

# Heartland

June 2017

## Soil & Crop News



### Perth County Women In Agriculture 'Expand their Reach'

Kaye McLagan takes the reins of  
Perth County SCIA

Soil Conservation Council of  
Canada tours Heartland  
Region

**+ OMAFRA Crop Talk | OSCIA News | County Updates**

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COUNCIL OF CANADA  
CONSEIL CANADIEN DE  
CONSERVATION DES SOLS

# SUMMIT ON CANADIAN SOIL HEALTH

August 22-23, 2017 – Delta Hotel, Guelph, Ontario

**S**ummit-17 will have implications for all Canadians. Soil health and conservation are critical to managing issues that impact all of us – our food supply, carbon sequestration, water quality and biodiversity.

The **first purpose** of this Summit is to establish the cost for soil degradation where we can, and to set a costing agenda where we presently have too little information. Those costs are particularly important to justify and implement policy that will contribute to soil care and protection.

While cropland soil degradation has cost consequences for food production and the economy, it also brings costs for water quality and quantity, for lost soil carbon to the atmosphere and for natural heritage lands that are impacted. These costs accrue and affect everyone beginning with farmland owners and operators.

The **second purpose** of Summit 2017 is to identify the means to overcome degradation and improve soil so food production can be reliable and sustainable. Where there are technology gaps that inhibit progress on this front, those gaps need to be identified and prioritized for research.

## Soil Health Research Tour

The Tuesday Tour Day highlights the latest information from researchers, extension personnel and farmers as they demonstrate what they are doing to improve soil health and reduce carbon and nutrient loss from agricultural systems.

## Evening Program

The Summit program Tuesday evening includes special guests, the SCCC awards program, announcements and a pacesetter keynote speaker followed by a networking reception.

## World-Class Scientists

The roster of speakers and participants assembled for Summit 2017 include world-class scientists. Some have experience with the Food and Agriculture Organization (FAO) of the United Nations, the United Nations – University Institute for Water, Environment and Health, the World Bank and the Canadian International Development Agency. All have distinguished careers in soil and related sciences, and are supported by some of our best in academia, extension and the agriculture industry.

## Leading-Edge Farmers

Relevance to real issues and solutions will be ensured through participation by a farmer panel from across Canada. They represent grain farmers, ecological farmers, grassland farmers, vegetable farmers and farmers who share their space with nature.

## Challenge and Wrap-Up

The Summit challenge speaker will bring focus to who is responsible and why we must not fail as custodians of foodland soil.

All speakers at this Summit are committed to raising the bar on soil care.

**VISIT [SOILCC.CA](http://SOILCC.CA) FOR MORE INFORMATION AND TO REGISTER**

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A quarterly newsletter representing one of 11 Regional newsletters produced 4 times a year in conjunction with the Provincial Newsletter and OMAFRA Crop Talk.



*Proudly serving the members of Huron, Perth, Waterloo and Wellington County Soil and Crop Improvement Associations*

*(Heartland Soil & Crop News is published 4 X a year)*

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## From the editor

Now that the cool, wet spring has given way to warmer temperatures, I hope that all of our members managed a successful **#plant17** despite the many challenges that were thrown your way. As I go to press with this June edition of the Heartland SCIA newsletter, Twitter is telling me that planting season is wrapping up for a lot of folks. But as we know, there is no rest for the farmer as they have to make hay when the sun shines — and there is lots of activity on Twitter indicating that is happening too! Here's hoping that the weather is a little more cooperative as the growing season rolls on.



My husband, Steve Knudsen and our 3 children — Audrey, Dominic and Ellie.

It's shaping up to be a busy summer in Heartland Region and in **#OntAg**, with events and activities aimed to educate and inspire — Perth and Wellington's annual Twilight meetings, Waterloo's first-ever bus trip to Quebec, FarmSmart Expo and the Soil Conservation of Canada's annual conference — are among the many events that I might see you at over the coming months. While harvest-time seems like it's a long way off, it won't be long before we'll be gathering at the Outdoor Farm Show in Woodstock or the International Plowing Match hosted by the County of Huron near Walton.

For me, August will mark my one-year anniversary as Regional Communications Coordinator for Heartland Region. What a year it's been! In June last year, my husband and I, along with our 5-year-old daughter, went from a family of 3 to a family of five overnight when we adopted a newborn baby and her 14-month-old brother. I decided then that I would stay home for a few years to focus on my family, but then just a week after Ellie's sudden arrival I saw an ad for a part-time position with Heartland Soil and Crop. Never one to sit idly on the sidelines, I thought I might enjoy the opportunity to keep my marketing and communications skills fresh and to get out once in a while to talk to adults — and I was right! Over the past year I've had the privilege to work with dedicated and enthusiastic volunteers who are passionate about soil health and improving crop practices. The strength of Heartland Region definitely comes from its four member associations and the volunteers who make things happen.

As I wrap up my first year, I want to extend a big thank you to the board of directors of Heartland Region, especially president John Poel and provincial director Stuart Wright for their patience and guidance.

I look forward to a lot more great things to come in the next year as your RCC!

Mary Feldskov  
heartland.scia@gmail.com  
519-669-5608

## Soil Conservation Council of Canada 2017 Summit on Canadian Soil Health

*Heartland Region agriculture will be showcased to attendees from across Canada*

Hosted in Guelph, Ontario August 22-23, the Soil Conservation Society of Canada (SCCC) will address ***The Costs and Consequences of Soil Degradation***.

Stakeholders from across Canada will take part in the 2-day event that will include a pre-conference bus tour through Heartland SCIA, showcasing the work that SCIA members, among others, are doing to improve soil health.

The bus tour features:

- **Elora Research Station, University of Guelph**  
Soil Health and Soil Ecosystem Services, Dr. Claudia Wagner-Riddle, Professor, University of Guelph  
Environmentally Sustainable Cropping Systems, Dr. Bill Deen, Associate Professor, University of Guelph
- **Perth SCIA Demo Farm, Bornholm**  
Reduced-Tillage Demonstrations, Peter Johnson  
Soil Remediation and Landscape Restoration, Adam Hayes, OMAFRA  
OSCIA Projects that Enhance Soil Quality, Andy Graham, OSCIA
- **Bob McIntosh's Farm, St. Mary's**  
27 Years of No-Till - Farm Overview/Lessons Learned, Bob McIntosh  
Soil Management Impacts on Water Quality, Kevin Mckague, OMAFRA and Janina Plach, University of Waterloo

Following the tour, the summit returns to the Delta hotel in Guelph where there is a robust program of speakers, break-out sessions and panel presentations on a wide variety of topics.

Alan Kruszel, a past-president of OSCIA, is the current chair of SCCC. Heartland SCIA would like to thank Alan for the opportunity to support this event and to showcase the soil conservation work being done in Heartland Region. For more information, visit [www.soilcc.ca](http://www.soilcc.ca)



It's shaping up to be a busy summer in Heartland with county events and the extra added excitement of the Canadian Soil Summit to be held in and around Guelph in August. I wish everyone good luck with the weather for their events. As I write this in late May good luck would not be the way I would describe what has happened during the course of the planting season, but hey it can only get better and I'm sure we will be basking in warm sunshine for all our events.

I want to take this opportunity to thank everyone again for their participation in board training in Listowel earlier this spring and a special thanks to Heartland chair John Poel for attending the Regional

training event in Guelph. OSCIA is committed to offering support to the local associations and regions and your cooperation and participation is always appreciated.

Lets remember the opportunity we have with Association Development Advisor Brittany Roka and find ways to use her talents to help us continue to grow in Heartland.

As part of the executive I will be getting the opportunity to take part in Executive Outreach activities for the first time where the OSCIA travels to a region and discusses their specific issues. St.Clair region in the south will be our destination

this July. Also I will be attending the Summer Meeting in August hosted this year by Peter McLaren in the east near Perth Ontario (the town, not the

county!) I am looking forward to reporting back to you on all I learn and hope to bring back something our provincial neighbours are doing that we could also benefit from in Heartland.

Best of luck this summer and hoping to see everyone at your county events!!



## UPCOMING EVENTS

**June 28:** Perth County SCIA Twilight Meeting. See advertisement on p. 6.

**June 29:** Ontario Forage Expo 2017, Ingersoll. Contact Ray Robertston, Ontario Forage Council, 1-877-892-8663 for more information.

**July 13:** FarmSmart Expo, Elora Research Station. See advertisement on p. 10.

**July 15:** OSCIA Forage Masters competition deadline. More information: [www.ontariosoilcrop.org](http://www.ontariosoilcrop.org)

**July 20:** Wellington SCIA Twilight Meeting. See advertisement p. 12.

**August 16-18:** Waterloo SCIA bus trip to Quebec. See advertisement p. 11.

**August 22-23:** Soil Conservation Society of Canada Soil Summit. See advertisement p. 2.

**September 12-14:** Canada's Outdoor Farm Show, Woodstock.

**September 19-23:** International Plowing Match and Rural Expo, Walton, Huron County.

# PSCIA Invites You to....ANNUAL TWILIGHT MEETING

**June 28<sup>th</sup> 2017, 5:30-8pm**  
**5936 Line 44 Bornholm, Ontario**

**5:30pm – Bacon on a Bun \$10/Members, \$15/Non-Member**  
**6-8pm – Speaker Stations**  
**NEW! ‘Novel Crop Stop’ Learn more about Quinoa in Perth County!**

**RSVP: [perthscia@gmail.com](mailto:perthscia@gmail.com) or 519-272-5525**

# Expand your reach: Perth County Women in Agriculture

Kaye McLagan grew up tagging along with her dad to Soil and Crop events in Perth County. She jokes that she liked going as a kid because she always got donuts, but also learned about crops and soil conservation too. As she got older, and joined the agriculture industry as a young professional, she realized the organization's potential to help her in her career as well. "I realized it was a great system to bring growers together to share knowledge about what is working in their fields, share new and innovative agronomic practices and to have a support system within each county."

It was her dad, a long-time board member, who first invited Kaye to join the board of directors of Perth SCIA, and earlier this year Kaye was elected as president, the first woman to hold the position in the county.

Kaye represents the changing face of the agriculture industry — while still a male-dominated industry, women are gradually increasing their sphere of influence both as farm operators and agri-business professionals. According to Statistics Canada, the 2016 Census of Agriculture reported that 28.7% of farm operators are women, and this number increases to 40% on multiple-operator farms.

While women represent more than a quarter of all farm operators in Canada, there is still a lag in women taking leadership roles in farm organizations like Soil and Crop. Kaye is one of only a handful of women presidents of county associations, and the county boards and membership are still primarily men. The Ontario Soil and Crop Improvement Association currently has only 1 woman on its provincial board of directors.

Recognizing that there is an opportunity to engage more women in the organization, Kaye approached the Perth County board to host an Ag Women's Network event in Perth County — and was met with resounding support from her fellow board members. In March, more than 80 women gathered at the Stratford Rotary Complex to take part in *Expand Your Reach: Perth Women in Agriculture Social*.

The event featured dinner, a time for networking, and guest speakers Christina Crowley-Arklie and Claire Cowan.

Cowan, a co-founder of North American Plant Genetics, highlighted some of the challenges that women face in the agriculture industry,



More than 80 women attended the Perth Women in Ag Social

including lack of representation in senior leadership, the gender wage gap, and sexism and sexual harassment. She encouraged the attendees address these challenges head-on to help create the change needed to empower women as leaders in the agriculture industry.

The support that Kaye and her colleagues received from her local soil and crop association to host this event was encouraging, and neighbouring Waterloo Soil & Crop sponsored a table for women from their county association to attend.

She believes that there is a great opportunity to expand the Women in Agriculture socials across Heartland Region, and that women are looking for ways to connect and network. "One of the biggest pieces of feedback we got was that women wanted more time to network. They appreciated the guest speakers but they got the most value out of talking to one another." Kaye also believes that Soil and Crop associations, at both the county and provincial levels, can help meet the needs of women looking to connect with one another in the agriculture industry.

At the provincial level of Ontario Soil and Crop, executive director Andy Graham notes that while the association doesn't have a formal strategy in place to recruit women members and encourage women to take on leadership roles, they have recognized that in order to grow the organization, they have to look beyond the traditional membership base and that includes women.

He points to simple changes that can make a huge impact, such as the gradual updating of printed and web materials to include gender neutral language, and a conscious effort to include female speakers at soil and crop events. And while the provincial office and board can provide some leadership on the issue, he stresses that "...all of the membership can contribute to a welcoming atmosphere..." in encouraging non-traditional members, including women, to join and take leadership roles.

Kaye feels that the Soil and Crop association has a lot of opportunity for women to get involved. "It is a male dominated association, but I've never felt anything but welcomed and respected at an SCIA event. There are still unconscious biases [towards women] but I won't be surprised to see more of the female growers joining."



Christina Crowley-Arklie and Claire Cowan, guest speakers at the Perth Women in Ag event



# Perth County women take the lead

**Editor's note:** As women "expand their reach" in the agriculture industry, Perth County SCIA is leading the way by welcoming and encouraging women to get involved. I asked 3 of their board members to tell us about their passion for agriculture, their vision for Perth County SCIA and how they think women can contribute to the ongoing growth and success of the organization.

**Perth County SCIA president Kaye McLagan** had a pretty typical "farm kid" childhood, growing up on dairy and cash crop farm near Mitchell, Ontario. She fed and milked cows, helped at haying and did many of the odd jobs around the farm that needed done. It was as a kid that she got her first exposure to Soil & Crop, often joining her father, a long-time Perth member and board member, at events.

After earning a degree in Agronomy from the University of Guelph in 2013, her dad invited her to join the board. It was a natural fit, says Kaye. "As I became a part of the industry, I realized it was a great system to bring growers together to share knowledge about what is working in their fields, share new and innovative agronomic practices and to have a support system within each County. As a younger grower, it makes entering into the industry an easier task. There is always someone to turn to for mentorship."

In her "day job", Kaye works for Premier Equipment Ltd. Her official title is "Data Coordinator", but she says that no two days are alike. She works closely with clients to help them manage, understand and use the vast amounts of data that is generated. When she is not working with the data, she manages the accuracy of subscriptions, works with the high resolution soil sampler, support customer and internal GPS issues and questions and manages Premier's telematically enabled machines.

Kaye places great value on SCIA membership, so much so that she stepped up to the role of President following the retirement of long-time PSCIA president Bill Miller. "I enjoy the great discussions that come from SCIA. There are lots of knowledgeable growers in this association and some of that is still untapped. I decided to take on a leadership role because I do want the SCIA to continue to evolve and I feel passionate about bringing the growers in our association together and to use each other as resources," she says.

Kaye believes there is lots of opportunity for membership growth in the organization, including young growers like herself. She sees technology as a tool that can help. "As a younger female with a full time job and actively a part of other associations, it's nice when PSCIA decides to do an email chain for planning sessions. Applications such as Webinars, FaceTime/Skype, and "Live" on

Twitter and Facebook make it feel like I'm not missing critical meetings or events. It's awesome when you can feel involved even when you are multi-tasking!"

Follow Kaye on Twitter, @kmcclagan20

**When Sara Wood went to study at the University of Guelph**, she didn't enter the OAC, despite growing up on a cash crop farm – "I thought I would do something off the farm," she said. Today, she is a full-time farmer doing everything from field work to accounting alongside her Mom and her husband.

Sara credits her participation in the Advanced Ag Leadership Program in encouraging her to join the local SCIA board in Perth County. "I wanted to give back to my community, and being a crop farmer this organization seemed like a good fit."

When it comes to encouraging women – particularly younger women – to take leadership roles in organizations like SCIA, she too sees that technology can play a role. Using technology like Skype or webinars for events means that people can be involved more easily.



Kaye McLagan, centre, and to the right Tina Beirnes and Sara Wood are joined by other members of the Perth SCIA at their AGM in January 2017.

**Tina Beirnes is a busy woman** – a wife and mother of 3 little boys, she works part-time for OSCIA as a workshop leader, and runs her own business creating nutrient management plans and strategies for producers, all while helping her Dad run his Maizex Seeds business. Despite this busy schedule, she also makes time to sit on the board of Perth SCIA as a director.

Her tenure on the board began as a representative of a former employer, but she stays on the board because she appreciates the opportunities for learning and engagement that it offers. "I enjoy knowing and seeing the different types of research that OMAFRA and the soil and crop were working on that I could bring back to my producers that would have a lot of value for them." She also enjoys the social aspect of SCIA membership.

Tina sees a lot of value in networking to encourage new members, especially women. "I have had some amazing mentors who have helped me grow over the years both women and men and I attribute so much of my knowledge to those people. I look forward to continuing in the industry in the future and continuing to be involved in the Perth Soil and Crop."

Follow Tina on twitter @tina\_perth



# County updates

## Huron SCIA

President: Doug Walker

Secretary: Sharon Devine, 519-868-8946 [sharondevine@tcc.on.ca](mailto:sharondevine@tcc.on.ca)

Huron County hosted their annual spring meeting on March 24 with guest speaker Lee Briesse, a certified crop advisor from North Dakota. Briesse, recently named International Certified Crop Adviser of the Year by the American Society of Agronomy and the International Certified Crop Adviser Program, gave attendees lots of “food for thought” about cover crops, applying his experience in North Dakota to Ontario crops and conditions.

Work at the Huronview demonstration site, near Clinton, is underway. Following last year’s corn crop, the group decided to plant soybeans this year. The board continues to discuss ways to improve the site.

## Waterloo SCIA

President: Aaron Stevanus

Secretary: Lynn Strenske, 519-648-2436

[secretary@waterloosoilcrop.org](mailto:secretary@waterloosoilcrop.org)

Following a successful AGM in January and hosting Heartland’s regional meeting in March, Waterloo has decided to “go big” and plan a summer bus trip! After much deliberation on destinations, it was decided to head east August 16-18 to visit farms in Quebec. At press time the tours were still being finalized, but will include a stop along the way at the farm of Max and Eric Kaiser, Napanee, OSCIA’s 2017 Soil Champion award winners, as well as a variety of innovative and interesting farm stops in and around Montreal. Stay tuned for more information!

President: Carl Israel

Secretary: Linda McFadden

519-362-2094 [linda.mcfadden@wightman.ca](mailto:linda.mcfadden@wightman.ca)

Mark your calendars for Wellington’s annual Twilight meeting, planned for July 20 starting at 5:30 p.m.. The first stop will be the farm of Jake Kraayenbrink in the Drayton area, and then will head over to Luymes Farms near Moorefield.

To wrap up the evening, Dr. Clarence Swanton from the department of Plant Agriculture at the University of Guelph will discuss his research on plant stress and ways to mitigate that stress.

More information to come!

## Perth SCIA

President: Kaye McLagan

Secretary: Sara Wood 519-272-5525

[perthscia@gmail.com](mailto:perthscia@gmail.com)

March 31<sup>st</sup> marked Thelma Smith’s last day as Secretary/Treasurer of the Perth Soil and Crop Improvement

Association. The Directors of PSCIA would like to thank her for everything she did for us. Thelma kept us organized, made meetings possible and was always there to help with any project we decided to participate in. Thelma has put a lot of passion, time and effort into PSCIA and how it was run, we cannot thank her enough for staying on with us for 20 years. She will be greatly missed!! PSCIA wishes you a happy retirement!!



Board members from the counties that make up Heartland Region gathered at Trillium Mutual Insurance Company in Listowel on March 28 to take part in OSCIA’s pilot directors’ training program.



# FarmSmart Expo

Thursday, July 13th, 2017

Elora Research Station University of Guelph,  
6182 2nd Line, Elora

**FarmSmart Expo** provides progressive, leading edge, hands-on field stations that examine current issues in crop production, to advance farm operations.

## Topics this year

1. Soil Health Interpretive Centre Initiatives and New Research Platforms
2. A Close Look At Tillage Erosion
3. Understanding Soils and the Tools that Enhance that Understanding
4. Western Bean Cutworm Identification, Scouting and Management
5. Exploring Organic Amendment Options for Row Crop Farming
6. Weed Control Options in Row Crops
7. P & K Management Options for Optimizing Crop Production and Environmental Protection
8. Understanding the Implications of Sprayer Tank Cleanout Shortcomings and their Impacts

Certified Crop Advisor (CCA) Continuing Education credits have been applied for.

## Timetable

- 8:30 Registration opens  
9:10 Introductions  
9:30 Start of first session  
12:00 Lunch (provided by Alma Ladies)

4:30 Have a safe trip home

**Cost** (Pre-registration encouraged)

OSCIA members! \$80

Non-members \$115

(includes 1 year membership)

Students \$40

*WALK IN RATE \$115 (no membership benefit)*

Discounted Rate deadline:  
Monday, July 10th, 2017.

## Keeping in Touch



@FarmSmart17 #FSEXPO17



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Details and registration: [www.farmsmartconference.com](http://www.farmsmartconference.com) or call 1-877-424-1300



## The Species at Risk Farm Incentive Program is back for its 10th year— benefitting more than ever before!

The Species at Risk Farm Incentive Program (SARFIP) is back for 2017! Now in its 10th year, SARFIP supports Ontario producers who are enhancing on-farm habitat for species at risk across the province! The Ontario Soil and Crop Improvement Association (OSCIA), with support from Environment and Climate Change Canada and the Ontario Ministry of Natural Resources and Forestry, is pleased to continue to offer this impactful program. With streamlined funding levels and updated application forms—and up to \$20,000 available per farm business—it's easy to benefit more with SARFIP.

“SARFIP has a great legacy of supporting producers who are looking to make improvements on their farms while also enriching farm habitat for species at risk,” said Mack Emiry, President of OSCIA. “thorough cost-share funding SARFIP supports on the farm activities that have been benefiting both farmers and species at risk for the past decade. We’re very proud of all of the farmers who have participated over the years.”

Farms in Ontario can access cost-share dollars for on-farm projects that implement a variety of Best Management Practices (BMPs). With a diversity of project opportunities, eligible BMPs encompass activities around croplands, grasslands, shorelines, stream banks, wetlands and woodlands. Many opportunities are available to support critical habitat through SARFIP, including cross fencing for rotational grazing, watering systems for livestock, native tree planting, improved stream crossings, native grassland plantings, invasive species removal and erosion control structures, among others.

SARFIP 2017 is open to all agricultural landowners in the province. Projects that provide indirect benefits to species at risk are eligible for 50% cost-share, and projects that directly benefit species at risk are eligible for 65%. An additional bonus of 10% cost-share is available for direct benefit projects if the producer is interested in enrolling in SAR-Watch, a monitoring program that measures the impact of SARFIP projects on the ground for species at risk.

“Farmers are in a unique position to implement farm management practices that can actually have a benefit to species at risk while improving their farm’s productivity,” expressed Andréa Dubé-Goss, Environmental Programs Manager at OSCIA. “We’re working hard to carry on the legacy and continue to deliver programs like SARFIP that have tremendous value for both species at risk and Ontario farmers.”

To find out if SARFIP is a good fit with your farm, consult the program brochure for complete and detailed program information. All program materials, including the brochure and application forms can be found on the OSCIA website. To be eligible to participate in SARFIP, Ontario farms must have a completed 3rd or 4th Edition Environmental Farm Plan (EFP) workbook and Action Plan that has been verified and completed within the last five years.

Applications are now being accepted, and funding will be allocated to eligible projects in the order in which they are received until fully allocated. Funding for this program is limited; if you have a project idea that fits, submit your application as soon as possible. Projects initiated on or after April 1, 2017 may be eligible.

For more information on eligibility criteria, the application process, and program deadlines, or to sign up to an upcoming EFP workshop in your area, visit the SARFIP page on the OSCIA website at [www.ontariosoilcrop.org/oscia-programs/sarfip/](http://www.ontariosoilcrop.org/oscia-programs/sarfip/) or contact OSCIA directly at 519-826-3035.



### Join Waterloo Soil & Crop as they head east to Quebec!

**August 16-18**

**Motor coach transportation**  
+  
**3 meals**  
+  
**hotel accommodation**  
**(double occupancy)**  
+  
**great farm tours**  
+  
**more info to come!**

**All for \$300**

**Watch [www.heartlandsoilcrop.org](http://www.heartlandsoilcrop.org) for  
more info or  
email [heartland.scia@gmail.com](mailto:heartland.scia@gmail.com)  
or phone 519-669-5608**





## Ontario Forage Masters Competition

The Ontario Forage Masters is a program promoting excellence in the growing, harvesting and storage of forages by acknowledging outstanding producers that employ winning management practices.

The long-awaited debut of the new Forage Masters Competition took place in February at the annual conference of the Ontario Soil and Crop Improvement Association (OSCIA). The previous competition ran successfully for about 30-years, but in recent years was experiencing reduced enrollment and not garnering much attention from new participants. The OSCIA, who is responsible for coordination, chose to close down the competition for 2016 and focused efforts on developing a fresh new approach.

For those who were familiar with the previous competition, the changes introduced with the new product will be immediately detected.

The newly refined program takes a page from the very successful Environmental Farm Plan, with the emphasis on producer education. You will find a pdf document on this page (Self Assessment Package), which contains a great deal of valuable information, divided between 3 modules, followed by 45 questions in total. These 45 questions will be used for scoring purposes to determine the top 11 Regional winners.

# Submission deadline is July 15, 2017

For more information, visit <http://www.ontariosoilcrop.org/association/association-membership/ontario-forage-masters/>

## Wellington Soil & Crop Improvement Association's annual Twilight Meeting



**Thursday, July 20, 2017 5:30 p.m.**

**Featuring the farm of Jake Kraayenbrink, Drayton area, and Luymes Farms near Moorefield. Guest speaker Dr. Clarence Swanton from UofG.**  
More information to come! [www.heartlandsoilcrop.org](http://www.heartlandsoilcrop.org)



JUNE 2017 EDITION

# OSCIA PROVINCIAL NEWSLETTER

## Message from the President - Mack Emiry



As I write this message many of you, particularly in Southern Ontario, are struggling with extreme weather challenges which are impacting the timely planting of crops. It seems that, in general, the farther east in the province the wetter it has been!

In April, the Board of Directors invited Regional Presidents (or Vice Presidents) to attend a meeting to explore ways to strengthen the Regions and better serve County and District Associations. Ideas were shared on what is working well (or occasionally not!).

As well as monthly meetings, various members of the Executive have been involved with other meetings and activities over the last 3 months.

In February, a meeting with the Environmental Commissioner of Ontario provided the opportunity to feature the many OSCIA research, education and outreach programs which promote and enhance soil health. The University of Guelph also highlighted the research work done at the Elora and Ridgetown locations.

As well, we are all aware of the extensive work done by the OMAFRA Soils Team. It was important to have the opportunity to bring all this to the attention of the Environmental Commissioner.

Several Soil & Crop Executive and Directors participated, along with others, in training sessions under the Soil Leadership Program. These individuals will promote, by example, Best Practices in Soil Health and, attend workshops, tours, demonstrations, etc.

I have attended 2 events focused on expanding agriculture in Northern Ontario and, more specifically, the Great Clay Belt area in Temiskaming and Cochrane Districts. The first event, organized by the Northeast Community Network, was on general agricultural opportunities and initiatives. The second event, organized by OMAFRA, and attended by Minister Leal, was specifically called the Northern Livestock Pilot and is to promote and support expansion of the beef (cow/calf) sector.

In a similar vein, OMAFRA has conducted several "Farms Forever" discussion sessions across Southern Ontario with the objective of strengthening the Agri-Food industry in Ontario. OSCIA accepted the opportunity to participate and contribute.

The Executive look forward to holding an Outreach Meeting in St. Clair Region in July.

Please consider the opportunity to participate in the newly designed Forage Masters Program. The 2017 program has a deadline of July 15<sup>th</sup>. I know you will find the Self-Assessment document a most interesting exercise. The competition aspect is at the Regional level. If you have not been following the details and are interested, check with your Provincial Director or Regional Communications Coordinator.

Take advantage of any crop tours, field trips, twilight meetings and so forth which will be happening in your locale this summer.

We will all hope for good crop conditions for the rest of the season!

Until the next time,

Mack Emiry, OSCIA President

A QUARTERLY NEWSLETTER, ISSUED  
ALONGSIDE 11 REGIONAL NEWSLETTERS AND  
OMAFRA CROP TALK, TO UPDATE MEMBERS

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- o EFP at the University of Guelph
- o Building Soil Health, In Case You Missed it...
- o Your Regional OMAFRA Field Crop Specialists

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## Increasing Membership Engagement at OSCIA

OSCIA has embarked on a bold new approach to increase skill development resources that will assist their local and regional associations in a variety of ways. Over the last four months, 42 local associations and 11 regions participated in the first round of workshops, called The Pilot Training Program. The Pilot focused on identifying roles and responsibilities, governance training, how to run a successful meeting, membership engagement, and brand awareness. Although workshops were not mandatory, all associations expressed their desire to participate.

In year one of the planned two -year initiative, OSCIA set out a goal to facilitate up to 18 one-day training sessions. So far, we have facilitated 11 workshops; 10 followed the Pilot agenda, and the other was designed for regional directors and presidents. We expect to launch a new workshop by late summer that focuses on the needs of the secretary/treasurer. Input from secretaries/treasurers is being gathered now, and will play a vital role in the development of the workshop. Regional communication coordinators (RCC) will also be participating in a separate workshop customized for them in August.

With the participation and input from the local and regional associations, we have started developing several new resources. The additional resources will assist with membership engagement, and provide consistency across our associations.

Together with continued support, participation, and motivation, we as an organization can keep moving forward to increase membership engagement and meet our goal that was set out in our 2015 Strategic Plan.

This project was funded in part through *Growing Forward 2 (GF2)*, a federal-provincial-territorial initiative. The Agricultural Adaptation Council assists in the delivery of GF2 in Ontario.

*Brittany Roka, Association Development Advisor*



## Member Benefit - Soil Analysis Discount

5 labs participating - visit OSCIA website for details:

<http://www.ontariosoilcrop.org/association/association-membership/>

## Ontario Forage Masters Competition Update

Hay is being cut in some parts of the province – it's time to turn attention to the Forage Masters Competition. Considerable effort has gone into development, writing, testing, sponsorships, and communications; now we wait anxiously to see how members respond. The deadline for submissions is July 15<sup>th</sup>. Look for a related story in your Regional Newsletter this month that identifies a point person in your county/district to assist in distributing the self-assessment booklets and answering general questions.

Participants have their choice of completing the self-assessment in hard copy or on-line. If having a hard copy in your hands is preferred, you can either ask the point person identified for your area to send you a copy, or you can download one from the pdf available on the website. The best option for most will likely be to complete the self-assessment online. Visit the Forage Master website page to find the printable file (appears as the booklet cover), or the online version (appears as a green button): <http://www.ontariosoilcrop.org/association/association-membership/ontario-forage-masters/>

If you participated in past years, you will notice quite a change in procedure. The self-assessment walks you through a series of questions with prepared responses marked as "Best", "Good" or "Needs Improvement." You check off what aligns with your current practice, and complete only the questions that apply to your situation. Once complete, the summary and copies of your most recent soil and feed analysis are sent to the Guelph OSCIA office to be scored.

Those who have already done the exercise report it took 1-2 hours to complete. They also commented it was a tremendous learning opportunity and well worth the time invested.

If you grow forage, we encourage you to take a serious look at the Forage Masters Competition.

*Andrew Graham, Executive Director OSCIA*





## Highlights from the 2016 Census of Agriculture

Results from the 22<sup>nd</sup> Census of Agriculture since confederation show that farmers continue to grow older and farm numbers are down again, although this was the smallest decline in 20 years. It also shows rising land values saw more marginal area become cropland, and farm profitability has subsequently held steady since 2011.

Ontario is the home of more than one quarter of all Canadian farmers. Among them, cash croppers account for 34% and are managing nearly 60% of Canadian corn ground and almost half of all soybean acres. The number of women running these operations is up 1.3% since 2011. There are also more farmers over the age of 55, as well as under the age of 35, since the last census.

Ontario farmers should be pleased to see we've emerged as leaders in farm technology.

Top technology adopters in 2015		
Automatic steering	Saskatchewan	14,343
	Alberta	10,462
	<b>Ontario</b>	<b>6,851</b>
GIS mapping (e.g. soil mapping)	<b>Ontario</b>	<b>5,436</b>
	Saskatchewan	3,097
	Alberta	2,589
GPS technology	Saskatchewan	17,475
	<b>Ontario</b>	<b>13,851</b>
	Alberta	13,684
Smartphone/tablets	<b>Ontario</b>	<b>19,532</b>
	Alberta	19,093
	Saskatchewan	18,009
Computers/laptops	<b>Ontario</b>	<b>27,904</b>
	Alberta	23,725
	Saskatchewan	20,708

The census shows 13.8% of all Ontario farms were using auto-steer as of 2015, with 48.2% of those located in southern Ontario and 36.0% in the west. Southern Ontario can also claim the largest adoption of soil mapping and GPS technologies in Ontario.

Southern Ontario is also responsible, with some help from Central Ontario, for increased acreage receiving full incorporation tillage, even though the number of farmers practicing full residue incorporation is down across the country and throughout Ontario. On the other hand, statistics appear to show no-till has fallen out of favour, with an exception in the North where no-till acreage jumped up 7% since 2011.

What does that all mean for OSCIA? Well, we've already seen the impact of a younger, more gender diverse, and tech savvy

group of farmers here in Northumberland County and the Quinte Region. The 2016 Census exemplifies the continued need for discussion about the practices we're collectively choosing for our farms and how best to put new technologies to the test, for all Canadian farmers' sake.

For full report: <http://www.statcan.gc.ca/daily-quotidien/170510/dq170510a-eng.htm>

Amy Petherick, *Quinte Regional Communication Coordinator (RCC)*



## EFP at University of Guelph

It may interest you to know that Environmental Farm Plan (EFP) workshops have been incorporated into class curriculum at the Ridgetown Campus of the University of Guelph. EFP is a component of the *Agriculture and Stewardship* course and according to Margaret May, Regional Program Lead for Thames Valley, St. Clair and Golden Horseshoe Regions and part time lecturer on campus, has led to some very interesting discussions amongst students. "In 2015, there were 149 workbooks distributed in the classroom with 92 coming back in for verification. The number of workbooks handed out rose to 168 in 2016, with 119 handed in. That's an outstanding 71 percent last year who opted for a review of their completed workbooks", reported May.

There have been previous efforts over the years to have EFP integrated into course work at the college. With realization that not all students come from a farming background, some questioned the suitability of the EFP, but May says that has not created a problem. "We provide options for students who don't come from a farm, they can choose to complete the plan based on a neighbour's operation or they can base it on a fictional case study."

To best incorporate the same discussions that take place at a regular EFP workshop, all students receive the workbook. May delivers a 2-hour session per week, for six weeks. The names and contact information for those successful with verification, are sent to the Guelph office and added to the confidential records of farms across the province participating in the educational workshops.

May is extremely satisfied with the accomplishments and sees tremendous benefits. She hopes to possibly expand the course in future to include an element of business planning by incorporating elements of Growing Your Farm Profits workshop.

The dialogue often turns to cost share programs and questions about OSCIA, presenting a wonderful opportunity to demonstrate to young farmers some of the many benefits of membership.

Andrew Graham, *Executive Director OSCIA*



## Building Soil Health, In Case You Missed It...

Winter meetings this past year provided outstanding opportunities to hear new developments on soil health. One surprise came from an analysis of Ontario soil test results over the past 14 years, reviewing soil organic matter (SOM) levels from up to 23,100 total soil samples/year. The data was provided by SGS Agri-Food Labs and the analysis done by Christine Brown, Nutrient Management Specialist, OMAFRA. From the results, SOM declined by 0.177% overall in Ontario over the past 14 years. In Essex, Kent and Lambton counties, the decline was more dramatic at close to 0.85%, which equates to 16,000 lbs per acre less organic matter. Ms. Brown's work also outlines how using soil amendments with cover crops increased biomass yields from 17 to 36%.

(<http://fieldcropnews.com/wp-content/uploads/2017/01/Farmsmart-2017-Organic-Amendments-for-fieldcropnews.pdf>, accessed May 10, 2017)

Another key message to improve soil health, which subsequently increases crop yields, came from the 31-year tillage and crop rotation trial managed by Dr. Bill Deen, University of Guelph. Using trial yield, management data and weather data, the research team concluded that the most resilient soils to withstand extremes in weather (drought or excessive moisture) were those that had a diversified crop rotation, not just with corn and soybeans, but also cereals under-seeded to red clover or alfalfa. In hot dry years, when cereals/legumes were grown with reduced tillage (conservation tillage), the yield increased 7% for corn and 22% for soybeans. (Gaudin et al. Increasing crop diversity mitigates weather variations and improves yield stability. PLoS One. 2015;10(2):e0113261. doi:10.1371/journal.pone.0113261)

*Harold Rudy, Executive Officer OSCIA*



## Your Regional OMAFRA Field Crop Specialists

In 1999, OSCIA organized the local associations into eleven Regions to better align with the OMAFRA Field Crop Specialists.

This regional organization has helped formalize the various operations of OSCIA and helped strengthen the local SCIA's, by providing a Regional board, Regional Communication Coordinators (RCC), and a formalized method for the local SCIA's to work together.

An updated contact chart of OMAFRA Field Crop Specialists for each of the 11 regions is provided below.

In most cases OMAFRA has been able to assign two OMAFRA Field Crop Specialists to each of our 11 regions, one primary contact and one alternate contact. These OMAFRA representatives are available to assist their assigned region and the subsequent local SCIA's with respect to applied research projects. They have been encouraged, where appropriate, to attend regional/local Annual Meetings, planning meetings, assist with development of applied research projects/ protocols, to provide analysis of in-field research and entry of results into Crop Advances.

*Amber Van De Peer, Executive Assistant OSCIA*



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[www.ontariosoilcrop.org/news/](http://www.ontariosoilcrop.org/news/)

- Get all the latest media releases, upcoming events listings and much more...



## OMAFRA Field Crop Specialists – Regional Contacts

REGION	OMAFRA REP	ALTERNATE REP
<b>St. Clair</b>	<b>Adam Hayes</b> , Soil Management Specialist, Ridgetown Resource Ctr. 519-674-1621, adam.hayes@ontario.ca	<b>Albert Tenuta</b> , Pathologist Field Crops, Ridgetown Resource Ctr. 519-674-1617, albert.tenuta@ontario.ca
<b>Thames Valley</b>	<b>Ben Rosser</b> , Corn Specialist, Crop Science Bldg, UofG, 519-824-4120 ext. 54865, ben.rosser@ontario.ca	<b>Tracey Bauté</b> , Entomologist Field Crops, Ridgetown Resource Ctr. Agronomy Bldg, 519-674-1696, tracey.baute@ontario.ca
<b>Heartland</b>	<b>Horst Bohner</b> , Soybean Specialist, Stratford Resource Ctr. 519-271-5858, C: 519-272-4827, horst.bohner@ontario.ca	<b>Joanna Follings</b> , Cereals Specialist, Stratford Resource Ctr., 519-271-8180, joanna.follings@ontario.ca
<b>Georgian Central</b>	<b>Meghan Moran</b> , Canola & Edible Bean Specialist, Stratford Resource Ctr. 519-271-0083, megan.moran@ontario.ca	<b>Michael Cowbrough</b> , Weed Management Specialist, Crop Science Bldg., UofG, 519-824-4120 ext. 52580, mike.cowbrough@ontario.ca
<b>Golden Horseshoe</b>	<b>Christine Brown</b> , Sustainability Specialist Field Crops, Woodstock, 519-537-8305, christine.brown1@ontario.ca	<b>Jake Munroe</b> , Soil Fertility Specialist, Stratford Resource Ctr., 519-271-9269, jake.munroe@ontario.ca
<b>East Central</b>	<b>Ian McDonald</b> , Crop Innovation Specialist, Crop Science Bldg, UofG, 519-824-4120 ext.56707, C: 519-239-3473, ian.mcdonald@ontario.ca	<b>Meghan Moran</b> (see above)
<b>Quinte</b>	<b>Scott Banks</b> , Cropping Systems Specialist, Kemptville, 613-258-8359 scott.banks@ontario.ca	<b>Sebastian Belliard</b> (see below)
<b>Eastern Valley</b>	<b>Sebastian Belliard</b> , Soil Management Specialist, Kemptville, 613-258-8250, Sebastian.belliard@ontario.ca	<b>Scott Banks</b> (see above)
<b>Ottawa Rideau</b>	<b>Scott Banks</b> (see above)	<b>Sebastian Belliard</b> (see above)
<b>North Eastern Ont.</b>	<b>Meghan Moran</b> (see above)	
<b>North Western Ont.</b>	<b>Meghan Moran</b> (see above)	



# CROP TALK

Volume 17, Issue 2

OMAFRA Field Crop Specialists — Your Crop Info Source

June, 2017

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**Editor:** Meghan Moran, Canola and Edible Bean Specialist  
**Compiled by:** Ann Payne

## Could 2017 be the Year of the Armyworm?

**Tracey Baute, Field Crop Entomologist OMAFRA**

Two factors increase risk of true armyworm infestations each year. The first is cool, wet April conditions which are detrimental to the natural enemies of armyworm. The second is strong storm fronts that carry in large numbers of moths from the southern US where they overwinter. Traps this spring in Ontario and neighbouring states have captured more armyworm adults than normal and a week or two earlier than previous years. This indicates that 2017 could see a large invasion of armyworm in corn, cereals and mixed forages.

Moths prefer to lay their eggs on grassy vegetation, including grassy weed species, cereals, mixed forages and grassy species of cover crops. Larvae hatch from the eggs and feed at night for approximately a month. Full grown true armyworm are 4 cm (1 1/2 in.) long and are dull-green to brown in colour. They always have white-bordered stripes running laterally along the body and to be true armyworm larvae, they must have dark diagonal bands at the top of each abdominal chubby proleg (Figure 1).



**Figure 1.** Armyworm always have white-bordered stripes running laterally along the body and to be true armyworm larvae, they must have dark diagonal bands at the top of each abdominal chubby proleg .



Most feeding activity is done in June to early July but can start as early as late May. In corn, larvae strip the leaf margins, but as they grow in size and numbers, can leave only the midribs left on the plants. As long as the growing point of the plant is not damaged, the corn plant will be able to recover from moderate feeding. In cereals and mixed forages, feeding begins on the leaf margins, but larvae may quickly move up the plant to feed on the kernels and awns or clip the wheat, timothy or other small grains head completely off of the stem. Clipped heads can be found on the soil surface and can impact yield if taking place in many areas of the field.

To stay ahead of armyworm, scouting needs to be done every 2 or 3 days. They can quickly invade neighbouring fields overnight if there are host crops in fields side by side of each other. It is important to spot the armyworm larvae when they are small (less than 2.5 cm) in size for any insecticide to be effective.

The best time to scout for true armyworm is shortly after dusk when larvae are actively feeding. In corn, examine 20 plants in five areas in the field (100 plants total). In cereals and mixed forages, examine 10 areas of the field, assessing the number of larvae per 30 cm<sup>2</sup> (1 ft<sup>2</sup>). Pay particular attention to the border area directly adjacent to other grassy host crops. During the day, if it is cloudy and overcast, you might be lucky enough to see larvae in the whorl, leaf axil, or on the head of the plant but on sunny days, they will be down on the ground amongst the crop debris or under soil clods. Brown frass may also be present on the plants and on the soil surface. If you find larvae, note both their size and check near the head of the armyworm for eggs. These small, oval, yellowish white eggs are from a parasitic fly (Figure 2). The eggs will hatch, and the maggots will mine inside the armyworm larva and kill it. So if a large proportion of the larvae have these eggs on them, insecticide is not required as biocontrol has done the work for you.



**Figure 2.** These small, oval, yellowish white eggs are from a parasitic fly .

**Threshold for Corn: Foliar** insecticide may be warranted in seedling corn if there are two or more un-parasitized larvae per seedling or 10% or more of the plants have feeding and larvae are smaller than 2.5 cm (1 in.). For corn past the 6-leaf stage; if 50% of the plants have leaf feeding damage and are infested with larvae smaller than 2.5 cm (1 in.), insecticide treatment may be warranted. As long as the growing point of the plant is not damaged, the corn plant is usually able to recover from moderate feeding.

**Threshold for Mixed Forages:** Control is warranted when five or more larvae (smaller than 2.5 cm) per square foot are found. In seedling crops, two to three larvae (smaller than 2.5 cm) per square foot may warrant control. Avoid treating with insecticides when large numbers of parasitized larvae are present.

**Threshold for Cereals:** Chemical control is warranted if there are 4 to 5 un-parasitized larvae per 30 cm<sup>2</sup> and the larvae are smaller than 2.5 cm. If a significant amount of wheat head clipping is occurring, spray may be warranted if larvae are still actively feeding, are smaller than 2.5 cm and as long as pre-harvest intervals have not been reached.

#### **Management Strategies:**

- If the larvae are over 2.5 cm (1 in.) long, there is no benefit in applying insecticide, since most of the feeding damage is already done and the insecticide will not be effective on larger larvae.
- Treatment may be confined to infested areas. If the armyworm are migrating from adjacent fields, spraying an insecticide along the field border may be sufficient.
- Pay close attention to pre-harvest intervals.

Keep on eye on [Field Crop News](#) for scouting alerts and refer to the [Pest Manager app](#) and [OMAFRA Publication 812, Field Crop Protection Guide](#) for insecticide options.

## Optimizing Winter Wheat Quality at Harvest

Joanna Follings, Cereal Specialist, OMAFRA

When we think about getting the highest yields and the best quality out of our winter wheat crop we tend to think about management practices such as timely planting, variety selection, nutrient management (nitrogen, phosphorus, potassium and sulphur), as well as timely fungicide and herbicide applications. However, one management practice that can often be overlooked or forgotten about in terms of managing wheat quality is a timely harvest. As winter wheat harvest quickly approaches don't forget to plan ahead to ensure you maintain the highest quality wheat possible by reducing your pre-harvest sprouting and fusarium risk.

### Sprouting Management

Pre-harvest sprouting can result in downgraded wheat at the elevator meaning a lower return for your crop. Thus, it is important to prevent sprouting once the wheat crop reaches maturity. The most pre-harvest sprouting tolerant wheat is hard red wheat, followed by soft red wheat and white wheat which lacks sprouting tolerance. Previous research conducted in Ontario has shown that when harvest was delayed by two weeks the amount of sprouted wheat increased by almost 10% and yield was reduced by almost 4 bushels/acre (Table 1). Not only is yield being lost but the wheat is also likely to be downgraded as a result of the increase in sprouted wheat.

**Table 1.** The impact of delayed harvest on sprouts in winter wheat. Johnson *et al.* 2011.

Harvest Date	Yield (bu/ac)	Test Weight (lb/bu)	Sprouts (%)
July 13	92.4	62.0	0.0
July 18	91.8	61.3	0.0
July 21	91.7	60.4	2.3
August 1	88.7	57.8	8.8

Therefore, when planning your harvest you should combine fields with soft white wheat first to reduce sprouting risk. It is also important when planting winter wheat in the fall to ensure you are planting no more white wheat than what you are able to harvest in a few days.

### Fusarium Management

In 2016, Ontario grew some of the highest quality winter wheat ever. This was a result of the very low levels of fusarium and DON in the winter wheat crop. Dry weather during the flowering period likely played a significant role in this. However, that is not likely to occur every year so timely fungicide applications and harvest are needed to reduce fusarium risk. If harvest is delayed and rainfall events occur before harvest is able to begin again, the quality of the wheat crop can be significantly negatively impacted. As previous research has shown, for every rainfall event that occurs after the timely harvest date, you can lose approximately 1 lb/bu of test weight (Table 2). In addition, it was found that in a field with low levels of fusarium at the timely harvest date the fusarium in the field increased significantly when rainfall events occurred.

**Table 2.** The impact of rainfall events on fusarium in winter wheat. Johnson *et al.* 2011.

Harvest Date	Yield (bu/ac)	Test Weight (lb/bu)	Fusarium (%)
Timely	73.0	61.1	0.7
1 Rain	72.4	59.6	1.1
2 Rains	73.4	58.9	1.3
4 Rains	72.7	58.0	1.8

Just as it is important to harvest white wheat first, it is also beneficial to combine fields with fusarium infections as soon as possible. This helps reduce the amount of fusarium that continues to grow particularly when moisture levels are high (>19%). The amount of fusarium damaged kernels can also be reduced by blowing them out the back of the combine. Research conducted by Dr. Schaafsma at the University of Guelph found that when fan speeds were operated at their maximum, there was a significant decrease in fusarium damaged kernels (Figure 1).



**Figure 1.** Fusarium damaged kernels in a winter wheat sample.

Growers can be hesitant to utilize this practice because of the risk of losing good kernels. However, although this research did find that good kernels were being lost out the back of the combine, the improvement in the overall sample of the harvested grain due to reduced fusarium damaged kernels outweighed the losses of good kernels (Table 3).

**Table 3.** Effect of different fan-speeds on wheat yield, Publication 811: Agronomy Guide for Field Crops (Dr. Schaafsma, University of Guelph, 1996).

Comparison	Fan Speed							
	Sieve Setting: 6mm (1/4 in)							Front Closed
	1,160 rpm	1,190 rpm	1,220 rpm	1,250 rpm	1,280 rpm	1,320 rpm	1,330 rpm	1,330 rpm
<b>Good kernels on ground</b>	16/ft <sup>2</sup>	11.6/ft <sup>2</sup>	31.6/ft <sup>2</sup>	24.4/ft <sup>2</sup>	35.2/ft <sup>2</sup>	41.4/ft <sup>2</sup>	43.6/ft <sup>2</sup>	42.8/ft <sup>2</sup>
<b>Loss</b>	0.8 bu/ac	0.6 bu/ac	1.6 bu/ac	1.2 bu/ac	1.8 bu/ac	2.1 bu/ac	2.2 bu/ac	2.1 bu/ac
<b>Loss at 60 bu yield</b>	1.38%	0.97%	2.63%	2.03%	2.93%	3.45%	3.63%	3.56%

## New, Free Soil Health Publications Now Available to Order!

The Ministry of Agriculture, Food and Rural Affairs is rolling out a total of 21 new soil health publications. These publications provide best management practices to help you preserve and conserve soil while improving soil health and crop production. Check out these six new titles on our [Soil Health in Ontario](#) web page:

Adding Organic Amendments

Erosion Control Structures

Cropland Retirement

Soil Health in Ontario

Field Windbreaks

Soil Erosion by Water

You know that high quality, healthy, productive soil is the foundation of a strong, sustainable agri-food system. These publications, part of our Best Management Practices series, can help you plan and implement practices to improve soil health and increase yields. Unfortunately, the health of Ontario's soils is on the decline. While many farmers practice good land management practices, there is much more that can be done to improve soil health and protect soil for long-term productivity.

The five titles above are just the beginning. Check our [web page](#) regularly for future publications, which will include:

Cover Crops and Manure

Perennial Systems

Plus many more!

No-Till for Soil Health

Subsurface Drainage



Our soil health publications were developed to support the upcoming [Agricultural Soil Health and Conservation Strategy](#). We're working in partnership with stakeholders and experts to develop the Strategy with the goal to sustain Ontario's strong agricultural production while protecting the environment and adapting to a changing climate.

All of the titles can be ordered through [ServiceOntario](#) once published. You can find the ordering information on the [Soil Health in Ontario](#) web page.

Do you have soil health questions? Contact our Agricultural Information Contact Centre at 1-877-424-1300 or [ag.info.omafra@ontario.ca](mailto:ag.info.omafra@ontario.ca).



Figure 1. Five new publications available.

## Tank-mixing Can Reduce Weed Control

**Mike Cowbrough, Weed Management Field Crops Program Lead, OMAFRA**

A farmer wants to mix a “crop enhancer” with glyphosate to control weeds in glyphosate tolerant soybeans. According to the manufacturer’s website this product “can be combined with other applications (e.g. fertilizer, herbicides, insecticide, etc.)”. However, the product’s ingredient list contains a lot of cations, which will “tie up” the glyphosate and reduce weed control (Hall et al., 2000). The farmer’s trusted agronomist advised against mixing this product with glyphosate and sent a sample to me so that I could evaluate its effect on weed control.

The agronomist’s instincts were correct. Lamb’s-quarters control was noticeably reduced when the “crop enhancer” was included with glyphosate (Figure 1). Measuring the dry weight of harvested lamb’s-quarters in each treatment revealed that an application of glyphosate provided a 90% reduction in lamb’s-quarters biomass but the “crop enhancer” and glyphosate tank-mix only reduced lamb’s-quarter biomass by 40%.

Tank-mixing a herbicide and fertilizer is not an illegal practice. The Pest Management Regulatory Agency (PMRA) in 2009 issued a memorandum known informally as the “PMRA tank mix policy” which gives the go ahead for an applicator to mix products that are both registered for use on a given crop. However the memorandum does say that “the addition of a fertilizer to the spray carrier may result in a greater chance of host-crop injury so initial use should be limited to a small area to confirm results prior to widespread use.” In other words “you’re on your own” in terms of any performance guarantee whether it be crop safety or weed efficacy.

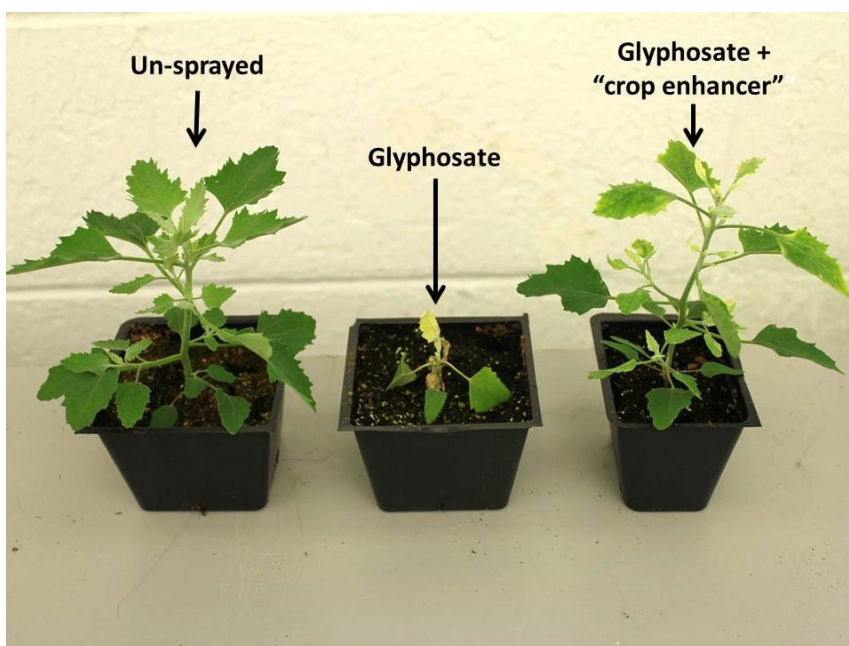


Figure 1. Lamb’s-quarter control at 10 days after application of glyphosate (centre) compared to the tank-mix of glyphosate + the “crop enhancer” (right) and the un-sprayed control (left)

**Bottom line:** Make sure there is a body of evidence and experience to indicate compatibility of products in a tank-mix otherwise the results could be costly.

**Citation:** Hall, G. J., C. A. Hart, and C. A. Jones. 2000. Plants as sources of cations antagonistic to glyphosate activity. Pest Manag. Sci. 56:351-3

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## Reducing the Risk of Farm Fires

Faulty electrical systems cause approximately 40 per cent of farm building fires with a determined cause, making it one of the leading known causes of farm fires.

### What can you do?

Regular inspections and maintenance are key to reducing the risk of a fire. We recommend that you work with a professional to inspect and monitor your farm buildings.

- Have your buildings inspected and maintained regularly by a licensed electrical contractor.
- Develop a preventative maintenance and housekeeping schedule.
- Work with a professional to monitor the heat conditions of your buildings using infrared technologies.
- Work with your local fire department and insurance company to identify problem areas on your farm, and fix any problem areas identified.
- Have a plan ready to deal with any emergency.
- Train your family and employees on what to do if there is a fire. Make a list of who to call during and after a fire, and establish a safe meeting point.

Visit [ontario.ca/preventfarmfires](https://ontario.ca/preventfarmfires) to find helpful resources, including:

- The [Reducing the Risk of Fire on Your Farm book that](#) examines the main causes of farm building fires and what you can do to minimize risks.
- A checklist to help you [assess your farm's fire risk](#).
- A link to the [Farm Fire and Emergency Sketch web page that explains step-by-step how to](#) create a sketch for your operation.
- Our [Electrical Systems in Barns Factsheet](#) that provides information on how an electrical system can start a fire, regulations and barn electrical maintenance practices.
- Links to different inspection, monitoring and extinguishing technologies, such as [FLIR](#) heat-sensing cameras, [Cole-Parmer](#) gas detectors and the [DSPA 5 aerosol generator](#).

For more information and to suggest a different fire prevention device, technology or program that could be listed on our website, contact the Agricultural Information Contact Centre (AICC) at 1-877-424-1300 or [ag.info.omafra@ontario.ca](mailto:ag.info.omafra@ontario.ca).

Visit [ontario.ca/farmsafety](https://ontario.ca/farmsafety) for other resources and tips for keeping your farm safe.

[ontario.ca/preventfarmfires](https://ontario.ca/preventfarmfires)



**Figure 1.** Reducing the risk of farm fires

## Clubroot in Ontario Canola

**Meghan Moran, Canola and Edible Bean Specialist, OMAFRA**

In the summer of 2016, clubroot disease was found throughout a field of canola in the Verner area of West Nipissing. Clubroot has been established in Brassica vegetable crops in Ontario for a number of years, but this was the first time the disease was confirmed in Ontario canola.

Above ground symptoms of clubroot include yellowing, stunting, wilting, premature ripening, and plant death. The above ground symptoms are similar to those of other diseases and nutrient deficiencies, lack of water, or high temperatures. Infections that occur at later plant stages may not result in above ground symptoms. Proper diagnosis of clubroot infection must include digging up plant roots to check for gall formation. Roots of infected plants become malformed and cannot adequately transport water or nutrients. Ontario farmers should now make it a regular practice to walk out to areas of the field that ripen prematurely or look unhealthy and pull up plants to look for clubbed roots.



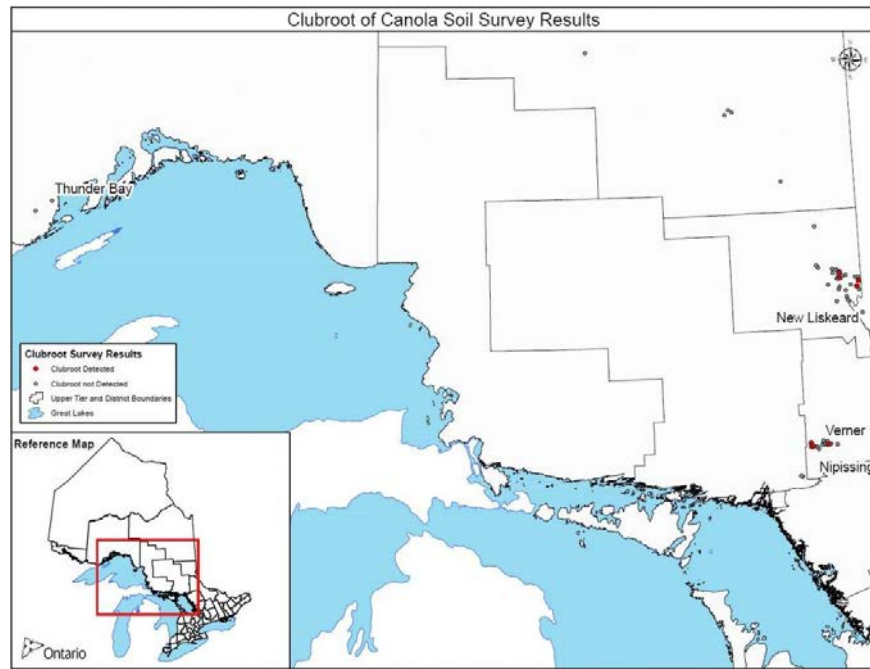
**Figure 1.** Clubroot infection found in Ontario canola in 2016  
(Photo credit: [www.ontariocanola growers.ca](http://www.ontariocanola growers.ca))

There may be little to no yield loss where spore counts are low and conditions slow the plant infection (low soil moisture, pH above 7.2). There can be up to 100% yield loss across the field or in areas of a field where spore counts are high and/or conditions favour infection early in the season.

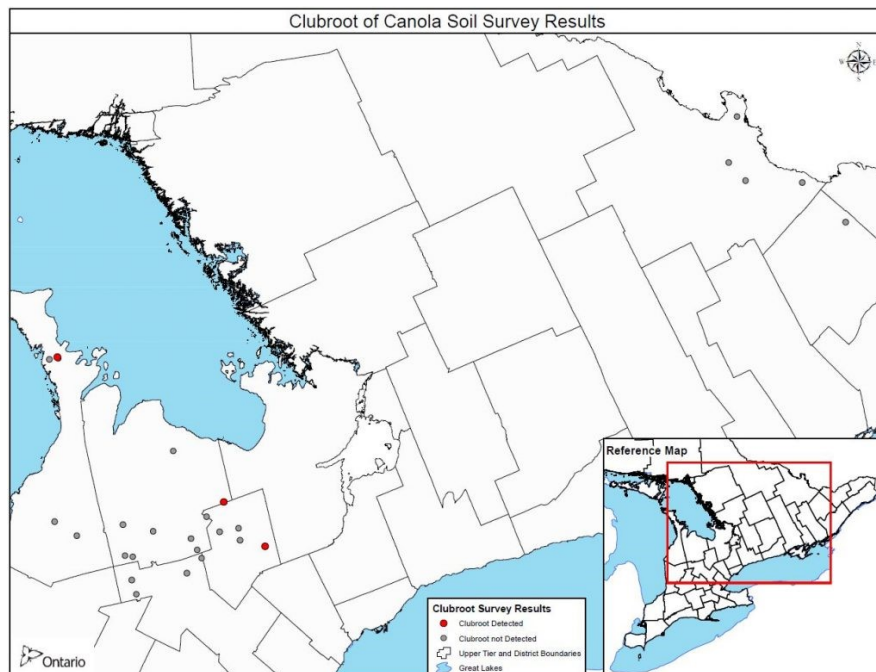
In response to the discovery of clubroot in Ontario canola, a preliminary soil survey was conducted across the province. Soil samples were taken from fields where canola has been grown in the last 3 years targeting many, but not all, canola growing regions in Ontario. Fields were sampled based on voluntary participation by farmers and agronomists, and sample sites do not represent a comprehensive assessment of all canola fields or regions of Ontario. For those samples taken by OMAFRA, approximately 20 soil cores (8" deep) were taken from each of the sampled fields. Sampling was targeted to areas of the field where infections are likely to begin, including a "W" pattern near the major entrance to the field and in some cases, in wet areas of the field. While taking the samples, sanitation procedures were carried out to ensure the samples were not contaminated and the disease was not spread during the sampling process. This includes using a bleach solution to clean soil probes, buckets, shovels and boots and/or using boot covers.

A total of 95 soil samples were collected and analysed, and clubroot was detected in 11 of the sampled fields. Clubroot was detected in fields in the areas of Temiskaming Shores/New Liskeard, West Nipissing, Bruce Peninsula, and Dufferin County (see Figures 2 and 3).





**Figure 2.** The “northern” portion of the clubroot survey includes 68 soil samples taken from Thunder Bay, Kapuskasing, Matheson, Cochrane, Temiskaming area and Verner area. Clubroot was detected in soils in Temiskaming and Verner.



**Figure 3.** The “southern” portion of the clubroot survey includes 27 soil samples taken from Bruce, Grey, Wellington, Dufferin, Renfrew and Lanark counties. Clubroot was detected in soils in Dufferin county and around the Dufferin-Grey border.

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Clubroot moves through soil transferred from one field to another. This can occur through movement of soil on farm equipment, in manure, in water, or through erosion, to name a few. Once clubroot is established in a field it cannot be eradicated. Spores can survive in soil for up to 20 years, but reproductive spore counts are significantly reduced when there is no host crop present.

Canola can be grown successfully in fields where clubroot has been detected, when good sanitation and management practices are followed. The most effective management strategy is using a long crop rotation (4 years) to prevent spore build-up. Because the pathogen is an obligate parasite, it will not reproduce without a host crop (Brassica) present. Growing clubroot resistant varieties is also a recommended management practice, and these varieties should be used if it is suspected there is a risk of clubroot.

Good sanitation of field equipment and practices that restrict the movement of soil from one field to another are important in managing the spread of clubroot. For example, tilling and planting clubroot infested fields last can reduce the spread of the disease to fields that are not infected. The level of equipment sanitation depends on the level of perceived risk, and can include removing loose soil from equipment, pressure washing, and disinfection with a bleach solution. There are currently no pesticides registered for the control or suppression of clubroot in canola.

Now that clubroot has been detected in multiple areas of Ontario, canola growers across the province should monitor their crops annually for presence of this disease. Fields should be observed in summer and fall for areas of yellowing, wilting, stunting and premature ripening. Walk out to any areas of the field that look stressed or unhealthy and pull up the plant roots to check for galls. Soil and plant samples can also be submitted to diagnostic labs to confirm the presence of the disease.

Comprehensive resources on identifying and managing clubroot disease can be found at [www.clubroot.ca](http://www.clubroot.ca). Speak to your seed dealer about the availability and performance of clubroot resistance canola varieties.

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## Re-evaluating the Cost of Compaction from Manure Application

**Christine Brown, Sustainability Specialist Field Crops OMAFRA**

How much does compaction really cost? Consider increasing the profitability of a wheat crop by factoring in the cost of compaction-induced yield loss in corn resulting from spring applied manure.

Healthy soils have a unique infrastructure of pores that vary in size and support the movement of air, water, earthworms and other soil micro-organisms and plant roots. Healthy soils that allow maximum water infiltration will help maximize the soil's water-holding capacity and will minimize water runoff that leads to soil erosion. Soils with large pore spaces have better water infiltration capacity while the greater the number of small pores, the more consolidated the soil tends to be.

**What is compaction?** Compaction is a change in soil structure, including an increase in soil density. In compacted soils, the soil aggregates are pushed more tightly together which reduces the size and stability of the soil aggregates, the size of the pores and disrupts the continuity of those pores.

According to research from U of Minnesota, the change in soil structure is complex. There is not a simple relationship between increased soil density and decreased crop yield. The changes in soil structure affect the movement of water, air, roots, and soil organisms through the soil, so the effect on yield depends on the weather, the amount and depth of compaction, and the crop type.

**What causes compaction?** Wheel traffic is the main cause of compaction on most farms. The amount of compaction depends on the size and weight of the equipment, the moisture level of the soil, and the type of soil (soils high in clay or low in organic matter compact more readily). Table 1, with information adapted from Dr. S Shearer – U of Ohio, shows the potential economic impact of compaction from wheel traffic on normal and wet soils. It also considers the impact of wider spread pattern for manure application equipment on reducing wheel traffic-induced compaction.

If the data collected by Dr. Scott Shearer of Ohio State University is extrapolated to calculate the cost of compaction on crop yield per acre, it would demonstrate a 6 bu/acre yield difference from wheel traffic in soils with normal moisture and a 27 bu/acre yield difference from wheel traffic in wet soils. At \$4.50 /bu corn this would cost close to \$50/acre with narrow width spread pattern manure application equipment. Wider spread pattern results in less wheel tracks and in less crop yield loss.

**Table 1:** Yield Impact from Wheel Track Compaction on Normal and Wet Soils with Common Field Equipment and Varying Spread Widths of Manure Application Equipment

Machine	Traf-ficked Area (%)	Yield Reduction Prediction (200 bu/ac No-Till corn Base)					
		Normal		Wet		~ Yield Impact \$/ac (\$4.50/bu corn)	
		Trafficked yield	Field Average	Trafficked yield	Field Ave- rage	Normal Soil Moisture	Wet Soil Moisture
Grain Cart	14	175	196	148	193	\$ 13	\$ 28
36 row Planter	6.7	190	199	171	198	\$ 3	\$ 8
16 row Combine	17.1	176	196	150	192	\$ 15	\$ 32
Potential Yield Reduction from Compaction with Manure Application							
		Normal Soil Moisture		Wet Soil Moisture		~ Yield Impact \$/ac (\$4.50/bu corn)	
		Trafficked yield	Field Average	Trafficked yield	Field Ave- rage	Normal Soil Moisture	Wet Soil Moisture
Manure Application 10 ‘ spread pattern	40	189	195	168	186	\$ 11	\$ 50
Manure Application 20 ‘ spread pattern	25					\$ 7	\$ 30
Manure Application 30 ‘ spread pattern	15					\$ 4	\$ 18
Manure Application 50 ‘ spread pattern	8					\$ 2	\$ 10
Adapted from Scott Shearer 2016 presentation to Ontario CCA							

Many producers do not consider wheat to be an economical crop in the rotation. If the economics of crop production were not just based on the highest yield, but on the economics (including long term soil health) across the whole rotation, it would escalate the value of wheat in the rotation. Beyond the advantages of increased yields for subsequent corn and soybean crops, documented by Dr. B Deen at the University of Guelph, there are additional economic considerations. The opportunity of manure application after July wheat harvest, into conditions with the lowest risk for compaction, and with the opportunity to add cover crops to alleviate consolidated soil and build aggregate stability give additional diversity and soil health advantages. Additionally, the opportunity to spread workload and equipment costs over the entire growing season (compared to a few weeks in spring and fall) provides additional advantages.

With larger fields and bigger field equipment, compaction issues will not disappear. Is it time to reconsider the options for reducing compaction on your farm?

**References:** Soil Compaction; Causes, Effects and Control <https://www.extension.umn.edu/agriculture/soils/tillage/soil-compaction/>

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1-877-424-1300

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[www.ontario.ca/omafra](http://www.ontario.ca/omafra)

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# Growing Forward 2

A federal-provincial-territorial initiative

## Canada-Ontario Environmental Farm Plan (EFP)

Producers are invited to attend FREE EFP  
(Fourth Edition) Workshops to:  
Learn about best management practices  
Develop an action plan for their farm  
Learn about cost-share funding opportunities

## Growing Your Farm Profits Planning for Business Success

Start the business planning process by attending  
this FREE two-day interactive workshop.  
You will: • Assess business management practices  
• Determine priorities and key goals  
• Develop realistic action plans  
• Learn about cost-share funding opportunities

## Biosecurity Workshop

At this one-day workshop, an experienced veterinarian or certified  
crop advisor will show you the benefits of having an on-farm  
biosecurity program, and identify key practices which will enhance  
biosecurity measures on your farm.

## Maximizing Your Traceability Investment Workshop

This in-class workshop will focus on how you can gain a competitive  
advantage and improve your bottom line with your traceability  
system. Real life examples and business profiles focused on  
traceability best practices will be examined throughout the workshop.

## Food Safety Workshops/Webinars

Looking to keep up to date on the latest food safety practices and help  
strengthen your Growing Forward 2 application? The Food Safety  
Workshop is a two-day in-class workshop to help you formalize your  
food safety program, or you can take advantage of a series of six, 1.5  
hour webinars which cover the same topics (see schedule online).

## Workshops and Webinars in your area

### EFP Workshop Schedule

Creemore	Day 1 - June 28	Day 2 - July 6
Elora	Day 1 - July 12	Day 2 - July 19
Wingham	Day 1 - July 13	Day 2 - July 20
Mitchell	Day 1 - August 8	Day 2 - August 15
Erin	Day 1 - August 17	Day 2 - August 24
Markdale	Day 1 - August 21	Day 2 - August 28
Mount Forest	Day 1 - September 11	Day 2 - September 18
Orangeville	Day 1 - September 20	Day 2 - September 27
Chesley	Day 1 - September 25	Day 2 - October 2

### GYFP Workshop Schedule

Listowel	Day 1 - July 11	Day 2 - July 18	Day 3 - July 25
Elora	Day 1 - July 26	Day 2 - Aug. 2	Day 3 - Aug. 9
Creemore	Day 1 - July 27	Day 2 - Aug. 3	Day 3 - Aug. 10
St. Mary's	Day 1 - Aug. 9	Day 2 - Aug. 16	Day 3 - Aug. 23
Clinton	Day 1 - Aug. 23	Day 2 - Aug. 30	Day 3 - Sept. 6
Markdale	Day 1 - Aug. 24	Day 2 - Aug. 31	Day 3 - Sept. 7
New Hamburg	Day 1 - Sept. 7	Day 2 - Sept. 14	Day 3 - Sept. 28
Mount Forest	Day 1 - Sept. 19	Day 2 - Sept. 26	Day 3 - Oct. 3
Orangeville	Day 1 - Sept. 22	Day 2 - Sept. 29	Day 3 - Oct. 6

### Food Safety

TBD

### Traceability

TBD

### Biosecurity

Check website for workshop postings [www.ontariosoilcrop.org](http://www.ontariosoilcrop.org) or call  
for more information (519) 955-3139.

Register Online at [www.ontariosoilcrop.org](http://www.ontariosoilcrop.org)



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