



## Notice of SFSDC Annual General Meeting, 12:30 to 1:30 January 11, 2021

The Saskatchewan Forage Seed Development Commission (SFSDC) exists because of forage seed growers and because of this, your health and safety came into play when planning activities in in 2020-21. Due to the pandemic, the Grower Information portion of our annual event is postponed until further notice. The AGM can be accessed from your home using broadband or satellite internet and/or cellular signal. **Each forage seed grower who contributed a levy to SFSDC in the last two years and did not request a refund, can participate and vote in the AGM. For growers who have limited internet connection and prefer telephone-only access, please contact the SFSDC office at 306-341-1347 or email [office@skforageseeddc.com](mailto:office@skforageseeddc.com) to receive a toll-free call-in number and voting instructions.**

- **Registration:** Twelve SK check-off funded crop groups and the Saskatchewan Seed Growers Association put farmers-first and arranged their AGMs on January 11, 12, and 13, 2021 (times listed below). **One common registration system, EventBrite**, has been set up so growers may easily register for one or more AGM as a voting member if they are eligible as per the organization's regulations. **Register on-line at [saskcrops.com](http://saskcrops.com)** and please use the grower identification provided to the buyer when the forage seed was delivered. Other individuals may attend the AGMs, registering as observers. A confirmation email will be forwarded to attendees using the contact information provided on the saskcrops.com registration form.
- **A ZOOM WEBINAR link will then be sent by [office@skforageseeddc.com](mailto:office@skforageseeddc.com)** to those registered to attend the SFSDC AGM. **Please set up an account and download the free ZOOM app <https://zoom.us/webinar> to your desktop or laptop computer and your smartphone - cellular connection can be used as a hot-spot if broadband access or speed is a constraint.** Zoom Webinar will give levy-paying forage seed growers the ability to participate in the AGM using the webinar tools pictured on your screens - viewing the slide show, communicating using the Q&A tool and audio (mic). Technical support will be available on the Chat tool.
- **In order to ensure security of voting by registered growers only, the polling platform, [slido https://www.sli.do](https://www.sli.do) will be used for voting** The app can be downloaded in advance or accessed through your internet browser during the AGM. Observers will be able to see and hear the AGM, but will not have access to put forward motions or vote. **A USER GUIDE has been written for AGM attendees contact [office@skforageseeddc.com](mailto:office@skforageseeddc.com) or visit the SFSDC website [www.skforageseeddc.com](http://www.skforageseeddc.com).**
- **The 2019-2020 Audited Financial Statement and proposed changes to director's honorarium will be presented by the SFSDC Executive, along with a reporting of SFSDC's research, communication and policy activities, and the 2020-21 budget recommended by the Board. The Market Outlook for Forages including alfalfa seed, will be presented by David McGregor, Imperial Seeds Ltd at 1:15, after the business portion of the SFSDC AGM is adjourned.**

### Saskatchewan Crop Organizations Virtual AGMs

Registration is now open for the virtual 2021 Annual General Meetings (AGMs) for the Saskatchewan crop organizations.

Monday, January 11, 2021	Tuesday, January 12, 2021
8:30 am to 9:30 am Canary Seed Development Commission of Saskatchewan	8:30 am to 9:30 am Market outlook with Marlene Boersch and Chuck Penner: canola, wheat, and barley
9:45 am to 10:45 am Saskatchewan Winter Cereals Development Commission	9:30 am to 10:30 am Saskatchewan Canola Development Commission
11:00 am to 12:30 pm Saskatchewan Mustard Development Commission	10:30 am to 11:15 am Saskatchewan Barley Development Commission
<b>12:30 pm to 1:30 pm Saskatchewan Forage Seed Development Commission</b>	11:15 am to 12:15 pm Saskatchewan Wheat Development Commission
1:30 pm to 2:30 pm Saskatchewan Alfalfa Seed Producers Development Commission	12:45 pm to 1:30 pm Market outlook: flax and oats
2:30 pm to 3:30 pm Saskatchewan Leaftcutters Association	1:30 pm to 2:15 pm Saskatchewan Flax Development Commission
	2:15 pm to 3:00 pm Saskatchewan Oat Development Commission
	3:00 pm to 4:00 pm Market outlook: pulses
	4:00 pm to 5:00 pm Saskatchewan Pulse Growers

**Wednesday, January 13, 2021**

8:30 am to 12:00 pm  
Saskatchewan Seed Growers Association

The Saskatchewan Agricultural Graduates' Association (SAGA) will be holding its 80th Annual AGM on Saturday, January 9<sup>th</sup>, 2021 at 7:00 pm. The link to the meeting, meeting id, and passcode will be posted on the SAGA website: [saskaggrads.com](http://saskaggrads.com)

For more information and to register, please go to [saskcrops.com](http://saskcrops.com)

















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## Registered Forage Seed Buyers 2020-2021

Each buyer registered with SFSDC shall deduct the levy from any proceeds payable to a grower when forage seed is (a) purchased from a Saskatchewan grower, or (b) acquired from a grower producer for sale on the grower's behalf. ***If the levy is not deducted by the buyer, the grower is liable for payment of the levy to the Commission*** (see Board Order No. 13/15).

***Thank you, forage seed contractors, agronomists, and the controllers who support the SFSDC through collection of the levy.*** The following buyers have registered with SFDC for the 2020-2021 crop year.

- ***Birch Rose Acres Ltd.*** \* Star City SK.  
Contact: Ivan Beuker 306-863-2681
  - ***Brett-Young Seeds*** Winnipeg MB.  
Contact: Kerry Dusik 204-229-3397 or  
Doug Senko 306-401-0138
  - ***DLF Pickseed Canada*** Nipawin SK.  
Contact: Clayton Myhre 306-862-8398
  - ***Imperial Seed Ltd*** Winnipeg MB.  
Contact: Kurt Shmon 204-918-7572
  - ***Interlake Forage Seeds Ltd\**** Fisher Branch MB.  
Contact: Paul Gregory 1-800-990-1390
  - ***Northstar Seed Ltd*** Neepawa MB.  
Contact: Gerry Duynisveld 204-476-0644
  - ***Nutrien Ag Solutions*** Carrot River, SK.  
Contact: Aaron Vallier 306-768-3335 | cell:  
306-401-7766
  - ***Tebbutt Seed*** Nipawin SK.  
Contact: Greg Tebbutt 306-862-9730
  - ***Union Forage Ltd.*** Calgary AB.  
Contact: Geoff Barker 587-997-1436
- \* *Birch Rose Acres and Interlake Forage Seeds will purchase forage seed grown under organic production systems.*

## Grower-funded

The Saskatchewan Forage Seed Development Commission (SFSDC) is the grower-led organization with the mandate to improve the forage seed industry in Saskatchewan. We have a research and technology transfer focus and we strive to help growers become more profitable.

The Saskatchewan *Agri-Food Act, 2004* and the *Forage Seed Development Plan Regulations* provide the legal authority for SFSDC to collect a levy and pool the contributions to finance operations and administer the development plan. At the federal level, the *Saskatchewan Forage Seed Order SOR/2013-240* and the *Agricultural Products Marketing Act* provide the legal framework for inter provincial levy collection.

With this legislation, SFSDC collects a levy on all sales of all forage grasses and forage legumes - except alfalfa seed - that are produced in Saskatchewan, including turf and amenity, and reclamation species. ***The forage seed plan and the orders of the Commission apply to all persons engaged in the production, marketing, or production and marketing of forage seed grown in Saskatchewan.***

Sales include all grades, classes or varieties of forage seed and all potential mixtures. The levy rate of 0.75% deducted from the gross value of forage seed delivered has not changed since July 2005 when the forage seed plan was first established. The levy is refundable upon request to the SFSDC office within the timeline and manner stated in the regulations. See the SFSDC website Levy Refund Form for more information. After 15-years, levy refunds average 3.6%. ***Thank-you, growers, for your levy contributions and continued support of SFSDC!***

## Forage Seed Grower Resources

### Markets and Pricing

- Forage seed prices and inspected acres: <http://www.peaceforageseed.ca/markets.html>
- Commodity price lists: <https://afsc.ca/income-stabilization/agristability/pricing/>
- Forage seed usage by type of seed, 2008 to current annual data: Table 32-10-0043-01 <https://doi.org10.25318/3210004301-eng>
- Market Intelligence on import and export sales based on Harmonized System (HS) Codes: <https://marketanalysis.intracen.org/en>
- See also Market Articles by David Wong and published in the Forage Seed News magazine.

### Production resources and fact sheets:

- <https://www.skforageseeddc.com/> look under the Resources tab - Production
- <http://www.peaceforageseed.ca/info.html>
- <https://cropandsoil.oregonstate.edu/seed-crops/oregon-grass-and-legume-seed-production>
- See also Forage Seed Buyer websites

## Grower-led: SFSDC Board of Directors

**James Silcox**, forage seed grower

**Chair**

Box 772 Nipawin, SK S0E 1E0

(306) 768-3888 [pasagro.cr@sasktel.net](mailto:pasagro.cr@sasktel.net)

James' final term as a director will end January, 2021.

**Thank you for serving the Sask forage seed industry!**

**Spencer Staffen**, forage seed grower

**Vice Chair**

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**Treasurer**

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**Audit Chair**

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**Ryan Bautz**, forage seed grower

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**Dr. Bill Biliget**, forages plant breeder

University of Saskatchewan S7N 5A8

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### Advisors to the Board of Directors - ex-officio positions:

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**Shannon McArton**

**Industry Advisor**, seed trade and forages production

Saskatchewan Forage Council

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## Eight Ways to Connect with SFSDC

1. **Check out our Website...**  
[skforageseeddc.com](http://skforageseeddc.com)
2. **Contact the SFSDC office...**  
Call Us or Text message: 306-341-1347  
Email: [office@skforageseeddc.com](mailto:office@skforageseeddc.com)  
Mailing address: 5 Eagle Ridge Road  
Eagle Ridge, SK S7K 2L6
3. **Talk to your Board of Directors...**  
Sask forage seed growers elected to represent grower's interests.
4. **Follow us on social media Twitter account...**  
[@SKForageSeed](https://twitter.com/SKForageSeed)  
*Tweet your seeds, fields, bugs, problems, a prairie-perfect sunrise-sunset or harvest moon!*
5. **Read our grower communications publications...**  
SFSDC mails every grower who paid a levy in the last two years, a copy of **Forage Seed News** magazine published three times a year by the Manitoba Forage Seed Association, and a black and white print copy of **Prairie Seed News**, the semi-annual SFSDC newsletter. Emailed *colour copies* of the newsletter are sent when email addresses are provided to SFSDC, which also helps to reduce our postage expense. If you would like to receive future copies of the Prairie Seeds Newsletter by email instead of postal services, please contact the office.
6. **Attend events hosted by SFSDC...**  
Grower Information Sessions, Field Tours, Annual General Meeting.
7. **Participate in an on-farm, field-scale demonstration trial...**  
Contact the SFSDC office if you have an idea of a technology that could accelerate the transfer of knowledge to forage seed producers. Application for Fall projects are due June 7, 2021.
8. **All registered forage seed growers who contribute a levy on their deliveries are encouraged to...**

ATTEND the AGM,  
BE PART of the democratic process,  
PARTICIPATE in motions and discussions  
and VOTE to direct your organization.

**YOUR VOICE MATTERS!**

## Young Researchers in the Spotlight

### Developing new Cultivars of Meadow Bromegrass and Cicer Milkvetch for Stockpile Grazing with the use of Drone Imaging

by David MacTaggart

My name is David MacTaggart and I am in the first year of my Masters of Science degree at the University of Saskatchewan where I also completed my undergrad in Crop Science. Dr. Bill Biligetu is my thesis supervisor.

**The objective of my research** is to design drone based tools to measure the growth of our breeding populations of cicer milkvetch and meadow bromegrass. The end goal is to release varieties of these two species to be seeded together for stockpile grazing. I grew up on a hobby farm outside of Lacombe, Alberta where my sister and I developed a herd of purebred and commercial black Galloway cattle through our involvement in 4-H.



Figure 1. Meadow bromegrass nursery at sunset, D. MacTaggart

**imaging** to measure traits such as plant establishment, yield, and fall greenness for cicer milkvetch and meadow bromegrass.

**By saving time, an efficient and precise drone-based measurement system would accelerate the varietal development process in our breeding program.** Data collection began during the summer of 2020 in nurseries near the Livestock and Forage Centre of Excellence south of Clavet.

The meadow bromegrass nursery is made up of breeding lines from the University of Saskatchewan and several American cultivars. The cicer milkvetch nursery is a mix of 29 populations from North America and Central Asia where the crop originated. Our growing season was one of extremes with above average rainfall before our first cut in early July followed by weeks of heat in July and August. While the yield of our second cut in mid-October was impacted, the data that was collected under these conditions will help us understand how different breeding

populations respond to late season heat stress.

Since our second cut, preliminary analysis of the cicer milkvetch data from the manual and drone measurements has show several trends.

**First** being that there are populations showing a higher stockpile yield than our check cultivars Veldt and Oxley II. **Secondly**, the combinations of certain light wavelengths recorded by the drone have relatively high correlations with yield at this time. Analysis over the coming months will test if these early conclusions apply at the first harvest date in addition to understanding the differences between the breeding populations of meadow bromegrass.

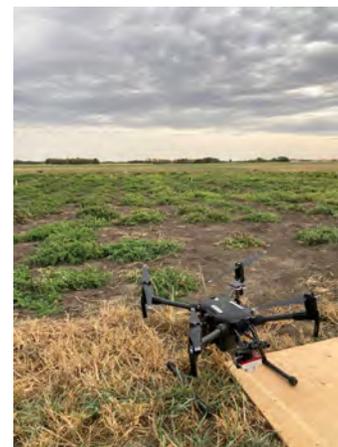


Figure 2. Cicer milkvetch nursery drone-ready, D. MacTaggart

**The goal of this project within the larger breeding program** is to deliver new cultivars for Saskatchewan forage seed growers and the ranchers they support. The addition of drone imaging to the breeding program should help to shorten the time needed to screen certain key traits which will allow us to look at more genetic diversity when breeding future forage varieties.

Stay tuned for more results in the coming year. If you have any questions please contact me! I am always happy to make new connections with farmers or other members of the Saskatchewan agriculture industry.

David's research is supported by the SFSDC levy and industry co-funders and the government of Saskatchewan ADF project, Development of meadow brome and cicer milkvetch varieties for stockpiled grazing in western Canada.



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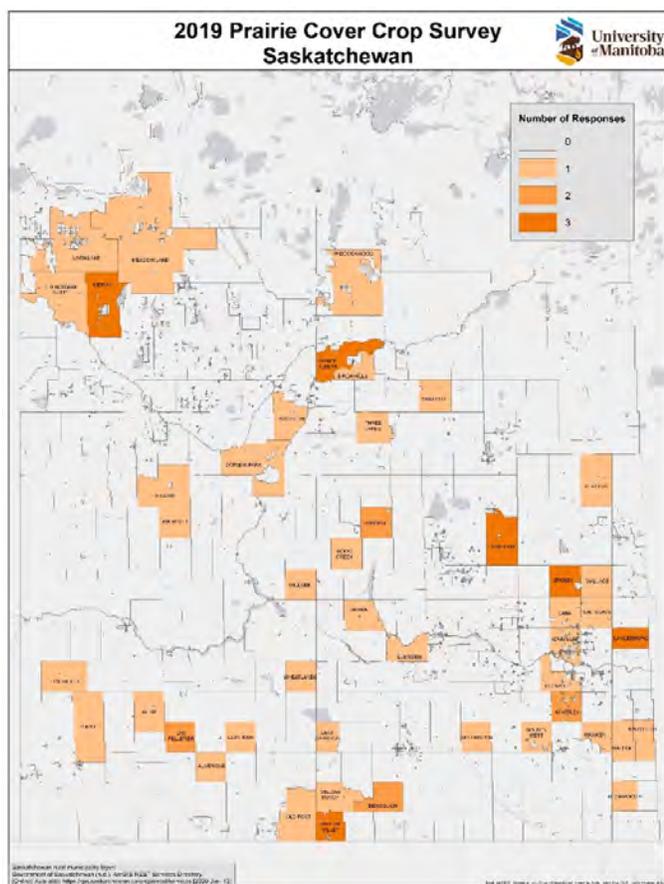
# Young Researchers in the Spotlight

## University of Manitoba Researchers Want to Hear From YOU!

### The Prairie Cover Crop Survey

by Callum Morrison

Researchers at the University of Manitoba are calling upon farmers in Saskatchewan to take part in ground-breaking research about cover cropping in the Prairies – whether they have grown a cover crop before or not!



A cover crop is a crop which is grown primarily to cover the soil or to provide an agronomic benefit, as opposed to a cash crop. Cover crops may be grown in the fall like a barley & pea cover crop drilled after a canola crop. They may also be grown over the whole season or grazed by livestock.

Cover crops have the potential to provide agronomic and environmental benefits to farmers, but it has long been perceived to be difficult to introduce cover cropping to the Prairies. This is in part due to concerns about integrating cover crops in our often short and unpredictable Western Canadian growing season.

Despite cover crops being a relatively niche endeavour in the Prairies, they are quickly gaining popularity. With growing interest, many people are eager to learn what cover crops are, how many farmers are growing them, and how farmers are fitting them into their rotations.

To answer questions farmers and industry may have, PhD student Callum Morrison and Professor Yvonne Lawley at the University of Manitoba are surveying farmers across the Prairies. Major aims include determining where cover crops are being grown, what types of farmer grow cover crops, how cover crops are being grown, why they are being grown, what benefits and problems farmers have seen, and identify how farmers would like to benefit from future research surrounding cover crops.

### The Survey is Only Part of the Project

Callum and Dr. Lawley are also involved with a series of field trials located across Manitoba, Saskatchewan (Redvers and Saskatoon) and Alberta. Each site has 4 cash crops which are commonly grown in that region in a 4 year rotation with suitable cover crops. Grown alongside each site, is the same 4 year cash crop rotation, but without cover crops.

These trials aim to ‘test the cover crop hypothesis’ by identifying if cover crops can successfully become established across a range of growing windows in rotation with major cash crops in Western Canada.

The study aims to determine the effect of cover crops on cash crop yield and quality as well as the effect on soil biological, chemical soil physical health. Callum has particularly focused on the effect on soil water dynamics. He conducted weekly water measurements over the summer in his field trials in Manitoba using a moisture meter which can measure moisture at six depths right the way down to 1 meter! (image below).



# Young Researchers in the Spotlight

## University of Manitoba Researchers Want to Hear From YOU!

### Prairie Cover Crop Survey

Last year 211 farmers took part in the survey of which 58 were from the Province of Saskatchewan. These respondents were well spread around the province, representing 47 municipalities from the North right down to the US border. It is hoped that this year we can **double the respondents from Saskatchewan in the 2020 survey so we can fill in many of the missing municipalities and make the study as representative as possible.**

So far this year 71 farmers have taken the survey from across the Province of Saskatchewan. Of which 22 grew a cover crop to graze cattle, 10 were intercroppers and 2 were certified seed growers.

**Clover and oat currently top the most popular cover crops grown in the preliminary 2020 survey results (Figure 3).**

Farms grow cover crop for many different reasons, with building soil health and increasing soil organic matter the most common as show in Figure 4.

### Add Your Voice to The Survey

You can add your voice to the 2020 Prairie Cover Crop Survey where you can also find out more about the project. You can also **like the Prairie Cover Crop Survey on Facebook.** Go to our website

<https://sites.google.com/view/prairiecovercropsurvey/>

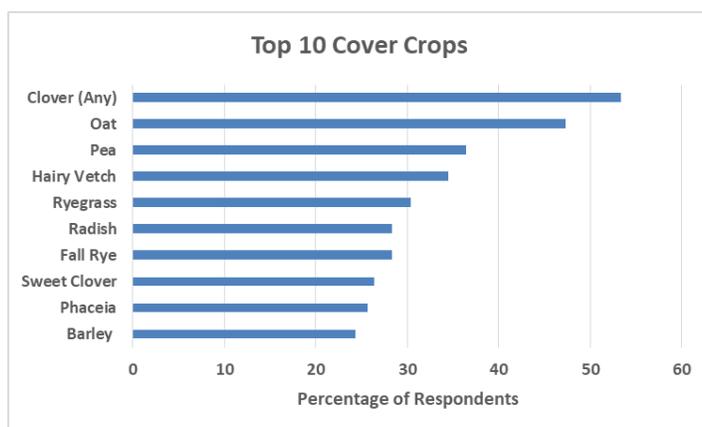


Figure 3. Prairie Cover Crop Survey 2019, C. Morrison

The survey will run from October 01 2020 – February 01 2021. **Any farmer can take part in the Prairie Cover Crop Survey. We want to hear both from farmers that are still considering if cover crops have a place on their farm as well as those that grew cover crops in 2020.** This allows us to hear from a broader range of Prairie farmers about their goals, interests, and concerns about growing cover crops.

### How The Project Will Benefit You

This project aims to increase the information available to farmers surrounding how farmers are using cover crops in Prairie Canada. This will help farmers in their decision making process by putting cover cropping in context. The survey allows farmers to highlight areas that they would like to see addressed through **research and extension giving farmers a voice to influence future research.**

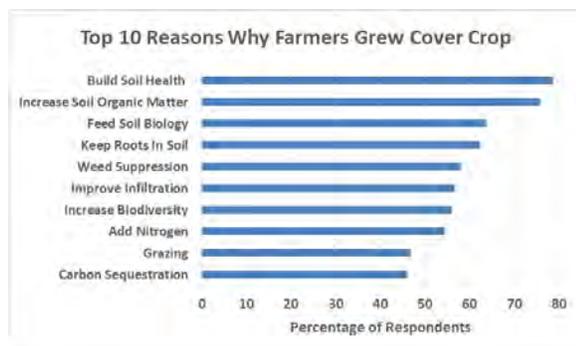


Figure 4. Prairie Cover Crop Survey 2019, C. Morrison

**The results of the Prairie Cover Crop Survey will be summarized in an annual report that will be released free of charge to farmers.** The report will contain maps showing where cover crops are being grown, summarize the most common cover crops species and their agronomy. The report will also look at how cover crops are used by different farm types (regenerative, livestock, different tillage regimes etc.) and how they are grown in rotation with major Prairie cash crops. The best way to ensure that you receive a copy of the report is to take survey and request to be sent a copy by leaving your email address.

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## Young Researchers in the Spotlight



**Dan Malamura, a graduate student at the University of Saskatchewan**, successfully defended his Masters of Science in 2020. The research project was supervised by entomologist, Dr. Sean Prager. Dr. Prager and Dan's research on integrated pest management was co-funded through the Agriculture Development Fund (ADF) with SFSDC contributing \$7,500 per year for three years. Field trials, a key component to success of this research project, were done in several of the SFSDC grower's fields. Dan shared his findings at field days and the AGMs, and was always eager to talk about forage seed crops and insects. Thank you, Dan, for your scientific contribution and advancing our knowledge of the lesser clover leaf weevil and bee populations!

Contents lists available at [ScienceDirect](#)

**Crop Protection**

Journal homepage: [www.elsevier.com/locate/cropro](http://www.elsevier.com/locate/cropro)

Assessing chemical control options and their effects on the lesser clover leaf weevil (*Hypera nigrostris*) and red clover pollinators in Western Canada

Dan Malamura, Bill Billiget, Sean M. Prager

Department of Plant Science, College of Agriculture and Biosciences, University of Saskatchewan, 51 Campus Drive, Saskatoon, SK, S7N5A8, Canada

**ARTICLE INFO**

**Keywords:** Red clover; Lesser clover leaf weevil; Insecticides

**ABSTRACT**

Single-cut red clover (*Trifolium pratense* L.) is an important forage seed crop in Western Canada due to its winter hardiness and economical value. However, infestation of lesser clover leaf weevil (*Hypera nigrostris* F.) can lead to drastic yield losses (over 80%). The aim of this research was to evaluate the effectiveness of insecticides deltamethrin (Decis) and cyantraniliprole (Exirel) in controlling *H. nigrostris* in red clover in both field and laboratory conditions and their impacts on the pollinator community. Pest pressure data in red clover fields was tracked during the 2018 and 2019 growing seasons in six locations. Under the field conditions both deltamethrin and cyantraniliprole were effective at controlling *H. nigrostris* numbers. However, only deltamethrin provided rapid pest suppression in 24 h after treatment application. Releasing *H. nigrostris* larvae on treated plants in laboratory conditions showed similar results where both insecticides significantly reduced *H. nigrostris* numbers in 10-12 days after treatment. The abundance of *H. nigrostris* was always negatively related to seed yield regardless of treatment and initial weevil pressure. Seed yield was significantly lower in untreated controls whereas no differences were found between deltamethrin and cyantraniliprole. In contrast, no yield response was found when *H. nigrostris* abundance was lower than 4 larvae per 10 shoots. Unexpectedly, densities of bees were not affected by either treatment and were not related to seed yield. Overall, results indicate that both insecticides can provide sufficient *H. nigrostris* control, and that pollinator densities are not limiting seed yield, whereas lack of *H. nigrostris* management can cause substantial yield losses.

Dan demonstrated he is a 'talented young researcher'! **His research is published in an international peer-reviewed journal** (abstract above, right). Congratulations on the publication and thank-you for your contribution to our knowledge of lesser clover leaf weevil! If you are interested in receiving a copy of the publication, please contact Dr. Sean Prager [sean.prager@usask.ca](mailto:sean.prager@usask.ca)



# Forage Seed Field Research Projects 2019 and 2020

## Contract Research Services funded by SFSDC

### supported with in-kind industry contributions

In 2019 and 2020, SFSDC contracted [A Horizon Ag Research](#) and the [Northeast Agriculture Research Foundation \(NARF\)](#) to plant forage seed research trials for SFSDC.

SFSDC is very fortunate to have individuals such as Michael Steckler and Taryn Heidecker from A Horizon Research and Brianne McInnis from NARF working on forage seed research. Establishing good forage seed field plots is a challenge and the results from 2019 and 2020 demonstrate the expertise of our contractors. Thank you Michael, Taryn and Brianne! Project reports from 2019 research are posted on the SFSDC website. Preliminary findings from the 2020 trials were published in the June 2020 edition of Prairie Seeds News. Final results from the 2020 field trials will be analyzed and combined with data from Alberta to support information requirements for prioritizing minor use pesticide requests for registered use in forage seed crops.

**Thank-you to our industry suppliers - DLF Pickseed, Imperial Seed, NuFarm and FMC Canada**, for their contribution of product used in our research trials! SFSDC is very grateful for their ongoing support of in-kind contribution of seed, herbicides and ongoing technical support.

#### Objectives:

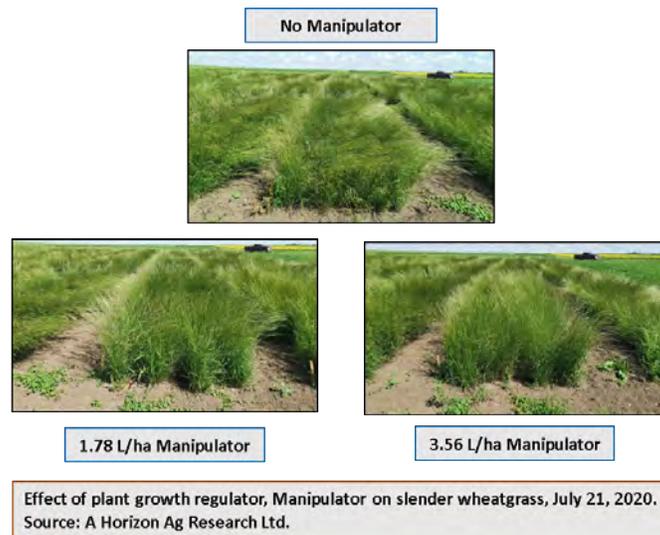
1. Evaluation of crop tolerance and weed control efficacy of potential new herbicides in support of registration under the Minor Use Program, and application on Slender Wheatgrass grown for seed production.
2. Evaluate Plant Growth Regulator (PGR) usage, in Slender Wheatgrass grown for seed production.

#### Materials and Methods:

- Common 'Revenue' Slender Wheatgrass seeded at 4 lb/acre on June 21, 2019, 15mm depth with a Zurn D72 plot drill using Pillar Laser Disc Hoe openers.
- A blend of 29-20-0-2 side-banded at 150 kg/ha;12-40-0-0 was included in the seed row (75 kg/ha).
- Roundup® was applied to burn off previously emerged weeds (after seeding but prior to emergence).
- Herbicide treatments were applied at 2 different times: pre-emerge (after the crop had been sown, but prior to emergence) and post-emerge (2-4 leaf). Plots were mown later in the season to prevent seed set.
- Crop tolerance to two rates (1X and 2X) of PrePass™ (pre-seeding) and Paradigm™ + Merge® and Infinity® (seedling evaluation) were tested in 2019. Crop tolerance evaluated in 2019 with results reported January 14, 2020 at the SFSDC AGM. The effect of plant growth regulator, Manipulator™, was assessed in 2020 with application rates of 1.78 L/ha and 3.56 L/ha (1x and 2x suggested rates for wheat).
- Crop phytotoxicity visually scored and reported using the Canadian Weed Science Society standard protocol. Normalized Difference Vegetation Index (NDVI) measured using a handheld Trimble Greenseeker®. Percent groundcover measured using a cellphone camera and the Canopeo (Parignani and Ochesen 2015 DOI: 10.2134/agronj15.0150).
- Heading recorded on the date when 10% of the plants in the plot had a head fully elongated and out of the boot. Plant height recorded July 14, 2020. Lodging was reported on visual basis on a scale from 1-10 (1 = no deviation from 90 degrees and a score of "10" would be 30 degrees or less or a plot where 30% or more would not be captured if swathed).
- Harvest was completed using a Wintersteiger NurseryMaster Elite. Plots were straight harvested at 35-40% moisture. Yield recorded on harvested seed after drying (forced air) to below 10 and cleaning using a Clipper tabletop seed cleaner. Data on seed weight (grams per 1000 seeds TKW) and viability (germination testing) was done on a bulk sub-sample from each treatment.



# Contract Research Services continued: Plant Growth Regulator on Slender Wheatgrass



## Results:

1. **Phytotoxicity:** In the establishment year (2019), no phytotoxicity was observed in plots treated with the pre-seed product (Pre-Pass at 1x and 2x rates). There were no season-long trends which differentiated the two in-crop products, Paradigm and Infinity, nor was there any lasting differences in crop vigour when comparing the 1x registered and 2x rates of these products.
2. **Phytotoxicity:** No phytotoxicity was found in any treated plot in the seed production year (2020). There was no delay in emergence or vigour relative to the untreated plots including dormancy break following spring thaw.
3. Early vigor was assessed in mid-May (about 40% groundcover). There were no differences in vigour between all treatments and the check (untreated). On May 14, treatments averaged 36.7-44.9% estimated groundcover (Canopeo App) and measured 0.32-0.38 for NDVI (Trimble Greenseeker®). By the following week (May 21) the canopy had already begun to close and while Canopeo was used, it did not provide useful data (groundcover estimates should have been 90-100%). Measured NDVI showed the expected increases as the canopy closed and thickened, and treatments averaged 0.42-0.50 on May 21 and then 0.66-0.73 on June 3. There were no differences between the treatments at the time points measured.
4. No other negative effect on growth in seed production was identified as a result of the herbicide treatments. Plant height, lodging, yield, and seed weight of treatments 2-7 (herbicides) were statistically no different than treatment 1 (untreated).
5. **Weed control:** In 2019, broadleaf weed populations appeared lower in all treated plots (treatments 2-7), although the pre-seed treatments (Pre-Pass at 1x and 2x rates) did not significantly reduce the total number of weeds relative the untreated through much of the season. **The in-crop herbicide treatments at 1X and 2X rates of Paradigm and Infinity herbicides provided superior weed control** compared to the pre-season product (Pre-Pass) at every rating-timing. In 2020, early weed pressure came almost entirely from stinkweed (*Thlaspi arvense*), with some annual sowthistle appearing into June. Vigorous early plant growth in the plots resulted in
6. **PGR used in seed production:** There was no leaf burn, wilting or chlorosis was linked to the application of Manipulator at either rate tested (1.78 and 3.56 L/ha). Additionally, there was no observable stunting so phytotoxicity was scored as 0% at all rating dates. Heading date for individual plots spanned from June 23-June 25 with no differences between the treatments. **There were no differences in height between treatments.**
7. Plots treated with Manipulator showing **reduced lodging**, especially at 3.56 L/ha (TRT9). Initially (July 21) the 1.78 L/ha (TRT8) rate was not statistically better than all other treatments which did not include Manipulator, but **closer to harvest (July 29) TRT8 had lower levels of lodging compared to TRTs 1-7 which did not receive any Manipulator.**
8. There was **no difference between treatments for yield** and treatments averaged 2.039-2.083 kg/plot. Additionally, **no treatment differences were found for thousand kernel weight.** Germination was only done on a bulk sample for each treatment. Seventy-six percent (76%) of the untreated (TRT1) germinated. Germination tests ranged from 72-84%.

The researchers at A Horizon Ag Research Ltd considered that Manipulator may have been sprayed a bit too early. While the timing of application was done when more than six tillers were observed, the largest tiller was smaller than target stage, only in the 3-4 leaf stage versus 5-6 leaf. Therefore, it is possible that the expected outcome of height reduction with the plant growth regulator may have been observed if application had been slightly delayed.

# Saskatchewan Crop Insurance Forage Establishment Benefit Option



The Forage Establishment Benefit Option offered by the Saskatchewan Crop Insurance Corporation (SCIC) is available to protect newly seeded forage acres intended for hay, grazing, or seed production against the risk of an establishment failure. It is a stand-alone option, not linked to yield-loss insurance. This option must be selected if you want establishment coverage on acres seeded to forage.

Forages grown for seed can be insured for establishment insurance through this option. Specific establishment criteria may apply.

## Eligibility

- Forage acres seeded between October 15 and June 20, are eligible for the establishment benefit option.
- Crops seeded during this time and germinating in the spring should be established, ready for harvest the following year.
- Acres grazed the year of seeding are **not eligible** for coverage.
- Any adjustments for establishment losses will not be made until the following year.
- These acres must be reported on your Seeded Acreage Report by June 25, of this year.

## Premiums

- Dollars per acre premiums will vary based on Risk Zone.
- *As an example, in 2020, a forage seed grower with land in Risk Zone 17, which includes many north-east rural municipalities and the majority of Saskatchewan's forage seed production area, will pay a \$3.57 per acre premium for the forage establishment benefit. In 2020, coverage was \$70 per acre, applicable to all commercial, pedigree, organic and greenfeed crops.*

## Claims

- Forage Establishment Benefit claims are subject to a deductible of 15% of the total establishment coverage of alfalfa, alfalfa/grass, and grass.
- Sweet clover and native forage claims are calculated separately.

## Ways to contact SCIC

1. Information about risk zones:  
<https://www.scic.ca/resources/maps/sask-grains-risk-zone/>
2. Information on premiums and benefits:  
<https://www.scic.ca/ci/forage/forage-establishment-benefit-option/>
3. Customer Service Toll Free:  
1.888.935.0000
4. Email:  
[customer.service@scic.ca](mailto:customer.service@scic.ca)



Forage seed production is important to the agriculture industry and Saskatchewan economy! A major value chain of **seed-to-feed and turf** starts with the forage seed growers. (see page 16 for current year statistics). Based on reported deliveries, 2019-2020, plus industry agronomist's observations on average yields in Saskatchewan, red clover was grown on about 1700 acres(ac), alsike clover 120 ac and yellow blossom sweet clover 390 ac. Of the grasses, timothy led acreage at nearly 1500 ac, annual ryegrass 705 ac, perennial ryegrass 340 ac, hybrid bromegrass 280 ac, with slender and crested wheatgrass, 230 ac and 195 ac, respectively. Combining acreage estimates with the value of deliveries, the data suggests intermediate wheatgrass and birdsfoot trefoil were the highest value forage seed crops this year - over \$3,000 per acre. Besides these small acreage-high value crops (each less than 20 ac), the perennial ryegrass, slender and crested wheatgrass, hybrid bromegrass and tall fescue deliveries in 2019-2020 were valued at \$2,000 to \$2,800 per acre. **If you are a forage seed grower and the current forage insurance program is not meeting your needs, we need to hear you with evidence to inform better policies and programs.**

## Saskatchewan Forage Seed Development Commission Financial Statement

The Forage Seed Development Plan, A-15.21 Regulation 3, Section 10, states, the registered forage seed producers shall, at each annual general meeting, appoint an auditor to audit the books, records and financial statements of the commission for the current fiscal year. Due to lack of quorum at the SFSDC AGM held on January 14, 2020, the Agri-Food Council approved the appointment of Neupath Group Chartered Professional Accountants as auditor. The complete 2019-2020 Audited Financial Statement is available on request to the SFSDC office.

### SASKATCHEWAN FORAGE SEED DEVELOPMENT COMMISSION

#### Statement of Financial Position

June 30, 2020

	2020	2019
<b>ASSETS</b>		
Cash	\$ 56,252	\$ 40,781
Term deposits <i>(Note 3)</i>	165,952	175,000
Levies receivable	28,439	29,252
Interest receivable	1,213	2,814
	\$ 251,856	\$ 247,847
<b>LIABILITIES</b>		
Accounts payable and accrued liabilities	\$ 21,316	\$ 32,806
Deferred income <i>(Note 4)</i>	18,647	-
	39,963	32,806
<b>NET ASSETS</b>		
Unrestricted	211,893	215,041
	\$ 251,856	\$ 247,847

### SASKATCHEWAN FORAGE SEED DEVELOPMENT COMMISSION

#### Statement of Changes in Net Assets

Year Ended June 30, 2020

	2020	2019
<b>NET ASSETS - BEGINNING OF YEAR</b>	\$ 215,041	\$ 239,292
Deficiency of revenues over expenses	(3,148)	(24,251)
<b>NET ASSETS - END OF YEAR</b>	\$ 211,893	\$ 215,041

## 2019-2020 Audited Financial Statement

### SASKATCHEWAN FORAGE SEED DEVELOPMENT COMMISSION

#### Statement of Revenues and Expenditures

Year Ended June 30, 2020

	Budget 2020	2020	2019
<b>REVENUES</b>			
Levies	\$ 60,000	\$ 87,722	\$ 88,728
Levies refunded	(4,000)	(2,216)	(1,491)
Grants	82,000	15,180	2,135
Interest	3,000	4,051	3,972
Other	-	320	-
	141,000	105,057	93,344
<b>EXPENSES</b>			
Administration	18,000	18,412	15,039
Advertising and promotion	3,450	3,000	914
Annual general meeting	3,331	3,098	3,181
Bank charges	170	286	100
Database management	20,000	399	840
Directors' and officers' liability insurance	1,151	1,151	1,151
Directors' expenses	6,847	5,394	4,894
Directors' meetings	700	442	524
E-News and Forage Seed News	7,700	9,508	6,513
GST	900	810	1,053
Newsletter	2,665	678	503
Postage	100	32	38
Professional fees	3,300	3,492	3,233
Research expenses (Schedule 1)	122,332	58,127	57,705
Travel	-	581	-
Website design and maintenance	2,000	2,795	2,124
	192,646	108,205	97,595
<b>DEFICIENCY OF REVENUES OVER EXPENSES</b>	<b>\$ (51,646)</b>	<b>\$ (3,148)</b>	<b>\$ (24,251)</b>

## 2019-2020 Audited Financial Statement

### SASKATCHEWAN FORAGE SEED DEVELOPMENT COMMISSION

#### Statement of Cash Flows

Year Ended June 30, 2020

	2020	2019
<b>OPERATING ACTIVITIES</b>		
Deficiency of revenues over expenses	\$ (3,148)	\$ (24,251)
Changes in non-cash working capital:		
Levies receivable	813	(14,469)
Interest receivable	1,600	(779)
Accounts payable and accrued liabilities	(11,489)	25,405
Deferred income	18,647	-
	9,571	14,157
<b>INCREASE (DECREASE) IN CASH FLOW</b>	<b>5,423</b>	<b>(10,094)</b>
Cash - beginning of year	215,781	225,875
<b>CASH - END OF YEAR</b>	<b>\$ 222,204</b>	<b>\$ 215,781</b>
<b>CASH CONSISTS OF:</b>		
Cash	\$ 56,252	\$ 40,781
Term deposits	165,952	175,000
	<b>\$ 222,204</b>	<b>\$ 215,781</b>

### SASKATCHEWAN FORAGE SEED DEVELOPMENT COMMISSION

#### Notes to Financial Statements

Year Ended June 30, 2020

#### 3. TERM DEPOSITS

	2020	2019
Credit Union 18 month term, 2.25%, maturing February 15, 2020	\$ -	\$ 125,000
Credit Union 18 month term, 2.50%, maturing September 17, 2020	51,256	50,000
Credit Union 12 month term, 1.25%, maturing June 10, 2021	14,596	-
Credit Union 36 month term, 2.25%, maturing February 18, 2023	100,000	-
	<b>\$ 165,952</b>	<b>\$ 175,000</b>

#### 4. DEFERRED REVENUE

	Balance, Beginning of Year	Add Amount Received	Less Amount Recognized	Balance, End of Year
ADOPT 20190436	\$ -	\$ 14,090	\$ -	\$ 14,090
ADOPT 20190451	-	8,000	5,180	2,820
SFP 20190402	-	11,131	10,000	1,131
	<b>\$ -</b>	<b>\$ 33,221</b>	<b>\$ 15,180</b>	<b>\$ 18,647</b>

## 2019-2020 Audited Financial Statement

### SASKATCHEWAN FORAGE SEED DEVELOPMENT COMMISSION

#### Research expenses (Schedule 1)

Year Ended June 30, 2020

	Budget 2020	2020	2019
Weed Control in Grasses NARF	\$ -	\$ 1,687	\$ 3,546
Weed Control in Legumes NARF	-	11,420	2,698
Plant Growth Regulator NARF	-	850	3,460
Other Research NARF	35,332	1,000	-
Fertility research	-	3,990	3,975
NFC travel/work	2,000	-	-
Weed Control U of S	-	-	3,625
Plant Breeding U of S	3,000	3,000	-
Red Clover Management U of S ADF	7,500	7,500	7,500
Galega U of S ADF	2,500	2,500	2,500
Plains Rough Fescue U of S ADF	1,000	1,000	1,000
Variety demonstration & testing	2,500	12,500	-
Doubled Haploid National Research Council ADF	2,000	2,000	2,000
New ADF	2,000	-	-
Other research	-	-	3,031
Weed Control A Horizon Ag Research	4,500	4,500	-
ADOPT 20160385 Red Alsike in Rotations	-	-	2,048
ADOPT 20160388 Companion Crop -restart	-	-	2,336
ADOPT 20190451 Crimson and Berseem Clover	60,000	5,180	-
ADF - Penner	-	500	-
ADF - Biligetu	-	500	-
	<b>\$ 122,332</b>	<b>\$ 58,127</b>	<b>\$ 57,705</b>

NOTES: SFSDC Research expenses includes: final payments for 2019-2020 field trials to the Northeast Agriculture Research Foundation (NARF), initial payments for NARF 2020-2021 field trials (NARF) and interim payment for 2019-2020 field trials with A Horizon Ag Research Ltd. Levy funds were allocated for evaluating herbicides, fertilizer application rates and plant growth regulators in grasses and legumes. Final reports are posted on the SFSDC website.

1. Evaluating herbicides for use in annual ryegrass seed production, and turf-type perennial ryegrass intercropped with InVigor canola (NARF).
2. Minor use pesticide field data collection (crop tolerance and efficacy) on seedling and established slender wheatgrass, and seedling perennial ryegrass (A Horizon Ag Research).
3. Minor use pesticide field data collection on established red clover and alsike clover.
4. Demonstrating rotation effects of red and alsike clovers following pulse and wheat crop rotations (NARF).
5. Evaluating plant growth regulator application on annual ryegrass and assessing fertility requirements (NARF).
6. Minor use pesticide field data collection on plant growth regulators in established slender wheatgrass (A Horizon Ag Research).

Field Demonstrations: One ADOPT project was deferred to 2021, *Demonstration of night spraying technology for control of lesser clover leaf weevil in single-cut red clover*. **Two new established clover field sites are needed in 2021.** The second ADOPT project, *Demonstration of seed production annual clovers (berseem clover, crimson clover) when grown under irrigation*, was planted at Outlook, SK. The berseem clover did not germinate. The crimson clover plots performed better and produced seed, however, plants were still producing flowers at the end of October prior to snowfall. The viability of the harvested seed will be determined using standard laboratory methods for seed quality testing. Forage seed variety demonstration trials co-funded by the Strategic Field Program (SFP) and SFSDC were planted at Outlook and Clavet.

SFSDC levy was used to co-fund research projects through the Agriculture Development Fund (ADF). The ADF projects are 2, 3 and 5-years duration with the lead researchers communicating annual progress to SFSDC at the January 2020 AGM (e.g. red clover, galega) and articles published in the Forage Seed News (developing doubled haploid methodology). Activities on two new ADF projects co-funded by ADF and industry groups and led by University of Saskatchewan researchers (Drs. Greg Penner and Bill Biligetu) began this year.

**Saskatchewan Forage Seed Development Commission**  
**DRAFT Minutes 2018-2019 Annual General Meeting**  
**January 14, 2020 Saskatoon, SK**

Chair: James Silcox

Recording: Jo-Anne Relf-Eckstein

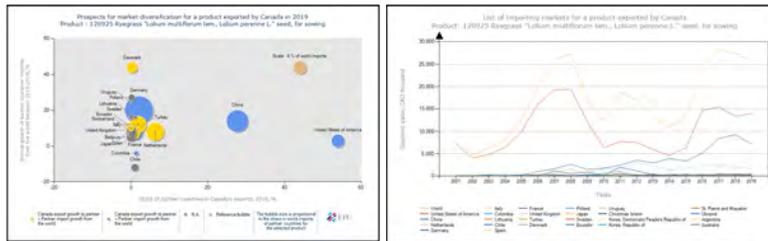
1. Meeting called to order at 10:58 AM
2. Agenda
  - **Moved** by Spencer Staffen, seconded by Denon Peifer to **approve the agenda**. Carried
3. Minutes of the 2017-2018 Annual General Meeting were reviewed.
  - **Moved** by Morley Doerksen, seconded by David Cox that the **Minutes of the 2017-2018 Annual General Meeting be accepted**. Carried
  - Business arising from the Minutes. None
4. Directors
  - Returning directors are James Silcox, Spencer Staffen, Morris Nycholat, David Cox, Morley Doerksen, Denton Peifer, and Bill Biligetu (appointed director)
5. Reports
  - Chair Report – James Silcox
  - Executive Director Report – Jo-Anne Relf-Eckstein
    - The SFSDC Board of Directors hosted the grower information session in Saskatoon on January 17, 2019 and held four board meetings during 2018-2019 (July and November 2018, January and June 2019).
    - SFSDC helped host the research plot tour and barbecue on July 26, 2018.
    - Two editions of the Prairie Seeds Newsletter were published and
    - The levy funds collected were \$68,710 and \$1,491 was refunded, leaving 175 growers contributing a levy.
  - The 2018-2019 Audited Financial Report was reviewed by Morley Doerksen.
  - The List of Planned Programs and Activities for 2019-2020 was described by Spencer Staffen.
  - The 2018-2019 Budget was reviewed by Jo-Anne Relf-Eckstein.
    - **Moved** by Denton Peifer, seconded by Spencer Staffen that **all reports be accepted**. Carried.
6. New Business
  - **Moved** by David Cox, seconded by Denton Peifer to **appoint NeuPath Group, Nipawin SK as Auditor for 2019-2020**. Carried.
7. Other Business. None.
8. **Moved** by Spencer Staffen to **adjourn the Annual General Meeting** at 11:17, seconded by Dave Maxwell. Carried.

**Note:** attendance at the AGM was 44 people, however, there were only 9 registered forage seed producers present, falling short of quorum of 15 registered producers.

## Governance: the Forage Seed Levy

The Saskatchewan Forage Seed Development Commission has been in operation for 15 years. In the first fiscal year, 2005-2006, 380 growers contributed a levy of \$40,950, which was collected by eight active buyers and processors on deliveries from 25 grass and legume species. Crop year 2015-2016 is on record with the highest deliveries of approximately \$13,860,000, total levy of \$104,000 was deducted from 206 growers, \$6,470 was refunded. **The 15-year averages are: \$7,673,490 in deliveries, \$57,407 levy, \$2,360 refunds** and 44 different species of forage grasses and legumes have been delivered. The number of growers that occurs most often, the mode, is 175.

**Red clover** ranks as Saskatchewan's top forage seed crop based on value, however, the **volume and value of ryegrass deliveries, annual and perennial (forage type-tetraploid and turf-type diploid) is increasing with each displacing red clover as the highest volume forage seed crop in 2019-2020**. Market data on import and export sales, sourced on-line through the International Trade Centre Trade and Market Intelligence Section, is used to map the trend in sales of Canadian exports. The graphs below illustrate Canadian exports to the world of ryegrass seed used for sowing (far right) and the market diversification potential beyond the main importer, USA, notably growth potential into the European Union member states (Germany, The Netherlands, Italy, Denmark), the UK and China (bubble chart left).



The 2019-2020 crop year (July 01, 2019 to June 30, 2020) is characterized by the following data: **182 individual growers** and/or their farm operation, registered with SFSDC and did not request refunds. Levy refunds were 2.5% (\$2,216). The volume and value of **organic seed deliveries is 45,500 kg, \$206,300 and \$1,500 levy**. In some cases, reports provided to SFSDC did not specify crop type. These are excluded from the summary by crop kind table below and therefore will deviate slightly from the audited financial statement reported total levy value.

Crop Kind	Delivered Net Weight	Total Value Delivered		Levy Paid
	(kg)	(\$)		
Clover, Red	1,110,768	\$	2,698,040.63	\$ 20,240.73
Clover, Alsike	638,452	\$	1,326,977.91	\$ 9,847.33
Clover, Sweet	258,891	\$	217,756.75	\$ 1,633.17
Birdsfoot Trefoil	9,093	\$	44,101.20	\$ 330.76
Cicer Milkvetch	6,694	\$	51,644.43	\$ 387.33
American Vetch	37	\$	1,630.00	\$ 12.22
<b>TOTAL FORAGE LEGUME</b>	<b>2,023,935</b>	<b>\$</b>	<b>4,340,150.92</b>	<b>\$ 32,451.54</b>
Ryegrass, Annual	2,024,652	\$	1,383,914.17	\$ 9,734.14
Ryegrass, Perennial	1,140,249	\$	1,542,628.81	\$ 11,546.31
Timothy	853,225	\$	1,218,657.09	\$ 8,670.27
Wheatgrass, Slender	245,849	\$	707,893.13	\$ 5,309.20
Wheatgrass, Crested	114,920	\$	462,711.86	\$ 3,193.96
Wheatgrass, Intermediate	152,607	\$	331,748.46	\$ 2,221.63
Fescue, Tall	280,320	\$	465,947.56	\$ 3,494.61
Fescue, Meadow	90,098	\$	191,540.19	\$ 1,421.88
Sheep Fescue	4,316	\$	14,272.50	\$ 107.04
Bromegrass, Hybrid	168,625	\$	682,625.76	\$ 5,119.69
Bromegrass, Meadow	46,179	\$	127,269.33	\$ 954.52
Bromegrass, Smooth	41,489	\$	146,613.85	\$ 1,099.61
Redtop	41,248	\$	189,329.40	\$ 1,066.74
Dahurian wildrye	78,047	\$	172,059.00	\$ 1,290.44
<b>TOTAL FORAGE GRASSES</b>	<b>5,281,824</b>	<b>\$</b>	<b>7,637,211.11</b>	<b>\$ 55,230.04</b>
<b>GRAND TOTAL 2019/20</b>	<b>7,305,759</b>	<b>\$</b>	<b>11,977,362.03</b>	<b>\$ 87,681.58</b>