



**CERTIFIED  
CROP ADVISER**

# CCA CHATTER

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Return undeliverable Canadian Address to: CCA Association, 39 William St., Elmira, ON, N3B 1P3

## 2021 CCA Conference and Annual Meeting: Are You Registered?

**D**ue to the ongoing COVID-19 pandemic and related meeting and travel restrictions, the Ontario CCA Board has made the decision to move the 2021 CCA Conference and Annual Meeting online this year.

The CCA Conference is broken down into four sessions, two per day. You may register for all four or select specific sessions. The sessions will be recorded and posted for two weeks following the event for anyone who registers but is unable to watch live. The online payment portal is now operational and you can register at our website. <http://ccaontario.com/registrations-payments> 🌱

## 2020 Award of Excellence

**T**his year we received five nominations for the CCA Award of Excellence. The Award of Excellence Review Committee has been speaking with the nominators and nominees and, as always, they have a difficult task selecting a winner.

The nominees for the 2020 CCA Award of Excellence are:

Ryan Benjamins  
Bill Gallaher  
Rob Miller  
John Snowe  
Jonathan Zettler

If you know these CCAs, be sure to congratulate them on their nomination!

The winner will be announced on January 14th during the virtual CCA Conference. 🌱

## Welcome New CCAs

**W**e are pleased to announce that in the past eight months there were 28 newly certified Ontario CCAs. Congratulations to:

Francois Bourdon  
Jennifer Cameron  
Sean Cole  
Jonathan Cromwell  
Emma Dieleman  
Tanja Gahwiler  
Cheryl Garniss  
Allison Goetheyn  
Stewart Hosford  
Lindsay Howard  
Jeffrey Huston  
Virginia Janssen  
Saveetha Kandasamy  
Ashley Knapton

Andrew Koetsier  
Casie McCallum  
Taylor McClain  
Sarah Pires-Lipsit  
Richard Robbins  
Jessica Ryder  
Jocelyn Sayles  
Justin Stevenson  
Megan Taylor  
Julia Thompson  
Matthew Underwood  
Tasha Valente  
Kristopher Van Raay  
Bernard Wierenga

We also want to say congratulations to Terry Phillips who received his 4R NMS specialization and Todd Frey who received his Resistance Management specialization in August. 🌱

## 2020 CCA Board of Directors Nominations

**A**s of December 31, 2020, there will be four seats up for the election on the CCA Ontario Board. We received six nominations:

Kristen Carberry  
Phil Emmott  
Steve McQueen

Nicole Penney  
Tarlok Singh Sahota  
Jonathan Zettler

Voting notices have been sent to CCAs with the deadline of Friday, December 11, 2020. Your vote can be cast at the link below: <https://www.surveymonkey.com/r/D936DRD> 🌱

## Exam Registration Changes

**R**egistration for the exam can be done online before December 11th. You can cancel at any time up to the registration deadline. Note that you will only receive a refund for any amount over \$75.00 and that the exam fee is non-refundable after the registration deadline passes.

To register for the exam, visit our website at: <https://www.certifiedcropadviser.org/exams/registration>

Again, this year the CCA exams will be offered online. The exams will be open to registrants from February 3rd to 10th. Your laptop must have access to a webcam as the exam will be monitored by a proctor.

Individuals with disabilities need to notify the Certification Department at 866-359-9161 or [certification@sciencesocieties.org](mailto:certification@sciencesocieties.org) minimum three weeks prior to the exam, and must provide documentation of your disability and notify us of your needs.

If there are any questions regarding this change, please contact [laura.tfio@bell.net](mailto:laura.tfio@bell.net) 🌱

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## New Changes to the CCA Mentorship Program!

**T**he CCA Mentorship Committee is now accepting new applications into the Board Mentorship Program. The application deadline is February 28, 2021.

In its fourth year now, the Mentorship Program encourages newer CCAs to consider taking on a leadership role in the Association, to support CCA members in understanding the organization, and to share in the skills and knowledge of experienced Board members.

It was brought to the attention of the CCA Board that some individuals are hesitant to join the Mentorship Program because of the requirement to present at the CCA conference and AGM. It has now been discussed and decided that you can choose one of the following:

- A short presentation at the CCA Conference
- A poster display and/or booth at the CCA Conference
- Create a short video that will be shown at the CCA Conference
- Other communications method to be used at the CCA Conference (must be approved by the Committee)

**\*\*In addition to choosing any one of the above, the mentee must write a short article summarizing their work for the Spring issue of the CCA Chatter.**

To apply, you must be a CCA in good standing with preference given to CCAs who have been certified within the last five years. If you are interested in applying, you will be asked to complete a short application along with a telephone interview.

Each year, two CCAs will be selected to participate in the Program and they are expected to attend the CCA Board meetings along with any other important related meetings; participate actively in Board and Committee work; and identify a CCA program-related project to work on and complete during the term of your mentorship.

If interested, please contact the CCA office for an application or visit the Ontario CCA website for further details. 🌱

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## Extended Medical Employment Leaves

**I**f you are planning a long-term medical leave from your employment, please advise the Ontario CCA office. We will discuss options with you regarding maintaining your CCA status including accumulation of CEUs. A long-term leave is considered to be anything beyond six months and includes maternity and parental leave. For unplanned leaves, advise the Ontario CCA office as soon as possible. . 🌱

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## 2021 Renewals

**D**on't forget to renew your CCA Membership!

The renewal fee for 2021 is \$145 + HST (163.85)

If you have one specialty designation (either 4R NMS or RMS) your renewal fee is \$195.00 + HST (\$20.35)

If you have two specialty designations, your renewal fee is \$245.00 + HST (\$276.85)

To pay online go to the CCA website and under the Registrations and Payments tab click "CCA Annual Renewal Online Payment".

Your renewal fee is due **January 31, 2021**. A \$25 late fee will be automatically applied on renewals that are received on or after February 1st. Failure to pay your renewal will result in an automatic drop from the program.. 🌱

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## Pay Online with the CCA Website

**W**e offer online payment for not only your annual renewal but for the CCA conference and annual meeting, study guides, and the pre-exam workshop.

Please visit [www.ccaontario.com](http://www.ccaontario.com) and click the Registrations and Payments tab to view all of our online payment options. 🌱

# Transitioning out of the CCA Program

There are various reasons why CCAs may choose to leave the program, however, here are some options for you to consider.

**Voluntarily Withdrawing:** If you no longer wish to maintain your CCA designation you have the option to voluntarily withdraw from the program. This means you leave the program in good standing, as opposed to being dropped. Those who voluntarily withdraw will also have the option to be reinstated without having to retest as long as they make up any required CEUs (within the next two-year cycle) and renewal fees. This only applies if requesting reinstatement within two years of withdrawal.

**CCA-Retired Status (CCA-RET):** Looking at retirement? A CCA may apply for "retired" status to their local board if they have met the following requirements:

1. To be eligible for "retired" status, a person had to be a CCA in good standing for 10 years or more and fully retired (not receiving compensation) in any field related to crop advising.
2. "CCA Retired" is exempt from CEU requirements.
3. If a "CCA Retired" decides to become an active CCA again, he/she has two years to do so without taking the International and local board exams again. After two years, they must take the exams again.
4. Application and approval for the "CCA Retired" status is completed through the local boards.
5. The current annual fee is \$25.00. A "CCA Retired" receives all normal correspondence from International and local programs including Crops and Soils Magazine.

If you are interested in voluntarily withdrawing or getting your CCA-RET please contact Laura at the CCA Office. 🌱

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## Update Your Personal Information

Note to all Ontario CCAs; please make sure that if your personal information changes (mailing address or email) that you update the information online or call the CCA office and let us know.

Contact Laura via email or phone: [laura.tfio@bell.net](mailto:laura.tfio@bell.net) or 519-669-3350 🌱

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## CEU Centre

Please note, if your CEU cycle ends on **December 31, 2020** you need **40 CEUs** with a minimum of five CEUs in each of the four agronomic categories.

Every two years you must accumulate 40 CEUs with a minimum of five CEUs in each of the four agronomic categories. If you have the 4R NMS designation, you are required to have 7.5 CEUs in both the NM and SW categories (up from the regular five). If you have the Resistant Management Specialty, you need 10 CEUs in IPM. With some cycles coming to an end December 31st, it is important to make sure you have the required number of CEUs.

If you do not meet the criteria, it will result in you being dropped from the program. A hardship appeal is the only option to get back in and will involve you having to convince the Ontario CCA Executive and Standards and Ethics Committee that there were extenuating circumstances preventing you from meeting this requirement.

If you are successful with your appeal, any CEUs that were lacking must be made up in addition to the required 40 during the next two-year cycle.

Need a few CEUs before December 31st?

Try the Online Subscription! A subscription to the live webinar and online classroom gives you access online learning tools from the ASA, while saving time and money! The subscription costs \$100.00 USD and gets you unlimited access to numerous educational webinars and most courses for one year. You can earn as many CEUs as you need to meet your CCA requirements from a diverse array of topics that impact your daily work in the field and in the office. <https://www.certifiedcropadviser.org/education/classroom/subscribe>

Check the Ontario CEU event calendar: <http://ccaontario.com/events>

Check out the American Society of Agronomy upcoming webinars: <https://www.agronomy.org/education/online-courses>

As well, the Soil Science Society of America has webinars for CCAs: <https://www.soils.org/education/online-courses>

There is a long list of on-line CEUs as well at [www.agronomy.org/education/classroom/classes/by-category#category4](http://www.agronomy.org/education/classroom/classes/by-category#category4) Scroll down the page to the heading "CEUs". 🌱

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## CCA CEU COVID Extension Request Process

This is only for CCAs ending their CEU cycle on 12/31/20 and are short CEUs. They may request a 12-month, one-time extension that will permanently change their CEU cycle ending date going forward.

- The CCA will be asked to provide a brief description, through email, as to how COVID impacted them and prevented them from earning enough CEUs by the end of the year.
- The request is received at the ICCA office and then is sent to the local board administrator.

Continued on page 4.

- If denied, the local board will provide an explanation for the denial to be shared with the CCA. The ICCA office will monitor all requests.
- If approved, the CEU cycle is extended by one year, and the CCA will continue with a new cycle ending date of 12/31/21.
- All CCAs who are short CEUs will have been emailed on November 25 alerting them to their shortage. This email included alternatives to earn CEUs but also the COVID time extension request as an option.
- Please contact Laura at [laura.tfio@bell.net](mailto:laura.tfio@bell.net) or 519-669-3350 if you have questions. 🌱

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## OSCIA Newly Launched Soil Test Manager

While a soil sample test can return a lot of valuable information, it can be challenging for some growers to interpret and analyze the data to inform and implement best-management strategies. That is where a new web-based app, developed by the Ontario Soil and Crop Improvement Association (OSCIA), comes in. The Soil Test Manager, launched in February of 2020 at the OSCIA annual conference, is a one-stop, user-friendly app that can help farmers better understand their soil test and Ontario fertilizer recommendations.

The app is free to use and is accessed by visiting [soiltestmanager.ca](http://soiltestmanager.ca). In just a few minutes, a grower can enter the data from an OMAFRA-accredited soil test, select from 15 field crops and 33 horticulture crops, and then with the click of a button receive application recommendations for phosphorus, potassium, magnesium, zinc and nitrogen, though nitrogen is only available for horticultural crops. The results can then be sent by email in PDF format.

To help growers better understand the various values reported on a soil test, the app features a section called "know your soil test" that explains the various values and measures found on a soil test report, and advice on how to take a soil test to get optimal results.

The Soil Test Manager app features a 4R stewardship calculator, where growers can input the values related to their nitrogen and phosphorus application for corn, horticulture and vegetable crops. They are then given a score — from one star to four — to help them evaluate their current practices and to see how they stack up against the principles of 4R.

(The excerpts above are taken from a September 2020 article written by Mary Feldskov for Grain Farmer of Ontario)

To hear more about the app and how it works, please visit: <https://gfo.ca/podcasts/graintalk-episode-52-jake-munroe-crosby-devitt/>

To see the app in action, please visit: <https://www.youtube.com/watch?v=vmNbFNTSew0>

Please direct any questions to Micah Shearer-Kudel, programs analyst with OSCIA, at [mshearer\\_kudel@ontariosoilcrop.org](mailto:mshearer_kudel@ontariosoilcrop.org). 🌱

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## Knowledge Efficiently Shared

*By: Steve McQueen, CCA-ON, 4R NMS*

Farming and being involved with the agriculture industry for over 40 years has been a blessing to both me and my family.

The mentorship offered to so many young farmers throughout the years from agricultural associations and their members, is the reason I am crafting this article. As knowledge will remain a key part of future success, the sharing and interpretation of knowledge will create an even greater value.

Crop plans for 2021 are already well under way, even though most of your farm clients' attention will be on the harvest success and just putting 2020 behind them, we need to have a clear understanding of our current actions. As farmers intently watch their yield monitors and gasp and sigh, the information they see and hopefully share with you is worth retaining. Secondly, it is well worth your while to advise growers to check their mirrors, or even take a walk around the combine to investigate the even spread of crop residue. There are many wheat fields showing uneven spread patterns from soybean straw as well as pea and lima bean residue issues.

Remind growers, this is also a great time to gather soil samples to have data available for crop management throughout the winter months. It is very difficult to manage what you cannot measure. It is also good to make sure they or you sample each field at similar times as fall tests right after harvest will vary from spring samples in the same fields. Consistency is key to all their and your management decisions. 🌱

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## CCA Online Store

Check out the CCA an online store, where you can purchase CCA t-shirts, mugs and window decals. The t-shirts are a navy blue polo style, and come in a wide range of sizes from small to XXL. The mugs are a dark blue and brown color made by Pavlo Pottery. There are two styles of decals offered, vehicle and office/business style. The vehicle decals are 3" circles while the office/business ones are rectangular and 6" in height and 4" in width. Order forms can be found on our CCA website under the "online store" section and can either be emailed to Laura at [laura.tfio@bell.net](mailto:laura.tfio@bell.net) or mailed to 39 William Street, Elmira, ON N3B 1P3. 🌱



## AgScape

**H**elp inspire the next generation of crop advisors! AgScape is an Ontario charity that brings agriculture in Ontario classrooms. If you have any teachers in your life, let them know they can request a lesson from a certified Ontario teacher on a wide variety of topics for their Grade 7-12 classroom. This year lessons are delivered 100% virtually to any classroom in Ontario. AgScape can offer these lessons to Ontario teachers completely free due to their generous partners within the ag and food community – so if you know a teacher, let them know this amazing resource is available to them! <https://agscape.ca/request-ta>

Looking to inspire the next generation yourself? You can also volunteer with AgScape and take part in a virtual career competition. Each career competition features a variety of agriculture industry representatives who run hands-on stations related to agriculture, food and careers. Students, organized in groups, will rotate between each station every 10-12 minutes to learn about agriculture and food through a fun and interactive way. Volunteer today and you'll be able to open student's eyes to the amazing possibilities that a career in agriculture can offer. <https://agscape.ca/volunteer>. 🌱

## Pest Management Regulatory Agency's (PMRA) Proposed Changes to Tank Mixing in Canada

By: Terri Stewart, CropLife

**S**ince 2009, under the PMRA tank mix policy growers can tank mix pesticides as long as they follow the most restrictive label. In July, PMRA held a public consultation proposing to change this policy so that unlabeled tank mixing would no longer be permitted in Canada. The impetus for this change was a new interpretation of the Pest Control Products Act (PCPA) and is not associated with an identified risk of concern with unlabeled tank mixing. PMRA also expressed the potential that the proposed policy change may come into effect immediately upon finalization of the proposal – essentially making unlabeled tank mixing illegal overnight.

PMRA is currently reviewing the significant number of comments received from stakeholders – largely from the pesticide industry and grower associations across Canada. The aligned messaging of these stakeholders is that the current tank mix policy should remain in place as it is fit for purpose and supported by a long history of safe use. Stakeholders supported this request based on the below factors.

- Proposed changes are administrative in nature (i.e., not based on an identified risk).
- Proposed changes may increase growers' environmental impact.
- Regulations should be as least disruptive as possible – pointing to other mechanisms to allay PMRA's concern that their policy is not aligned with the PCPA.
- Immediately rescinding the current policy is unnecessarily disruptive to Canadian agriculture a key driver to Canada's economic recovery.
- Proposed changes are not aligned with the broader government approach to reduce regulatory burden that would create barriers to innovation and competitiveness.

Should PMRA decide to continue with their approach, stakeholders maintained that it should be done in a manner that is the least disruptive as possible – which includes an appropriate implementation timeline (i.e., at least 5 years) prior to rescinding the current policy. Currently, PMRA has not indicated how long it will take them to consider comments and publish a final decision on this proposed policy change. 🌱

## Job Postings

**I**f your company is looking to fill vacant positions within your organization, you can post those opportunities on the CCA website.

To view current job postings please visit: <http://ccaontario.com/careers>

Please let your human resource departments know that this service is available. Ads will remain posted for 30 days unless otherwise specified. The fee to post is \$350 + HST for the first 30 days and additional 30 days are available at a reduced rate of \$150 + HST. 🌱



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# Industry Updates

## Ontario Soil and Crop Improvement Association

*Submitted by: Stuart Wright*

As with much of the rest of the planet, the Ontario Soil and Crop Improvement Association faced many challenges in 2020. Our staff has not set foot in our 1 Stone Rd office in months. Zoom, Teams and email have become our best friends and many planned summer events for our 50 plus counties were cancelled or became virtual. The bright side of all of this is the flexibility and adaptability of our staff and members that has shone through in difficult circumstances providing us with the opportunity to continue to do our work.

Our cost share programs, CAP and Leads, have continued to be available to Ontario farmers. Of course, the Farm Health Checkup program with excellent support from CCAs continues as well as our various workshops with some virtual and some social distancing. We have had some funding issues with our Species at Risk programs but hope to have those ironed out soon. Our new ventures such as ONFARM and Living Labs are getting off the ground, especially with ONFARM boasting 25 co-operator sites now established and showing great potential to achieve its goal of verifying Best Management Practices. There were four events held across the province recently with invited stakeholders highlighting sites and the work being done there.

Other initiatives of the association included refreshing our Strategic Plan as the previous five-year plan expired. Several

Zoom meetings with the provincial directors, executive, staff and facilitator produced a document focusing on applied research, membership, new opportunities for the association and enriching the office culture for our valuable staff. This will guide us going forward and strengthen OSCIA with its renewed vision.

We hope to have a full slate of virtual Annual General Meeting's happening in all of our counties this year. The executive decided earlier this year to provide financial and training support to help locals adapt to the need to use technology. Technology was also front and centre as our online newsletter "The Innovator" was launched in June saving considerable financial resources and serving our members better. Our OSCIA Annual Meeting will be a combination of provincial directors and staff meeting face to face in Guelph with careful social distancing in effect while delegates will join virtually. Work is still being done on logistics and agenda but the date will be February 2nd and 3rd.

As you probably know three high profile events that OSCIA is a big part of will be combined into the Ontario Agricultural Conference virtual event. We at OSCIA hope that opportunities for CEUs from this event and the virtual Diagnostic events held this summer will be adequate to serve CCAs requiring them and wish everyone the best in their quest for ongoing knowledge.

Finally, on a personal note my term on the CCA Board is expiring this year. While a decision has not been made as to who the OSCIA rep will be, if this is my final year, I want to take the opportunity to thank Susan and Laura for their work and let everyone on the Board know how much I enjoy their company and respect their abilities.

## Agriculture and Agri-Food Canada

*Submitted by Keith Reid*

As with most offices, AAFC has changed to a mode of remote offices in response to the COVID-19 pandemic with almost all of our interactions by way of email or zoom meetings. Research farms were opened for outdoors work in May, but most of the plots are in a "caretaker" mode with crop rotations maintained but very limited data collection. Indoor laboratories have re-opened to allow analytical work to proceed, but are limited to one person in a lab at a time so most are operating on split shifts. Our remote networking capacity has been greatly increased to allow more effective remote work, and it appears we will be continuing to work remotely for the foreseeable future.

The Living Labs initiative in Ontario has officially begun. The AAFC leadership team are Pamela Joosse at Guelph and Eric Page at Harrow, with Natalie Feisthauer as the Field Coordinator. The industry lead is the Ontario Soil and Crop Improvement Association, in collaboration with the Innovative Farmers Association of Ontario, the Ecological Farmers Association of Ontario, and a number of Conservation Authorities. Six field sites in the Lake Erie basin have been selected, and the focus of the field trials will be Soil Health, Water Quality and Watershed Management. Baseline soil sampling is planned for this fall, along with installation of monitoring equipment if weather permits. This is intended to be a flexible program to facilitate collaboration between AAFC scientists and farm organizations to answer

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**Published by:**

**Patrick J. Lynch CCA-ON**

**Jonathan Zettler CPA, CMA, CCA-ON 4R-NMS**

questions that are of direct relevance to the farm stakeholders. While the funding model does not provide for payments to agribusiness, it is hoped (expected?) that CCAs will be aware of the work that is going on, and will participate as able.

## Conservation Ontario

*Submitted by Michael Dick*

Conservation Ontario (CO) and the Conservation Authority (CA) network continued to partner and deliver Ag Environmental Program Initiatives in 2020. CAs have developed various guidelines for fieldwork, operations and outreach as we all manage through the COVID 19 Pandemic.

CAs deliver services and programs that include rural/clean water quality initiatives on behalf of a number of municipalities across Ontario. These programs help protect private and municipal drinking water sources. The expertise and funding CAs provide often leverages the support provided in collaboration with provincial and federal government agencies, Certified Crop Advisors, agricultural producers and commodity groups. Specifically, Ontario Soil and Crop Association, Soil Research Group, Agriculture and Agri-Food Canada, Ontario Ministry of Agriculture and Food and Environment Canada and Climate Change are some key partners. Financial support comes in part from the Great Lakes Protection Initiative, ONFarm and the Canadian Agricultural Partnership.

In addition to providing financial support to producers for project implementation (eg. cover crops, shelterbelts), CAs support research and subwatershed monitoring of water quality and flows, in addition to soil health data that helps evaluate BMP efficacy. A systems approach is needed to reduce P loadings and improve soil health. CAs also continue to lead education and outreach events in collaboration with local partners and all levels of government to demonstrate actions, economic and environmental outcomes and promote adoption.

CAs and CO collaboration includes the following Industry and Producer Led Initiatives

- CO and CAs participating at the Lake Erie Action Plan Implementation Table and affiliated Task Teams including Adaptive Management, Natural Heritage, Economic Benefits
- CAs and CO are also engaged in the ONFarm Program – including priority subwatershed projects, Technical Working group and Stakeholder Engagement Working Group
- CO represented at 4R Ontario Steering Committee and promoting 4R
- CO Participating in Soil Action Group – led by OMAFRA
- CO also represented on “Soils at Guelph” and “Soil Health Marketing/Communications Group”
- CO represented at Great Lakes Water Quality Agreement Bi-National Nutrients Annex Subcommittee
- CO represented on Certified Crop Advisors, Ontario Professional Engineers Land Drainage Committee, Lake Erie Agricultural Stakeholder Working Group

In 2018 CAs reported the following:

### Water Quality Improvement Projects

- 737 landowners engaged, resulting in 683 projects
- \$3,127,918 in grant dollars given out (estimated total value of \$7,624,775)
- 63% grant dollars from municipal sources, 21% federal, 10% provincial and 6% from other sources
- 82% of the projects were agricultural

### Reforestation/Tree Planting Programs

- 1,896,233 trees planted on 1,110 hectares of land
- 2,078 landowners engaged, resulting in 1,173 projects
- \$4,435,856 in grant dollars given out (estimated total value of \$5,027,918)
- 35% grant dollars from municipal sources, 29% provincial, 3% federal, and 21% from other sources
- 44% of the projects were agricultural

### Water Supply and Septic Management Projects

- 254 projects were completed, including decommissioning unused water wells, private sewage septic systems and wellhead protection.

Continued on page 8.

The graphic features a teal background. At the top left is a white icon of a farm with a barn and trees. To its right, the text 'FARMLAND HEALTH CHECK-UP' is written in white, with 'FARMLAND' and 'HEALTH' on one line and 'CHECK-UP' on the next. Below this, a white speech bubble contains a teal silhouette of a person and the text 'Assessments made easy with new online tool' in teal. Underneath the speech bubble, a white rounded rectangle contains the text 'LEARN MORE AT OSCIA.ORG' in teal. At the bottom, there are three logos: the Canadian Agricultural Partnership logo (a stylized 'C' and 'A' with horizontal lines), the Ontario logo (a stylized 'O' with a leaf), and the Canada logo (the word 'Canada' with a maple leaf).

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## Farm & Food Care Ontario

*Submitted by Les Nichols*

For Local Food Week in June, in partnership with OFA and Agscape, they hosted six "Farm to Facebook" tours with farmers from across Ontario: eggs, greenhouse, grain, turkey, dairy and two cooking demonstrations using an all Ontario menu. The tours reached an incredible 50,000 viewers!

FFCO is filming three new Virtual Reality Tours – beef, chicken and turkey - to go live in November. Since the COVID-19 pandemic began, the FarmFood360 website has seen an increase of 1,315% in viewer traffic. More than two million visitors to the site by September compared to 611,000 last year.

The fifth edition of "The Real Dirt on Farming" will be released in November. Several new additional topics will be highlighted in this edition including drone and robotic technology, plastic recycling strategies, antimicrobial use reduction in agriculture, etc. In addition to traditional distribution, they plan digital and social media campaigns to accompany the publication. They are also very pleased with this addition to partner with Agriculture in the Classroom to develop a teacher's guide to accompany the publication. Available early in 2021, the resource will extend the reach of the booklet into classrooms across Canada.

In response to the inability to hold in-person training sessions, FFCO is now offering shortened Speak Up and media training sessions online as well as online Livestock Emergency Response Workshops.

## OMAFRA

*Submitted by Christine Brown*

It has been a different kind of year for the OMAFRA Field Crop Team since mid-March, but like every other organization adapting how business is done has led to new ways of connecting and working on important projects.

Issues that have been identified include a corn rootworm resistance in continuous corn. Work is on-going to potential solutions and livestock industry (nutritionists) have been included in helping find alternative feed options for replacing corn in livestock rations.

The Ag Business Breakfast Meetings that began in April took a different approach this year via Zoom. Diagnostic Days were also delivered in a different format where the sessions usually hosted in one day at Ridgeway, Elora and Winchester were spread as a series every other week over several months. Most were pre-recorded and recorded sessions are available until about mid December. There were over 400 people that viewed most of the sessions although not all on the date the session was aired. If an individual wanted CEU credits, they paid a flat fee for all sessions otherwise it was free (sponsored by GFO).

The ONFarm project was initiated this spring as part of a CAP long-term demonstration project by OSCIA (similar to Tillage2000 projects from the late 1990s). OMAFRA soil team helped OSCIA and project consultants with site selection and some soil initial sampling. There are about 25 locations distributed among five regions of Ontario – it covers the province and looks at comparing best management practices for improving soil health. This should give insight to the impact on soil health from various BMPs.

The Soil Team is working on the next steps to the Farmland Health Checkup – Soil Health Assessment Plan – for people that want additional information. OMAFRA staff met with consultants last year and were told it needs to be simplified and in digital format. Current efforts are also exploring an economical biological soil test that provides insight to soil health and provides a baseline and measure for continuous improvement.

The Soil Team conducted a cover crop bio-mass survey over a 3-week period in October. Anne Verhallen took the lead and put a post on Twitter inviting farmers to fill out information about their field and return it. Returned forms gave location and permission to collect biomass samples from different parts of identified fields and will provide insight into the impact of various mixes, planting dates, timeliness of rainfall, addition of manure and soil texture on dry weight biomass accumulation in the top growth. In total about 100 fields were sampled with results expected over the winter.

AgriSuite nutrient management software is continuing to be updated with five calculators now completed. The Crop Nutrient Calculator (Sep 2019), the Organic Amendment and Fertilizer Calculator (Jan 2020) and the Phosphorus Loss Assessment Tool (PLATO) (Mar 2020). These four stand alone calculators have been incorporated for the Field Management Plan Tool (Sept 2020) to help with whole field nutrient management planning.



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Currently the development team is working on the manure production and storage calculations (release expected early April 2021) and the regulatory nutrient management planning tools. Comments from CCA users are welcome.

The Manure Expo was postponed until August 25-26, 2021 and will go ahead at the same planned location regardless of COVID restrictions, hopefully as an in-person event but more likely as a hybrid of in-person and virtual.

The Ontario Agriculture Conference is currently being organized for early January and will look to have live and pre-recorded events. This event will combine the Southwest Agricultural Conference, FarmSmart and Eastern Ontario Crop Conferences.

The Soil Team is organizing a strip till series which will premiere in December (with opportunities for CEU credits) and will be three episodes. The first one will be on tools and equipment set up, the second on cover crops and strip till, and the last on fertility and manure on strip till.

## University of Guelph

*Submitted by Dave Hooker*

- Brett Shepherd is the new campus director of Ridgetown Campus as of Nov. 16, replacing Ken McEwan
- Many programs on the main campus and the Ridgetown Campus will be delivered online in the winter semester in 2021
- The new Field Crop Services Building is under construction at the Ridgetown Campus, with completion expected in 2022
- Dr. Helen Booker started as the new wheat breeder in Plant Agriculture, replacing the late Ali Navabi. Helen started in July, coming from University of Saskatchewan.
- University of Guelph had a hiring freeze since COVID started, but that freeze has ended. We are in a position to replace Dr. Bill Deen with a cropping systems agronomist with a focus on the major field crop areas in central and southern Ontario, since Josh Nasielski's position focuses on the North and the East.
- The OMAFRA / UofG Research Alliance program has seen some important changes – in particular, that they are publishing very specific research questions that they want addressed – there are no operating dollars for other projects. When partner organizations like GFO who might like to see their investments leveraged with OMAFRA money, they need to be pay attention to those OMAFRA research questions when they design their programs and make their funding decisions.
- Plant Agriculture will be splitting the Crop Horticulture and Turfgrass Specialty major back into Crop Science and Horticulture. This will provide more focus for students in both majors, and probably also help with recruitment. 🌱



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<i>Match Application Rates with Crop Input Response...</i>		
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Nitrogen/Sulphur/Boron	Yes	?
Phosphorus/Potassium	Yes	?
Liming/Soil Amendments	Yes	?
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## BT CORN 101

Almost 90 percent of the corn grown in Canada has been genetically engineered to resist pest insects.<sup>1</sup> These transgenic crops are created using genes made by *Bacillus thuringiensis* (Bt), a common soil bacterium that produces proteins which are toxic to some insect pests. Bt corn, as it is commonly known, produces proteins that target very specific pests.

Bt corn hybrids have proven to be very effective at protecting yield and quality loss caused by European corn borer (ECB) and corn rootworm (CRW). The use of Bt corn has also resulted in less insecticide use for control of these target pests which is good for natural populations of beneficial organisms.

### HOW DOES BT WORK?

When the pest feeds on the Bt plant, the Bt proteins bind to receptors in the insect's gut, causing the gut wall to break down and rupture. The Bt proteins produced in these corn products are lethal to the larva stage of specific moths (*Lepidoptera*) and beetles (*Coleoptera*). Within hours, the larva stops feeding and death occurs within 24 to 48 hours.

The proteins must bind to specific receptors in the insect's gut to work. Mammals, including humans, do not have these receptors and are unaffected.

### NOT ALL BT TRAITS WORK ON ALL PESTS

There are several strains of Bt, each producing different insecticidal proteins, such as crystal proteins (Cry) and vegetative insecticidal proteins (Vip). Different Bt proteins or toxins work against different insect pests.

Due to the complexity of available traits and the fact that certain proteins are only effective on certain pest species, it is important to understand the circumstances under which specific Bt traits are needed. Be aware of past performance of traits, current or expected pest pressures for each field, and previous crop rotations to make better Bt trait decisions.

**Be aware of past performance of traits, current or expected pest pressures for each field, and previous crop rotations to make better Bt trait decisions.**

The table below lists the various Bt genes that exist in Bt hybrids today along with their primary targeted pests.

Bt genes	Target Pest		
	Lepidopteran		Coleopteran
	European Corn Borer (ECB)	Western Bean Cutworm (WBC)	Corn Rootworm (CRW)
Cry1Ab	✓		
Cry1F	✓		
Cry1A.105	✓		
Cry2Ab2	✓		
Vip3Aa		✓	
Cry2Bb1			✓
Cry34Ab1/Cry35Ab1			✓
mCry3A			✓
eCry3.1Ab			✓

## STACKED HYBRIDS VS. PYRAMID HYBRIDS

Each trait is targeted to specific pests using different modes of action (MOA) whenever possible. Insects are less likely to develop resistance to multiple MOAs compared to a single MOA because it is much harder to evolve resistance to two or more Bt traits at the same time. Bt corn hybrids can contain different combinations of MOAs or traits.

Many products today are stacked with multiple traits (could be targeted at insects, herbicides or other traits). Any hybrid that has multiple traits can be referred to as a “**stacked hybrid**.”

The term “**pyramid hybrid**” is reserved for products that contain multiple traits which target just one pest, i.e. the product has multiple modes of action per pest. For example, a hybrid that contains Cry1F and Cry1Ab which both target ECB would be considered a pyramid. Typically, pyramided hybrids can be sold with reduced refuge requirements with the refuge mixed into the bag for automatic refuge compliance.

A list of **Bt Corn Products/Traits Currently Available in Canada** is available at [cornpest.ca](http://cornpest.ca). This table also lists the percentage of refuge corn hybrid that is needed.

**MOA = Mode of Action or the way the trait kills the pest. Different traits/genes have different MOAs.**

**You can help delay the development of pest resistance by using products with multiple MOAs (Bt traits) that work independently against a target pest. These products are also known as pyramid products. For example, Cry1F and Cry1Ab target ECB.**

<sup>1</sup> iFusion Research Bt Corn Insect Resistance Management Study, Survey of Bt Corn Growers – August/September 2019

For more information, visit [ManageResistanceNow.ca](http://ManageResistanceNow.ca)

This information is brought to you by CropLife Canada and the Canadian Corn Pest Coalition.



## The Real Dirt on Farming 2020 is now Available

Farm & Food Care officially unveiled the fifth edition of *The Real Dirt on Farming*, its flagship public-outreach publication, at its virtual Harvest Gala on November 14. In total, more than 25 companies and agribusinesses across Canada supported the 2020 initiative, including the Ontario Certified Crop Advisors Association with funds raised during the silent auction at the annual CCA Conference in January.



*The Real Dirt on Farming* is a nation-wide initiative designed to help Canadians connect with their food and the farmers that produce it – who they are, what they do, and why they do it. Using stories and credible science, the 60-page publication addresses common questions and misconceptions about food and farming in Canada.

The booklet is created through a partnership of the three Farm & Food Care organizations in Saskatchewan, Ontario and Prince Edwards Island. An expert committee comprised of researchers, commodity and subject matter experts were also involved in reviewing and vetting content which was determined, in part, through questions asked by the Canadian Centre for Food Integrity in its annual public trust survey of Canadian consumers.

Food safety and farming's impact on the environment are key areas of concern among Canadian consumers. Explanations of Integrated Pest Management, 4R Nutrient Stewardship, crop rotation, Environmental Farm Plans, conservation tillage, soil health, cover crops, GMOs and pesticides were updated or expanded in the newest edition to reflect advances in science, changes to regulations, global events and consumer questions. To keep pace with Canada's changing food and farming landscape, many new subjects have been added including Indigenous agriculture, medicinal and ceremonial crops, plant-based proteins, regenerative agriculture, single-use plastics and sustainable packaging.

The 2020 edition also includes a significant focus on careers in agriculture with feature stories on 32 people working different careers across the country including primary producers, animal care researchers, plant scientist, regulatory affairs manager, software developer, chef, Registered Dietitian, Seasonal Agricultural Worker, Entomologist and more.

This is the fifth edition published since the project's inception in 2006. To date, 4.5 million copies have been distributed across Canada to libraries, doctors' offices, Registered Dietitians, political leaders, educators, and through inserts in national publications.

New this edition will be a classroom resource currently being developed by Agriculture in the Classroom Canada. This resource will be completed in the winter of 2021 and will be distributed, along with the booklet, to classrooms across Canada with the help of provincial agriculture in the classroom organizations.

The project was funded, in part, through the AgriCompetitiveness program of the Canadian Agricultural Partnership, a federal, provincial, territorial initiative.

The publication is currently available online on a newly-developed website at [www.RealDirtOnFarming.ca](http://www.RealDirtOnFarming.ca). Hard copies may also be ordered from the website. Both a digest version and a French translation of the publication will be available in hard copy and online in January 2021. 🌱

## How Best to Address Bt Rootworm Resistance in Ontario

Tracey Baute, OMAFRA Entomologist – Field Crops

Multiple fields with different pyramid hybrids (containing two Bt rootworm proteins) had unexpected injury in Huron, Perth and Durham this summer. Crop losses up to 50% were reported. This indicates that Bt resistance to multiple proteins is occurring in the rootworm (RW) population. This issue is not isolated to these three counties, as high-risk fields can be found across Ontario. High risk fields have been in corn for at least three years, with repeated use of Bt-RW hybrids. If adequate mitigation measures are not taken in 2021 and 2022, continuous corn producers will no longer see stable yields and could experience feed shortages.



Three of the four Bt-RW proteins have similar modes of action. Resistance to one protein results in resistance to the other two, even without the pest being exposed to them (i.e. cross-resistance). With only one functioning Bt-RW protein left, resistance to that protein may develop faster. Resistance will remain among rootworm populations. However, measures can be taken to keep the number of resistant individuals low, which will allow the use of Bt-RW hybrids when needed most.

The first step is to reduce the total rootworm population. The only way to achieve this is through crop rotation since RW larvae need corn roots to survive. Producers should avoid planting corn in 2021 and 2022. Livestock producers should consult with a nutritionist when developing a crop plan, as alternatives to corn have different nutrient contents. Cereals may replace grain and high-moisture corn. Double-cropping winter cereals and sorghum-sudangrass may replace silage corn. Swapping acres with fields in three-year crop rotations is also an option, so long as the field wasn't in corn the previous year; Bt-RW hybrids won't be required in these rotated fields.

If crop rotation is not an option, the next best choice is to plant a non-rootworm Bt hybrid (i.e. for WBC or ECB only) and use either soil-applied insecticide or high rate insecticide seed treatment. This protects the roots and won't expose rootworms to Bt-RW proteins, but it will not reduce the population. Switching to a different pyramid Bt-RW hybrid may not provide adequate protection and will continue to push resistance development.

Once mitigation measures have been taken, a more sustainable rootworm management strategy must be encouraged. Growing corn no more than three years in a row, then rotation away from corn is a sound approach. Rootworm populations would be knocked back every four years and will likely not build to high enough levels to require Bt-RW hybrids until year three of corn. This results in rootworm only being exposed to Bt-RW proteins once in four years and helps to restore the durability of current Bt-RW hybrids.

More information about Bt resistant rootworm and recommended mitigation strategies can be found at Field Crop News: <https://fieldcropnews.com/?s=rootworm> 🌱

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