, sampling was carried out on May 31st for the spring/early summer sampling period and October 19th for the fall sampling period.

Cultivar specific fertility management to improve nitrogen yield in wheat seed

Nitrogen (N) is the most limiting nutrient in crop production systems and N fertilization increases yield. However, when N fertilizer is not used by crop plants it can enter the soil, water and atmosphere where it causes environmental degradation. Small plot field research trials were conducted to measure N yield in the harvested grain of 12 different wheat cultivars, in 9 site years, at 5 different growing environments across Alberta, Canada. The N fertilizer rate applied at seeding was based on soil tests and the growing environment's yield potential. In addition to N applied at seeding, there were 2 in-crop N treatments, an untreated control or 34kg N ha-1 dribble banded as Urea Ammonium Nitrate at BBCH 30. Percent N yield was calculated as = (seed N content * seed yield) / N fertilizer applied. Percent N yield is used to allow comparisons between locations with different N fertilizer application rates. Nitrogen yield averaged 104% and ranged from 73 to 153% based on the site year, with higher N yield at locations with higher precipitation and/or irrigation. There were significant differences between cultivars in 8 of 9 site years ($p \leq 0.05$). The Canadian Western Red Spring wheat cultivar, AC Harvest had the lowest N yield in the harvested grain (average 93%) in 3 of 9 site years. In contrast, a Canadian Western Special Purpose cultivar Sparrow had the highest N yield in the harvested grain (average 124%) in 5 of 9 site years. The high N yield of Sparrow was attributed to consistent high yields (6.5 t ha-1, 16% higher than the average) with moderate protein content (average 11.6%). Sparrow was bred at the KWS-UK Research and Breeding Center in the United Kingdom and released in 2008. If N fertilizer application rates are based on the cultivar needs, environmental degradation attributed to excess N use could be reduced while still achieving high yields.

Investigating agronomic practices to remove barriers to faba bean production in Alberta

Trials are being undertaken to address faba bean agronomic issues across the province. Objectives are to determine the effect of herbicide residues from preceding cereal crops, spring time herbicides, use of different fungicides to control Chocolate spot (Botrytis sp.) and Ascochyta blight, and evaluate response to macro- and micro-nutrient applications.

Compare combinations of 3 herbicides post emergence applied to the wheat crop year prior to seeding faba bean [Infinity, Prestige, and Everest, each at 1X and 2X the label rate]; and 4 herbicides [Cleanstart, Heat, Express SG + glyphosate, and Express SG, each at 1X and 2X the label rate] applied at the recommended timing before seeding of faba beans, or, pre-emergence (five days after seeding).

Six fungicides (Lance, Acapela, Vertisan, Priaxor, Headline and Delaro) applied for management of Chocolate spot (Botrytis sp.) and Ascochyta blight to two faba bean varieties, Snowbird and Malik.Combinations of three macronutrients (phosphorus, potassium and sulphur) are applied at seeding time. Combinations of three micronutrients (boron, molybdenum and manganese) are applied at seeding and in crop (foliar).

Data are still being analysed. Results will be presented in the next report. If you want more information in the meantime, feel free to call either of the report authors.

Performance of peas and lentils intercrops with faba beans and chickpeas

Peas and lentils tend to lodge near maturity, which results in increased disease

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levels, difficulties during harvest and seed losses leading to reduced seed yield and quality. Faba beans and chickpeas being more resistant to lodging, and their intercropping with peas and lentils may reduce lodging, minimize harvest ability issues, increase production, and improve contribution margin.

Objectives of the study are to improve stand ability and harvest ability of peas and lentils, and assess production when peas and lentils are intercropped with faba beans and chickpeas.

In 2016, with peas and lentils as the main crops, faba beans and chickpeas were intercropped using a RCBD with 4 replications. The seed rates were 100% of the recommended for sole crops. For intercrops; the seed rates were 100% or 75% of lentils and peas and 75% or 50% of faba beans and chickpeas.

Except for a few days after seeding, more than normal rain was received starting late May, with temporary flooding of the plots in Early June, until harvest.

Compared to plant counts of sole crops (considered 100%), the emergence of crops was somewhat lower in the intercropped stands.

Intercropping did not influence plant height of lentils and peas, and it tended to reduce plant heights of faba beans and chickpeas.

Visual observations indicated reduced lodging of lentils and peas in the intercrops than sole crops, which could provide better harvesting conditions.

Intercropping tended to reduce the seed yield of crops, but not the 100 seed weights and bushel weights.
Seed quality of lentils and peas was normal. However, the faba beans and chickpeas had some immature seeds when harvested.

Land equivalent ratios (LERs) of individual crops were lower in intercrops than in their sole crops (considered 1.00). But total LER (sum of both crops) values were always greater for the intercrops than the sole crops. Also the total LER values were greater for the lentils (1.27 to 1.41) than the pea (1.03 to 1.22) intercrops. These total LER values showed benefit from all the tested intercrops over the pure stands, with greater benefit from lentil intercrops.

Overall in the 2016 season with adequate moisture, the intercrops provided greater total LERs than the sole crops. This indicated potential for improving total yield from a field with intercrops over the sole crops of lentils and peas.

Late maturity of faba beans and chickpeas will require pre-harvest desiccation. Also, some logistic issues like seeding, fertilizing, and inoculation of 2 crops needs consideration for the intercrops. Additional costs of extra seed and separation of seeds after harvest are other considerations.

Understanding Soil Variability for Effective Zone Management in Precision Agriculture –an evaluation of sensor based soil mapping tools

The study compared performances of two soil electrical conductivity (EC) sensors, EM38-MK2 (EM38) and Veris MSP3 (Veris). It assessed soil EC mapping as a low cost alternative to grid soil sampling for estimating in-field soil variability. Additionally, it assessed the capacity of soil sensors as well as other layers of mapped data to create zones for variable rate management applications.

Results showed that EM38 and Veris performance is accurate and consistent over both time and space. Soil EC maps from both sensors were found to be strong indicators for the presence of clay and soil moisture. However, the mapped EC data could not be used for a direct estimation of the spatial distribution of macro-nutrients (NPKS) in soil.

In each of the 10 fields studied, zones were delineated using surface geography, grid soil samples, historic yield maps, EC, and composite (yield + EC) methods. All five methods had some level of success at identifying regions that yielded differently from one another. The composite method was the most consistently effective at differentiating zones of productivity.

However, the study was not able to identify a unique yield response to nitrogen for the zones identified. In other words, the optimal rates of

nitrogen identified for different zones were not statistically different from one another.

The study shows that variable rate (VR) technology requires a variable approach; there is not a universal method that will be effective in all circumstances. The zone delineation techniques tested had varying levels of success in different fields. Producers should be prepared to develop a specific VR strategy for each field, and are advised to evaluate strategies using methods developed in this study.

This project provides a methodology for creating and testing management zones for VR practitioners. It also challenges the viability of a formulaic approach to zone delineation and management. The results provide producers information to make better decisions around investment on equipment or services for VR technology implementation. For those producers using VR technology, this study offers new guidelines on choosing an appropriate VR strategy and provides a method for producers to assess the efficacy of any particular strategy.

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SUMMARY OF 2014, 2015 and 2016 FINDINGS

This 3 year study was completed in 2016. However, data analysis from some 2016 site years and multi-year data analysis is currently underway. Data from Falher in 2014, 2015 and 2016 is included in this report. This report contains preliminary results and trends must be supported with final data analysis. In 2014, 2015 and 2016 small-plot (~2x5m plots) experiments were conducted at Lethbridge–irrigated, Lethbridge-dryland, Killam–Thin black, Bon Accord–Thick black, & Falher– Grey Luvisol.

Note: All plots received recommended soil test based fertilizers at seeding and other agronomic management inputs as needed.

Spray time in a day affects efficacy of herbicides

Poor day time conditions, such as, hot and windy conditions with low humidity and high rates of volatilization and photo degradation, among others, can greatly reduce herbicides' efficacies. This study examined night and dawn time as a practical alternative to the day time herbicide application.

The study compared Day (12-2pm), Night (0-1am) and Dawn (4-5am) spray times of a day for preseed burn down (PSBD) and in-crop herbicide applications. Research plots were established at three locations across Alberta, Lethbridge, Bonnyville and Falher.

In preseed burn down (PSBD) trials (at Lethbridge only), plots were sprayed at label-recommended and three quarter-label rates with four herbicides, Prepass, Rounndup, Aim and Heat. Control of all weeds present was assessed.

Depending on the target crop, in-crop trials plots were sprayed at three quarter label rate with the following herbicides, Liberty, TM Muster + Select, Vantage™ Plus MAX II, Odyssey, Select, OcTTain, Everest, Axial + Infinity and Barricade. Tame oats and mustard were used as proxy weeds.

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Two indices, Efficacy rating (ER) and Weed biomass ratio (WBR), were used for performance of the spray times and herbicides.

The major conclusions are:

- The herbicides performed most effectively when applied in the day time (12-2 pm).
- Night time (0-1am) gave better results than the least effective Dawn time (4-5 am).
- There was a substantial advantage with the Day and Night times over the dawn time.
- Night time application could be a useful alternate timing when opportunities for Day time applications are limited. Relatively calmer and cooler environmental conditions at night would be potentially favorable in limiting off target drifts, reducing high evaporative losses and improving upon plant deposition and adsorption.
- Night time would also provide producers with the opportunity of expanding the application acreage in limited windows of time and assist the Alberta agri-food industry in enhancing public perception of its environmental stewardship
- The results also suggest that moisture-stressed plants or a major rainfall event shortly after herbicide application could reduce efficacies potentially rendering the herbicides totally ineffective.

Improving agronomic input efficiency and maximizing yield by managing wheat on a cultivar basis

Breeders develop wheat cultivars with different genetic traits but producers typically use the same agronomic management regardless of the cultivar's genetic traits. Small plot research trials were conducted to determine the yield and agronomic response of 12 wheat cultivars to either standard or advanced agronomic management. Standard agronomic management received no in-crop nitrogen (N), plant growth regulator (PGR), or fungicide. Advanced agronomic management involved in-crop foliar applications of: 34 kg N/ha as Urea Ammonium Nitrate (UAN) + Agrotain N stabilizer at Growth Stage (GS) 29; Chlormequat chloride PGR at GS30-31; and two fungicides (pyraclostrobin + metconazole at GS39 and prothioconazole + tebuconazole at GS55). Nine site years of data demonstrate how different cultivars require different agronomic management to optimize input use. AC Foremost yields were significantly increased with advanced agronomic management by 11-36% in 7 of 9 site years while AAC Penhold yields were significantly increased by only 8-15% in only 4 of 9 site years. The yield response of AAC Penhold was found in site years when there was at least 258 mm of growing season precipitation; however, AC Foremost responded even in site years where growing season precipitation was less than 150 mm. Findings from this and associated studies suggest that the genetic disease resistance of AAC Penhold is superior to that of AAC Foremost and therefore different fungicide management strategies must be employed for different cultivars. Future research should be conducted to develop cultivar specific agronomic packages that will maximize the genetic potential of newly registered wheat cultivars and provide the highest returns to producers.

MORE INFORMATION

Research@sarda.ca

780-837-2900

ALUS has arrived in Northern Sunrise County!

Sebastian Dutrisac, AF, Northern Sunrise County

NORTHERN SUNRISE COUNTY HAVE PARTN NORTHERN SUNRISE COUNTY HAVE PARTNERED WITH ALTERNATIVE LAND USE SERVICES (ALUS) TO MANAGE AND DELIVER COMMUNITY-LED, FARMER-DELIVERED PROGRAMS THAT SUSTAINS AGRICULTURE, WILDLIFE, AND NATURAL SPACES FOR ALL CANADIANS, ONE ACRE AT A TIME. ERED WITH ALTERNATIVE LAND USE SERVICES (ALUS) TO MANAGE AND DELIVER COMMUNITY-LED, FARMER-DELIVERED PROGRAMS THAT SUSTAINS AGRICULTURE, WILDLIFE, AND NATURAL SPACES FOR ALL CANADIANS, ONE ACRE AT A TIME.

ALUS is active in six provinces to date. Thanks to the generous commitment of The W. Garfield Weston Foundation and other dedicated supporters, ALUS Canada is rapidly expanding into many new communities across the country. With more than 700 participants nationwide, the ALUS program is currently funding more than 15,500 projects. That's more than 18,000 ALUS acres producing ecosystem services, like clean air, clean water and biodiversity, with valuable benefits for everyone.

Ecological services include carbon sequestration, species at risk habitat, clean air, clean water, flood mitigation, climate adaption, and support for our native bees and pollinators.

Farmer-delivered	As the largest single group of landowners in Canada, agricultural producers are in a unique position to provide important solutions to some of the most pressing conservation challenges of our time, including climate change and biodiversity loss.
Community-developed	The program is flexible, designed to be customized by local communities to respect local agricultural and environmental priorities. Each program is managed by a local ALUS Coordinator and the Watershed Advisory Committee (WAC), which is made up of agricultural producers and local stakeholders such as municipalities, conservation groups, farm associations and government agencies. The WAC will determine how the local ALUS program will be run—within the tried, tested and true framework of ALUS Canada's principles, guidelines and materials.
Integrated	Delivery of ALUS programs are intended to complement existing conservation programs, including federal and provincial government policy frameworks. ALUS programs across the county have developed many community partnerships with conservation organizations, agricultural groups and different levels of government.
Targeted	The program focuses on marginal and ecologically sensitive parcels of land that can be managed in a different manner to produce ecosystem services that benefit all Canadians.
Accountable	ALUS projects are independently monitored, verified and audited.
Science-based	Based on sound scientific principles and verification guidelines, ALUS provides valuable support and technical expertise for the design and implementation of each green infrastructure project.
Voluntary	Farmers and ranchers who choose to participate in the ALUS program have flexible agreements that suit their particular operation.
Market-driven	The ecosystem services produced projects have economic value on the marketplace, one that ALUS Canada is actively developing. Through ALUS Canada, citizens, corporations and philanthropists can invest directly in Canadian environmental stewardship, one acre at a time.

Why Participate in ALUS?

ALUS is a voluntary program dedicated to helping residents who use their land for agricultural production, establish their environmental visions for their property.

The ALUS programs pay participating farmers and ranchers an annual payment (per acre value that varies based on the project type) to

retain and reconstruct natural areas such as wetlands, grasslands, riparian areas and treed areas that benefits include habitat for fish and wildlife including waterfowl, species at risk and native pollinator insects, cleaner air and water, and sustainable food production on working landscapes.

The ALUS annual payments are based on acres taken out of production and are a recognition that implementing stewardship activities costs landowners money. Because the benefits provided, such as cleaner water and air, benefit society as a whole we believe landowners should be compensated for some of the costs.

Specifically, ALUS helps farmers and ranchers restore wetlands, reforest, plant windbreaks, install riparian buffers, manage sustainable drainage systems, create pollinator habitat and establish other ecologically beneficial projects on their properties.

In this way, ALUS turns marginal farmland into healthy ecosystems, linking Canada's natural heritage across agricultural lands.

Get Involved!

Northern Sunrise County is the latest County to partner with the ALUS program, we already have a couple of projects on the ground level, which are just starting sprout. We will communicate the progress of projects as they develop and even promote their achievements. We are looking for more agricultural producers to participate in our Alternative Land Use Services Program which helps sustain agriculture, wildlife, and natural spaces for the benefit of both landowners, our community and the environment.

We are looking for agricultural producers whose farms will benefit from one or more of the following project types:

- riparian area enhancements and expansions
- wetland restoration, creation & enhancement
- fencing around water bodies
- multi-row shelterbelts/ reforestation
- watering systems
- nesting structures
- native prairie establishment
- pollinator habitat

If your land could benefit from any of the eligible projects and you are interested in enrolling in Northern Sunrise County ALUS, contact Angela de Klerk, NSC ALUS Coordinator at 780-322-3831 or Email agservices@northernsunrise.net

How Do You Get Involved?

1. Call the NSC ALUS Coordinator to discuss your farm and complete an expression of interest form
2. The ALUS Coordinator will tour your project site and discuss project opportunities
3. The Coordinator will create a project proposal and present it to the Watershed Advisory Committee (WAC) made up of local farmers, Councillors, Agricultural Service Board and technical experts. The WAC will review and approve, decline or suggest changes to the proposal.
4. You may have to complete a short Environmental Farm Plan or Growing Forward 2

Wetlands
Wetlands are created to protect wildlife, but provide many other benefits to society such as storing water, filtering nutrients to purify water, & sequester carbon.

Wildlife Habitat
ALUS provides incentive payments to plant & maintain native vegetation cover. This cover can include trees, oak savannah, native prairie grasses & pollinator habitat, all of which will sequester carbon with many additional wildlife & erosion control benefits.

Clean Air
Farmers & ranchers who steward the land & manage ALUS projects also produce the simplest, yet arguably the most important ecosystem service of them all: copious volumes of clean, fresh air.

Pollinators
A pollinator hedgerow used to provide food & habitat for bees adjacent to farmer's fields. More trees, more bees & more carbon stored in the soil benefit ecosystems & society.

Reforestation
Trees provide wildlife habitat, store carton, can help control soil erosion & link our forests across the working landscape.

Henhouse
Hen House nesting structures provide waterfowl with a safe haven from foraging predators like raccoons, skunks and foxes. Research show Hen Houses usage rates of over 50% & next successes elevated to 70%.

Wildlife-Friendly Fencing
Deer-friendly fencing allows access to wetland & riparian areas while managing cattle use of fragile areas.

Native Grasses
ALUS provides incentive to enhance emergent, riparian and upland nesting areas for wildlife.

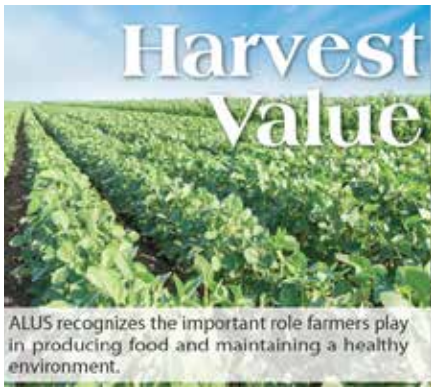
continued from page 17

Program Funding form with help from the Coordinator.

5. Once the WAC approves the project you will sign a flexible 5 year term agreement with the option for renewal. You can opt out at any time and payments will be adjusted accordingly. The contract will contain project details and the payments (project establishment costs and annual payment) that ALUS covers.
6. Once the project is approved by Northern Sunrise County ALUS Watershed Advisory Committee it is ready for implementation. The producer can begin installation or the oversight of installation.

Our priority is taking marginal, unproductive, inefficient, or environmentally sensitive lands out of agricultural production and putting them into the production of environmental goods and services. The intent is not to compete with agriculture!

You can also help by making a difference on the ground today: Donate now to www.ALUS.ca/get-involved/donate-now/



ALUS recognizes the important role farmers play in producing food and maintaining a healthy environment.

Agriculture and Agri-Food Canada

New insect species found in canola flowers in Saskatchewan and Alberta

Dr. Boyd Mori and Dr. Meghan Vankosky, AAFC Saskatoon

Researchers at Agriculture and Agri-Food Canada's Saskatoon Research and Development Centre (SRDC), along with colleagues at the University of Guelph, Alberta Agriculture and Forestry, and the Canadian Food Inspection Agency found a new insect damaging canola in northeastern Saskatchewan and east-central Alberta. The new species, a midge, which has yet to be named and scientifically described, belongs to the genus Contarinia. It is similar in appearance to the swede midge, Contarinia nasturtii, commonly found in Ontario.

Currently, the only confirmed symptom of damage by this insect are "bottle"-shaped galled flowers that form as a result of larval feeding inside flowers. Damaged flowers do not produce pods or seeds.

How the new species was confirmed

For years there have been accounts of differences between swede midge populations in Saskatchewan and Ontario, including adult size, the number of generations per year, and the type and amount of damage reported. These hints, combined with extremely low capture rates of adult swede midge in pheromone-baited traps in Saskatchewan despite apparently


Figure 5. *Gastrancistrus* sp. attacking swede midge larvae near Carrot River, Saskatchewan.

high rates of adult swede midge emergence caught the attention of Dr. Boyd Mori, a trained chemical ecologist and new biologist at the SRDC.

Dr. Mori collected adult midges from soil emergence cages and reared larvae found in infested flowers. The resulting adult midges were sent to preeminent North American swede midge researchers at the University of Guelph, Dr. Rebecca Hallett and James Heal who immediately noticed differences between the midge from Saskatchewan and swede midges from Ontario: midges from Saskatchewan were more robust, had hairier wings and had slight differences in the antennae and genitalia compared to the swede midge. These differences were confirmed by midge expert Dr. Bradley Sinclair with the Canadian Food Inspection Agency in Ottawa who also found several other physical differences. Using morphological differences, and DNA sequencing, the researchers concluded that the Saskatchewan midges were a separate species from the swede midge.

Economic Importance

While midge damage observed in Saskatchewan in 2016 appeared to be low in most fields, the economic impact of the new Contarinia midge is not known. Understanding pests and pest management is a priority of Agriculture and Agri-Food Canada and work is underway to formally describe and name this new species.

Questions?

Contact Dr. Boyd Mori (Boyd.Mori@canada.ca) or Dr. Meghan Vankosky (Meghan.Vankosky@canada.ca)

SARDA AG RESEARCH AGRICULTURAL TRADE SHOW

2017 SARDA AG RESEARCH AGRICULTURAL TRADE SHOW Visions of Change 2017

By Roch Bremont, Trade Show Coordinator

SARDA will be hosting the 20th biennial Agricultural Trade Show on the 16th -18th March 2017, at the Falher Regional Recreation Complex.

Our ongoing theme Visions of Change will be demonstrated with exhibition halls filled with displays on agriculture, recreation, home, finance, and leisure. Thanks to our many sponsors, we are able to include free admission, daily door prizes of $500.00, farm and family safety programs, seminars, free pancake breakfasts, and children's entertainment.

Also, on Friday evening, a Farmers Appreciation Dinner and Comedy Social is being planned for all who wish to attend. This biennial event through the years has become highly sought after by our exhibitors, producers and visitors.

SARDA's mission is facilitate the transfer of unbiased information between research

continued from page 19

institutions, industry, and agriculture producers. TheSARDA Ag Research Agricultural Trade Show is one way SARDA works towards this goal.

The task of organizing and coordinating this three day event is massive. It requires many volunteers and support from all the communities in the region.This first class Trade Show is due to SARDA's high standards, strong community support, dedicated staff, and an active and involved Board of Directors.

On March 16th -18th we invite you to attend. Come and support SARDA and the agricultural industry for an informative and fun filled weekend for the whole family.

SARDA AG RESEARCH Annual General Meeting

FREE With Lunch

FEBRUARY 21, 2017

8:30 AM—3:00 PM

Chevalier Centre

#308 Mains Street, Falher, AB

GUEST SPEAKERS

SHERI STRYDHORST, Agriculture and Forestry
ADVANCED AGRONOMY

KEN COLES, Farming Smarter
NIGHT SPRAYING

ROBYNE BOWNESS, Agriculture and Forestry
GROWING RED LENTILS in the PEACE

SARDA , HAIL PROJECT

Pre-Register by February 15 (*for catering purposes*)
Online at www.sarda.ca or
Phone 780-837-2900

SARDA

Box 90

Falher, Alberta

T0H 1M0

Phone: 780-837-2900

Fax: 780-837-8223

Email: manager@sarda.ca

www.sarda.ca

FORWARDED ON BEHALF OF RICK DEHOD

https://www.fcc-fac.ca/en/in-your-community/giving-back/fcc-agrispirit-fund.html

Farm Credit Canada is now accepting applications from registered charities and non-profit organizations in rural Canada for the FCC AgriSpirit Fund. The fund will award $1.5 million in funding this year to celebrate Canada's 150th anniversary. The application deadline is Apr. 17, 2017 and FCC will announce the selected projects in Aug.

The FCC AgriSpirit Fund is about enhancing rural communities. If your organization is raising money for a capital project (hospitals, medical centres, childcare facilities) and your city or town has less than 150,000 people, it may qualify for a donation between $5,000 and $25,000.

For 2017 we increased our total commitment to $1.5 million in honour of the 150th anniversary of Canada's Confederation, giving rural Canadians even more opportunity to make positive changes in our agriculture-based communities.

For more information, check out FCC AgriSpirit Fund successful past projects.

Applications are open from March 13 to April 17.

Who's eligible

Eligible groups include:
- Charities registered with the Canada Revenue Agency
- Non-profit organizations capable of partnering with a municipal body, territorial or provincial government. The municipal body must also agree to receive contributed money and issue a receipt in your organization's name.
- A municipal body (town, city under 150,000 people, rural municipality or First Nations band)

To be eligible, your project must:
- Be located in a rural community with a population of fewer than 150,000
- Recognize FCC's contribution
- Be completed within two years of receiving funding
- Be a capital project (equipment, building funds)

Rules:
- Only online applications will be evaluated
- Your organization/program isn't eligible if it's received support from the FCC AgriSpirit Fund in the past four years
- Preference may be given to organizations that focus on agriculture
- FCC employees and their immediate family members are not eligible for the FCC AgriSpirit Fund
- If your organization is selected, you'll need to sign a letter of agreement with FCC and show documentation of project completion

Richard (Rick) Dehod P.Ag.
Farm Financial Specialist
Alberta Agriculture and Forestry
Livestock and Farm Business Section
Livestock and Research and Extension Division
J.G.O'Donoghue Building
Room 200, 7000 – 113St.
Edmonton, Alberta T6H 5T6
Tel: 780-427-4466
Cell: 780-554-1721

Help shape farm and ranch labour legislation

Albertans are being encouraged to provide input on how provincial labour laws could apply to farms and ranches.

In May 2016, six technical working groups began developing recommendations on how employment standards, labour relations, and occupational health and safety requirements could be applied to meet the unique needs of the agriculture industry.

The technical working groups that were reviewing employment standards and labour relations have completed their work. Their recommendations are now posted online and Albertans will have until April 3 to provide feedback to government.

“I thank the members of the technical working groups for their hard work and dedication to this important process. The recommendations are an excellent starting point to ensure waged non-family farm workers have the same rights as other workers, while preserving the way of life that is the foundation of rural Alberta.”

Oneil Carlier, Minister of Agriculture and Forestry

“I’m pleased to share the first set of recommendations we received from the working groups. We promised we would seek feedback as we go through this process and I encourage Albertans to look at the recommendations and provide their honest and frank response. Your views are very important to us as we work together to get this right.”

Christina Gray, Minister of Labour

Both working groups were chaired by an independent and impartial individual with mediation, consensus and board governance experience. The groups included members from the agricultural sector, labour groups and technical experts.

"At the outset, Technical Working Group 1 unanimously committed to providing safe, fair and healthy workplaces reflecting the realities of Alberta's farm and ranch operations. We agreed to a dialogue rather than a debate, seeking to understand and share perspectives. Based on this shared understanding, the group was able to create recommendations for future regulations that best meet the unique interests and needs of Alberta’s farm and ranch community."

David Gould, Chair of Employment Standards Technical Working Group

“Over the course of five days, a group of people with diverse interests came together to consider how the Labour Relations Code would apply to agricultural workers and employers. Those individuals committed to dialogue rather than debate and to listening to each other's viewpoints with an open mind. As Chair, I commend the hard work of all our participants.”

Cheryl Yingst Bartel, Chair of Labour Relations Technical Working Group

Next steps

- Government will begin drafting legislative amendments based on the recommendations and public feedback received.
- Recommendations from the four technical working groups reviewing Occupational Health and Safety are expected in the near future.

The *Enhanced Protection for Farm and Ranch Workers Act* passed in December 2015 brings the protection and compensation of waged, non-family farm and ranch workers in line with similar protections in other sectors and other Canadian provinces.

Related information

- Farm and Ranch

Media inquiries

- Matt Dykstra
  587-985-9441

  Press Secretary, Labour
- Renato Gandia
  587-988-9720

  Press Secretary, Agriculture and Forestry

Contact us

310-0000

8:15 am – 4:30 pm (Monday to Friday, closed statutory holidays)

Water Quality Considerations for Surface and Subsurface Agricultural Drainage

What is drainage water?

Drainage water includes:

- Surface drainage that moves excess water off fields or the farm either naturally (i.e., runoff) or by constructed channels.
- Subsurface drainage installed to remove groundwater from the root zone or from low-lying wet areas. Subsurface drainage is typically done through the use of buried pipe drains (e.g., tile drainage).

WHAT ARE THE WATER QUALITY CONCERNS WITH DRAINAGE WATER?

Drainage water can be a source of nutrients, salts, and other contaminants that can deteriorate water quality. Drainage water will eventually reach irrigation canals, wetlands, creeks, rivers, or lakes. These water bodies are used for drinking water, irrigation, industrial use, and/or recreation activities, and most sustain aquatic ecosystems.

There are many water quality parameters that may be of concern for drainage water. In general, these parameters include:

Nutrients:

- **Nitrogen (N)** as nitrate is highly soluble and readily leaches through the soil profile. Excess N in surface water may be a concern for aquatic life, and nitrate contamination can be a concern for groundwater potability.
- **Phosphorus (P)** has low solubility and generally remains near the soil surface. Phosphorus can be in drainage water bound to sediment or in a dissolved form. Excess P can contribute to toxic algal blooms.

Total suspended solids (TSS) are generally inorganic particles in the water column. A high concentration of TSS negatively affects water clarity, and this can be detrimental to aquatic life.

Pathogens are disease-causing organisms that can cause illness in humans and/or livestock. Water that is in contact with livestock, human, or wildlife feces is at risk of pathogen contamination.

Pesticides include herbicides, insecticides, and fungicides. Drainage water may contain pesticides in the dissolved form or bound to soil particles. If present in water, pesticides may be of concern for aquatic life, human health, and crop production.

Metals can be introduced to aquatic systems as a result of human activities and the weathering of soils and rocks. An excess of metals can be poisonous to humans, other animals, and plants.

Salts:

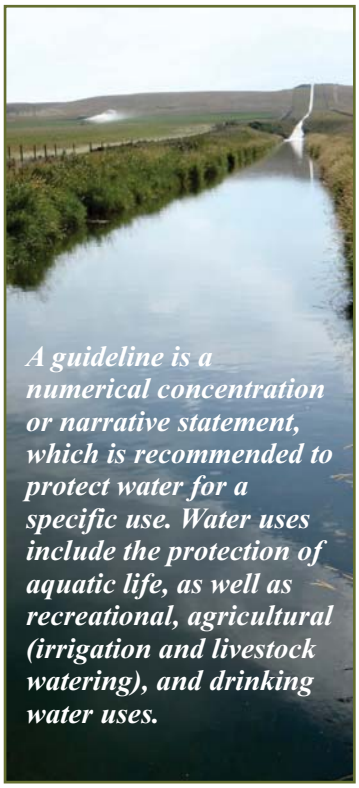
- **Electrical conductivity (EC)** indicates the level of dissolved salts. A high EC will stress plants and cause productivity losses.
- **Sodium adsorption ratio (SAR)** is a measure of salt levels as determined by sodium, calcium, and magnesium. A high SAR will negatively affect crop production by degrading soil structure and reducing soil aeration and water movement.
- **Chloride (Cl^-)** is completely soluble and very mobile in soils. Chloride can be used as an indicator of manure contamination in groundwater. At high concentrations, Cl^- can be toxic to aquatic life and negatively affect crops.
- **Total dissolved solids (TDS)** include salts, organic matter, and minerals. Salts readily leach through the soil profile and their accumulation can cause salinization problems where water discharges.

Main parameters that should be considered when testing agricultural drainage water quality, with specific recommendations in brackets. The risk can be evaluated by referring to provincial water quality guidelines.			
	Surface drainage	**Subsurface drainage**	**Risk**
Nutrients	✓ (N, P)	✓ (nitrate)	aquatic life, drinking water
Salts	✓ (TDS, SAR)	✓ (TDS, Cl^-)	aquatic life, agricultural use[z]
Total suspended solids	✓		aquatic life
Metals		✓ (aluminum, arsenic, iron, vanadium)	aquatic life, agricultural use, drinking water
Pathogens	✓ (*E. coli*)	✓ (*E. coli*)	recreation, agricultural use, drinking water
Pesticides	✓ (dicamba, MCPA)		aquatic life, recreation, agricultural use

[z] Agricultural use may include crop irrigation and/or livestock watering.

ARE THERE WATER QUALITY GUIDELINES FOR DRAINAGE WATER?

There are currently no water quality guidelines for drainage water from agricultural lands in Alberta. However, drainage water that enters an irrigation canal, wetland, creek, river, or lake will affect the quality of the receiving water body. Hence, water quality guidelines for all existing and future water uses of the receiving water body should be considered when examining drainage water. Drainage water should be managed so that receiving water bodies meet relevant water quality guidelines for use.



A guideline is a numerical concentration or narrative statement, which is recommended to protect water for a specific use. Water uses include the protection of aquatic life, as well as recreational, agricultural (irrigation and livestock watering), and drinking water uses.

Surface water quality guidelines for specific parameters.				
	Water use			
	Protection of aquatic life	**Irrigation**	**Livestock watering**	**Recreation**
Total nitrogen	Narrative[z]	—	—	—
Total phosphorus	Narrative[z]	—	—	—
SAR	—	5	—	—
Chloride (mg/L)	120–640	100–700[y]	—	—
Total suspended solids (mg/L)	Narrative[x]	—	—	—
Total dissolved solids (mg/L)	—	500–3500[x]	3000	—
E. coli (counts/100 mL)	—	100	—	126[w]

[z] Nitrogen and phosphorus concentrations should be maintained so as to prevent detrimental changes to algal and aquatic plant communities, aquatic biodiversity, oxygen levels, and recreational quality.

[y] Dependent on crop type.

[x] Varies based on period of exposure and turbidity of water. See original source for details.

[w] Geometric mean (30-day interval with a minimum of weekly samples).

Source: Environmental Quality Guidelines for Alberta Surface Waters. 2014. Alberta Environment and Parks. http://aep.alberta.ca/water/education-guidelines

WHAT IS THE QUALITY OF DRAINAGE WATER AND RECEIVING WATERS IN ALBERTA?

Alberta Agriculture and Forestry research shows that agricultural drainage water is typically poorer than the quality of the receiving water bodies. Water quality varies based on land use, soil type, and other factors.

Range of water quality of agricultural drainage.

	Surface drainage from pastures (n=2 sites)[z]	Surface drainage from non-manured fields (n=3 sites)[z]	Surface drainage from manured fields (n=8 sites)[z]	Subsurface drainage from manured fields (n=2 sites)[y]
Total nitrogen (mg/L)	2.0–5.3	3.0–9.9	3.8–11.2	4.3–32.5
Total phosphorus (mg/L)	1.35–1.68	0.32–2.06	0.78–4.86	0.03–0.05
Total suspended solids (mg/L)	6–16	4–26	7–19	n/a
Total dissolved solids (mg/L)	97–172	179–450	130–2221	n/a
E. coli (counts/100 mL)	73–110	4–30	1–230	0.5[x]

[z] Median values from 6 years (2007 – 2012) of data (samples per site = 33 to 135), Nutrient Beneficial Management Practices Evaluation Project, Alberta Agriculture and Forestry.

[y] Median values for 2 years (1999 – 2000) of data (samples per site = 5 to 17), unpublished data, Alberta Agriculture and Forestry.

[x] Median value is the same for both sites.

Range of water quality of receiving water bodies.

	Irrigation district source water (n=13 sites)[z]	Irrigation district return water (n= 21 sites)[z]	Oldman River (n=3 sites)[y]	Bow River (n=4 sites)[y]
Total nitrogen (mg/L)	0.2–0.5	0.3–0.8	0.2–0.3	0.2–1.0
Total phosphorus (mg/L)	0.01–0.03	0.01–0.11	0.01–0.02	0.01–0.03
Total suspended solids (mg/L)	2–8	1–65	3–11	2–12
Total dissolved solids (mg/L)	103–382	126–369	156–200	165–228
E. coli (counts/100 mL)	2–30	11–465	3–14	2–28

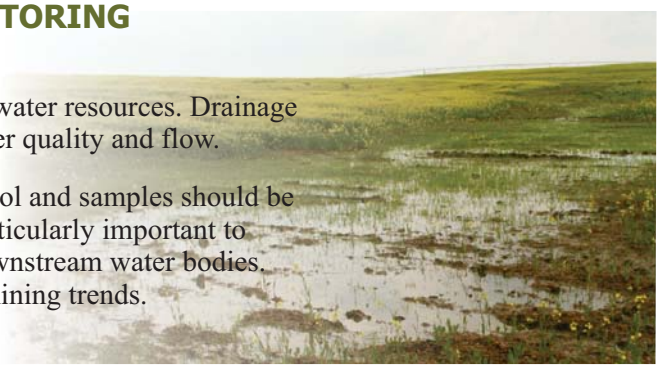
[z] Median values for irrigation water from 7 years (2006 – 2007, 2011 – 2015) of data (samples per site = 16 to 28), Irrigation District Water Quality Project, Alberta Agriculture and Forestry.

[y] Median values for the rivers from Government of Alberta, South Saskatchewan Regional Plan 2014 – 2024, pp. 179 – 186.

WHAT ARE THE CONSIDERATIONS FOR MONITORING DRAINAGE WATER QUALITY?

Site-specific data collection is needed to understand Alberta's water resources. Drainage water and receiving water bodies should be monitored for water quality and flow.

Water samples should be collected using a standardized protocol and samples should be analyzed by an accredited laboratory. A measure of flow is particularly important to determine total volume and contaminant loads received by downstream water bodies. Long-term monitoring (i.e., >10 years) is beneficial for determining trends.



WHAT APPROVALS ARE NEEDED FOR DRAINAGE?

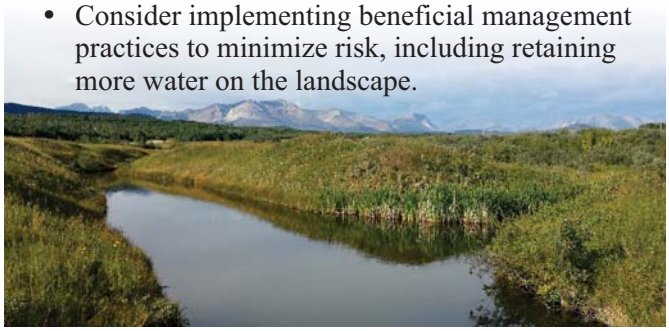
Land owners must obtain provincial approval under the *Water Act* before starting surface or subsurface drainage projects and drainage of wetlands or wet areas may be subject to the *Alberta Wetland Policy*. The approval process will require technical information about the proposed drainage system and may require written consent from downstream neighbouring landowners, irrigation districts, and/or municipalities. Approvals from the Department of Fisheries and Oceans and under the *Public Lands Act* may also be required.

WHAT DOES IT ALL MEAN?

The *Alberta Land Stewardship Act* regulates the development of regional plans to address cumulative effects, including effects on water quality. Even though individual points of agricultural drainage may be small, the cumulative effects of drainage from the landscape can be detrimental to water quality. Drainage into water bodies that supply farm water can effect water quality and subsequently crop and livestock production. Responsible management of land can mitigate or minimize detrimental effects of drainage water on the environment and downstream water bodies.

Important points on drainage water quality are:

- Know the quality and quantity of drainage water.
- Know the quality and quantity of the receiving water body.
- Determine the potential for the drainage water to have detrimental effects on downstream water bodies.
- Consider implementing beneficial management practices to minimize risk, including retaining more water on the landscape.



FOR MORE INFORMATION:

Go to "www.agric.gov.ab.ca" and enter the following titles in the search.

- **Introductory Guide to Surface Water Quality Monitoring in Agriculture**: A guide designed to create awareness of the fundamentals of developing a water quality monitoring program with the primary focus on streams.
- **Services for Agri-processors and Producers Analytical Labs**: A list of accredited analytical laboratories in Alberta including labs that can complete water quality analyses.
- **Rural Water Quality Information Tool**: A tool developed by Alberta Agriculture and Forestry for assessment of the quality and suitability of water sources for privately owned and operated water supplies. This tool allows input of concentration results and compares the results to guidelines.
- **Growing Forward 2**: Provides programs and services to achieve a profitable, sustainable, competitive, and innovative agri-food and agri-products industry. Funds may be available to support agricultural management initiatives aimed at maintaining or improving water quality.
- Alberta-based agricultural water-quality studies:
  - **Water Quality in Alberta's Irrigation Districts**
  - **Alberta Soil Phosphorus Limits Project**
  - **Assessment of Environmental Sustainability in Alberta's Agricultural Watersheds**
  - **Alberta Nutrient Beneficial Management Practices Evaluation Project**
  - **Pesticides in Alberta's Agricultural Watersheds**

Go to "www.aep.alberta.ca" and enter the following titles in the search.

- **Alberta Water Act Approvals**: Further information on approvals may be obtained from local Alberta Environment and Parks offices.
- **Alberta Wetland Policy**: Alberta's Wetland Policy was revised in June 2015. Further information may be obtained from local Alberta Environment and Parks offices.
- **Water Act Contacts**: Local offices can provide more information regarding the approval process.

This fact sheet was prepared by:
Water Quality Section
Alberta Agriculture and Forestry
2017

Questions or comments, contact:
Janelle Villeneuve
janelle.villeneuve@gov.ab.ca
phone: 403-381-5867

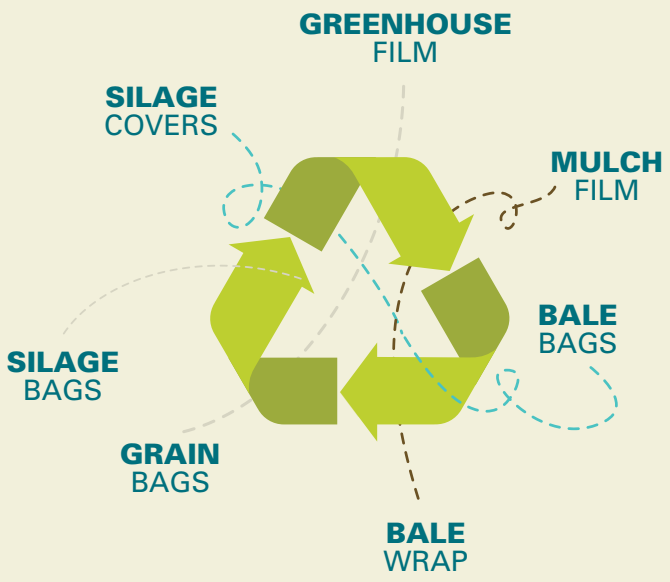
VERSION 3

AG PLASTIC FACTS

Types of Agricultural Plastics

There are **two** main types of agricultural plastics commonly used in agriculture, *not including* pesticide and other rigid plastic containers.

1 POLYETHYLENE (PE) RESINS



2 POLYPROPYLENE RESINS

- CORDAGE
- TWINE

WHAT SHOULD **YOU** DO WITH THESE PLASTICS?

Don't burn them! Why?

Although agricultural plastics burn easily, open burning usually does not reach high enough temperatures to prevent the release of toxic chemicals.

It's bad for you, your family, and your community.

- Burning plastics releases toxic and potentially cancer causing chemicals into the air.
- These toxic compounds can accumulate in the soil, plants and animals and contaminate food and feed crops, eventually making their way up to the food chain and into the food we eat.
- The smoke and ash can also irritate eyes and lungs, which is especially bad for people with asthma or heart disease.
- Disposal of agricultural plastics on farm either by burning or burying produces hazardous consequences to human and animal health, water and land resources and the environment.

It's pollution. Toxins released into the air during burning can fall on our soils and in our water.

It's dangerous. Burning garbage or brush can lead to wildfires, property damage and sometimes loss of life.

IT'S ILLEGAL!
Burning of plastics is prohibited debris under the **Substance Release Regulation (AR 124/93)** and therefore cannot be burned.

WHAT CAN **YOU** DO **INSTEAD?**

Many municipal landfills and transfer stations will only accept agricultural plastics if rolled and compacted to their requirements.

It is recommended that producers contact their local municipality for further info on requirements.

What else can you recycle?

Plastic, paper, cardboard and metal materials, used oil, tires, and beverage containers.

GET READY TO RECYCLE:

You must sort and separate agricultural plastics by resin type for recycling:

- Used agricultural plastics must be as clean as possible for recycling, <10% contamination.
- Remove as much forage, soil, stones and other contaminants as possible before rolling or folding films and bags into bundles.
- Locate silage bags, bales and grain bags on higher ground or a concrete pad to reduce mud and manure contamination.
- Separate different products and types, keep cleaner film for example separate from dirtier.
- Bag twine to prevent tangling and in units < 1 cubic meter for ease of handling.
- Do not mix twine with any other materials.
- Twine must be dry.
- Films and wraps can be bagged or baled into 1000-1200 lb bales.
- Label each bag or bale with a permanent marker, type of material, date and contact phone number before delivering to the landfill or collection facility.
- Compaction is necessary for economical transport.

Call the **Recycle Info Line** at **1-800-463-6326** for local information.

WWW.RECYCLINGHOTLINE.CA

Funded in part by Alberta Agriculture and Forestry.

ALBERTA CANOLA · ALBERTA PULSE GROWERS · Alberta Barley · Alberta Wheat COMMISSION

Join us for this one day conference!

21st Century Homesteading

Permaculture in the Peace Country

Wednesday, April 5, 2017 • 8:30am - 4:30pm

GPRC Fairview

Cynthia Pohl

Cynthia Pohl, principal of Living Lands Landscape and Design, is a Professional Journeyman Landscape Gardener and a Certified Green Roof Professional. Cynthia will speak about creating and maintaining restoratibe pollinator habitats and provide you with a basic knowledge of the components of a green roof, green roofing benefits and a plant pallet that works in our climate.

Ron Berezan, founder of The Good Earth Biochar Company and The Urban Farmer. He teaches, designs and facilitates permaculture and organic gardening internationally. Ron will be speaking about how to transform a property into a forest garden including the best species for colder climates. He will also discuss the great benefits of biochar to soil andthe environment, and explain how to make biochar at home!

Ron Berezan

Funding for the Conference includes the GPRC Walter Paszkowski Agriculture Legacy Endowment Fund

To learn more contact pworonuk@gprc.ab.ca

GPRC

REGISTER NOW!
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or call 1.888.539.4772

Cost $80/person
Includes Lunch

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Are you looking to increase profitability in your business or farming operations?

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Tuesday, April 4, 2017

8:00 am – 4:00 pm

Eagle River Casino (Corner of Hwy 32 and Hwy 43, Woodlands County)

Northern Alberta Development Council

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Where opportunity comes to life

InnoTech ALBERTA

REGIONAL ECONOMIC DEVELOPMENT INITIATIVE
for Northwest Alberta

CDÉA conseil de développement économique de l'alberta

Growth Alberta
Your Business. Our Future.

PREDA
PEACE REGION ECONOMIC DEVELOPMENT ALLIANCE

Alberta Agriculture and Forestry

Alberta Economic Development and Trade

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THE PEST INSIDER

December 2016

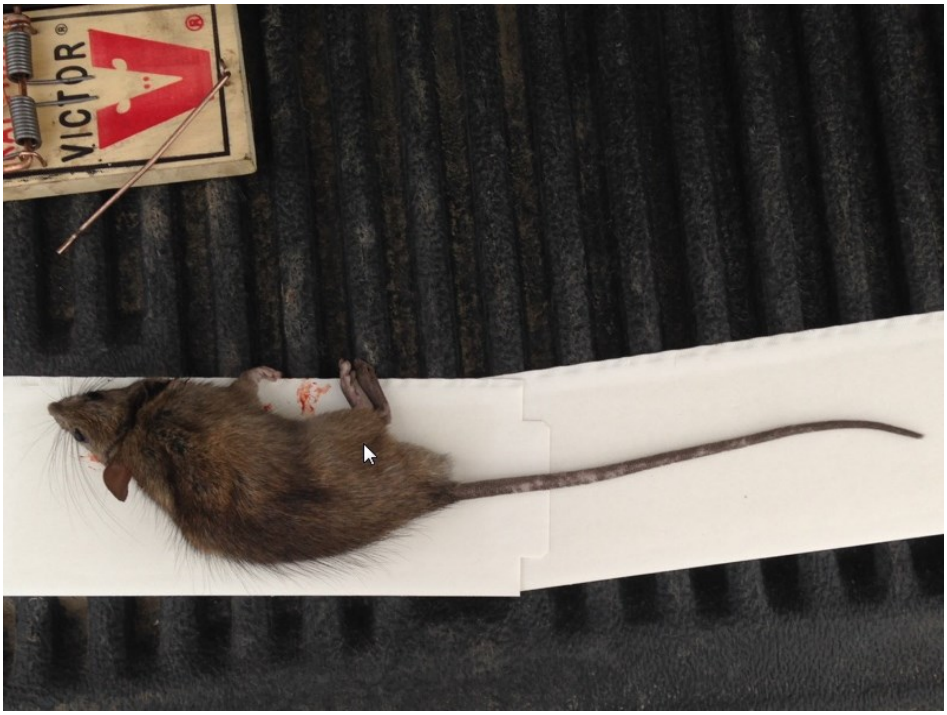
Wild Boar Toxic Bait

Sodium nitrate, a common meat preservative, is toxic to pigs when ingested at high levels. Research is being done in Australia and the United States to develop a bait-delivery method of sodium nitrate to feral swine. This quick-acting, low-residue toxin is most toxic to large opportunistic omnivores and is safer for herbivores and meat eaters. It has a half-life of less than one hour, so sub-lethal doses are rapidly eliminated from non-targets. The bait being tested in the U.S. is called Hog-Gone. It resembles a 30 mm, 70 g chunk of meat, and it is delivered in a hopper device designed for feeding pigs. Australian field trials of Hog-Gone show up to 80% population reduction of feral swine in some locations. When 300 feral pigs were removed, reported collateral non-target damage was 1.7% when bait was placed without feeding hoppers deployed. Hunters and wildlife would not be at risk from eating the meat of lethally poisoned feral pigs, as residues are less than that allowed in bacon. Only the undigested stomach contents and vomit contain residues of concern, which could be a threat to some scavengers.

Hog-Gone Bait and Hopper Feeder

"Rats are like potato chips. You just can't have one."
Author Unknown

In This Issue



Not Even One Please

Rats and Disease

Rats can act as a pathogen sponge according to Dr. Chelsea Himsworth, a veterinary pathology researcher in British Columbia and leader of the Vancouver Rat Project, which is a study of urban rat populations, the microbes they carry, and the infection disease risks they could pose to people.

The rats absorb human pathogens in the environment then give them back to us. Research for the project found that people and rats in Vancouver were carrying the same human strains of MRSA (methicillin-resistant Staphylococcus aureus), C-difficile and E. coli. According to Dr. Himsworth, rats are more dangerous to humans than we knew previously, and you do not have to be near a rat to acquire a bacteria-related illness from a rat. Leptospirosis, rat bite fever, and bacteria superbugs are other disease concerns with rats. One colony of rats may harbour a heavy disease load, and another colony none. The healthiest rats seem to be the carriers and can transmit disease in a multitude of ways including by bite, urine, feces, hair, and fleas. The potential that bacteria could mutate into a superbug is of real concern as it poses a risk to humans who have no antibiotics to combat any new bacteria; in fact we are having concerns combating the bacteria already all around us. Currently many diseases spread by rats get misdiagnosed or underdiagnosed so we do not know the real impact that rats are now causing.

The best answer is to ensure we do not allow rats to become established in our Alberta cities and farms, and eradicate every rat seen or reported.

Mice Cause Poultry Producer Big Losses

A poultry producer in central Alberta found mouse control a real concern when salmonella and E. coli were found in his pullet barn. After depopulating the barn and disinfecting the facility, it was found that mice were the cause of his positive test for the bacteria. A close inspection of the older barn found a population of mice under cracked concrete and small crawl spaces where walls meet the floor and between wall joints. An intense baiting program was set up to eradicate the rodents. Preventative measures of gravel around the outside of the building for several metres, filling cracks with cement and caulking, and an effective, perpetual baiting program with bait stations was set up. Although the problem was eliminated fairly quickly, the stop in production for many months was a substantial loss.

Weasel

The least weasel (Mustelidae) is the smallest carnivore on the planet. But do not let its tiny stature, soft fur, cute face, and big dark eyes fool you into thinking it is cuddly. Wolverines and badgers are actually the pleasant cousins of the weasel.

Weasels will sometimes eat only the brains of its main food source, the vole. They have been known to steal other rodents burrows, and then decorate the walls with the skins of their victims. They can attack and kill animals up to ten times their size and weight, making rabbits and grouse their prey.

At eight weeks old, a baby weasel is practicing killing techniques on bugs, and by 12 weeks it is on its own. Weasels thrive in snow, chasing down victims using the subnivean space between the ground and the snow as a hunting area, and being safe from larger predators.

Weasels may look sweet and innocent but do not try to make a pet out of them as you may find they are a bit vicious.

Our Friend for Rodent Control

Falls Most Troublesome Rodents

This fall season has the house mouse and the pack rat as the most complained about and destructive rodents. Numerous house mouse complaints were received by residents in their homes, and one large poultry operator lost heavily to the house mouse. Two incidents of bushy-tailed wood rats in homes have caused the homeowners substantial losses in trying to eliminate these pests from their residences.

Although pack rats are a native species, and most often are an important part of our ecosystem, occasionally they move into homes, cabins, and garages to make their nests. Considerable personal damage and expensive control measures can be encountered when this occurs.

Pack Rat and House Mouse

RAT UPDATE FROM PHIL MERRILL

This year has seen 19 single rat reports being received from throughout the province confirmed as roof rats. Only four single rat reports received were confirmed as Norway rats. We have had no rat infestations reported this year in Alberta, including none in the rat control zone (RCZ). Several rat infestations in Saskatchewan near the RCZ attracted some attention, and were fought within Saskatchewan.

Most of the rat sighting notifications continue to come in via the 310-RATS number. We received about 50 reports a month on the hotline, with almost two per month being confirmed as rat sightings. The increase in number of confirmed rat sightings per month has most likely been as a result of our 310-RATS number, which means most of the rat sightings now get reported, and more quickly and easily. However, I suspect there could still be a number of rats that come into the province and perish without being either seen or reported. Nice to know that no rats became established enough to nest and reproduce in Alberta this year.

Rats have not been detected in any landfills in the province this year, but we remain diligent in monitoring these high-risk areas. Not only are landfills high risk for rat infestations, but they are also very difficult areas to achieve total rat eradication once rats find their way into the facility.

We greatly appreciate all the work that our on-call staff does to answer rat calls after hours, and on weekends and holidays. Our 310-RATS number would not be successful if callers did not get a response 24/7. Thanks to all our Ag. Fieldmen and Municipal PCOs for investigating all the 310-RATS calls and reports.

CONTACTS

310-RATS
310-7287

310-FARM
310-3276

Bruce Hamblin

Manager
Inspection Services

Work: 403-507-4063
Cell: 403-586-4919
Email: bruce.hamblin@gov.ab.ca

Phil Merrill

Provincial Rat and Pest Specialist
Work: 403-381-5856
Cell: 403-308-0960
Email: phil.merrill@gov.ab.ca

EVENTS

A PCO training course for rats was held on November 22, 2016, in Ryley, Alberta at the Legion Hall. Twenty PCOs are now better armed to ensure we stay rat free in Alberta. The afternoon had the RCZ meeting that was well attended by contract PCOs, and the best selection of bait for the job in relation to protection of the environment was highlighted.

A PCO training session was held in Gleichen, Alberta to keep rat officers and producers informed on best practices to stay rat free.

Fusarium is tough, but you can fight back, says crop scientist

Planting winter wheat and bumping seeding rates can help, but fungicides aren't a silver bullet

By Alexis Kienlen
Reporter
Published: March 7, 2017
Cereals, **Crops**
Be the first to comment

Given the severity of fusarium infestation across Western Canada, crop scientist Brian Beres says it's puzzling why more farmers aren't growing winter wheat to disrupt the disease cycle. *Photo:File*

The forecast is for more fusarium — and possibly a lot more if it's another wet year.

Brian Beres
photo: Supplied

"As you know, the severity and incidence of fusarium is actually on the rise — if we continue to get the weather that we're getting, we can expect the same," Agriculture Canada research scientist Brian Beres said during a session at FarmTech.

Fusarium is well established in the Irrigation Belt in the province's south and becoming more prevalent in the area around Oyen.

"For the most part, you'll get fusarium in one of two ways," said Beres, who works at Ag Canada's Lethbridge research station. "It's colonized on the crop debris, so it's sitting in the crop, or it's sitting on the soil surface, and then by rain events or irrigation, it (the spores) start getting splashed up and the spores release."

Because breeders are developing shorter varieties of cereal crops, it "doesn't take much" for the spores to splash up into the head of the crop and infest it.

- **Read more: Don't delay if you haven't lined up seed**
- **Read more: Battling fusarium requires new initiatives**

"Once it gets into the head, you're in big trouble," he said.

One way to mitigate the risk is to plant winter wheat which disrupts the fusarium life cycle because it matures so much earlier.

"It's not a magic bullet, but it's one thing that can help you in your defence," said Beres. "If things are getting bad on your farm and you're not doing winter wheat, you might want to do a rethink because it's one of the few classes that also has a resistant variety."

Some varieties in Canadian Western Red Spring and Canadian Prairie Spring have resistance and while some CPS varieties are improving on this score, durum is highly susceptible.

“If you’re flexible with your market class, things like winter wheat and CPS are probably the way to go,” said Beres.

“If you like Grade 1 and you’re experiencing fusarium, you’re not going to get it with CWRS… You’re going to make a lot more money with winter wheat.”

Only about one million acres of winter wheat are grown in Western Canada, something Beres called “a little mind boggling.”

“I think there’s a market out there. I think there’s a chance to manage some of the issues that we have on farm with disease. But it’s a mindset and that mindset is pretty tough to break.”

Another defence is not to delay seeding dates. When the temperature in the top inch of soil is about 2 C, spring wheat can be planted as long as growers use dual fungicide and insecticide.

“With winter wheat or spring wheat, if you go in early, the flowering period will not be at the same time as the major spores of fusarium head blight,” said Beres.

Seed treatments can be useful for combating fusarium when growers are not sure that they have a clean seed lot. Using a good seed treatment can reduce the number of fusarium-damaged kernels. As well, higher seeding rates can add to uniformity in the field, which can help the crop fight off both disease and weeds.

Fungicides can help control fusarium, but they aren’t a silver bullet.

“Relying solely on fungicide is not going to give you the results you (might expect),” he said.

Fungicide is only effective if it drenches the head of the plant, and its efficacy is affected by combine speed, boom height, nozzle angle, and application timing.

Written by: Alexis Kienlen

Goodbye glyphosate?

A flood of cancer suits in the U.S. threatens to topple farmers' most valuable herbicide

By Gerald Pilger
Columnist
Published: March 6, 2017
Guide Business, **Opinion**
1 Comment

Photo:Thinkstock

Last September I warned readers of a growing public backlash against glyphosate herbicide, and I wrote of the co-ordinated attack on glyphosate by Avaaz, an online activist community that is claiming credit for the refusal by European regulators to renew the licence for glyphosate, instead only granting an 18-month extension to the expiring licence.

But now glyphosate is facing an even greater threat, this time coming at the hands of U.S. personal injury lawyers. These law firms are seeking to represent persons who have used or been

exposed to Roundup herbicide and have since developed non-Hodgkin lymphoma or other types of cancers.

The crux of these cases is stated in the U. S. Judicial Panel on Multidistrict Litigation filing: “Roundup, a widely used glyphosate-based herbicide manufactured by Monsanto Company, can cause non-Hodgkin lymphoma and that Monsanto failed to warn consumers and regulators about the alleged risks of Roundup.”

- **Read more:** **WHO cancer agency asked experts to withhold glyphosate documents**
- **Read more:** **U.S. EPA says glyphosate likely not carcinogenic**

Plaintiffs are coming forward from across the U.S. claiming their cancers were caused by their exposure to Roundup. Some of the plaintiffs are field crop farmers such as Larry Domina and Robert Dickey of Cedar County, Nebraska, and Royce Janzen of York County, Nebraska. All three regularly used Roundup in their corn and soybean operations and all have developed non-Hodgkin lymphoma.

A fourth Nebraskan, Dodge County agronomist Frank Pollard is also named in the May 16, 2016 lawsuit. In his work as an agronomist, he was exposed to Roundup in storage, in the mixing for application, and in fields after application.

Plaintiff Lynda K. Patterson of Illinois attributes her stage-4 cancer diagnosed in 2014 to the use of Roundup in her garden and landscaping over more than a decade.

Jack McCall’s widow has also launched a wrongful death lawsuit against Monsanto. McCall had used Roundup for 30 years on his 20-acre fruit and vegetable farm near Cambria, California. He died in December of 2015 from a rare form of non-Hodgkin lymphoma.

In the McCall lawsuit, a claim is even made for the death of the family dog which had died a few years earlier from lymphoma.

The lawyers

The McCall case is being handled by Baum Hedlund Aristei & Goldman, a consumer law practice out of Los Angeles. In a November 2016 interview, Robin McCall, the firm’s director of public relations and marketing stated, “So far, we represent about 140 people since we started

accepting cases in February of 2016. We expect to represent at least 500 people in this litigation and continue to get new cases every week."

When I attempted to contact McCall in early February, Baum Hedlund Aristei & Goldman attorney Brent Wisner provided the following information:

"We presently have around 200 clients and we are reviewing many more each day.

"I know that, among the various firms litigating these cases, at least 3,000 people have retained counsel. Not all of those cases are filed, but at some point, whether in state or federal court, the cases will be filed."

The email continued:

"Over 130 Roundup cases have been filed across the nation in both state and federal courts. In October 2016 the U.S. Judicial Panel on Multidistrict Litigation (JPML) decided that all of the Roundup cases filed in federal courts would be centralized under one judge for purposes of the determining liability against Monsanto. So far at least 49 cases have been transferred or are in the process of being transferred to U.S. District Judge Vince Chhabria of the Northern District of California in San Francisco. The MDL is officially named In Re: Roundup Products Liability Litigation, 16-MD-2741.

"The litigation is proceeding ahead aggressively. To date Monsanto has produced several millions of pages of documents, and depositions of Monsanto employees are being conducted at a fairly quick pace. The Court decided to bifurcate discovery on the issue of general causation. That means the first phase of discovery is focusing on whether Roundup exposure causes non-Hodgkin lymphoma. So, for now, there is a massive effort underway by numerous law firms to review the documents, take depositions, and prepare our experts on the issue of general causation. Once that is completed, we will turn to the issues of specific causation, and our clients will have a chance to tell Monsanto how this product has fundamentally changed their lives."

In late February, the two sides also appeared in federal court in San Francisco to provide expert testimony on how to evaluate the scientific information that will be at the core of the case.

Make no mistake, these are not nuisance lawsuits by small, fly-by-night law firms. Domina Law Group represented the Nebraskan landowners against the Keystone XL pipeline,and it won a

$1.26 billion verdict for cattle ranchers against Tyson Fresh Meats (later overturned in appeals court). Domina Law is representing corn growers in lawsuits against Syngenta over the five-year Chinese ban of U.S. corn due to the contamination of corn shipments with a Syngenta variety not approved for sale.

Domina Law has partnered with Weitz & Luxenberg of New York in the Roundup suits. “Weitz & Luxenberg is the leader in asbestos and mesothelioma litigation with $8.5 billion in asbestos verdicts and settlements in 36,000 cases,” according to the firm’s website.

In September and October of 2015, Weitz & Luxenberg had already begun initiating personal injury lawsuits over Roundup in California and Delaware, and the firm has since filed cases in other states and federally.

Weitz & Luxenberg’s website also states: “Monsanto, however, fails to disclose that use of and/or exposure to Roundup can cause serious health consequences.”

The website goes on to invite cancer victims who have had exposure to Roundup to contact the firm. “If you have been exposed to glyphosate, Roundup or both, and have developed non-Hodgkin lymphoma or another type of blood cancer, you may be entitled to compensation from the product’s manufacturer. Further, if a member of your family died because of Roundup or other glyphosate-containing products, there might also be compensation for loss of consortium and wrongful death.”

The Schmidt Firm, PLLC is another national plaintiff law firm actively recruiting clients for their action against Monsanto. Their website states: “The Schmidt Firm, PLLC is currently accepting Roundup-induced injury cases in all 50 states. If you or somebody you know was diagnosed with non-Hodgkin lymphoma, you should contact our lawyers immediately for a free case consultation.”

The WHO ruling

The common link among all of these cases, and all of the law firms, is the World Health Organization’s International Agency for Research on Cancer (IARC) classification in March 2015 that Roundup is probably a carcinogen (class 2A).

In fact, Domina Law Group even stresses on their website that if you have been diagnosed with cancer and believe Roundup is the cause, you should act immediately because: “Your time to recover from your non-Hodgkin lymphoma may almost be up — you must act now! The WHO (World Health Organization) released its findings on July 29, 2015, that the herbicide glyphosate is a probable carcinogen for humans. Glyphosate/Roundup have been linked to non-Hodgkin lymphoma. If you have been diagnosed with non-Hodgkin lymphoma the time to file your case to recover for your cancer may expire on July 29, 2016. You must contact a lawyer today before time runs out.”

The 2A classification has given personal injury lawyers the ammunition they need to sue Monsanto, the company which first marketed Roundup herbicide. If they can prove that Monsanto knew or should have known Roundup could pose a risk to human health and failed to warn consumers of the danger, the pay-day could be astronomical.

And the stars may be lining up in the plaintiffs’ favour. After all, the combining of all U.S. federal cases for determination if Roundup actually causes cancer has been transferred to California federal court. It is important to know California became the first state to officially label Roundup as a carcinogen based on the IARC classification. The California Office of Environmental Health Hazard Assessment has already added Roundup to its list of chemicals known to cause cancer, birth defects, or other reproductive harm.

Despite scant scientific evidence, can a fair trial even occur when public sentiment is strongly against Monsanto, GMOs, and glyphosate?

Nearly every major regulatory body in the world including European Food Safety Authority (EFSA), the Food and Agricultural Organization (FAO), Germany’s Institute for Environment and Human Security (BfR), and the U.S. Environmental Protection Agency (EPA) have concluded that glyphosate is unlikely to pose a carcinogenic risk to humans.

Unfortunately, little to no attention is being paid to the value glyphosate adds to agriculture. It does not matter that glyphosate has enabled farmers to zero till. Or that glyphosate has enabled farmers to reduce their use of other, much more dangerous pesticides.

While the IARC ruling should prompt scientific review of glyphosate and its effects on human health, it should not be the sole evidence needed to determine the safety of glyphosate. After all, in the same IARC Class 2A classification as glyphosate we also find high-temperature frying, emissions from household combustion of biomass fuel (primarily wood), consumption of red

meat, and very hot beverages. Even shift work is included in the 2A classification as a probable carcinogen. Yet we do not see warning labels on frying pans, fireplaces, or coffee makers.

The pending litigation is potentially the biggest issue facing farmers today. A verdict against Monsanto has the very real potential of paving the way for the banning of glyphosate altogether.

Written by: Gerald Pilger

Herbicide resistance is everywhere you look

This year it's Alberta's turn to be surveyed by Ag Canada — but researchers already know the news won't be good

By Alexis Kienlen
Reporter
Published: February 28, 2017
Crops
1 Comment

The basics of combating resistant weeds are simple — rotate herbicides by group; scout; employ good sanitation methods and diverse rotations, said Hugh Beckie.

Photo:Alexis Kienlen

If you've found herbicide-tolerant weeds in your field, you're not in the minority.

Weed resistance is increasing worldwide, so it's really important that Prairie growers understand growing herbicide tolerance, says one of the country's top resistance experts.

“Group 2 really overshadows all the other groups in terms of weed resistance,” said Hugh Beckie, a research scientist with Agriculture and Agri-Food Canada, Saskatoon. “It’s remarkable considering this new chemistry was introduced in 1983, much later than some of the older herbicides.”

Rates of resistance have grown globally since 1950, with the grass families of weeds dominating all other groups, Beckie said during a session at FarmTech.

Canada ranks No. 3 in terms of global weed resistance (after the U.S. and France), with Western Canada and Eastern Canada having about the same number of resistant weeds. Group 1 resistance first appeared in Manitoba in 1990, and continues to be a problem in wild oats. Group 2 resistance has been found in cleavers in the Parkland region.

“In northeastern Saskatchewan, I would imagine that every pea field has Group 2 cleavers,” said Beckie. “It really is posing a challenge to pulse crop production, which is highly dependent on Group 2 chemistry.”

But increasingly, the problem is weeds with resistance to two or more groups. About 90 species of weeds have populations with multiple resistance, and that number is rising every year.

There have been cases of Group 2 and Group 1 resistance developing at the same time in wild oats, said Beckie.

Since there hasn’t been any new herbicide chemistry developed for more than 30 years, methods for combating resistance are few and shrinking.

Agriculture Canada has conducted surveys to find resistant varieties by randomly approaching farmers and scouting their fields. The Saskatchewan study was completed in 2015, Manitoba was surveyed last year, and it will be Alberta’s turn this year. Researchers will scout 250 to 300 fields pre- and post-harvest (with the latter focusing on glyphosate-resistant kochia and Russian thistle). Researchers expect they will find resistance in about half of the cultivated land surveyed.

“If you don’t have resistance yet, you’re in the minority. Don’t feel that you’re singled out. Most growers now have resistance,” said Beckie.

Randomly chosen growers will also be asked to fill out a survey on their weed management practices in order to find out which ones are more effective and what isn't working.

More trouble ahead

The cost of managing resistant weeds is huge — an estimated $1 billion annually in Saskatchewan alone because of increased herbicide use and decreased yield and quality.

One of the ways growers are managing resistance is using two modes of action (glyphosate and one other) when growing canola. But the reliance on glyphosate is dangerous, said Beckie.

"In 2012, glyphosate usage was bigger than the next 12 combined," he said. "It's all about glyphosate now, or glyphosate mixtures, so we have to be careful about glyphosate selection pressures in particular. Glyphosate-resistant weeds worldwide are increasing."

Glyphosate-resistant kochia is now established in Western Canada, and Russian thistle looks to be next — it's in Montana and that's why it's a focus of the Alberta survey to be conducted this growing season.

In southern Alberta, resistant traits in kochia are outcrossing, and can be spread by the wind.

"If you have a glyphosate-resistant plant next to a non-resistant plant, there is about five to seven per cent outcrossing," said Beckie. "It's not great, but great enough. This is another way for resistance to spread."

To deal with glyphosate resistance, growers of Roundup Ready and Liberty canola are now forced to use Group 4 herbicides, an older chemistry, because there is no other alternative.

Beckie advocates that growers keep careful records of cultural and management practices. This can include crop records, but should also include a record of which weeds appear in which field.

"That's something we need records for," he said. "If you don't know how weed populations are changing, it's hard to develop a program," he said.

Using good sanitation methods will mean fewer resistant weeds. Other good practices include rotating herbicide use by group, scouting, and adopting diverse rotations.

“A lot of growers are being proactive and are using the practices we recommend, so I’m very optimistic,” said Beckie. “With lack of herbicide development, you have to use what you have and it’s a challenge. Be consistent and do the little things whenever you can and hope for the best from one year to the next.”

Important Updates & Booking Deadlines for New Zealand Agricultural & Winery Tour 2017, see below for details!

<u>New Zealand Agricultural & Winery Tour</u>

- There has been a change in itinerary and the tour is now taking place from ***November 23rd-December 12th, 2017***
- **Bookings & Deposits are due March 27th, 2017** to secure your seat.
- Final payment is **due August 1st, 2017**.

For the full, updated itinerary and booking form, please click here.

2017 Peace Country Beef Congress

Run by the Peace Region Beef Promotional Society

Income	2017 estimated	2017 actual
Membership	250	240
Trade show	10000	10104.75
Entry and stall fees	10050	10522.50
Banquet	6500	3750
Grants and Sponsorship	40000	62596
interest	161.44	161.44
Total Revenue	66961.44	87374.69

Expenses	2017 Estimated	2017 Actual
Travel Expenses	1500	1750
Congress	25000	40000
Cleaning		1500
Licensing fees	50	50
Office Supplies	1500	3000
Rent	9000	8225
Bank Charges	14	14
Advertising	7500	13000
Prize Money	20000	7000
Insurance	650	750
Accounting	2500	2500
Security	500	800
Total Expenses	62814	78589

The 2017 Peace Country Beef Congress was well received by everyone. We had 26 exhibitors showing a total of 72 cattle. The largest class was the single open heifer with 17 entries, but the greatest engagement came during the 8-person jackpot class. There were 500 votes received by text, which is the maximum that our program allowed!, and this included 5 votes from the United States. We made good use of our facebook account this year and streamed several classes through facebook live, with the videos receiving thousands of views. Everyone visited our 22 trade show booths, including the 50 youth and their parents that showed up for the 4-H/Youth program.

Proposed labour rules for Alberta farms go public

Emergency arbitration would be allowed if livestock, crops at risk

By Staff
Published: March 6, 2017
General

(Government of Alberta via Flickr)

The Alberta public will get about a month to speak its mind on proposed changes to provincial labour laws, with the goal of applying those changes to farms and ranches.

The province on Monday released a pair of reports from technical working groups (TWGs) reviewing farm and ranch operations' status under the *Employment Standards Code* and *Labour Relations Code* respectively.

The TWGs' reports, dated Jan. 3 and 4 respectively, were submitted to Agriculture Minister Oneil Carlier and Labour Minister Christina Gray. Reports from four remaining TWGs are still to be released.

Members of the public get until April 3 to provide feedback on the two reports, the province said.

The province said Monday its next steps will be to start drafting legislative amendments “based on the recommendations and public feedback received.”

Carlier, in a release Monday, described the recommendations as an “excellent starting point to ensure waged non-family farm workers have the same rights as other workers, while preserving the way of life that is the foundation of rural Alberta.”

Labour relations

Among its other recommendations, the labour relations TWG’s report proposes to add farm criteria to the Public Emergency Tribunal (PET) provisions of the *Labour Relations Code*.

The proposal would allow for a PET in cases where there’s an existing or imminent strike or lockout with “imminent and irreversible damage to crops and/or livestock welfare in primary agriculture.”

PETs, a type of compulsory arbitration, can be applied today in Alberta labour disputes that would, if unresolved, result in “damage to health or property” such as disruption of health or water treatment services — or in cases where “unreasonable hardship is placed on persons not involved in the dispute.”

The labour relations TWG also agreed to leave “immediate family” out of the provisions of the Code on farms, on the ground that “inclusion of family members in the bargaining unit would adversely affect family relationships.”

Some members of the labour relations TWG also proposed recommendations that would continue to leave farm workers out of the Code’s provisions or ban farm strikes or lockouts — but those were “not agreed to by all working group members.”

Farm representatives on the TWG “expressed frustration regarding the value and fairness of the consultation process and the limitations of the mandate,” the TWG’s report said. Other TWG members said the mandate was “inappropriately narrow and expressed frustration with discussion that tried to focus on issues that were outside that mandate.”

The TWG, apart from its list of recommendations, listed several not-agreed-upon “strategic options” such as adding the agriculture exemption back into the Code; banning strikes or lockouts for agriculture workers; adopting Ontario’s model, which excludes farm workers from joining a union; and resetting the minimum number of employees required to unionize at five for farms, as opposed to two in other sectors.

Work standards

The employment standards TWG, meanwhile, agreed to continue to apply many existing standards for waged, non-family farm workers, such as for payment, employment records, job-protected leaves, vacations and general holidays, termination and exemptions for farms dealing with work hours and overtime.

The TWG said it also agreed to exempt, or continue to exempt, family-member employees from all standards discussed in the review — “including ones that currently apply.”

Applying those standards, the TWG said, would be “impractical and unfeasible, as well as burdensome without providing any benefit.”

Also, the TWG said, “in cases where family members may be mistreated, members of the TWG identified that the employment standards discussed would not be helpful in preventing such mistreatment.”

The standards TWG also agreed greenhouses, nurseries, sod farms and mushroom farms would be considered “primary production” and would have the same standards and exemptions as “the rest of agriculture.”

Minimum wage rules would apply to “waged, non-family farm and ranch employees,” the TWG said, and for waged, non-family employees under age 16, work “must not be detrimental to health, education, or welfare and parental consent must be obtained by employers.”

For waged, non-family youths aged 12 and 13, the TWG said, there should be a limit of 20 hours of work per week.

The standards TWG also noted a “non-consensus” recommendation that minimum wage for waged, non-family employees under age 16 could be 75 per cent of the general minimum rate. — *AGCanada.com Network*

The Big Wreck: One million unharvested acres

The financial hit will be huge and getting rid of those damaged crops could delay seeding and put this year's crop at risk

By Alexis Kienlen
Reporter
Published: March 13, 2017
Crops, **News**
Be the first to comment

Ed Tollefson has 700 acres he couldn't get off last fall — part of nearly one million unharvested acres province-wide that must be dealt with this spring. *Photo:Submitted*

Ed Tollefson is worried he won't be able to get 700 acres of snow-buried crop off his field before seeding this year.

And the Valleyview-area farmer is not alone.

Alberta producers have reported 967,569 unharvested acres to Agricultural Financial Services Corporation (AFSC) — a massive area that would have cost those farmers hundreds of millions of dollars to seed. And the financial pain doesn't end there.

Ed Tollefson

"I'm really concerned with the issue because by the time it gets dry enough to harvest, are we going to have a big enough window to put another crop in again?" asked Tollefson, who crops 1,700 acres on his mixed farm.

"We're really reliant on Mother Nature for the spring because if it ends up being a wet, late spring, we're just not going to get a crop in.

"The stuff we did harvest, we got ruts from one end to the other and it's going to be a matter of going in and direct seeding into it. We have issues on how we're going to deal with that too, before we can put a crop in."

AFSC has given Tollefson permission to build fire guards around his unharvested crops so he can burn them. He hopes that would allow him, after dealing with the ruts, to get started seeding without too much delay.

But that hope rests on two things that aren't in his control.

First, his crops will have to be evaluated by an adjuster.

“It would be nice if they could do something at this point,” said Tollefson, adding even the grain he harvested in the fall was in bad shape. “We actually delivered wheat that was combined in September, and it got downgraded to a feed.”

Second, he’ll need a dry — but not too dry — start to spring.

That’s going to be a huge problem, said Greg Porozni, a Willingdon-area farmer and Alberta Wheat Commission director.

Straw dries out very quickly, and if there are hot, dry winds in April and a fire gets out of control, it’s extremely hard to stop, he noted.

Greg Porozni

“It’s very risky and dangerous because you can lose (farm) yards,” he said. “If it stays with this limited snow cover, there will be no burning permits issued.

“I’m hearing that the County of Lamont has already suspended burning permits. With direct-seeded fields and stubble, you can’t just afford to have a wildfire get loose on you and burn the whole community. I really don’t think that burning is going to be an option.”

The impact

The financial impact from a late start to seeding won’t be known until after the next harvest, but the impact from last year’s incomplete harvest is now coming into view.

As of March 5, AFSC had assessed 1,708 claims covering 616,412 unharvested acres and issued $29,543,920 in payouts. The agency does not track payments on a per-acre basis and they depend

on “variations in elected crop types, elected coverage levels, yields, and grades,” AFSC spokesperson Mustafa Eric said in an email statement.

However, given the high cost of putting in a crop, many producers will take a major financial hit.

Each year, Alberta Agriculture and Forestry estimates production costs by soil zone for all of the major crops. The costs include seed, chemicals, trucking, crop insurance, repairs, loan interest, and a small amount for labour (but not depreciation). The 2016 estimates for feed barley ranged from $176 to $233 per acre (depending on the soil zone) while canola production costs ranged from $230 to $323 per acre.

Government needs to be forgiving when it comes to settling claims, said Tollefson who is a director with the Alberta Barley Commission. He and other crop commission reps have raised the matter with officials, including Agriculture Minister Oneil Carlier.

“The comments from some adjusters were that there was value in some crop still,” he said. “We can bale it up and it can be used as feed. But when we bought the crop insurance on it, we insured it as a crop.”

Moreover, downgraded crop harvested in the spring will further flood a feed market awash in poor-quality grain, said Porozni.

“It’s already soft. Feed wheat is low and barley is even lower,” he said. “Once there’s pressure for harvest in April, farmers are going to want to get cash flow. They’re going to want to move their feed if they can off the combine and the price is going to get depressed even further.

“There’s no question there will be some loss. Not only a yield loss to the deer and mice, but also price deterioration due to market supply and demand and an oversupply of feed in the spring.”

What’s needed

Although there are unharvested crops in most of the province (the exception being the south), some producers — like Tollefson — have been hit especially hard while others were spared.

“Ten miles from me, they were able to combine and pick up on the fly and it’s really localized in certain areas,” he said. “There are pockets that are quite severe.”

In his area northeast of Edmonton, Porozni estimates about 90 per cent of farmers will have harvesting to do in the spring.

“It’s going to be a very hectic April and let’s hope it’s an early April, so that everybody can get things done on time, as early as they can and then start doing field work,” he said.

But it will take a massive effort by AFSC to finish assessing all the unharvested acres, he said.

“They have to make sure that they’re on track and get all the assessments done,” he said. “If farmers can get out there, they’re going to go. Time is everything on the farm, and they’re going to be ready to go if they can.”

Because of the unusually high number of claims, farm inspectors have been assigned to high-demand areas to speed up the process, and will continue until all claims have been investigated, said Eric.

Tollefson, who said he’s talked to a lot of worried producers, shares those concerns. An adjuster has come by his place but he hasn’t received any compensation so far.

But his main concern right now is that a slow assessment will delay dealing with last year’s crop, which in turn will delay seeding and increase the risk of another harvest wreck.

Losing two crops in a row would be a nightmare and “we’ve basically lost one,” he said.

Written by: Alexis Keinlen

Press Release from February 15, 2017

Alberta Wheat and Alberta Barley launch new mentorship and leadership program

(Calgary, Alberta) Wednesday, February 15, 2017 – This week the Alberta Wheat Commission and Alberta Barley are launching the AdvancingAg Future Leaders Program, a new program to inspire future farm leaders through a leadership and mentorship experience.

“The AdvancingAg Future Leaders Program is about fostering a strong network of future agriculture leaders for a progressive and vibrant cropping industry in Alberta,” says Kevin Bender, Vice-Chair of the Alberta Wheat Commission and a member of the AdvancingAg Selection Committee. “The goal is to pair young agri-professionals – whether that is young farmers or those interested in a specific career in the agriculture industry – with leaders who can share their knowledge and experience and facilitate key professional development opportunities.”

AdvancingAg is a 10 to 12 month program that will pair selected mentees, aged 18-35 with a carefully selected mentor who is passionate about the agriculture industry, eager to share their experience and help shape the professional growth of a young agri-professional. Mentors and mentees will be paired up based on the interests and career goals of the mentee.

Press Release from February 15, 2017

“We felt it was important to launch a program like this for the cropping sector because we want to advance the skills of young agri-professionals as they start their careers and provide them with industry-specific training, networking and learning opportunities,” added Dave Bishop, Vice-Chair of Alberta Barley and a member of the AdvancingAg Selection Committee. “The program will be flexible and tailored to the goals and aspirations of the mentee.”

Young agri-professionals interested in applying to become a mentee in the AdvancingAg Future Leaders Program can visit **www.advancingag.ca** to complete an application. The deadline for applications is March 13, 2017. In the first year of launching the program we will be selecting eight mentees to participate, with the goal of increasing to 15 mentees in the following years. Each mentee will be paired with a mentor, as well as provided a budget for professional development opportunities, and AdvancingAg will host a workshop-style leadership forum for the successful applicants.

Visit **www.advancingag.ca** for more information about this exciting new program, or follow us on Twitter @AdvancingAg.

Concerned about the upcoming phase-out of Imidacloprid?

Health Canada plans to ban the neonicotinoid in three to five years, but is first consulting farm groups and growers

By Alexis Kienlen
Reporter
Published: March 15, 2017
Crops
Be the first to comment

Photo: Thinkstock

Neonicotinoids could be harmful to aquatic insects — and that has sealed the fate for one version of the pesticide.

Following a review, Health Canada's Pest Management Regulatory Agency (PMRA) has proposed phasing out Imidacloprid over the next three to five years.

Scott Kirby

"Our re-evaluation found no risk for human health," said Scott Kirby, director general of the environmental assessment directorate with Health Canada. "But our environmental risk assessment found that it does pose a potential risk to terrestrial and aquatic insects."

Aquatic insects are vital in ecological communities, particularly in nutrient cycling. Spray drifts and run-off of Imidacloprid may result in toxic effects to aquatic insects, even though the chemical does not pose a risk to fish, amphibians, algae or aquatic plants. The risks were determined by environmental modelling and water monitoring.

The chemical also poses a risk to birds and small mammals that consume treated seed. Imidacloprid is used in greenhouses, ornamental production, commercial vegetables, potatoes, vineyards, corn, canola, and pulse production. The PMRA is seeking to phase out the use of Imidacloprid in trees, greenhouses, outdoor agriculture, commercial seed treatment, turf, and lawns. The chemical poses no risks when used around buildings, as an application for tree injection, or in flea, tick and lice collars for cats and dogs.

Imidacloprid is used in products such as Sombrero, Stress Shield, and Alias. It is a minor use product in pulses, but is quite important in soybeans.

Kirby said he cannot speak on the implications of the phase-out for agricultural producers, but Health Canada and Agriculture and Agri-Food Canada are looking to find alternative chemicals that can replace Imidacloprid. The two agencies are also looking to determine strategies for transition to other products, if available.

All stakeholders have had the opportunity to engage in the consultation, said Nevin Rosaasen, program and policy specialist with the Alberta Pulse Growers Commission.

“Growers should be voicing their concerns to their grower organization and to any type of body that represents their concerns or their bottom line,” said Rosaasen. “Growers themselves are also welcome to submit an individual submission to Health Canada.”

Many groups are making submissions — including pulse organizations from Alberta, Saskatchewan, Manitoba, and Ontario. The Canola Council of Canada and the Grain Growers of Canada are also talking to their members.

“Keep in mind that right now all we have is a proposed decision and that’s being consulted on,” said Kirby. “We’re going to get a lot of information from grower groups and the agricultural industry that will give us information on alternatives, as well as what kind of impact this will have on farmers.”

Under the Pest Control Products Act, all registered pesticides must be re-evaluated by the PMRA to ensure they continue to meet modern health and environmental safety standards. While the proposed phase-out deals only with Imidacloprid, the neonicotinoids Thiomethoxam and Clothiandin are under review. The phase-out of Thiomethoxam could have a definite impact on pulse growers, since there is no alternative for pea leaf weevil control.

Comments can be made until March 23 at Health Canada’s website at hc-sc.gc.ca (search ‘Imidacloprid’).

Call For Nominations

The Alberta Beef Producers (ABP) is seeking nominations for the 2018 Environmental Stewardship Award (ESA).

The ESA recognizes cattle producers whose natural resource stewardship practices contribute to the environment and enhance productivity and profitability. Take this opportunity to share your environmental practices with other producers and to present the positive story about cattle producers' contribution to the environment.

Nomination forms are available from the Alberta Beef Producers office or from ABP delegates. All cattle producers are encouraged to either enter or nominate another producer who they think may qualify.

The winner will receive a commemorative gate sign and an all expenses paid trip for two from anywhere in Alberta to the 2017 ABP Annual General Meeting in Calgary.

The competition is open to all cattle producers. Deadline for nominations is July 15, 2017 and the winner will be announced at the ABP Annual General Meeting, December 2017.

Send nominations to:

Alberta Beef Producers
Environmental Stewardship Award
165, 6815 - 8th Street N.E.
Calgary, Alberta
T2E 7H7

Email: richs@albertabeef.org
Phone: (403) 451-1183
Fax: (403) 274-0007

Rules For Competition:

- Stewardship is defined as the environmentally beneficial management of natural resources.
- All applications must be typed and submitted on letter sized paper (8.5x11) or submitted electronically.
- Color photographs, maps, etc., are encouraged. Please provide a brief description of each item.
- Two independent letters of recommendation are required with one coming from an agricultural professional.
- Deadline for nominations is July 15, 2017 (extensions may be granted under special circumstances by the ESA chairman)
- Judging teams will tour each applicant's operation by the end of August 2017.
- The winner will be officially announced in December at the 2017 ABP Annual General Meeting in Calgary.
- All applicants will be informed of the decision in September 2017.

Section I - Description of Operation

1. Please supply the following information:
    a. Name of Operation
    Name of individual(s) to be recognized
    Address
    Town, Postal Code
    Phone
    Email
    b. Does the cattle business provide your primary source of income? Yes/No

2. What is the nature of your current operation: (i.e. cow/calf, feedlot, backgrounder, other livestock, farming, etc. relative to production agriculture)

3. Discuss the history of your operation: (i.e. length of ownership, major changes in structure or business plan, number of acres, leased acres, crown lease acres, and other pertinent data, (information on acreage, stocking rate, herd numbers, etc. is encouraged but voluntary))

4. Give a brief ecological description of your land: (list cover types, terrain, water systems, average annual rainfall; if more than one property, list them separately by business name)

5. List all other uses of natural resources that provide income on your land: (examples include farming, timber, hunting, oil and gas production, mining, etc.)

6. List all organizations that your operation has utilized in environmental efforts: (government and non-government agencies i.e. PFRA, Ducks Unlimited, forage associations, etc.)

Section II - Discuss the Stewardship Goals of Your Operation

Please describe the resource management goals of your operation in terms of stewardship and conservation. Supporting information and benchmark data is encouraged. (use additional pages if necessary)

Section III - Stewardship Accomplishments

Describe specific, innovative stewardship practice(s) in detail pertaining, but not limited to, the following resources:

- energy
- water systems
- air
- vegetation
- wildlife
- soil
- manure

Include pertinent supporting information such as maps and photos. Before and after photos are encouraged. No videos will be accepted. (use additional pages if necessary)

Section IV - Productivity and Leadership

Please answer the following questions. (use additional pages if necessary)

1. How have your stewardship practices affected your cattle business, including productivity and profitability? (direct or indirect effects)

2. Discuss any of the following that are appropriate to your business.

   a. Leadership activities or involvement in local, regional, and national efforts to improve stewardship among cattle businesses and/or the public's perception of the cattle industry. (i.e. public speaking and presentations, tours, etc.)

   b. Involvement in cooperative research, demonstration, education, or government programs that promote environmental stewardship.

3. What reasons would you give to other producers for implementing these or similar conservation/stewardship programs in their business?

4. How does your cattle operation contribute to a positive public perception of cattle's impact on the environment?

WORKING WELL

Clean water.
Well protected.

And

MD of Greenview

Presents

Grande Cache

April 06, 2017 at Debolt Eagle's Nest Hall
6:30-9:30 pm

Consider how your life would change if you lost your water supply!

Did you know that a poorly maintained water well can put your water supply at risk of contamination and reduce your well yield?

If you are one of 450,000 Albertans who use their water well for household purposes, the key to ensuring your water supply is safe and secure is knowing how groundwater works, learning about your well and understanding how to properly maintain it.

Proper water well siting, construction, maintenance and plugging will help protect your well from biofouling and contamination, save you costly repairs, and ensure your well water yields are sustained over many years.

Find out what you can do to protect your well. Attend the **FREE water well management workshop** being hosted by **MD of Greenview**, and presented by the **Working Well Program**, with technical expertise provided by Alberta Agriculture and Forestry, Alberta Environment and Parks, Alberta Health Services and licensed water well drillers.

During the workshop we will cover:

- Groundwater – how it works
- Water quality and quantity testing
- Well protection – protecting your well from contamination
- Basic well maintenance
- Water sampling – how to do it

To attend the workshop, please pre-register by calling **Beverly Spence** at the **MD of Greenview** Office at: **780.524.7621 or 1.888.524.7601 toll free**.

MUNICIPAL DISTRICT OF GREENVIEW No.16

March 2017

Sun	Mon	Tue	Wed	Thu	Fri	Sat
			1 ASB Meeting (Cancelled)	2	3	4
5	6	7	8	9	10	11
12	13	14 Council Meeting	15 Predator Snaring Workshop Puskwaskaw Hall	16	17	18
19	20	21	22	23	24 Alberta Elk Convention—Edmonton	25 Alberta Elk Convention—Edmonton
26	27 E.Coli Prevention Workshop—Strathmore	28 Council Meeting Managing Internal Parasites—Webinar	29 ASB Meeting Surface Rights Workshop—Worsley	30 Predator Calling Workshop V.V.Gun Range	31	

April 2017

Sun	Mon	Tue	Wed	Thu	Fri	Sat
						1
2	*3*	*4* *Industrial Hemp & Flax—Eagle River Casino*	*5*	*6*	*7*	*8*
9	*10* *Canadian Global Crop Symposium—Calgary*	*11* *Canadian Global Crop Symposium—Calgary*	*12* *Canadian Global Crop Symposium –Calgary* *Ag. Drone School—Guy*	*13* *Ag. Drone School—Guy*	*14*	*15*
16	*17*	*18*	*19*	*20*	*21*	*22*
23/30	*24*	*25*	*26*	*27*	*28*	*29*

May 2017

Sun	Mon	Tue	Wed	Thu	Fri	Sat
	1	2	3	4	5	6
7	8	9	1	11	12	13
14	15	16	17	18	19	20
21	22	23	24	25	26	27
28	29	30	31			