



Heartland Soil & Crop

October 2016



+ OMAFRA Crop Talk | OSCIA News | Association Updates

From The Editor

Here it is, my first Heartland Region newsletter as Regional Communications Coordinator! I'm delighted to join this fabulous organization and am looking forward to working closely with the directors and members as we continue to grow and move the organization forward.



I joined Heartland Region in early August, taking over the reins from Mel Luymes. So far, I've enjoyed a 2-day retreat with my fellow RCCs from across the province, a "classroom in the field" with Waterloo SCIA (that, surprisingly, got rained out and had to move to a classroom in a church — read more in this issue), a couple board meetings and a day at the Outdoor Farm Show staffing the OSCIA booth. I eagerly await the opportunity to attend more events and activities as farmers move out of "harvest season" and into "meeting season."

A little bit about me: I'm a Huron County native, where I grew up on a small dairy farm in Howick Township. Today, I live in Elmira with my husband, Steve and my 3 young children — Audrey age 6, Dominic age 1.5, and our baby Ellie (yes, they do keep me busy!) Over the past 20+ years, I have been involved in many agricultural and rural organizations as a volunteer and as a staff person, with experience in marketing, communications and fundraising. Among the many varied experiences I've had include President of the Junior Farmers' Association of Ontario (2004-05), Manager of Alumni Advancement at the University of Guelph, Manager of Communications and Member Services for the Alliance of Ontario Food Processors, and most recently Communications Specialist at Farms.com.

This part-time position with Heartland SCIA is a perfect fit for me, allowing me to stay home with my young family but still have the opportunity to use my skills and broaden my network in the agriculture industry. As I continue to orient myself to this organization, I'm looking at ways to improve member communication, utilize new and exciting technology and social media, and broaden our reach and influence in the community.

Please feel free to reach out to me at any time to discuss your concerns, provide feedback and brainstorm new ideas.

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*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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president@heartlandsoilcrop.org. Comments, ideas and
sponsorship welcome!*

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In this issue



80 people attended Perth's summer Twilight meeting. See page 5.



Rain didn't stop Waterloo's "Classroom in the Field". See page 5.



John Poel's pioneering a new crop in Ontario. Read more on page 6.

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On the cover: GRCA's Jenn Deter and Anne Loeffler assist OMAFRA's Andrew Barrie to demonstrate the outcome of the "undies test" conducted at Waterloo member Darcy Weber's farm, at Waterloo's summer "Classroom in the Field" event. Read more on page 5.



Stuart Wright | *Heartland's Provincial Director*

The Summer Meeting of OSCIA was hosted at President Elect Mack Emiry's near Massey this past August with the business portion being held in Sudbury.

The hospitality was outstanding in the North East Region and Mack and his family are to be commended on the great work in organizing the event. Surprising to many who travelled through giant rock formations to get there, the Emiry's farm located on ancient river bed is not that stony at all. Even in this dry year the crops looked excellent and I'm sure harvest would have been successful provided the bears, which can be a nuisance, don't make too big a mess. This is very much a family farm with Mack's two sons and brother involved in the hundred cow, robot milked dairy herd, cropping operation and pick your own berry business.



We toured many interesting sites in the North east region including the nickel mines where they are using bio solids to help get vegetation re-established on the massive tailing deposits and a Haskap winery where the berry grown in the north is being given a value added component. The staff and Board covered many topics in our business session and I will update you in future newsletters or in person at local directors meetings. Please let me know a few days in advance of these meetings and I will be glad to attend, report on OSCIA activities and answer any questions.

Upcoming Region Events

Mark your calendars! Visit the Heartland website or contact the county secretary for more information.

December 2: Wellington SCIA AGM, Alma Bible Church.

December 5: Waterloo SCIA Annual General Meeting 9 a.m. to 3 p.m., Woolwich Community Hall, 29 Parkside Drive, St. Jacobs.

January 18: Perth SCIA AGM and banquet, Perth East Recreation Centre, Milverton. 5:00 p.m. Tickets \$25, available from Thelma at 519-271-5190 or email eandtsmith@golden.net



Waterloo SCIA "Classroom in the Field"

Usually, when you're expecting upwards of a hundred farmers to attend an outdoor event, you really hope and pray for sunny, dry weather. But after this summer's drought conditions, no one was complaining when Waterloo's "Classroom in the Field",



held August 16, had to be relocated to Floradale Mennonite Church when the event got

rained-out. Approximately 75 people took part in this event, originally to be hosted by Waterloo member Darcy Weber of Floradale, that featured presentations by OMAFRA field staff and a producer panel on cover crops.

A highlight of the meeting was taking a look at Darcy's underwear — the ones he had buried in his field, anyway. As explained by OMAFRA staff Andrew Barrie, the "underwear test" is a fun way to adapt the "cotton test" by burying 100% cotton men's briefs in the soil. (You can read more about the underwear test at <http://www.omafr.gov.on.ca/english/crops/hort/news/hortmatt/2015/22hrt15a2.htm>).

To cap off the day, the attendees enjoyed a pig roast lunch.



OMAFRA Field Crop Soil Fertility Specialist, Jake Munroe, demonstrates the effect of rainfall on various types of soil using a rainfall simulator.

Perth SCIA Summer Twilight Meeting

"Our Cover Crop Challenge"



Perth's summer meeting was held on a cool and misty June 28 — but not enough rain to keep the farmers home! Approximately 80 people came out to the Demo Farm #5 in Mitchell to learn more about cover crops from OMAFRA guest speakers Jake Munroe, Ben Rosser, Horst Bohner and Peter Johnson.

Guests enjoyed a BBQ and then broke into 2 groups to take part in the presentations and discussions.

Perth SCIA was pleased to see many members from neighboring counties support their event.



Perth County Farmer among first in Ontario to grow Quinoa

Editor's note: John Poel is the President of Heartland Region. This story and the accompanying photo originally appeared in the St. Mary's Journal Argus.

By Stew Slater, St. Mary's Journal Argus

John Poel is always looking for some way to bring innovation to his cash crop operation, having already experimented with various strategies for minimum tillage and including cover crops into his rotation.

Over the past two years, he stepped it up a notch by becoming one of the first growers in southern Ontario to try a crop of quinoa.

"You talk to 10 (of the farmers growing the grain, which originated on the high mountainsides of Peru), and you'll get 10 different opinions about where it should fit in your rotation," Poel told the Journal Argus, while providing a tour of his 20-acre field along the Woodham Road just west of Rannoch.

This is the second year he has grown quinoa, and his aim is to have it replace some of the corn that he grows in his rotation. There's an emerging market for the crop in Ontario, due in large part to very positive media and scientific attention related to its health benefits.

Last year, with just over nine acres planted, Poel admits there was reason for misgivings come harvest time. Quinoa is a close relative to lambs quarters, a common and sometimes troublesome weed for southern Ontario's cash croppers. And it was particularly troublesome in his field.

The combine's bin was filled partly with the tiny quinoa seeds, which were dry and suitable for the buyers' needs. But it also contained a lot of green chaff from the lambs quarters, which definitely weren't dry and acted as a hindrance for the buyer.

Poel had already discovered that herbicide use with quinoa is a very tricky business. A late-



season chemical had been applied to just a small portion of the first year quinoa field prior the year of planting; on that small portion, none of the seed grew. Perhaps not surprisingly, there are no herbicides registered for use on quinoa by Canadian regulators.

Poel wasn't deterred, however. For this year's expanded crop, he was still able to use a "burn-down" herbicide to prepare the seedbed.

More favourable weather conditions after planting allowed the crop to get a good head start on some of its lambs quarters competitors. And this year, he decided he will swath the crop first instead of direct combining it — hopefully allowing most of that green stuff to dry out before completing the harvest.

There have been other learning experiences. The seed is so small when planting, it's necessary to "bulk it up" with some other material to allow it to effectively pass through the seed drill. But he found a product — something which also provides a boost for the soil's important and beneficial biological life.

He seems happy with this year's results. There is still plenty of lambs quarters in the 20-acre plot, but the field is also thick with what appears to be a very healthy crop of quinoa.

OSCIA Program Update

Growing Forward 2

Intake opens Oct 14 – Nov 3 for submission of applications. The completion date for these applications will be March 31/17. Consider multi year applications for more time for projects. Ensure you have costs in both program years.

Workshops are posted at www.ontariosoilcrop.org if you need them! If you don't see a workshop listed, and have a group who are interested, please contact me and we can arrange a workshop. OSCIA offers FREE webinars to explain the application process.

<http://www.ontariosoilcrop.org/oscia-programs/workshops-webinars/>

<http://www.ontariosoilcrop.org/oscia-programs/growing-forward-2/>

Species at Risk Farm Incentive Program

Want to plant trees? Erosion control that outlets into water? Creating Habitat? Rotational grazing? Fencing livestock out of woodlots and watercourses? Submit applications ASAP. Projects must be complete by Dec 15/16 with the exception of tree planting (can use Tree Service Contract with local Conservation Authority).

<http://www.ontariosoilcrop.org/oscia-programs/sarip/>

Grasslands Stewardship Program

Funding is available to renovate ESTABLISHED pasture areas. Submit your costs and what you are willing to accept as cost share. Opens again for bids in January and April of 2017.

<http://www.ontariosoilcrop.org/oscia-programs/sarpal/>

Farmland Health Incentive Program

The program will open again for the 2017 crop year. **No dates yet.** Program requires EFP completed within the last 5 years AND a Farmland Health Check up completed with a trained CCA BEFORE APPLICATION. This process is free. Contact a CCA listed on the website and arrange for a check up. NOW is a good time to get this done!!

<http://www.ontariosoilcrop.org/oscia-programs/glasi/farmland-health-check-up/cca-list/>

As always, OSCIA program staff is available to discuss projects. Please contact us if we can be of help. I wish a Safe harvest to you all. I hope to see you at your Annual meetings during the fall and winter.

Margaret May, Regional Program Lead

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Grand River Conservation Authority's Landowner Grants

Did you know that farmers in the GRCA watershed can receive grants that will help them to undertake projects to protect water quality on the farm?

The program offers grants ranging from 30 per cent to 100 per cent of the cost of selected best management practices (BMP). Money is available for projects including stream fencing, tree planting, manure storage, well decommissioning and more. (Eligible projects vary by county). In some cases, grants may be combined with funding from other sources for a combined grant of 80 to 100 per cent of the project costs. Farmers helped create and continue to oversee the program. Local committees, with representation from agricultural organizations, prioritize BMP applications and decide appropriate funding levels to direct the available funding.

The Rural Water Quality Program (RWQP) is voluntary. The best management practices that you choose may be different from those of your neighbours. The RWQP will help producers respond to the specific water quality concerns by providing financial and technical assistance. With the support of the RWQP, farmers can achieve their own environmental goals and help ensure there is enough clean water for farmers, their neighbours and all the residents of the Grand River watershed.

Who is eligible? How do I apply?

The types of projects covered and the grant rates vary from county to county. For detailed information, visit the GRCA website. www.grandriver.ca, and find out more about the program in Waterloo, Wellington and Perth counties, or contact a conservation specialist at 519-621-2761 or at ruralwater@grandriver.ca.

GRCA conservation specialists can help farmers and rural landowners obtain grants from other agencies to support their projects.

Program achievements

More than 5,000 projects have been implemented by rural landowners. They have invested more than \$27 million in the projects and received grants totaling \$14 million.

- An estimated 100,000 kilograms of phosphorus have been kept on the land and out of rivers and streams.
- More than 140 kilometres of stream banks have been fenced, keeping 13,500 head of livestock from watercourses.
- About 920 hectares of fragile land have been retired and planted to trees in riparian areas, wetland buffers, steep slopes and areas of groundwater recharge and discharge.



Wed. Nov. 30, 2016 from 1-4 p.m.

St. Jacobs Lions Hall

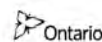
31 Parkside Drive, St. Jacobs

Come meet the microbes in your field. Microbiologist **Christine George** reveals the life in your soil.

Producers and CCAs welcome!
3 CEU credits



To register, contact Karen Buschert:
Phone 519-621-2761 or email ruralwater@grandriver.ca





CROP TALK

Volume 16, Issue 3 OMAFRA Field Crop Specialists — Your Crop Info Source

September, 2016

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Fall Weed Management Tips

Mike Cowbrough, OMAFRA Weed Management Specialist - Field Crops

Many farmers have witnessed the value in applying herbicides in the fall to perennial weeds, especially perennial sow-thistle and dandelion (Figure 1). Often they will see a reduction in their population the next year as well as a delay in their shoot emergence. This allows the planted crop to have a competitive advantage over those perennial weeds. Unfortunately weather conditions around the time of application can be quite variable and can influence a herbicide's effectiveness. Let's go through three "top tips" to make the most of this application window.

1. Choose the most effective products, rate and tank-mixes for the perennial weed that you are targeting. Table 1 outlines what public researchers in Ontario have found to be most effective at controlling perennial plants in the fall.

Table 1. Best herbicide option for each targeted perennial plant based on research conducted by the University of Guelph, Department of Plant Agriculture.

Perennial Plant	Product(s)	Product Rate	Average Control (Range in control)
Dandelion	Glyphosate (540 g/L)	1.34 L/ac	90% (84 - 100%)
Perennial Sow-thistle	Glyphosate (540 g/L)	1 L/ac	90% (85 - 100%)
Canada thistle	Glyphosate (540 g/L)	1.34 L/ac	90% (85 - 100%)
Alfalfa	Glyphosate (540 g/L)+ 2,4-D Ester (564 g/L)	0.67 L/ac + 0.5 L/ac	95% (90 - 100%)
Wild carrot	Glyphosate (540 g/L)	1.34 L/ac	82% (49 - 100%)
Burdock	Glyphosate (540 g/L)	1.34 L/ac	90% (85 - 100%)
Red clover	Glyphosate (540 g/L)+ Distinct	0.67 L/ac + 200 g/ac	99% (96-100%)

2. Apply when air temperatures are above 8°C for a minimum of two hours after application. This is best accomplished by applying during late morning or mid-day so that the targeted plant is taking up glyphosate during the heat of the day.

3. After a frost event, wait 2-3 days before evaluating weed growth and if the target plants look fine and air temperatures are above 8°C then resume applications. For example, milkweed is very sensitive to frost. Figure 2 shows a milkweed plant 3 days after an evening where the air temperature reached a low of -3°C. It would not make sense to apply glyphosate on a weed species in that state since its leaves are unlikely to absorb any herbicide. Alternatively, dandelion and wild carrot were not affected by the same frost event (Figure 3 and 4) and one could resume fall applications to those species based on the condition of their leaves.
4. Wait a minimum of 72 hours after application to perennial weeds if you want to till the soil. The longer that you can wait after application before making a tillage pass, the more the herbicide will translocate within the plant and do a more effective job controlling the species.



Figure 1. The spring following a fall application of glyphosate (left) compared to no application (right)



Figure 2. Milkweed plants in wheat stubble 3 days after a frost where the night time temperature was -3°C



Figure 3. Dandelion unharmed 3 days after a frost event.



Figure 4. Wild carrot unharmed 3 days after a frost event.

Utilizing Moisture Stressed Corn as Feed

Thomas Ferguson, OMAFRA Forage and Grazier Specialist

With the dry weather this year and low forage yields across much of the province, many producers are looking for alternative forages. There is a lot of stressed corn that could be utilized as forage for livestock. The amount of moisture stress that the corn has been through can affect the quality of the silage and there can be great variability between fields and even within a field. In fields that were dry during tasseling or pollination and have reduced grain fill, the energy content of the silage will be reduced but forage quality should remain constant. When feeding this forage to animals, it is very important that a feed test is done so that the nutritional composition of the silage can be adjusted for in the ration.

When negotiating the price for selling standing corn as silage, the final price is typically somewhere between the net income that could be received from the grain and the value of the forage.

The minimum price for corn silage would be the net income that could be obtained by selling the grain, and the value of the phosphorus and potassium that are being removed by the stover. When estimating yield, it is best to be realistic and look at different points in the field to take into account any variability. Corn silage pricing may also take into account the availability of other forage sources in the area, distance from field to storage, storage costs, and anticipated losses from fermentation and storage.

Sellers with a potential Crop Insurance claim should contact Agricorp (1-888-247-4999) before harvest to determine how selling corn as silage will impact the claim.

Moisture stressed corn can be harvested either by grazing, green chopping or fermenting into corn silage. If the corn field has a good perimeter fence, then grazing moisture stressed corn may be an option. When grazing animals on corn stalks, they will eat the cobs first and then the stalks, so the paddock size should be adjusted for the number of animals in the group. It is important to ensure that animals grazing corn stalks have mineral available and an adequate water supply. In certain cases it may be necessary to supplement with grain and/or hay. Any animals grazing corn need to be monitored for grain overload or acidosis.

When chopping stressed corn for silage, it is important that it is harvested at the right moisture level. Typically moisture level can be estimated from the milk line, but with the dry weather this year, the whole plant moisture will not correlate with milk line as closely as in a normal year. In order to obtain accurate moisture levels, at least 10 random plants should be sampled, chopped and then tested using a Koster tester, microwave test, or an accredited lab. Harvesting corn silage when it is too dry can result in insufficient packing, poor fermentation, heating, mould and spoilage. Moisture contents greater than 70% can cause seepage and clostridia fermentations that produce butyric acid, resulting in high fermentation losses, lower intakes, ketosis and poor cow performance.

When working with moisture stressed corn, it is necessary to monitor it for nitrate levels. Nitrate poisoning occurs when there are high levels of soil nitrates and environmental conditions that cause them to accumulate in plants. **Nitrate poisoning is particularly high risk during the 5 - 7 days following a rain that ends a severe dry period.** Avoid grazing or green chopping during this period. Making silage from drought stressed corn can greatly reduce the risk of nitrate poisoning as the levels of nitrates are reduced during fermentation. When nitrate levels are high, they increase the level of nitrogen dioxide (silo gas) that is produced when corn is ensiled.

When animals consume nitrates, the rumen will convert them to nitrites. High levels of nitrites impair the ability of blood hemoglobin to carry oxygen. Symptoms of nitrate toxicity include rapid breathing, fast and weak heartbeat, difficult breathing, muscle tremors, staggering and death. If you suspect nitrate poisoning, keep the animals quiet and comfortable and call your veterinarian immediately. Less affected animals may be listless and show more subtle symptoms including poor appetite, reproductive problems (including abortion) and poor performance.

Feed samples can be taken to test for nitrate (NO_3) or nitrate-nitrogen ($\text{NO}_3\text{-N}$). As a general rule nitrate-nitrogen levels should be less than 1,000 ppm (NO_3 levels $<0.44\%$) to be without risk. Levels greater than 4,000 ppm $\text{NO}_3\text{-N}$ ($>1.76\% \text{NO}_3$) are potentially toxic and should not be fed. Rates between these two levels are somewhat toxic and should be carefully managed. Corn should not be grazed unless the nitrate levels are within safe levels. More information on nitrate levels can be found by checking the factsheet: Potential Nitrate Poisoning and Silo Gas When Using Corn Damaged by Dry Weather for Silage, Green Chop or Grazing (<http://ontario.ca/cwol>).

Planning for Big Wheat Yields!

Joanna Follings, OMAFRA Cereals Specialist

Despite the dry year and stripe rust infestation, we saw some big winter wheat yields across the province this season. Many growers are giving credit to a strong stand establishment last fall thanks to the excellent planting conditions. So as we get into the full swing of winter wheat planting, here are a few things to keep in mind that will help you get those high winter wheat yields and break another provincial record!

Know your optimum planting date and seeding rate

As we saw with the early planted crop last fall, wheat is very responsive to planting date. This was evident in 2006 when there were record yields due to early planting the previous fall. There was also a significant response to planting date in 1993, when a late planted winter wheat crop resulted in low yields. Given that planting date has a significant impact on yield, make sure you plan ahead and ensure you are targeting the optimum planting date for your area as outlined in Chapter 4 of Publication 811: Agronomy Guide for Field Crops, *Optimum Date to Seed Winter Wheat Across Ontario*.



Figure 1. Optimum date to seed winter wheat across Ontario

Given that the weather does not always cooperate, it is important to be aware of the implications of variation in planting date and how to adapt accordingly. Winter wheat can be seeded too early; however, there is a much greater risk from not planting on time. At the optimum timing, winter wheat should be seeded at 1.5 million seeds/acre. This can vary slightly depending on the variety so check the label for the particular variety you want to grow.

When seeding winter wheat too early there is an increased risk of lodging and snow mould. To reduce these risks decrease the seeding rate by 25% if seeding more than 10 days before the optimum planting date for your area. When planting winter wheat later than the optimum timing there is reduced fall tillering. To compensate for this, increase the seeding rate by 200,000 seeds/week to a maximum of 2.2 million seeds/acre.

Plant at the right seeding depth

Similar to planting date, winter wheat is also very responsive to seeding depth so the more accurate the seeding depth the better chance for winter survival and higher yields. Having the proper seeding depth results in the development of a secondary root system well before winter begins and encourages quick emergence. If winter wheat is planted too deep emergence is delayed resulting in a yield reduction;

however, there is often a greater yield reduction due to planting wheat too shallow.

Ensure you are planting at a depth of 2.5 cm (1 in.). Moisture availability is a very important factor so although 1 in. is an ideal depth, ensure you adjust your depth accordingly so that you are placing the seed into moisture. You can also reduce seeding depth variation by using seed firmers and reducing your planting speed.

Choose the right variety and use quality seed

Select a variety that is suited to your growing area. A number of factors should be considered when choosing a variety, these include: the farm location, winter survival, insect and disease resistance, lodging potential and yield. Utilize the Ontario cereals performance trial data on the www.GoCereals.ca website. When looking at the data, select varieties that perform well in your area across a number of sites and years. Use high quality seed with excellent germination as well as a seed treatment to help protect against seedling diseases.

Seed Corn Maggot in Soybeans

Horst Bohner, OMAFRA Soybean Specialist

Seedcorn maggot was a significant problem for soybeans in the spring of 2016. Wellington County was particularly hard hit. In some cases fields were completely decimated and the crop had to be re-seeded.



Figure 1. Soybean field completely decimated in 2016

Seedcorn maggots feed on germinating corn and soybean seeds and young seedlings. Damage can range from minor feeding which delays emergence to seed death. Seedlings that do survive are often severely weakened and may not fully

recover. Seedcorn maggot damage is often spread across the entire field and is not isolated to specific parts of a field. Damage is often worse in a cool wet spring because the adult flies are attracted to decaying plant material. Cool, wet conditions, delay crop emergence, which allow the maggots to feed longer. Seedcorn maggot infestations are difficult to predict but the mild winter likely increased populations in the spring of 2016. To verify that it's actually seedcorn maggot that has reduced a plant stand it's necessary to dig up seed. Look for small maggots burrowing and feeding in the seed.

Description

The maggots are very small, less than 6 millimeters in length. The larvae are light yellow, headless, and legless. The body tapers with a black mouth that has two small mouth hooks. The adults resemble a very small housefly but are more slender and light grey in colour.



Figure 2. Maggot feeding results in hollowed out seed with small dark channeling.

Life Cycle

The seedcorn maggot overwinters in the soil. In early spring as soil temperatures increase, adults emerge and mate. Females look for a site to lay their eggs from April to June. Flies are attracted to the odour of decaying organic matter, such as freshly tilled soils, decaying plant residue, lightly tilled cover crops, and manured fields. The eggs are laid in moist soil and once hatched begin to feed on germinating seeds. The eggs only take a few days to hatch and the maggots feed from two to three weeks. The maggots enter the pupal stage and adults hatch within a week or two. The whole life cycle may be as short as three weeks. Therefore a number of generations in a given year are possible.

Management

Avoid incorporating any plant material (ie. weeds or cover crops) or manure within three weeks of planting, to decrease the risk of seedcorn maggot infestations. Once damage begins on germinating seed or seedlings there is no rescue treatment. If plant stands are reduced substantially re-seeding is the only option. Those who experience significant stand loss due to seedcorn maggot, can have an [Inspection of Crop – Pest Assessment](http://ontario.ca/cwpl) (<http://ontario.ca/cwpl>) completed by a professional pest advisor. If the damage to the soybean field reaches the 30% stand loss threshold, a pest assessment report can be used to purchase and plant a neonicotinoid insecticide seed treatment for that farm property. Insecticide treated seed should be used when re-seeding since maggots are still likely to be present in the field. No-till fields are less prone to seedcorn maggot damage. Later planted fields that emerge quickly due to warmer conditions are also less vulnerable. For growers that consistently experience seedcorn maggot damage an insecticide seed treatment is the only reliable control option. It's also important to note that treated seed may not give complete protection under extreme insect pressure so higher seeding rates should be used.

More information on Ontario's neonicotinoid regulations and pest assessment guidelines can be found at: <https://www.ontario.ca/page/neonicotinoid-regulations>.

Interpreting Your Soil Test Results

Jake Munroe, OMAFRA Soil Fertility Specialist – Field Crops

Regular soil testing is a critical component of good crop production. It allows you to monitor soil fertility levels, identify potential for nutrient deficiencies, and make fertilizer decisions based on the best possible information. This time of year provides an excellent opportunity to soil sample your harvested wheat fields before the busy fall harvest. Perhaps you have already had samples taken and sent off, and have received the soil test report back (see Figure 1 for an example). Whether you opted for grid sampling, zone sampling, or just a regular composite sample, it can sometimes be a challenge to understand exactly what those numbers mean and how to use them to make decisions. Also, if you've been given a fertilizer recommendation, it is useful to be able to double check to make sure it's in the right range.

OMAFRA-accredited soil tests are shaded

(1) Sample Number	(2) Organic Matter %	(3) Phosphorus, P ppm ^a		(4) Potassium K ppm	(5) Magnesium Mg ppm	(6) Calcium Ca ppm	(7) pH		(8) CEC Meq/100g ^c	(9) % Base Saturation		
		Olsen (Bicarbonate)	Bray-1				pH	Buffer pH BpH		K	Mg	Ca
TT01	3.0	22 LR ^b	34	193 RR	319	1701	7.3		12.9	3.9	20.7	66.1

(1) Sample Number	(10) Sulphur S ppm	(11) Zinc Zn		(12) Manganese Mn		(13) Micronutrients ppm			(14) Nitrate Nitrogen ppm	(15) Additional reported tests and values
		Zn ppm	Zn Index	Mn ppm	Mn Index	Iron Fe	Copper Cu	Boron B		
TT01	8	3.4	26	18.1	16.1	22.5	0.5	0.5		Many commercial soil laboratories report additional tests and values as a service to their customers.

(16) Recommendation (kg/ha)														
Sample Number	Crop	Yield goal	Lime	N	P ₂ O ₅	K ₂ O	Mg	Ca	S	Zn	Mn	Fe	Cu	B
TT01	Corn	180 bu/ac	0		20	0								

^appm = parts per million^bRating of probability of profitable crop response from added fertilizer based on the extracted nutrient level:

VR = very high response, HR = high response, MR = medium response, LR = low response, RR = rare response, NR = no response

OR may also be rated based on extracted nutrient level as VL = very low, L = low, M = medium, H = high, VH = very high, E = excessive

^cmilli-equivalents per 100 g soil (meq/100g)

Figure 1. Example soil test report, with OMAFRA-accredited soil tests shaded.

Making sense of the numbers

When a soil sample is submitted to the lab, it is dried and ground and a variety of extractions are performed on small “sub-samples”. It’s important to bear in mind that these sub-samples may be as little as 2 grams of soil, so it is critical to obtain as representative a sample as possible. The extractants pull the easily available and some of the moderately available nutrient from the soil. The soil test value for a given nutrient does not give you the total amount of that nutrient in the soil; it instead provides an index of nutrient availability that is correlated with plant response. For the base cations (potassium, calcium, magnesium), the value represents the “exchangeable” form of the nutrient – the portion that is attached to clays and organic matter and available to move into soil solution.

Soil test values are reported in parts per million (ppm), which represents 1 milligram of extracted nutrient for each kilogram of soil. If you want to estimate the value in pounds per acre, you can simply multiply the ppm value by two. For example, a potassium soil test value of 193 ppm equates to 386 lbs/acre of “exchangeable K” in the top six inches of soil.

Depending on the lab you use, each OMAFRA-accredited test value should also have a code associated with it. The code will give you a sense of how likely you are to have a profitable response to an application of that particular nutrient

(e.g. LR means that there is a low likelihood of response to addition of that nutrient, since the background level is relatively high).

In terms of which values to focus on, soil pH should always be a starting point. Refer to Table 9-2 on pg. 158 of Publication 811: Agronomy Guide (<http://ontario.ca/cwp1>) to determine when lime is recommended. Percent organic matter is another critical measurement – monitoring its value over time can tell you quite a bit about how well your soil management practices are working to maintain or build it (see Chatham-Kent Agri-Development article <http://bit.ly/2bf1IYS>).

Fertility guidelines

OMAFRA fertilizer guidelines, which can be found in Publication 811, are based on the sufficiency approach, which provides the greatest potential economic response in a given year based on crop and soil test level. Depending on your situation, you may want to invest in raising soil test levels for phosphorus or potassium. A recent review of decades’ worth of Ontario research showed that when phosphorus was within the range of 12-18 ppm, starter fertilizer rates (i.e. 20-30 lbs P₂O₅/acre) achieved the most economic response for phosphorus. The same was true for potassium when levels were between 100-130 ppm.

Generally speaking, the following amounts are required above crop removal to move soil test values up by 1 ppm (for OMAFRA-accredited P and K tests): 35 lbs/acre P_2O_5 and 20 lbs/acre K_2O

These values will vary depending on soil type and initial soil test level. For example, if you had a field sitting at 10 ppm P and 80 ppm K, P and K above crop removal could be applied over a number of years to reach targets of 15 ppm P and 115 ppm K. Variable rate technology is available to apply these nutrients.

It is important to bear in mind that nutrients behave differently in soil. Because of how reactive phosphorus is in the soil, as much P as possible should be banded to provide

optimal benefit to the crop in the growing year. If phosphorus is broadcasted, it should be done so during a time period when risk of soil and nutrient loss due to runoff is low (e.g. late summer after wheat harvest).

Consider alternative nutrient sources as well if they are available in your area. Sources such as municipal compost, stabilized bio-solid products, and manure (if available), can be used to address fertility levels and have the added benefit of contributing to soil organic matter and improving soil structure over the long-term.

Harvest Aid Treatments In Edible Beans

Meghan Moran, OMAFRA Canola and Edible Bean Specialist, and Mike Cowbrough, OMAFRA Weed Management Specialist - Field Crops

Harvest aid treatments in dry edible beans will provide a more even dry down of the crop and any escaped weeds, making harvest more efficient. Controlling escaped weeds can also reduce seed stain, improving bean quality. There are six products registered for pre-harvest use in edible beans in

Ontario, the label rates and application timing are provided in Table 1. Aim, Reglone, Valtera and Ignite are contact herbicides that require higher water volumes and good coverage, and will provide rapid dry down of plant material. Eragon is translocated within plants, and provides control of weeds as well as dry down of bean plants. Glyphosate is slower acting, and is primarily used to control weeds or prevent crop regrowth. Consult with your bean dealer before selecting a pre-harvest treatment; at this time some dealers may have restrictions on the use of glyphosate on beans exported to the EU.

Table 1. Pesticide label rates and guidelines around harvest aid treatments for dry edible beans

Harvest Aid	Rate	Timing
Aim EC + Non-ionic surfactant	47 mL/ac +0.25% v/v	Apply to dry bean when 80-90% of bean leaves have fallen and pods are mature.
Eragon LQ + Merge	29.5 – 59 mL/ac + 0.5% v/v	Apply when 90% of pods have changed from green to yellow to brown. Harvest can commence within 3 -10 days after application.
Glyphosate (360 g/L)	1 L/ac	Apply when stems are green to brown in colour; pods are mature (yellow to brown in colour); 80-90% leaf drop (original leaves).
Ignite 150 SN	1 – 1.2 L/ha	Apply when 50 -75% of the bean pods have changed colour from green to yellow or brown. Allow 9 days before harvesting.
Reglone + Non-ionic surfactant	0.5 – 0.92 L/ac + 0.1% v/v	Apply when at least 80% of the pods have turned yellow. Harvest can commence within 4 -10 days after application.
Valtera + MSO Concentrate	42 g/ac + 1 L/ac	Product label does not specify a specific timing other than a statement of “Do not harvest within 5 days of application”.

Timing of harvest aids is critical to maximize the quality and yield of dry bean seed. Herbicide labels provide guidance around timing, but it can be tricky to visualize exactly what “80% of pods have turned” actually looks like. Figure 1 is an example of black bean plants at 60% and 80% pod change. Black beans pods turn from green to a red colour when mature.

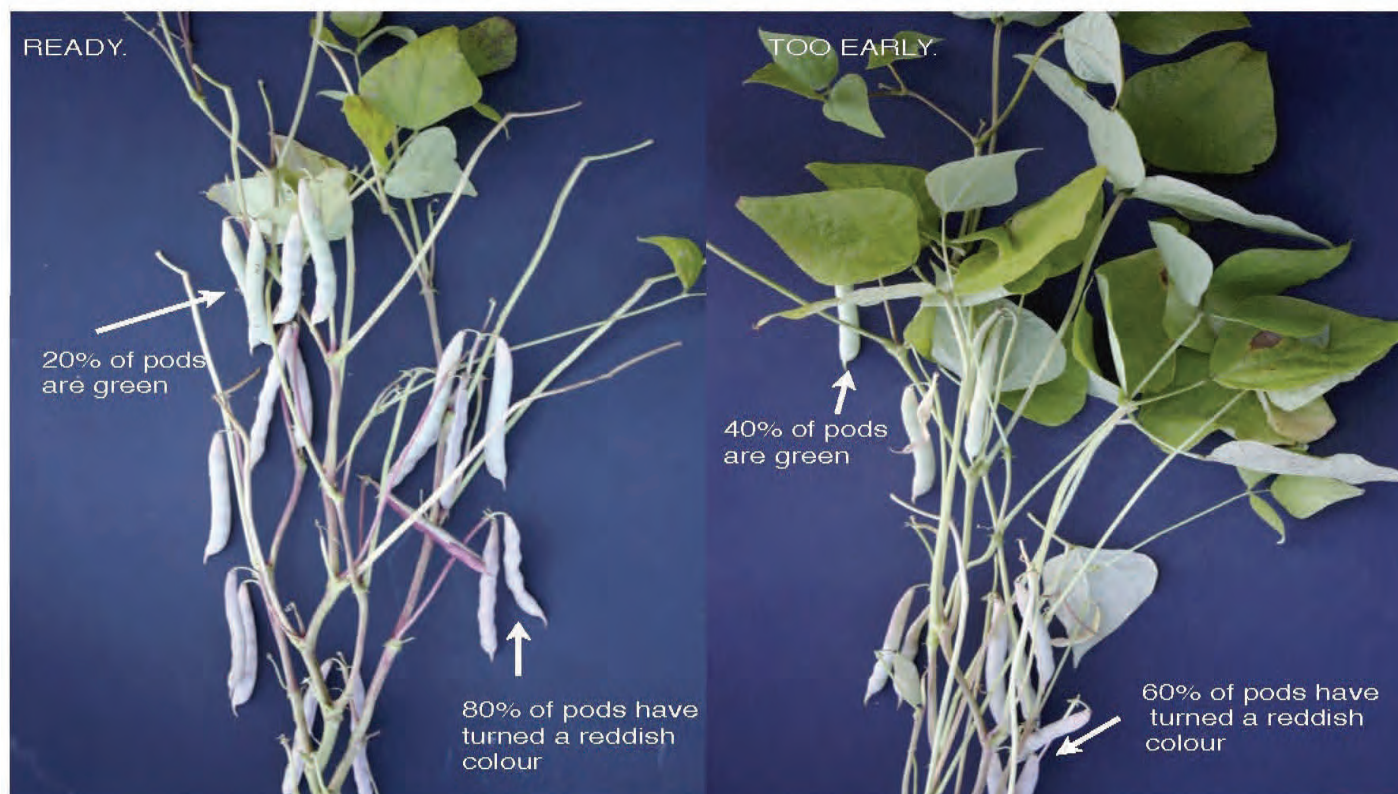


Figure 1. Staging black bean plants for application of pre-harvest herbicides. Photo credit: BASF

Pre-harvest herbicides will not speed the maturity of the plants or decrease seed moisture, but can shorten the time between crop maturity and harvest. Pod colour change is the best indication of maturity; leaf drop and leaf colour are not good indicators. Once a herbicide is applied, late pods will not continue to mature so ensure the beans have the desired colour before application and are not green when split open. Different edible bean class have different pod colour when beans are fully mature, see examples in Figures 2, 3 and 4.



Figure 3. Pod colour and associated seed colour for adzuki beans; brown pods contain fully mature seed. Photo credit: BASF



Figure 2. Optimal white bean pod colour timing for application of pre-harvest herbicides. Photo credit: BASF



Figure 4. Dark red kidney bean pod colour and associated seed colour; pods are light brown when seeds are mature.

How effective are different pre-harvest treatments at “drying down” common weeds?

There is limited public research comparing performance of pre-harvest treatments on different weed species. Dr. Peter Sikkema has conducted six trials over three seasons on edible beans and his results are summarized below. Regardless of treatment used,

the expectation should be that the pre-harvest treatment will improve harvest efficiency but it will not result in a complete “dry down” of target weeds.

Table 2. Visual Control of lamb’s-quarters, ragweed, pigweed and foxtail 8 days after application of various desiccant treatments

Pre Harvest Treatment	Visual Control (%) 8 days after application			
	lambquarter	ragweed	pigweed	foxtail
Aim EC (47 mL/ac) + NIS ¹ (0.25% v.v)	30	12	29	7
Eragon LQ (59 mL/ac) + Merge (0.5% v.v)	46	73	64	26
glyphosate (1L/ac)*	29	17	38	63
Ignite (1.2 L/ac)	70	66	65	52
Reglone (0.92 L/ac) + NIS ¹ (0.1% v/v)	73	80	78	47
Valtera (42 g/ac) + MSO Concentrate (1 L/ac)	38	52	41	32

* glyphosate rate per acre is based on a product concentration of 360 g/L (e.g. Roundup Original)

¹ NIS = Non ionic surfactant (numerous products/trade names are available)

Source: Dr. P. Sikkema, 6 Trials: DB10D1A, DB10D1B, DB11D1A, DB11D1B, DB12D1A, DB12D1B. Weed Control Trials Research Report, 2010, 2011 and 2012. University of Guelph, Ridgetown Campus.

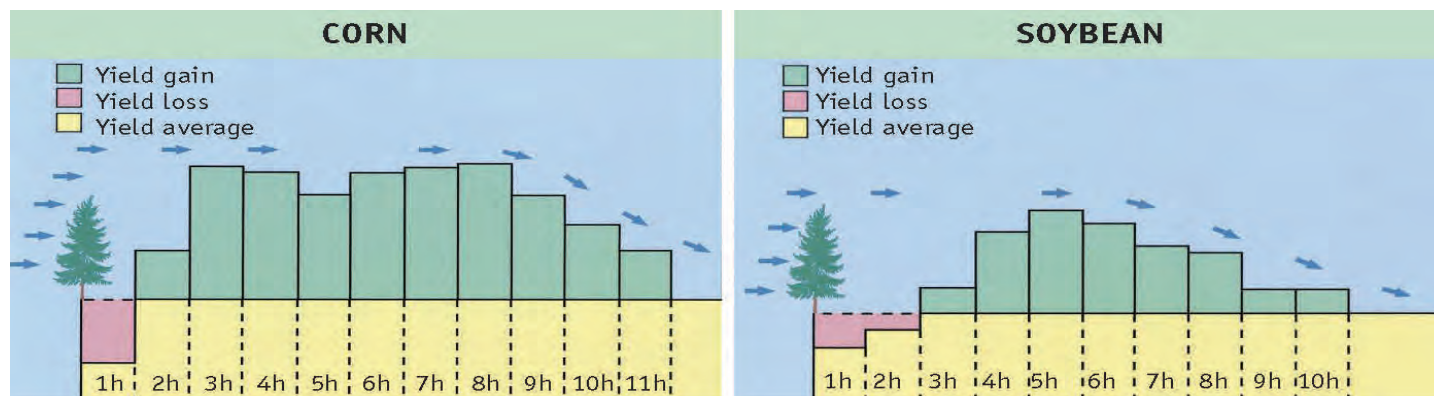
Do You Want to Increase Crop Yields and Reduce Soil Erosion?

Jennifer Jarvis, OMAFRA Stakeholder Communications and Marketing Advisor

Windbreaks can increase crop yields up to 15 per cent, more than making up for the amount of land they use. How? Windbreaks improve a field’s microclimate by reducing wind speeds, increasing temperatures and reducing the amount of moisture loss.

Have you considered planting a windbreak? Windbreaks can also:

- reduce soil erosion
- decrease odour and spray drift
- offer alternative income options
- save you up to 30 per cent in heating and energy costs shelter livestock from the wind and sun



LEGEND h = tree height

Graph: Each bar represents yield average, as studied by the University of Guelph Ridgetown Campus. Yields increased on the downwind side of the windbreak over distances of up to 12 times the height of the windbreak. Crop yield increases vary by crop type. Taken from [Establishing Tree Cover](#)

What are the costs associated with planting windbreaks?

There are costs when planting a windbreak, such as site preparation, purchasing the trees and planting. Some conservation authorities in Ontario have cost-share programs that can help you with these costs. Contact your local [conservation authority](#) to see how they can help you plan and plant a windbreak.

What type of windbreak should you plant?

The type of windbreak you plant and how you plant it depends on the purpose for the windbreak.

- One to three rows of trees are most often planted to protect field crops from the wind and to reduce soil erosion. Multiple row windbreaks often include at least one row of conifers.
- Think about planting at least one row of hardwood trees for future alternative income sources, such as wood for fence posts, fuel and lumber.
- Plant a shelterbelt (more than three rows of trees) around your home and farm buildings to save on energy costs.
- Plant a conifer windbreak to [provide livestock with wind and sun protection](#).
- Windbreaks deflect odours upward if properly situated to the barn.
- The taller the windbreak, the greater the area it protects. Consider the maximum height of the tree species you choose and determine if it will provide you with the protection you need.
- Keep in mind the crops that you plan to plant beside the windbreak, and the winter hardiness and typical lifespan of the selected tree species.
- Some trees may be better suited for areas with tile drains than others, an important, and potentially money-saving, consideration.

The type of soil of your land and the region of the province you're in will also affect the type of trees you can plant. Trees can thrive and provide maximum protection when they're matched with the right soils. Visit the Ministry of the Environment and Climate Change's [Tree Atlas](#) to determine the best trees for your situation.

Need help?

For help with planning and planting a windbreak, contact your local [conservation authority](#). They may be able to visit your planned windbreak site and help you with your planting plan, site preparation, choices of tree species, and appropriate spacing and planting, as well as windbreak maintenance.

The Ministry of Agriculture, Food and Rural Affairs (OMAFRA) has many resources to help you with windbreak planning. Visit [our website](#) to watch four windbreak videos on planning, planting, maintenance and farmer windbreak success stories. Our free Best Management Practices book, "[Establishing Tree Cover](#)," provides a step-by-step guide for planning and planting a windbreak and includes maintenance tips. Contact OMAFRA's Agricultural Information Contact Centre at 1-877-424-1300 or ag.info.omafra@ontario.ca for more information.

Meet the New Member of Our Team



Thomas Ferguson is the new **Forage and Grazier Specialist** with the Field Crop Unit of **OMAFRA**.

Thomas has a B.Sc. in Agriculture with a Major in Animal Science from the University of Guelph. Thomas brings both knowledge and experience to the provincial Forage and Grazier Specialist role. Through experience in the agricultural industry and as a Certified Crop Advisor, Thomas has gained strong knowledge of forage production systems in Ontario. His experience in managing an intensive grazing program and organic Jersey farm has provided him with practical experience in grazing management. Thomas has worked for Northumberland Grain Inc. and as Multi-Program Inspector for CFIA. He is experienced in technology transfer and taught forage production as part of the Dairy Herdsperson Apprenticeship Program for the University of Guelph at the Kemptville Campus.

Thomas joined OMAFRA on May 30th, and works out of the Lindsay office.



Agricultural Information Contact Centre:

1-877-424-1300

E-mail: ag.info.omafra@ontario.ca

www.ontario.ca/omafra

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September 2016 Edition

OSCIA PROVINCIAL NEWSLETTER

Message from the President - Gord Green



Hi Everyone,

I hope everyone is well and surviving the weather that we have been dealt this year. Everywhere I go, the ongoing drought is the hot topic of conversation even among urban people. Some have fared a lot better than others and my heart goes out to those in severe circumstances. It is hard to believe under these conditions that water erosion could have ever been a problem. It looks like the drought has finally lifted.

The Provincial Directors have just finished their summer meeting hosted by the North Eastern Ontario Region. We were the guests of 1st Vice President Mack Emiry and his family. We had tours of the Emiry Family Farm in Massey, as well as tours in the Manitoulin and Sudbury areas.

In July the Executive had an outreach meeting in the Rainy River area in the North Western Region. There again we were shown great hospitality by members from the district. There has recently been a movement to develop agriculture in the northern regions of our province and I have been impressed by the quality of farming and the entrepreneurial spirit that I have witnessed. Yes, these areas have unique challenges but nothing that can't be solved with some changes or development. Our province is vast, beautiful and bountiful and it makes me proud to be part of it.

This summer has seen lots of crop tours, meetings and bus trips. One of the strengths of our membership is the inquisitive nature of our members to discover new or better ways of farming and to check out the latest technologies. We are always striving to do better and we are willing to share our ideas with others.

Canada's Outdoor Farm Show (COFS) this year was September 13-15. I hope you were able to swing by our booth and say hello. Again this year members were eligible for a free breakfast courtesy of Sylville. The COFS committee members, consisting of people from OMAFRA and OSCIA, do a great job of plots and demonstrations with lots of good information to share. This is only one of many projects we work on with OMAFRA. Together we make a great team.

Fall Harvest is just starting so I wish everyone a safe and successful harvest.

Yours in Agriculture,

Gord Green, OSCIA President

Opportunity to participate in the Agroclimate Impact Reporter (AIR) Survey

AAFC is looking for individuals who are interested in weather and climate to report on their agroclimate conditions. All it takes is 2-5 minutes of your time to fill out a quick survey based on the impacts weather and climate are having on agriculture in your area. These surveys are used to inform various levels of government about what is happening on-the-ground in agricultural operations across the country.

AAFC is asking you to please fill out the August survey available from the following link:

<http://air.agr.gc.ca/air/public/submit.html?lang=en>

Select "Submit Report", choose your reporting location and then fill out the questionnaire.

You will also have an option to "Subscribe Now". By doing so, you will be added to their monthly list, where you will be able to communicate your agroclimate impacts to AAFC. Your participation is greatly appreciated.

Participants in the survey are currently confined to western provinces and it is the desire of AAFC to be more national in scope.



A QUARTERLY NEWSLETTER, ISSUED
ALONGSIDE 11 REGIONAL NEWSLETTERS AND
OMAFRA CROP TALK, TO UPDATE
REGIONAL AND LOCAL ASSOCIATIONS
AND OMAFRA CONTACTS

In this Issue

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- Agroclimate Impact Reporter (AIR) Survey
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- Pollinator Health Speaker Available
- Members Update & Crop Advances
- Development of an Agricultural Soil Health and Conservation Strategy
- RCC Update - Heartland Region
- Keep Eligibility Criteria Up to Date to Maximize your Opportunities
- OSCIA 2016 Summer Meeting

Ontario Soil and Crop Improvement Association

1 Stone Road West, Guelph ON N1G 4Y2

Phone: (519) 826-4214 or 1-800-265-9751

Fax: (519) 826-4224

Website: www.ontariosoilcrop.org

Soil Health Given Boost by Cover Crop Research

The Ontario Soil and Crop Improvement Association supports cover crop research through its Soil Health Graduate Scholarship fund. For her graduate thesis the 2015 recipient Jaclyn Clark, explores June cover crop planting into standing corn. By the time harvest is finished in September/October, the cover crop will have a head start on plant growth.

“Cover crop research across Ontario must be at record levels this year,” says Gord Green, President of the OSCIA. “Most counties across southern Ontario will have a handful of farmers with experiments of cover crop to capture left over nutrients at the end of the season and also improve soil health, which contributes to better water holding capacity.”

“With drought extending across southern Ontario for much of June and July in 2016, soils that have a long history of best management practices have been showing more resilience to drought,” says Dr. Bill Deen, soil scientist in Plant Agriculture at the University of Guelph and supervisor of Ms. Clark’s research. “It is believed that cover crops can play an important role for soil to fulfill all its functions over time and also improve the diversity of soil biota to support soil as a vital living system.” says Deen.

“My research involves inter-seeding two cover crop species singly and in combination into corn at the V5 growth stage at three locations across southern Ontario,” says Clark in describing her research. “There will be two harvest treatments, one for silage (all corn residue removed early in the fall) and one for grain (cobs removed, residues remain in field late in the fall). Two planting methods of the cover crops will be investigated: drilling and broadcasting. These factorial treatments help to fill multiple gaps in the literature on the potential for cover crop inclusion in a corn-soy rotation. Corn yields (involving grain or silage dry matter) and above ground biomass of cover crops will be measured, as well as soybean yields in the subsequent season. Data collected can be combined with known soil and weather data to make interpretations based on seasonal or locational context, accounting for the variability inherent to agriculture.”

This research is being done in collaboration with Dr. Dave Hooker from Ridgetown Campus and Dr. Mehdi Sharifi from Trent University.

The Soil Health Graduate Scholarship was established by the OSCIA to support expanded research on soil health. OSCIA is committed to a new Soil Health Graduate Scholarship each year for four more years. Private funding is supporting this scholarship, launched in 2015 with contributions from Past-Presidents’ and other individuals associated with the organization.

More information about funding opportunities through OSCIA’s Sustainability Fund can be found at: <http://www.ontariosoilcrop.org/soil-and-crop-sustainability-fund/>



Photo credit: Jaclyn Clark

For more information, contact:

Jaclyn Clark: jclark20@mail.uoguelph.ca

Dr. Bill Deen: bdeen@uoguelph.ca

Harold Rudy: harold.rudy@ontariosoilcrop.org

by Lilian Schaer, for OSCIA



Pollinator Health Research Speaker Available

Dr. Art Schaafsma and his research team at Ridgetown College, University of Guelph have been busy investigating many aspects of seed treatment, dust mitigation from planters and environmental impact.

Dr. Schaafsma has offered to visit local and regional association meetings this fall/winter (when schedules permit) to communicate the results to date.

Dr. Schaafsma’s Contact Info:

Email: aschaafs@uoguelph.ca; Phone: (519) 436-2624



Members Updates



<http://www.ontariosoilcrop.org/news/>

Soil Analysis Discount

5 labs participating - visit OSCIA website for details:

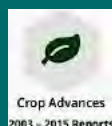
<http://www.ontariosoilcrop.org/association/association-membership/>

CROP ADVANCES

Applied Research on Soil & Crops -

available on OSCIA website:

<http://www.ontariosoilcrop.org/research-resources/crop-advances/>



Development of an Agricultural Soil Health and Conservation Strategy

The Discussion document “*Sustaining Ontario’s Agricultural Soils: Towards a Shared Vision*” is now available for public feedback.

Healthy soil is extremely important for all of us. That’s why Ontario is committed to working collaboratively with farmers, industry and community partners and indigenous communities to develop a strategy that will sustain and support healthy soil so our land can be productive for us and well into the future.

The discussion document is intended to start the process. Part I provides a framework to help guide the public conversation around developing the strategy. Part II provides the technical background and analysis that support the framework laid out in Part I.

OMAFRA developed this proposal in collaboration with the agricultural industry (including OSCIA), as they have long shared a commitment to the sustainable management of Ontario’s agricultural soils. Public feedback on these ideas will help shape a provincial Soil Health and Conservation Strategy. A new strategy will build on the extensive soils work by both stakeholder organizations and OMAFRA, and ensure that both government and industry are doing the right things to address soil issues.

Ministry staff will be consulting with stakeholders over the coming months. The Ministry would appreciate your assistance with raising awareness on this matter to help maximize participation. The Ministry is planning several engagement sessions, which will be advertised on the ministry’s website, once confirmed. Ministry staff would also be pleased to provide outreach at board meetings and industry events upon request.

Ways to participate and provide feedback:

1. Environmental Bill of Rights Registry at: ontario.ca/ebor
2. Email: soilhealth@ontario.ca
3. Fax: 519-826-3492
4. Mail:
Agricultural Soil Health and Conservation Strategy
Ministry of Agriculture, Food and Rural Affairs
1 Stone Road West, 2nd Floor
Guelph, ON N1G 4Y2

Deadline to respond: November 27, 2016

Excerpts taken from OMAFRA website:

<http://www.omafra.gov.on.ca/english/landuse/soilhealth.htm>

Special Notice - RCC Update

Mel Luymes, our Heartland RCC can now be found full-time with Farm and Food Care in Guelph. We would like to say thank you for her contributions to OSCIA.

We would also like to welcome Mary Feldskov to the RCC team, representing Heartland SCIA.

Keep Eligibility Criteria Up to Date to Maximize Your Funding Opportunities

OSCIA is pleased to deliver a wide variety of funding programs to farmers in Ontario. While the goals of these programs range from farm business planning to helping species at risk to improving water quality in the Great Lakes, they have one thing in common: most of the OSCIA delivered programs require completion of a workshop, and in the case of the Environmental Farm Plan or Growing Your Farm Profits workshops, the workshop must have been completed within the last 5 years. If you live in southwestern Ontario and are interested in soil health, the GLASI Farmland Health Incentive Program will be rolling out again for 2017; you will also need a Farmland Health Check-Up to access this opportunity. New funding opportunities are always coming available—not having these basic eligibility criteria in-line could mean you miss the opportunity.

The eligibility criteria of the EFP and FHCU (depending on your geography) are more than just check-boxes on the application form. They help you self-assess your farm and its management to see where improvements can be made. These are all planning documents, and it simply makes sense to plan using current information. After 5 years you have changed your management and likely addressed some of the critical action items of your plan. That means it’s time to redo it to bring the planning document in-line with the realities of your farm. And while you do that you are making sure you are able to apply to programs without scrambling to find an open workshop.

written by OSCIA Programs staff



Growing Forward 2
A federal-provincial-territorial initiative

Get Moving

ATTENDING an **Environmental Farm Plan (EFP)** or a **Growing Your Farm Profits (GYFP)** educational workshop every 5 years will help you stay on top of best management practices for a successful business*.

*Completion of these OSCIA workshops within the last 5 years may be a requirement for Growing Forward 2 funding assistance applications. See Program Guide at ontariosoilcrop.org for details.

Sign up NOW.
Visit ontariosoilcrop.org for workshop schedules and additional information.




Ontario Canada

OSCIA 2016 Summer Meeting - Massey, ON

The OSCIA Summer Meeting is an annual event hosted by the 1st Vice President. This year, that was Mack Emiry representing the North Eastern Ontario Soil and Crop Improvement Association. This is a great way for the 1st Vice to show off their farm as well as their local community. A tremendous amount of work goes into the event by the host's family, the local association, and a few key Guelph office staff!

The Summer Meeting is not only an opportunity for the Board and some of the Guelph office staff to meet face to face, it also draws in OSCIA members as well as many past presidents and a number of spouses. It's a time to tend to association business, and to reminisce and catch up with friends.



This year, the event started in Massey, about a 1.5 hour drive west from Sudbury, at the Emiry Family Farm. The family dairy farm is operated by Mack and wife Beth, his brother, sons and even some help from the

grandkids. In addition to the dairy operation, the family grows a variety of crops, the most notable being Emiry's Pick Your Own Strawberry operation.

At the Emiry farm the group toured the barns, crops and field trials. This was followed by a visit to the local Museum. A Sunday night dinner with entertainment formally kicked off the event. This year, Massey exhibited some of its finer comedic flair and writers with a local comedian and a story-teller providing some laughs.

While the Board and staff met for the formal business meeting on Monday, the other guests enjoyed the sights and sounds of the Region. The tour led to Manitoulin Island, and included a fish farm, the Ojibwa Cultural Centre and the Split Rail Brewery.

Tuesday is the day the entire group tours together. This allows the Board, staff and other guests to enjoy a few additional sites, usually with a bit more of an OSCIA spin than the Monday tour.

This tour began with a visit to the Vale Canada Ltd. mine tailings site in Copper Cliff, on the western edge of Sudbury. Historically, the acidic tailings were reclaimed at great expense using high rates of lime and fertilizer to allow vegetation to grow. By using municipal biosolids (some of which are sourced from the Kitchener-Waterloo area) mixed with compost, the pH of the tailings can be brought up to near neutral, and sufficient fertility is restored to allow plant growth. This is far more cost effective than the traditional methods, and also helps manage the waste product in a productive manner. These efforts are in a trial phase, and are looking quite optimistic. Vale uses a lot of hay in their reclamation work (up to 30,000 round bales annually), and one of the goals of this project is to restore sufficient quality to the ground to be able to produce some of their own hay.

The next stop was Poulin Potatoes, located in "The Valley" north of Sudbury. This is one of the few relatively large agricultural landscapes in the area. Don Poulin uses precision agriculture to manage his potato crop, precisely tailoring the use of inputs to the needs of very small areas of his crop. Once harvested and bagged, he makes use of traceability technology to identify his potatoes back to the grower, the field they were grown on, the day they were picked and the storage location. In case of a recall, this allows Don to very accurately collect only the affected potatoes.

The final stop was the Boreal Berry Farm and Winery. Their flagship wine is made from the Haskap berry, which is one of the few berries that grows better in the north than it does in the south. Greg Melien, the owner and winemaker, told stories of winter thaws and early berry sets followed by a return of normal freezing temperatures. Haskap is so well suited to the northern climate most of the berries thawed and continued their growth cycle in the spring, with no noticeable loss in yield. Haskap has higher levels of anti-oxidants than blueberries, and makes delicious wine (as we can attest). Anyone who sampled the wine at the 2014 OSCIA AGM and found it rather tart should try it again. The Boreal Berry Farm and Winery is located east of Sudbury, in an area where the landscape is dominated by rock and small pockets of agricultural land.

All the tours were informative, interesting and provided a great opportunity to mingle with members and staff. Seeing how agricultural production is practiced in an area known more for scenic vistas, copper and nickel mining than growing food, was a great experience for those of us from the south. Next year's summer meeting will travel east to the farm of Peter McLaren in the Ottawa Rideau Region.

Photos from some of the mentioned tour stops:



The active tailings at the Vale copper mine



Inactive mine tailings reclaimed using biosolids and compost. Giant "stack" in the background



Don Poulin explains growing potatoes in the north



The Boreal Berry Farm and Winery

Written by Guelph Office staff



ALPINE K20-S® Improving Alfalfa Crops

With the launch over the past year of ALPINE's two new potassium based products, ALPINE HKW-6® and ALPINE K20-S® we've seen some encouraging results on soybeans, both in-furrow and foliar, but the biggest surprise may well be some early trials on alfalfa.

Alfalfa is one of Ontario's largest and most important crops for our dairy industry. Top quality forage is vital for milk production and because of this alfalfa deserves to be managed intensively, similar to all other crops.

Potassium is by far the most necessary plant nutrient for alfalfa production. Within plants, potassium is responsible for the production of lignin and cellulose, influences water uptake by the roots and aids in disease and insect resistance. Alfalfa requires 5 times more potassium than phosphorous. As we push yields higher on all crops grown in our rotations, the industry hasn't

kept pace with replacing lost potassium from the soil bank. Soybeans are very guilty of this where a 60 bu/ac crops removes nearly 90 lbs of potassium and are grown often without any supplemental fertilizer. ALPINE K20-S® contains the most plant available type of potassium that's available today. When foliar applied it has a very high percentage of it that gets inside the plant where it's needed.

Another great feature of ALPINE K20-S® is its relatively high content of Sulphur. A good crop of alfalfa can remove 50 lbs of Sulfur from the soil. It has to be remembered that we aren't receiving as much Sulphur from atmospheric depositions as we were in the past, thus Sulphur is being added to many fertilizer programs now. Sulphur is involved in nitrogen fixation, chlorophyll formation and is part of amino acids that form proteins within plants. All these functions are critical to growing a good alfalfa crop.

ALPINE K20-S® has an excellent nutrient makeup to benefit Ontario's big alfalfa crop. Early results look very encouraging on its application to alfalfa, keep in touch with your ALPINE dealer or ALPINE DSM for further results.



8L ALPINE K20-S® on left, untreated on right.



Cathy Dibble, OSCIA Regional Communication Lead and Margaret May, Regional Program Lead took a ride high above the Canada's Outdoor Farm Show site and snapped this photo of the OSCIA tent and demonstration plots.



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