

# Heartland

DECEMBER 2015

# Soil & Crop eNews



Queen of the Furrow Goes No-till  
+ OMAFRA Crop Talk | OSCIA News | Winter Events







**Regional  
Communications  
Coordinator**

Contact me at:  
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519 820 2358

Well, it's the most wonderful time of the year! With the combines parked early, I hope you've had extra time to catch up with friends and family, and eat all the calories you worked off over the course of the year!

This is also time to renew your OSCIA memberships. And you can call up your local secretary, or do it online (details at our website) or simply renew by attending your county association's Annual General Meeting. Waterloo and Wellington AGMs were held in early December and if you missed either of those, you missed a great event! Both were well attended, with engaging speakers and a great meal. A big hand to both organizations and a big welcome to four new directors!

If you're in Perth or Huron, you haven't missed your AGM. Perth's is January 21<sup>st</sup> and Huron's is February 15<sup>th</sup> and there will be more details online, or just contact your secretary or a director.

There's a great lineup of events happening this winter, (see page 5) including our own FarmSmart in Guelph (see middle insert for brochure). Heartland region is also very proud to host a Soil Workshop with Frank Gibbs on February 16<sup>th</sup> in Listowel. You can read more about him inside this issue and be sure to register for this great event.

Wishing you very happy holidays and I hope to see you out and about over the winter months. I guarantee you'll get some new ideas for next season!



## Heartland Soil & Crop

*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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*For more information on membership or anything at all, please contact Mel at [heartland.SCIA@gmail.com](mailto:heartland.SCIA@gmail.com) or 519 820 2358. Comments, ideas and sponsorship welcome!*

# In This Issue

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Cover crop trial after wheat (Elmira)



Waterloo director, Aaron Stevanus



Waterloo AGM draws full house



Wellington SCIA directors



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**Soil erosion is still enemy #1 in the fight against phosphorus runoff.**  
- Bruce Kelly, Farm & Food Care

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**Cover photo:** Sara Wood, Ontario's 2012 Queen of the Furrow, in her cover crop of ryegrass into corn, Mitchell, ON

# YieldSmart

Optimizing Your Crop Production System



# FarmSmart



**Friday, January 22, 2016**

RIM Manulife Financial Sportsplex,  
Forbes Hall, Waterloo

**Jerry Hatfield**



Dr. Hatfield's is the Laboratory Director and Supervisory Plant Physiologist, with US Department of Agriculture. His research emphasis is on the interactions among the components of the soil-plant-atmosphere continuum and their linkage to air, water, and soil quality. His focus has been on the

evaluation of farming systems and their response to water and nitrogen interactions across soils and the evaluation of remote sensing methods to quantify spatial variation within fields for application to risk management tools.

Explore how to optimize your crop production system through a full day program of talks, demonstrations, farmer panels and Q&A sessions. You will gain a better understanding of the principles of Yield and how changes in the system and management decisions are interconnected and impact the performance potential in the future. This full day program will help participants understand where yield comes from and how we can move to more resilient systems by following steps and always monitoring the progress. Please visit the FarmSmart website for full program details.

**Registration closes Jan. 20, 2016**

OSCIA members - \$80.00

Non-members \$115 (incl. 1 yr membership)

**PRE-REGISTRATION ONLY - NO WALK-INS**

**SEATING IS LIMITED!**

**Presenting Sponsor**



**Saturday, January 23, 2016**

University of Guelph, Rozanski Hall,  
Guelph

**Temple Grandin**



What can be done to influence consumers perception about Animal welfare? Dr. Grandin is a world renowned Animal Behaviourist and has worked globally to improve animal welfare in livestock handling facilities. She has worked with farmers, agribusiness and the food

processing, retailing and restaurant trade. All the more remarkable she has done this by overcoming many of the constraints that face people with autism. Hers is a remarkable storey of courage, gut instinct, hard work and challenging the status quo on many fronts. Join Dr. Grandin for this enlightening talk.

**Check our website for details of our Youth and Women in Agriculture programs.**

**Watch for program brochure insert in the Ontario Farmer in January or visit the FarmSmart website to learn about other Speakers and session highlights.**

**Pre-Registration closes Jan. 20, 2016**

OSCIA members - \$80.00

Non-members \$115

(incl. 1 yr membership)

After January 21st, rates are:

Students/youth \$40;

everyone else \$115

No OSCIA membership benefit

**REGISTER NOW!**

[www.farmsmartconference.com](http://www.farmsmartconference.com)

**1-877-424-1300**

**@FarmSmart16**







Well, it is AGM season across the region and I'll reflect on the past year from the provincial perspective. It was a busy year in 2015 and this spring, the Board of Directors got together to do Strategic Planning for OSCIA. The summer meeting was hosted by President Elect Gord Green in Embro and was a great time to see the area while we reviewed finances and the environmental programs. There were some mid-year changes to programming and I know the cost-share portion of the GLASI program may have caused some frustration, but OSCIA staff consulted with OMAFRA and was able to make changes to make the program funding easier for you to access. I encourage you to seek the funding, and to keep working on developing new and innovative ways of controlling the phosphorus problem that is such a challenge. Again, I will extend my gratitude to local members and boards on behalf of OSCIA and encourage you to approach me with any concerns. The provincial office has also released a Members Survey to get your thoughts on the organization and how we can better serve agriculture, and it can be completed at [surveymonkey.com/r/OSCIA\\_MemberSurvey\\_2015](http://surveymonkey.com/r/OSCIA_MemberSurvey_2015). If you'd like a hard copy, contact RCC Mel Luymes.

## UPCOMING EVENTS

### HURON SOIL & CROP AGM



Huron Soil & Crop's AGM will be held on the evening of February 15th at the Varna Hall. Join us for dinner and a talk by Frank Gibbs on ways to improve your soil. More details will be at [www.huronsoilcrop.org](http://www.huronsoilcrop.org) or call Sharon to register 519 868 8946

Jan 5-6 SWAC

Jan 6-12 GB Farmer's Week

Jan 21 Perth AGM

Jan 22 YieldSmart

Jan 23 FarmSmart

Feb 9-10 OSCIA AGM

Feb 15 Huron AGM

Feb 16 Heartland Soil Workshop

Feb 23-24 IFAO Conference

The 23<sup>rd</sup> Annual  
**SWAC**  
SouthWest Agricultural Conference  
in Ridgeway, Ontario

**Tuesday, January 5th and  
Wednesday, January 6th, 2016**

Register online or contact the Ag Business Centre  
at 1-866-222-9682 by December 4th, 2015  
to be eligible for Early Bird Rates and Prizes.  
**ACT FAST AS THIS CONFERENCE SELLS OUT!**

[www.southwestagconference.ca](http://www.southwestagconference.ca)

**50th Annual**  
**Grey Bruce FARMERS' WEEK**  
& Trade Show, 2016

Registration: Beef, Dairy, Goat, Sheep,  
Ecological, Crops Days—\$25  
(Includes hot roast beef dinner at noon  
Goat and Lamb are also served on  
those respective days.)  
**Horse day—Adults \$20, Youth \$10**  
(Includes hot beef on a bun, and salads.)

**Elmwood Community Centre,  
Fire # 38 Queen St. W. Elmwood, Ontario**

**January 6 – 12, 2016**

Beef Day - Wednesday, January 6th  
Dairy Day - Thursday, January 7th  
Goat Day - Friday, January 8th  
Sheep Day - Saturday, January 9th  
Horse Day - Sunday, January 10th  
(Adult & Youth Programs)  
Ecological Day - Monday, January 11th  
Crops Day - Tuesday, January 12th

An excellent line-up of speakers and trade show exhibits.  
For details, please check out our website:  
[www.greyagservices.ca](http://www.greyagservices.ca). Email: [info@greyagservices.ca](mailto:info@greyagservices.ca)  
or phone 519-986-3756 Follow us on Twitter @GBFarmersWeek  
Please use #GBFW16 when posting your pictures, comments, or  
panel questions. Like us on Facebook.

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# Frank Gibbs to Headline Regional SOIL WORKSHOP

This February, be sure to catch Frank Gibbs on his speaking tour through Ontario. He is a soil health guru from Ohio, and a frequent headliner of the National No Till Conference in the US. This year, his workshop there in January is long sold out, so OSCIA is pleased that Ontario farmers will have the opportunity to see him in February.

Gibbs is a fifth generation farmer near Rawson, Ohio. After majoring in Agronomy and Soils from Ohio State University, Gibbs had a long career with the US Department of Agriculture and the National Training Centre. He is also certified as a crop consultant and soil classifier and has been involved in many agricultural organizations. Over his career, he has developed extensive knowledge of soils and water, soil compaction, cover crops and manure and has conducted countless trainings for farmers and crop advisors as well as for environmentalists and soil scientists.

After retiring from the USDA, Gibbs formed Wetland and Soil Consulting Services, LLC and continues to travel and teach farmers across the world. He has been from Holland to the mountains of Nepal and Tibet, and to Ecuador and the Amazon Basin.

His most memorable field day demonstration is the “smoking tile” in which he blows smoke through a tile and out of the soil to demonstrate macropore pathways. These macropores are important for drainage and for creating deep root pathways, but they also act as a direct line for manure and fertilizers to reach the tile, which may cause some problems for water quality at the other end.

His soil health message is coming at a very crucial time for agriculture, as the Great Lakes phosphorus issue is now impacting farmers on both sides of the border. Gibbs says that this problem won’t be solved by government or legislation. “It will be solved by progressive farmers working with CCA’s, soil scientists and fertilizer dealers using a whole toolbox of conservation practices for healthy soils, while producing food for the whole world.” He continues by saying that, “all of us in agriculture need to keep letting the public know we are doing our part to proactively solve this problem.”

*Frank Gibbs will be appearing at Huron Soil & Crop’s AGM on February 15<sup>th</sup> in Varna and headlining Heartland’s Soil Workshop on Tuesday February 16<sup>th</sup> in Listowel before heading to Eastern Ontario.*





# Heartland Region's SOIL WORKSHOP

## featuring Frank Gibbs

Tuesday, February 16<sup>th</sup> | 9:30am-3:30pm | Listowel Agricultural Hall



Frank Gibbs, Soil Scientist

An Ohio farmer and frequent headline speaker of the No-Till conference, Frank Gibbs has spent his career with the USDA, working with farmers to build and demonstrate soil health. He also pioneered the “smoke test” through tiles to demonstrate pathways in the soil.



Also featuring:

Gabrielle Ferguson, OMAFRA Environmental Program Specialist

PANEL: Blake Vince, Chatham-Kent Innovative Farmer

Anne Verhallen, OMAFRA Soil Management Specialist

John Winger, Wellington County Farmer

Listowel Ag Hall -5699 Hwy 86, Just east of Listowel

\$25 for OSCIA members / \$30 for non-members

CEU Credits Available - More info at [www.heartlandsoilcrop.org](http://www.heartlandsoilcrop.org)

Register before Feb 12<sup>th</sup>

Online [www.oscia.wildapricot.org/events](http://www.oscia.wildapricot.org/events)

Contact Mel Luymes 519 820 2358 or [mel@heartlandsoilcrop.org](mailto:mel@heartlandsoilcrop.org)

Hosted by: Wellington Soil & Crop Improvement Association



**Premier**  
Equipment Ltd.



# Queen of the Furrow Goes No-Till



Photo: Sara Wood



Photo courtesy of Sara Wood

Farming near Mitchell, 27-year old Sara Wood and her parents Deb and Don Little are now 6 years into transitioning their 1200 acres to a no-till system with intensive cover cropping. It's December and the family has all their acres covered for the winter with either corn residue or a green crop, including 300 acres of a 10-species mix planted after winter wheat: crimson clover, annual ryegrass, sorghum sudan, forage peas, Austrian, black and yellow peas, with sunflower, a bit of tillage radish and some leftover soybeans.

"When we first started planting cover crops, the neighbours thought we were crazy," she says, especially when the sunflowers started to bloom.

This year, they also tried broadcasting annual ryegrass into 50 acres of knee-high corn, followed by a similar reaction from the neighbours. But Sara says the ryegrass worked great in the field and helped dry out the untilled field when it came time to harvest.

"We started with cover crops as a way for us to put nutrients back into the soil," Sara begins. Without cattle on the operation, it was her mother who first insisted they try 'green manure.' Now they are able to cut back nitrogen applications in relation to their increase in organic matter. This year, they successfully cut back nitrogen by 40 lbs/acre on 100 acres (at 4.3% OM) without a yield difference.

And though the majority of the cover crops won't overwinter, she isn't afraid to 'plant green' in the spring. "The first time we did it was by accident," admits Sara. Without an opportunity to burn down the cover crop, they just planted into it and rain kept them from spraying until a week after planting. Sara says the family was worried, and was just as surprised as the neighbours at how well the corn did. "Now we do it all the time," she laughs.

For planting, corn residue is stalk chopped before beans go in with their air seeder. "We don't put any trash whippers on either, we just drive a little slower and it has been fine," says Sara. "No faster than 4 and a half miles per hour."



She's found their precision planter has given them more consistency across the field and the family's next experiment will be planting at three different seeding rates to see what works best for them. They are eyeing up more of the precision technology, but starting in one piece at a time. For the past two years they have used Greenseeker technology to split apply variable rate Nitrogen and found it worked well for them.

The family has been to the National No-Till conference half a dozen times. "It's probably the conference we get the most out of," says Sara. Over the years, they've learned more about the importance of earthworms and soil life, and a lot about cover crops. "You can't switch to no-till without putting cover crops into the system," she argues.

She says that one of the problems is that most of the information and innovators at the conference are from the US, and have different soils and climates than Perth County. Still, she is in touch with cover crop innovators closer to home, like Laurent VanArkel and Blake Vince.

If their system wasn't enough to manage already, the family grows IP and edible beans, including S03W4s, S07M8s and black beans. Averaging 58 bushels an acre this year for conventional no-till beans, Sara says she's not sold on Roundup Ready soys. But she admits that with conventional beans they have to be much better managers. "You have to be right on top of the weeds and take care of them right away," she says.

Sara sees that the cover crops are keeping the weed populations down, and especially if the cover crop has had a lot of growth the year before. She also notices that the cover crops work out compaction and improve drainage through better water infiltration. She also hopes they will help manage pests, especially as they start to farm without neonic-treated seed.

The Littles spend about \$40 an acre on their cover crop mix after wheat and estimate they can save at least that much on fertilizer and fuel. Sara says they are doing the math to prove it, but they waited until their system was established, giving the soil time to recover. "If you do it in the first two years, you're just going to turn around and say, well I'm never trying that again," she says. "You might not see the return on investment right away, but you've got to give it

time." It is about building the organic matter and getting the diversity of soil life back, she says. "And that's not going to happen overnight."

Sara came home to farm in 2013. She got her degree in Criminal Justice at the University of Guelph, all the while swimming competitively for the university team. Her parents advised her to take five years working off-farm before deciding if she'd like to come back, so she worked in retail and then on the road for GenerVations. Though she says she was grateful for her experience, and learned a lot about different farming practices and philosophies, Sara couldn't wait to get back on the farm.

This year, Sara married Chris Wood and now lives a few concessions from the home farm. She farms full time and still swims competitively, training 5-6 times a week.

## **"You can't switch to no-till without putting cover crops into the system."**

Sara comes from a long line of farmers, as does her younger sister Shannon who now studies Ag Science at the University of Guelph. Their mother, Deb Beaumont, grew up farming the same land, and her brother took over the dairy side of the

operation, while she continued the cropping. Don Little was originally from the Markham area but moved to Perth County in the early 1970's with his family after visiting for the International Plowing Match. Sara says that her parents actually met through the IPM.

Needless to say, the family has long been involved with the Plowman's Association. After years of competitive plowing, and winning the Perth Queen of the Furrow title in 2011, she competed at the provincial level in 2012. She was more surprised than anyone to win the title and become Ontario's Queen of the Furrow for 2012-2013, and she had the unique experience of promoting the 2013 IPM which was held in Perth.

Sara reflects on the question that was asked of each of the top 5 contestants that year: How does the IPM play a role into bringing young people into agriculture? Her answer was simple and rang true. She says and still believes that the IPM provides "a way for younger generations to talk to older generations about the past... and the present." No doubt that these talks have spanned the generations of farmers in Sara's family, and will continue on as they strive to maintain their soils for the future.

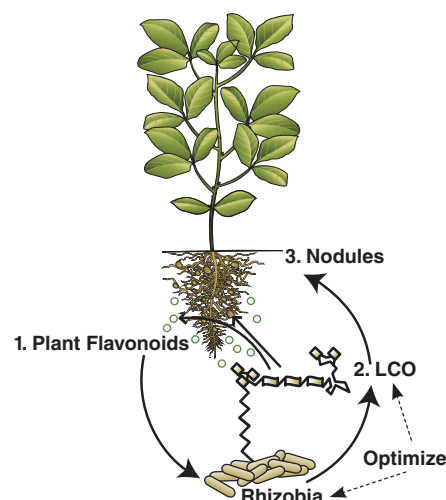
# Higher yield potential with Optimize®

Plants and bacteria talking to each other? Sounds like science fiction, but that is exactly what happens. Like a wink, soybean roots say hello to a specific nitrogen-fixing *Bradyrhizobium japonicum* (*B. japonicum*) bacteria. With a nod back, the bacteria lets the soybean plant root know it is in the area and ready to go to work. This communication is necessary for the soybean plant and the *B. japonicum* bacteria to safely establish a symbiotic relationship.

The soybean roots initiate the conversation by sending naturally occurring plant signal molecules called flavonoids out to the root zone, essentially asking if any

*B. japonicum* bacteria are in the area. When the *B. japonicum* receive the message, they communicate back using an lipochiooligosaccharide (LCO) molecule saying, "yes, let's get together." It is the LCO molecule that drives this critical communication between *B. japonicum* bacteria and soybean plants.

There are many bacteria in the soil and not all are beneficial. This LCO signal lets the plant root know that it is safe to allow the *B. japonicum* bacteria into the root. Barriers to this natural process include temperature and moisture stress.

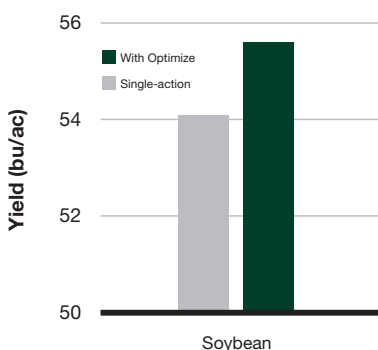


## Forward thinking with Optimize

Optimize and Optimize ST are seed-applied inoculants for soybeans, and include a specially selected *B. japonicum* inoculant strain, along with LCO technology. Having LCO technology packaged with the rhizobia in Optimize and Optimize ST helps the communication between the soybean plant and *B. japonicum* happen sooner, regardless of growing conditions.

The benefits include improved nodule formation, increased nitrogen fixation, and enhanced nutrient availability to support root and shoot growth.

In trials conducted in Ontario and Quebec, Optimize increased yields by an average of 3% compared to single-action (nitrogen only) competitors.



Source: Summary of 29 large-plot independent research trials in Ontario and Quebec from 2010–2011.

## Flexible inoculation with two formulation choices

Optimize and Optimize ST are applied to soybean seed by seed companies or retailers to eliminate the need for farm-applied inoculation, and to ensure optimum seed coverage and inoculant performance.

Optimize is a great choice for seed companies and retailers who want the convenience of treating seed during the winter months, starting as early as November. **Optimize** has a 220-day planting window, with specific seed treatment chemistries, allowing seed companies and retailers to spread out the inoculation window:

- Long, 220-day window on the following key seed treatment chemistries: Acceleron® seed treatment technology for soybeans (fungicides only and fungicides and insecticide)\* and Cruiser Maxx® Vibrance® Beans
- Convenient sequential, simultaneous, or tank mix seed treatment applications
- Spreads out the workload

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up to planting is a hectic time. That's why Monsanto BioAg is pleased to offer the new **Optimize ST** formulation. Its more concentrated formula provides:

- Less volume of product on the seed with a reduced application rate – 2.8 fl oz per unit compared to the original formulation of 4.25 fl oz
- Treat twice the number of beans – 400 units instead of 200
- Half the amount of product to store
- More convenient and easier to use than the original formula

To learn more about the benefits of Optimize and Optimize ST, call 1-800-667-4944 or go to [optimizeLCO.ca](http://optimizeLCO.ca)

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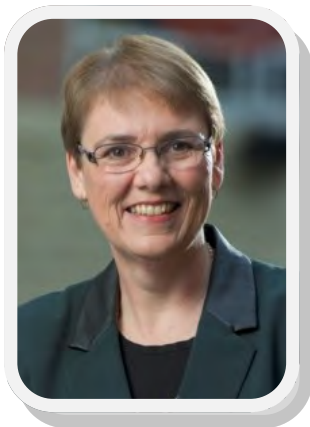




# JOIN US FOR...

## Perth Soil & Crop's ANNUAL MEETING

Thursday, January 21<sup>st</sup> | 5pm– 9pm | \$25  
Perth East Recreation Centre, Milverton, ON



**Featuring: Deb Stark**  
Deputy Minister of OMAFRA

Tickets are \$25\*\*

*Social begins at 5:00 pm*

*Dinner and program begin at 5:30*

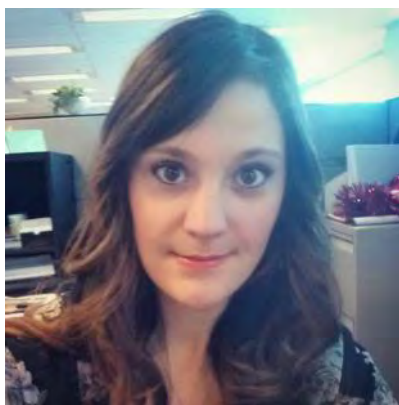
Register online at [oscia.wildapricot.org/events](https://oscia.wildapricot.org/events)

or contact Thelma Smith at [eandtsmith@golden.net](mailto:eandtsmith@golden.net) / 519 271-5190

\*\* Includes a dinner and one-year OSCIA membership, giving you discounts to SWAC, FarmSmart & more, a quarterly magazine subscription and a 10% discount on soil sampling!



Joanna Follings  
Cereal Specialist



Ben Rosser  
Corn Industry Program Lead



Meghan Moran  
Field Crop Canola and Edible Bean Specialist



Jake Munroe  
Field Crop Soil Fertility Specialist



## Meet OMAFRA's Newest Staff

This past year marked the retirement of some long-time and rather infamous OMAFRA staff including Peter Johnson, Greg Stewart, Brian Hall, and Bonnie Ball. We are pleased to announce a group of talented young people taking on their roles (respectively): Joanna Follings, Ben Rosser, Meghan Moran and Jake Munroe (and you can read more about them in the OMAFRA report). Wellington Soil & Crop profiled two of these new staff at their AGM on December 4<sup>th</sup>.

**Joanna Follings**, OMAFRA's brand new Cereals Specialist started off the day with a presentation on the work of the Ontario Cereal Crops Committee and demonstrated how farmers can access years of cereal trial data on [www.gocereals.ca](http://www.gocereals.ca). The OCCC coordinates performance testing on public and private varieties across the province and even within Wellington county, in conjunction with C&M seeds and the Elora Research Station. The OCCC uses this data to make recommendations and the website also allows farmers to run head to head comparisons on varieties in order to make better decisions when purchasing seed. The OCCC also acts as a voice for the cereal industry.

**Ben Rosser** spoke after lunch about nitrogen timing requirements for corn. Ben worked with Greg Stewart and has now replaced him as OMAFRA's Corn Industry Program Lead. Ben shows that there has been a change in the newer hybrids and they have a higher nitrogen uptake after tasseling, so there is now more need to make N available later in the season. However, he highlights the problem of overloading N at the beginning of the season due to how quickly N can be lost through leaching (with rain) or volatilization (with heat). Rosser recommends that farmers delay application and vary rates depending on the year, suggesting more emphasis on side dressing or an even later top dressing application, using Y drops or the like, closer to tasseling time.

He also highlighted a research project undertaken by OMAFRA to perfect a one pass spring strip till practice, using ESN (90 day slow release N) which may stop the need for side dressing.

An added feature to that project was trying to crop on the contour to reduce the water erosion from planting up and down slopes. They created a curved AB line based on topography mapping, and used GPS technology and a ProTrakker Active Hitch with the beacon on the implements to ensure the planter stayed in the strips. There were challenges with knolls, tight turns and technology, but in general, it seemed to work well.

Be sure to keep an eye on these great new staff!



# TRANSFORMING SOIL WITH COVER CROPS



Stefan Zehetner, Hensall area farmer and owner of Huron Cover Crops, is a local cover crop expert and spoke at Wellington Soil & Crop's AGM on December 4<sup>th</sup> in Alma. He took the crowd through a series of cool season cover crop options, including sunflowers, sorghum sudan and buckwheat.

Zehetner is also working on perfecting cover crop mixes into his twin row corn, and recommended broadcasting or inter-seeding after 5-leaf stage, but no later than 7-leaf otherwise there won't be time for the cover crop to establish. He sees the benefits of the roots working through compacted zones and also notices that it improves drainage and keeps mud off the combine tires.

He encouraged farmers to try adding new varieties into their mix and also said there is no need to burn down or work up the crop in the fall, because a dead crop on the field surface will create a soggy mat in the spring. Instead, he recommended keeping the crop alive and planting into it while it is still green because the living roots will dry out the soil more quickly and let him get on the field faster than the neighbour.

Zehetner also joined the cover crop panel on December 7<sup>th</sup> at Waterloo's Annual Meeting, along with Lawrence Levesque and Ken Nixon.

Levesque, of Mapleseed, encouraged farmers to put just as much thought into their cover crop as their cash crop. "First ask yourself what you want it to do," he said. Is it for opening up compaction, or for building organic matter? And how will you irradiate it, through harvesting or burn down?

Nixon, a Middlesex County farmer and long time no-tiller, added that it is important to consider how and when you will plant it. "And do you want it to be a sink or a source for nitrogen," he added. For his operation, cover crops accelerate residue decomposition. When going to a no-tillage system twenty years ago, Nixon

described a 3-5 year period which he termed 'the valley of the shadow of death.' But he argued that cover crops help the soil biology change more quickly and mitigate some of the problems in transitioning to no-till. On that note, Nixon challenged the group to use alfalfa in their rotations to springboard into no-till. "It's perfect, why would anyone plow that?" he questioned. "By burning down the crop in the fall, most any planter would be able to go straight into that in the spring."

The discussion also hinged around when to terminate the cover crop. Zehetner said if the crop doesn't overwinter, it can't hold on to nitrogen, so that's why he likes to keep it alive for as long as possible. "It will release the nutrients closer to the time your cash crop will actually need it," he said. But, that being said, if the crop is getting out of control in the fall (ie. radish threatening tiles) it may be best to terminate it.

In terms of multi-species mixes, Zehetner said farmers would do well to mimic nature and nature is never a monoculture. He has planted up to a 21-way mix and said that a greater diversity of species planted means that the field will be green from end to end, because if one doesn't take off in a certain spot, another will.

In terms of cover crop cost, Levesque sung the praises of clover because, at under \$3 an acre, it is the only crop that will pay for itself in nitrogen savings. Zehetner said that the most expensive mix he ever made was \$28/acres for an 18 species mix to a Huron county farmer that now grows high-yielding corn with only 120-130 lbs of N.

Levesque went on to encourage soil testing and pay close attention to organic matter and micronutrients as well. "The nutrients in the soil become the nutrients in our food," he said. "And the healthier your soil, the less inputs you will need." Both presentation sparked a lively discussion and left the crowds with a lot of food for thought.

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# WHEAT PETE

## Talks Corn & Beans Too

Peter Johnson headlined Waterloo Soil & Crop's Annual Meeting and, as usual, inspired a lively discussion as he reflected back on the 2015 growing season.

It started with frost, as most will recall. Johnson himself was astounded by corn and beans that looked as if they would survive, based on a healthy-looking growth point, only to die off a few days later. Farmers noted that their no-till or strip-tilled beans were the most damaged by the frost and Johnson explained that no-tilled soil is actually warmer but the surface residue acts as a blanket to keep the heat in the ground and not extend it to the plants above the surface. Still, he said, it was the first time in his 30 year career that he had seen that much frost damage and

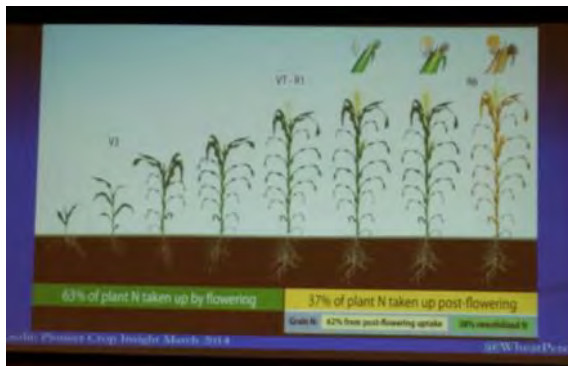
suggested that the long term benefits of no-till far outweigh the occasional need to replant. "Don't throw the baby out with the bathwater," he warned.

Johnson then showed data from an Eastern Ontario soybean trial showing 30" rows yielding higher than 15" rows and with a lower seeding rate of 120,000. Farmers in the US have bought into the wider rows because it works with one planter. Still, Johnson isn't quite convinced because, although the Eastern Ontario test plot was replicated a number of times, it was only for one year and only one variety. And Horst Bohner's research on 30" soybeans in Perth County isn't showing the same great results.

Johnson moved on to wheat and showed some Huron County evidence of wheat that had 8-10 tillers per plant. He said having 4 leaves and 2 tillers a plant is a great way to head into winter, because snow mould spreads leaf to leaf and having a thick mat of wheat isn't ideal for a December. And disease in the fall may mean a need for early fungicide on your wheat in the spring, he said. "A typical seeding rate of 1.5-1.6 million per acre is alright if you're planting in October," said Johnson, "but if you're planting earlier you should cut it back." In his trials, a seeding rate of 900,000 for an early planting didn't give him any yield penalty.

Johnson also recommended splitting N application on wheat, with the second application around May 15-20<sup>th</sup> though he admits farmers may have better things to do around that particular time. As for splitting N on corn, however, he is adamant. Newer hybrids are taking up much more nitrogen after tasseling and splitting nitrogen reduces risk of loss in the meantime. With every inch of rain, Johnson said, nitrogen will move further down into the soil, though the corn roots are still able to pull that back up. After nine inches of rain though, that N is likely lost forever. The biggest loss, however, comes through denitrification and he warned that farmers on clay soils should be especially wary as the more clay in the soil, the higher the risk of losses.

"The one thing I've learned in my 30+ years is never starve a crop for N," said Johnson. By the same token, he continued, don't overshoot because there's a dead zone in the Gulf of Mexico and we can't have nitrates in our water. And 30 years of research over 800 sites have proven that 10-20% less nitrogen is required if side-dressing, so it's not only better for the environment, but saves money for the farmer. A win-win.



# DEALING WITH A CHANGING CLIMATE



Bruce Kelly, Environmental Program Manager at Farm & Food Care Ontario, teased out the issues related to climate change at Wellington Soil & Crop's AGM on December 4<sup>th</sup>.

He starts with some statistics showing that we've now lived through the warmest 30 year period in the last 1400 years and our frost free days have been increasing by 18 days over the

last century. Paradoxically, these changes have brought warmer temperatures to Northern Ontario, while the Southern Ontario fruit and vegetable growing regions have been hammered by severe winters and late frosts in recent years.

Kelly suggests the moderating effects of the Great Lakes means we aren't frying here in Southern Ontario and this might also be attributable to changing jet stream patterns that bring us cooler weather from the north, including polar vortexes.

We don't farm the averages, says Kelly. While average temperatures climb by a few degrees, he notes that farmers are already planning for the extremes of a few weeks of -30 degrees in the winter and 30 degrees in the summer. And while average rainfall changes, the timing and intensity of these rainfalls will be crucial. Climate models are showing that extreme weather may be the new normal.

This will impact roads and infrastructure, agricultural productivity, soil health, pests and diseases pressures as they slowly expand their range.

Apart from the direct impacts of climate on Ontario production, we are also impacted indirectly from climate changes and weird weather in other places around the world. For example, with increasing temperature and a decreasing water supply in California, the agricultural productivity there is expected to decline and will influence our food prices. Climate changes in developing countries lead to natural disasters and mass migrations of people, causing further social unrest globally.

He emphasizes farmers' efforts to both mitigate and adapt to climate change. Efforts to plant trees and sequester carbon in the soil are part of the solution to reducing carbon levels and mitigate its weather effects. Adaptation is about managing the changing weather, through efforts like building irrigation ponds and developing drought/flood tolerant crops.

A way to both mitigate and adapt to the changing climate is through building soil health and reducing soil erosion. Kelly highlights the Revised Universal Soil Loss Equation (RUSLE2) which is a free software download from OMAFRA that will estimate a field's risk to soil erosion based on slope grade and length, soil type and management practice. In his example, incorporating cover crops and using a no-till system lost 4 tonnes/acre/year less soil than if under conventional practice. And to contextualize 1 tonne/ acre of soil is just the thickness of 2 pieces of paper across that acre, but it is 20 bushels of soil.

"Soil erosion is still enemy number one in the fight against phosphorus runoff," he says. Kelly points to research across North America showing that 65% of phosphorus is lost in the spring thaw and a further 25% is lost in the three biggest storms of the year. There will be no easy answers, but soil is a good place to start, he concludes.

Wellington Soil & Crop would like to thank its Gold and Silver level sponsors for 2015!



Once you've met with a CCA to complete the Farmland Health Checkup and if you've completed an EFP in the last five years, then you are eligible for cost share funding that will cover 8 categories of Best Management Practices (BMPs) Cover Crops; Adding Organic Amendments; Crop Nutrient Plans; Buffer Strips; Field Windbreaks/ Windstrips; Tillage and Equipment Modifications; Erosion Control Structures; and Fragile Land Retirement. Projects must be done by February 15, 2016 so don't put this off! See [www.ontariosoilcrop.org/en/programs.htm](http://www.ontariosoilcrop.org/en/programs.htm) for all the details.

A handwritten signature in black ink, appearing to read "Mel".





# CROP TALK

Volume 15, Issue 4

OMAFRA Field Crop Specialists — Your Crop Info Source

November, 2015

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## Fall Soil Management

*Adam Hayes, Soil Management Specialist OMAFRA*

### Keep the Soil Covered this Fall and Winter

As crop harvest nears completion it is important to consider what cover the soil has heading into the winter. Soil erosion continues to be a problem and sediment carried off fields into surface water can be a significant contributor to phosphorus in the Great Lakes. A lot of attention has been focused on the algal blooms in the lakes and agriculture is expected to help reduce the amount of phosphorus entering surface water. Farmers should do what they can to minimize the loss of phosphorus from fields. Keeping the soil covered and installing erosion control measures will greatly reduce the sediment contribution of phosphorus.

Leaving at least 50% soil cover going into the winter will provide sufficient protection to the soil and should result in at least 30% cover after planting. For soybean or edible bean residue this means doing little or no tillage. One pass with vertical tillage is about all that could be done. Of course fields planted into winter wheat already have a "cover crop" to help protect the soil over the winter. Leaving corn and cereal residue will provide the most protection but if some tillage must be done a chisel plow, disc or vertical tillage are a few options. Avoid too much tillage so at least 50% residue is left on the surface. Keep in mind implements that move a lot of soil like chisel plows or other plows contribute to tillage erosion.

Some cover crops were planted early and have very good growth. Others were planted late or did not receive much rainfall so do not have much growth. Residue from cover crops with good growth can be left untouched over winter depending on crop species, soil type and the amount of growth. Most cover crops do not leave an excessive amount of residue on the soil by spring and can be planted into with little or no tillage. Cover crops with poor growth this fall, depending on the amount of crop residue, can be left untouched to keep the ground covered. Most fields where red clover was seeded had excellent stands and growth. Leaving these stands until the end of October before termination provides the maximum nitrogen credit, biomass accumulation and soil improving benefits.

### Phosphorus Considerations

Phosphorus also enters surface water in runoff. Phosphorus in runoff largely comes from fertilizer and manure applications. Phosphorus fertilizer and manure applications this fall should not be left on the soil surface, especially on sloping land. If applied to the soil surface it should be worked in immediately. Alternatively it should be banded in the soil.

## Environmentally Sustainable Utilization of Nitrogen on Corn

Scott Banks, *Emerging Crop Specialist, OMAFRA*

The Environmentally Sustainable Utilization of Nitrogen on Corn or better known as the “Y-Drop” project, was initiated in the spring of 2015 and involves 10 farm co-operators and local agri-business partners in eastern Ontario.

### Objective:

To improve nitrogen use efficiency for sustainable corn production, while enhancing the environment. This project will evaluate the yield response to comparable nitrogen rates applied at various timings: starter at planting, side dress N, and a late application applied at the 10 to 14 corn leaf stage.

### Background:

Recent research has shown that today’s hybrids use more nitrogen (N) post-tassel than hybrids of the 1990’s and earlier. Today’s hybrids take up to 37% of the total N post-tassel. New equipment such as the **Y Drop™** is available to give growers the ability to apply late-season nitrogen even up to tassel.

N uptake prior to flowering supports critical ear shoot development, kernel number and potential kernel size. Corn growers have traditionally targeted N availability to this period, and considered post-flowering application to be of little value.

Given the variability in soil type and environmental conditions from year to year, nitrogen use efficiency may be improved by applying a portion of the required nitrogen closer to when the corn plant will take up the nitrogen. Research work in the United States has shown favorable yield increases and improved nitrogen utilization while minimizing potential water quality concerns. However, little research work has been conducted to date in Ontario assessing these corn nitrogen management changes.

A VERIS soil sensor is used at each location to measure CEC (Cation Exchange Capacity), pH and organic matter to characterize the soils into management zones while enhancing our understanding of soil/nitrogen relationships. UAV (unmanned aerial vehicle) maps are taken at 3 stages during the growing season to look for differences in treatments and field management zones. Pre-side-dress nitrogen test (PSNT) soil samples are taken from the *Starter N at Planting Only* (treatment 6) strips within the treatments at each site. At harvest, yield monitors will collect continuous side-by-side yield data to compare different N rates and application timings across the field management zones.

### Project Partner:

Grower co-operators involved in this project are: Agrodrain Systems Ltd., Brumans Farms, Cedar Lodge Farms, Hilltone Farms Ltd., Jockbrae Farms Ltd., Kemp Farms Inc., Nandale Farms Ltd., Panmure Farms Ltd., Vanden Bosch Farms and Vernon Valley Farms Ltd.

This project is also supported by several agri-business partners; 360 Yield Center, Cropland Consulting Inc., Dekalb, DuPont Pioneer, GPS Ontario, OMAFRA, OSCIA, Ottawa-Carleton SCIA, P.T. Sullivan Agro Inc., & SGS Agri-Food Laboratories. Funding for this project is in part from the Ontario Soil & Crop Improvement Association – Tier Two grant and the Ottawa Valley Seed Growers Association.

### Where from here:

2015 is the first of a 3 –year project. A report will summarize the data collected and will be posted on the OSCIA Crop Advances website; (<http://www.ontariosoilcrop.org/en/resources/cropadvances.htm>). Stay tuned for more about the results of this project at the local Soil & Crop Improvement Association and at the Ontario Soil & Crop Improvement Association – Annual Meetings.

### Project Description:

10 locations with 6 treatments and 3 replications. An example of the six treatments are:

	Starter N	Sidedress N	Late N	Total N
GR <sup>a</sup>	30	100		<b>130</b>
GR <sup>a</sup> - split approximately - 2/3 <sup>b</sup> , 1/3 <sup>c</sup>	30	60	40	<b>130</b>
GR <sup>a</sup> Reduced rate by 25 to 30 (lbs/ac) - 2/3 <sup>b</sup> , 1/3 <sup>c</sup>	30	50	25	<b>105</b>
GR <sup>a</sup> - increased rate by 30 to 50 lbs/ac	30	150		<b>180</b>
GR <sup>a</sup> - increased rate, split approximately - 2/3 <sup>b</sup> , 1/3 <sup>c</sup>	30	100	50	<b>180</b>
Starter N at Planting Only (N up to 40 lbs/ac)	30			<b>30</b>

<sup>a</sup>GR = Grower’s Current N Rate

<sup>b</sup>sidedress

<sup>c</sup> late applied (V10 to V14 corn stage)  
pounds per acre (lbs/ac)





**Figure 1-** Y Drop row unit applicators - Vernon Valley Farms Ltd. July 2015



**Figure 2—**Y Drop in field application- Vernon Valley Farms Ltd. July 2015

## Managing Phosphorus to Maintain Yield and Water Quality

*Jake Munroe, Soil Fertility Specialist, OMAFRA*

You may be wondering why there are such problems in Lake Erie. Algal blooms have returned to the lake and are causing some major environmental and human health impacts. Lake Erie is the shallowest, warmest, smallest, and southern-most of the Great Lakes. This makes it particularly vulnerable to eutrophication, which is the enrichment of water by growth-limiting nutrients, such as phosphorus (P). What role does phosphorus play and how can the risk of P loss be reduced while maintaining productivity?

When it comes to phosphorus fertilizer, common knowledge used to be that applied P was tightly bound to soil and mostly did not move within the soil profile. Today, we know that in addition to the loss of particulate phosphorus through soil erosion, phosphorus in the form of dissolved P can also leave the field through tile drains. In fact, this has been identified as a major contributor to P loss from farm fields in Ohio. We also know that the majority of phosphorus (anywhere from 60-80%) lost from farm fields is lost during the non-growing season.

### Does Soil Test P Matter?

As for soil test level, it does matter. If your Olsen P test level is very high, dissolved reactive phosphorus is at greater risk of leaching. Research shows, however, that there appears to be a soil test level threshold, or change

point (anywhere near 40 ppm Olsen P and above, depending on the study), below which risk of dissolved phosphorus loss through tiles is much lower. Fortunately, this threshold is well above the critical soil test P levels required for optimal crop production in Ontario (see Pub. 811, Agronomy Guide for Field Crops).

### Phosphorus in surface waters

**Particulate P:** Also known as sediment P, it is the form of P that can be attached to soil particles and in suspension.

**Dissolved P:** The portion of phosphorus that passes through a 0.45-micron filter. The majority of it is comprised of dissolved reactive phosphorus (DRP).

**Total P:** The sum of particulate and dissolved P.

#### 4 Key Practices That Ensure Proper Fertility and Reduced Risk of P Loss:

1. Maintain soil P test levels within a moderate, agronomic range. Excessively high phosphorus test levels can increase risk for loss of both particulate and dissolved phosphorus and also interfere with zinc uptake.
2. Consider practices that improve water infiltration. Although losses of phosphorus through tile drains have been recognized to play a significant role in parts of Ontario, surface run-off and loss of particulate P through water erosion is a major factor. Reduced tillage, lengthened crop rotation, and cover crops are practices that, especially when combined, can increase infiltration.
3. Minimize phosphorus applications during the non-growing season. The best available data show that P from fall and winter applied manure and fertilizer is at higher risk of loss than spring applied P.
4. Avoid broadcast and surface applications of phosphorus if possible. Banded fertilizer P has been shown to be more effective than broadcasted P in Ontario. In no-till scenarios, consider sub-surface banding of P to minimize risk of loss.

#### It's Not Only About Phosphorus

Although there will undoubtedly be a focus on phosphorus in the coming months and years, it is very important to bear in mind that good soil management and soil health is key. Often, practices that reduce phosphorus loss from fields are the same practices that increase soil health and boost your bottom line. Healthy soil infiltrates water and reduces soil erosion and the associated phosphorus loss. Healthy soil has higher natural fertility and allows you to get more out of your fertilizer inputs. And healthy soil handles stresses, such as heavy rains and extended dry spells, much better. It will be critical to keep the big picture in mind as we address this challenge as an industry.

*The issue of phosphorus in Lake Erie has been gaining widespread attention recently. This past June, the Premier of Ontario and Governors of Michigan and Ohio signed a Collaborative Agreement that set a target of a 40% phosphorus load reduction (from 2008 levels) to the western basin of Lake Erie by 2025. The interim aspirational target is a 20% reduction by 2020. Although other targets will also be set shortly, phosphorus loading into Lake Erie has become a major issue in southwestern Ontario. Algal blooms have returned to Lake Erie, after many years since the blooms of the 1960s and 70s. The summer of 2014's algae bloom that left 500,000 Toledo, Ohio residents without drinking water sparked public awareness of the issue and its impacts.*



**Figure 1** — Surface runoff from a field in the non-growing season - a major pathway of phosphorus loss. Photo credit: Christine Brown.

## Brown Marmorated Stink Bug Moving into Homes for the Winter

Tracey Baute, Field Crop Entomologist – Program Lead, OMAFRA

This is the time of year when brown marmorated stink bug (BMSB) start to head back to their overwintering sites – our homes! It is therefore also a good time to learn how to recognize BMSB from the other bugs that might also try to take advantage of your hospitality for the winter.

The first step to determine if it is at least a stink bug. Other types of insects also make their way into homes. Look at the shape of the insect. All stink bugs are shield-shaped and have a triangle on their backs. But true bugs, closely

related to stink bugs, are also shield-shaped and have a triangle. Western conifer seed bugs, box elder bugs, and squash bugs are just a few true bugs that homeowners find and confuse for BMSB. The difference between stink bugs and these other true bugs is that the stink bug's "shield" is almost as wide as it is long (Figure 1). Other true bugs are "skinnier" than stink bugs; that is their shields are longer than they are wide.





**Brown marmorated stink bug adult.**  
Photo credit: Jennifer Read, NRCan



#### BMSB (and other stink bugs)

- ✓ Triangle on back
- ✓ Shield-shaped
- ✓ Almost as wide as it is long



**Western conifer seed bug.**  
Photo credit: David Cappaert, Michigan State University), Bugwood.org



#### Western conifer seed bug (and other true bugs)

- ✓ Triangle on back
- ✓ Shield-shaped
- ✓ Longer than it is wide

Figure 1. Similarities and differences between stink bugs and other true bugs.

If you have figured out that you are indeed looking at a stink bug, then you have to look closer to determine if it is BMSB (Figure 2).



#### Brown Marmorated Stink Bug (BMSB)

- ⇒ two white bands on each antennae
- ⇒ smooth shoulders (not saw-toothed)
- ⇒ legs with poorly defined white band
- ⇒ abdominal margins have pattern of white inward pointing triangles alternating with dark areas

Figure 2. Distinguishing features of brown marmorated stink bug.

**Brown Marmorated Stink Bug Adult**  
Photo credit: Jennifer Read, NRCan

## ZoneSmart Explored Making Management Zones

Nicole Rabe, Ben Rosser and Ian McDonald, OMAFRA

On September 10<sup>th</sup> about 160 people gathered in a field on the east side of Guelph to explore the processes behind making management zones and thus be able to use site specific management to optimize crop production across a field.

The FarmSmart Organizing Committee had announced ZoneSmart in July during FarmSmart Expo at the UG Elora Research Station. It was suggested that this important emerging topic needed a dedicated day to thoroughly cover its many components thoroughly. The whole concept of management zones and site specific management is still pretty new to a lot of people. While it's been reported a great deal, the actual on the ground experience with it in Ontario has been minimal. The idea behind ZoneSmart was to spend a "hands on day" in the field getting to know the various components that can be used to make high resolution, stable management zones.

The point of management zones is that every field has some amount of variability across its landscape. The amount varies because of a lot of factors; soil type, elevation, slope shape, soil properties (pH, OM, CEC, N, P, K, micros, texture, etc), crop rotation, past management etc. The broad and dynamic process of creating management zones can best be illustrated by Figure 1.

While Figure 1 appears quite complex, it's important to understand that finding your way to the Management Zone definition end point doesn't mean that you have to do every aspect of this approach. The purpose of the day was to explore the various options. Many factors cause the variability that can be exploited with management zones,

and the tools needed to define and partition that variability can relate to some or all of the components of the pillars shown in Figure 1. Figure 1 also points out that there are a number of technologies, from basic to very complex, that can be used to gather the "data" used in the management zone making process.

In the morning, ZoneSmart explored the main pillars of data that can be utilized including Yield, Elevation and Soil Properties. Participants received a comprehensive workbook that duplicated the many posters used to explain the key points at each stop (available at: <http://bitly.com/FSZoneSmart15Workbook>). These pillars were discussed through rotation of small groups to the various stations where our assembled speakers, including academic, extension, industry and farmer experts in Precision Agriculture, discussed the topics and answered questions. While the pillars were explained separately at each station, what was made clear to all was the importance of integration of the various layers of data.



Figure 2— Yield Station with Dr. Mike Duncan, Niagara College and Dan Breckon of Woodrill Farms exploring the theory and practice of working with multi-year yield data.



Figure 1— The Management Zone Making Process



The event participants learned new terms like “terrain analysis”, “Kernalling”, Predictive Digital Soil Mapping” among others. The series of posters presented at each station walked participants through the steps of data gathering, cleaning, managing and processing that ultimately lead to the end product, a Management Zone Map. Keep in mind that although this map can be printed like any traditional map, its real strength is that it is a digital map. The value of this is that it can have various “prescriptions” for nutrients, seed population, seed variety, among other inputs attached to the various zones within the map. This prescription map file can then be uploaded into the controller of suitably outfitted equipment and using GPS/GIS technology, know exactly where it is in the field and what amount of a type of input should be applied to each zone. The operator has to do very little except monitor that the equipment is being guided by the prescription maps and operating efficiently.



**Figure 3- Soils Station. Brett Schuyler from Norfolk explains how he is using Predictive Digital Soil Maps in the management of his diverse field and horticultural crop operation.**

Over lunch, Doug Aspinall (OMAFRA) spoke on the Integrated Analysis Process that brings together the various data layers to create the digital Management Zone Map. Still in its infancy, Doug uses a series of commercial and free software to process the data to come up with the management zones. The workflow to process the data at this time remains relatively complex.

There also was an industry panel who showcased work with producers and demonstrated some of the software tools available to help farmers manage the reams of data that comes with precision ag (Figure 4). There are various software tools available for managing and working with the various layers of data generated. These individuals and others are available to assist producers as they pursue adoption of this exciting technology.

The afternoon was spent back in the field exploring the trade show, featuring many of the companies and technologies available in Ontario to make Precision Ag work. We also took participants out to the field to show how all the hard work of data collection and processing explored in the morning could be applied to map unique zones across a field landscape, so that various inputs could be optimized by the varying yield potential, elevation and soil properties distributed across the landscape.



**Figure 4—Best Practices in Data Management Session with Industry Experts.**

For more in-depth reading on this topic, follow the Precision Ag series that has been running in the GFO Grain Producer Magazine over the last few months (<http://gfo.ca/Research/Understanding-Precision-Ag> ). Previous articles can be found at links on left side of main page.

FarmSmart would like to thank our host, Woodrill Farms, for all the work they put in to make this day possible. We greatly appreciate the contribution by our speakers including:

Yield: Mike Duncan, Niagara College and Dan Breckon, Woodrill Farms

Elevation: Stewart Sweeney, OMAFRA and Ryan Marshall, Milton

Soils: Doug Aspinall, OMAFRA and Brett Schuyler, Schuyler Farms Norfolk

Remote and Proximal Sensing: Nicole Rabe, OMAFRA, Slava Adamchuck, McGill University and Paul Raymer, Practical Precision

Best Practices in Data Management: Karon Cowan, AgTech GIS, Embro; Mike Wilson, Thompsons, Blenheim, Jason Van Maanen, Veritis, Chatham and Greg Kitching, Premier Equipment, Elmira.

The efforts of the following organizations and companies who helped to gather data layers for this event including Woodrill Farms, OMAFRA, University of Guelph, McGill University, Nithfield Advanced Agronomy, Premier Equipment, Practical Precision and Ag Business and Crop Inc is greatly appreciated.

The event was not possible without the generous contributions of our sponsors who participated in our trade show in what was a new and yet to be proven event. Your support was critical to the event and we thank you.

Finally thanks to the team from Farms.com who, as our media sponsor, helped us get the word out and attract a very enthusiastic and hungry-for-information crowd from across Ontario.

Hopefully we will see this event repeated again in 2016 and we look forward to seeing you then. In the meantime mark your calendars for this winter's FarmSmart events including YieldSmart and FarmSmart Ag Conference planned for January 22-23.



**Figure 5 - Doug Aspinall of OMAFRA and Dan Breckon of Woodrill Farms explain how all the data layers collected from this field result in a Management Zone Map that allows inputs to be spatially managed across the diverse landscape of this 60 ac field.**

## Let's meet the new members of our teams



**Joanna Follings** is the new **Cereals Specialist** with the Field Crop Unit of OMAFRA and has a strong passion for the agriculture industry.

Joanna was raised on a dairy and cash crop farm near Ayr, Ontario. She joined OMAFRA in 2013 as a Research Analyst in the Research and Innovation Branch where she assessed and administered research programs and identified research priorities for Ministry investments related to the Plant Production Systems research theme. She also worked on the ARIO infrastructure strategy, developing an integrated field crops system and was a member of the Multi-Ministry Pollinator Health Working Group.

Her previous work experiences at DuPont Pioneer as a Research Associate and BASF as an Associate Representative provided a foundation for basic agronomic practices in row and horticultural crops. Her previous employment with the Agricultural Adaptation Council (AAC)

also provided an opportunity to build a strong network across the Ontario agricultural sector while assessing and monitoring a wide range of AAC funded projects.

Joanna completed her M.Sc. in Weed Science from the University of Guelph with a focus on glyphosate resistant giant ragweed in soybeans. Through her Masters research she obtained experience in field and greenhouse research and developed a strong understanding of research methods and practices to support Ontario crop production. Joanna will work out of the Stratford OMAFRA office and can be reached at 519.271.8180 or [Joanna.Follings@ontario.ca](mailto:Joanna.Follings@ontario.ca)



**Jake Munroe** is the new **Field Crop Soil Fertility Specialist** for OMAFRA.

Jake brings a combination of practical field experience, applied research and training to the role of Soil Fertility Specialist. While working as a Plant and Soil Health Advisor in Southwestern Ontario, Jake regularly monitored crops for nutrient deficiencies and interpreted soil tests to develop crop fertility programs for clients. In this role he shared information on soil fertility, soil health and soil biology through field days, plot demonstrations and presentations. Recently his work as a Research Technician at the University of Guelph has focused on the effects of long-term rotation and tillage practices on microbial communities in the soil.

Jake has a Bachelor of Science degree from Acadia University in Nova Scotia and a Master's degree in Physical Geography from the University of Toronto. Jake will work out of the Stratford OMAFRA office and can be reached at 519.271.9269 or [jake.munroe@ontario.ca](mailto:jake.munroe@ontario.ca)





**Ben Rosser** is the new **Field Crop Corn Industry Program Lead** for OMAFRA.

Prior to joining OMAFRA Ben was a Research Technician with the University of Guelph where his primary focus has been on applied research projects investigating corn agronomic practices. These projects enabled Ben to gain experience and knowledge in corn nitrogen rate and application methods, tillage and residue management, starter fertilizers, and the use of different precision agriculture technologies. Additional experiences include other custom on-farm research activities, crop scouting and on-farm work. Ben's role at the University and in working closely with Field Crop Unit staff on many projects, has given him the opportunity of developing a strong knowledge of the corn production system in Ontario. Ben has a BSc. in Agriculture and MSc. in Plant Agriculture from the University of Guelph. Ben is originally from Denfield, ON. Ben has a strong interest in applied agronomy research, and would like to continue to apply it as new developments and challenges arise in Ontario corn production.

Ben will work out of the Crop Science Building at the University of Guelph Main Campus and can be reached at 519.824.4120 ext 54865 or [ben.rosser@ontario.ca](mailto:ben.rosser@ontario.ca).



**Meghan Moran** is the new **Field Crop Canola and Edible Bean Specialist** for OMAFRA.

As the Research Coordinator for the Grain Farmers of Ontario Meghan has developed her knowledge in field crop production and applied research.

This role enabled Meghan to develop strong connections in the Ontario agricultural sector and agricultural research community while identifying issues and trends in crop production practices and contributing to developing crop production recommendations. Meghan's skills in accessing and communicating research results will be a valuable asset in her new role as the Canola and Edible Bean Specialist.

Meghan has a MSc. in Plant Agriculture from the University of Guelph. Meghan will work out of the Stratford OMAFRA office and can be reached at 519.271.3495 or [meghan.moran@ontario.ca](mailto:meghan.moran@ontario.ca)

### **Manure & By-Products Engineer and Feed Ingredients & By-Products Specialist**

Several familiar faces have left OMAFRA in the past few months, along with a wealth of knowledge and experience that they shared with Ontario farmers. Luckily there are a few new faces that have joined the Woodstock team. Please make a point of introducing yourself to them as they travel the agricultural roads of Ontario.

I will start by introducing "the new Don Hilborn" – in position title only. **Brian Dickson** is the **Manure and By-Products Agriculture Engineer** in Woodstock. Brian grew up on a farm in Dunnville, along the Grand River. The farm operation included growing market vegetables, cash crops, and maple syrup. After leaving the farm, Brian studied Agriculture Production and Management at Ridgeway College. He continued his education at Western University and graduated in 1993 with a degree in Mechanical engineering.

Upon completing his engineering degree, Brian participated in several key industries, including drinking water and waste water treatment in the municipal market, Case IH – Hamilton Plant, John Deere – Welland Works, and a general contractor building ICI projects.

Brian has been busy since his start in July, getting introduced to manure and by-product issues. He will be involved in the next generation of anaerobic digesters, especially as municipalities introduce new technologies for waste diversion. Precision agriculture and manure application sound like contradictory concepts, however Brian will be evaluating precision agriculture potential as it applied to manure equipment technology. In addition and tongue in cheek, Brian will be able to recite the Nutrient Management Act, section by section and participate in advancing the AgriSuite (NMN) software.

Secondly, I would like to introduce **Anita Heeg**, who is taking over the **Feed Ingredients and By Products Specialist** position that was held by Ron Lackey. She will be working out of the Woodstock Resource Centre. Anita was born in the Netherlands and came to Ontario with her family as a young girl. Anita grew up on a dairy farm in Salford. She completed her undergraduate degree at the University of Guelph with a major in Animal Biology.

introducing new feed ingredients to the animal feed market, and following how they impact animal growth and production as well as manure nutrient composition.

When visiting the Woodstock Resource Centre at 401 Lakeview Drive, come by and say hello to Brian and Anita. If you would like to contact them by email or phone, their contact information is listed below.

For the past 8 years, Anita has worked as a Dairy Specialist with Alltech dealing with feed additives and mycotoxin related issues. In her new position with OMAFRA, she will look at the utilization of various feed ingredients, including food waste, and by products for livestock. Some of her projects will include developing and

<a href="mailto:brian.dickson@ontario.ca">brian.dickson@ontario.ca</a>	<a href="mailto:anita.heeg@ontario.ca">anita.heeg@ontario.ca</a>
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*Since 1939*

# OSCIA NEWS

## **Message from the President - Alan Kruszel**



I hope harvest is winding down and yields were at or above expectations! For the most part, here in Eastern Ontario we've been very fortunate to harvest at or near record corn and soybean crops. As I write this, several local elevators are having trouble handling the volume from this large corn crop!

OSCIA has been very busy over the past few months. We attended Canada's Outdoor Farm Show (COFS) in Woodstock and the International Plowing Match (IPM) in Finch. Both of these events were just outstanding and kudos to the organizers for the great success! At COFS I, along with several other farm leaders took part in an announcement unveiling Farm, Food and Beyond, Our Commitment to Sustainability. It is a document outlining our vision of where we see Ontario farms heading on the sustainability front. Our vision includes a multi-commodity Farm and Food Sustainability Plan that builds on the incredibly successful Environmental Farm Plan and similar initiatives by expanding the scope into a whole farm plan that will address both environmental practices as well as economic and social issues important for sustainability. For more information please see [www.sustainablefarms.ca](http://www.sustainablefarms.ca)

We have been in discussions with OMAFRA to explore options on how to utilize the expertise of specialists in the field crop unit to best serve the needs of the local and regional associations. We've been actively pursuing the naming of a provincial soil (since it is the International Year of Soils after all) and we are also taking part in the Ministry's Agricultural Soil Health Working Group that is investigating and collecting information on the extent of soil-related challenges, including farming practices that affect soil health and will increase the sector's resilience by adapting to climate change.

Meeting season is just around the corner, so make sure to get out to your local Soil and Crop annual meeting! They are packed with guest speakers, information on local trials,

### **CROP ADVANCES**

Applied Research on Soil & Crop management  
information available on the OSCIA website:  
[www.ontariosoilcrop.org](http://www.ontariosoilcrop.org)

activity reports as well as a quick overview of provincial activities not to mention many have great food!

To support our strategic planning process we plan to introduce a member survey this fall. We hope you will take the opportunity of completing it online or on paper. You'll find out more from your Regional Director at the local annual meeting.

Don't forget the Provincial Annual Meeting taking place at the Lamplighter in London on February 9-10, 2016. We've got a great lineup of speakers, we'll be introducing the new OMAFRA field crop staff, the new OSCIA Soil Champion will be unveiled and we'll have some excellent reports to share with you. I hope to see you there!

*Alan Kruszel*  
Alan Kruszel, President, OSCIA  
[akruszel@ontariosoilcrop.org](mailto:akruszel@ontariosoilcrop.org)

A NEWSLETTER TO UPDATE  
OSCIA MEMBERS, PRESIDENTS, SECRETARIES,  
TREASURERS, DIRECTORS,  
AND OMAFRA AGRICULTURE DEVELOPMENT  
CONTACTS

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*Ontario Soil and Crop Improvement Association*

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Fax: (519) 826-4224

E-mail: [oscia@ontariosoilcrop.org](mailto:oscia@ontariosoilcrop.org)  
Website: [www.ontariosoilcrop.org](http://www.ontariosoilcrop.org)



## OSCIA Visitor Satisfaction Survey Winners

Two winners have been randomly selected from participants who completed the COFS OSCIA/OMAFRA Demonstration area satisfaction survey.

One of the conditions for the provincial funding support that OSCIA receives, requires us to conduct surveys at some of the major events where we collaborate with the Ministry. Results from the surveys helps us determine how satisfied you were with the experience, and where we can do better.

The survey was for those who attended **Canada's Outdoor Farm Show** (September 15-17, 2015) and visited the OSCIA/OMAFRA Demonstration Area.

The survey was posted from September 25 through October 20, 2015 only.

The winners of the two \$50 gift cards are:

**D. Gloor, Perth County** and

**H. Soers, Bruce County**

*Amber Van De Peer, Executive Assistant, OSCIA*



## More OSCIA Membership Benefits!

In an effort to encourage more frequent and regular soil sampling across Ontario and to offer more benefits in joining OSCIA, members are now eligible to receive a 10% discount on regular priced soil analysis fees with several OMAFRA accredited labs across the province. From October 2015 through to December 2016, members may request 10% off select services from A&L Canada, Exova, SGS Agri-Food Labs, and Stratford Agri-Analysis.

Jake Munroe, Soil Fertility Specialist with the OMAFRA, says his colleagues largely agree many farmers don't soil test every three years which is the minimum that's recommended. "In a corn-soy-wheat rotation, sampling right after wheat comes off, before any manure or fertilizer is put on, is a good routine," he suggests. Munroe says it's also important to remember the public eye is on Ontario. Since nutrient levels in the Great Lakes are increasingly under focus, he knows it's going to become increasingly important for the industry to implement best management practices that help reduce phosphorus loading. He thinks it's very prudent for Ontario farm groups to continue to promote responsible management of nutrient inputs and considers soil tests to be one of the easier ways farmers can demonstrate good environmental stewardship.

"With corn fertilizer costs approaching \$200 an acre, spending a few dollars an acre for soil testing is a very wise investment" stated Alan Kruszel, President of OSCIA. In his opinion, farmers can no longer afford not to do regular soil testing. "If you don't know what's in your soil, how can you know how much fertilizer you need to apply? You might be needlessly over applying or worse, not applying

enough causing a yield loss. Both scenarios may have a serious impact on your bottom line!" he added.

Jack Legg, Branch Manager for SGS Agri-Food Labs, says he realizes there are a lot of things that have to happen when there's no frost in the ground, so it's easy for soil testing to get put on the back burner. Dan Clarke, Executive VP at A&L Canada, hopes this will help farmers get sampling practices off that back burner and ideally, inspire them to get out into the field. "There's a lot to be learned while walking those fields as they're soil sampling," he says. "If every Soil and Crop member actually soil samples their farm properly and improves their management; that would be the dream." Clarke suggests any OSCIA member intending to take advantage of the new discount quickly review proper use of sampling tools and remind themselves of recommended sample sizes, areas, depth and submission preparation.

Coupons are available by contacting your local association Secretary or Regional Communication Coordinator, and must be submitted with soil submissions. This discount may apply to testing fees as arranged through private consultants and retailers, however any other discounts received by these third parties will override the 10% member offer and may not be combined. If you use a third party for this service, simply ask to see if you are eligible for this discount through them. Members who are new customers with these labs will be required to provide credit card information for billing purposes. Details are available at <http://oscia.wildapricot.org/page-1863471>

*Cathy Dibble, Lead Regional Communication Coordinator  
(Building on the original story prepared by Amy Pethrick)*



## ATTENTION SEED GROWERS OSGA 2015 Annual Meeting December 8<sup>th</sup>, 2015

~~~~~  
**Location: Four Points Sheraton  
London, ON**

~~~~~  
**Register by November 20<sup>th</sup>**

**1-519-826-4212**

**[mstewart@ontariosoilcrop.org](mailto:mstewart@ontariosoilcrop.org)**

**OR**

**<http://www.oscia.cloverpad.org/Events>**





## 2015 Ontario Forage Masters Winner

OSCIA is proud to announce the 2015 Ontario Forage Masters winner, **Chris Brown, Beslea Farms Ltd.**



Chris Brown, with wife Brianne, being presented the award by Alan Kruszel, 2015 OSCIA President (on the right)

The speaking competition was held on November 10<sup>th</sup>, in Guelph and was a wonderful opportunity for the local association's 1<sup>st</sup> place winners to promote the importance of forages at a provincial level. This year there were five excellent presentations from across Ontario (Dave Kuntz, Bruce; Chris Brown, Frontenac; Tim Armstrong, Peel; Scott Droogers, Oxford; and Lorne Vis, Thunder Bay).

The provincial winner was announced at a ceremony in Toronto at the Royal Agricultural Winter Fair (RAWF) on November 11<sup>th</sup>.

As the winner, Chris Brown has been invited to compete at the 2016 American Forage and Grassland Council Forage Spokesperson Competition in Baton Rouge, Louisiana, USA in January 2016. We wish Chris Brown all the best in the next competition.

The *deadline* to enter for the next Ontario Forage Masters program is **April 18, 2016**. Contact your local SCIA or visit our website [www.ontariosoilcrop.org](http://www.ontariosoilcrop.org) in the new year for an entrance package, competition eligibility and guidelines.

You could win great prizes from our sponsors, and as a finalist, tickets to the Horse Show at RAWF, along with one night's accommodation as part of the program.

This program is made possible with the generous contributions of the following sponsors:



Amber Van De Peer, Executive Assistant, OSCIA

## "SARFIP: what's in it for you?"

The way we farm is a very personal experience. Built on our farm's landscape and unique characteristics, past trial and error, and the advice offered up by neighbours when the property was first purchased; it's safe to say that no two producers farm exactly the same. While we clearly cannot control every aspect of production, we do shape the products we produce, and the landscapes we care for.

Part of building great farms is not just being able to seize opportunities, but being able to capitalize on the right opportunities that fit your farm and build your business. With the variety of financial support that's offered through federal and provincial cost-share programs, it can be tough to decide which programs best align with your farm's strategic direction and which programs are right for your farm business.

For Grey County farmer, Willis Murray, he's found the Species At Risk Farm Incentive Program (SARFIP) to be the right fit. Farming what he calls "marginal land" along the Niagara Escarpment, Willis Murray is the first to admit that he doesn't have the richest soil required for high value crops; but with a wealth of biodiversity on his farm, Willis has recognized that Species at Risk may in fact benefit his farm landscape. Willis was able to access financial support for projects he had been intending to complete over time, SARFIP helped to get these projects completed this year. From controlling invasive species to overseeding pasture, these projects had production benefits for Willis' operation while working to support productive grassland habitats for Bobolink and Eastern Meadowlark.

Funding is available across the province for producers interested in projects that include fencing, remote watering systems, invasive species removal, etc. Farm businesses do not need to have Species at Risk on their property to start taking advantage of these opportunities but the stronger the connection to species at risk that the more funding available. Funding is retroactive to April 1, 2015 and remains available at this time.

There are plenty of eligible projects that might be a good fit for your farm. In Willis' experience, if you're thinking about making an improvement or management change on your farm, it's worth looking to see if you can recover some of your costs through SARFIP.

SARFIP is funded by the Ontario Ministry of Natural Resources and Forestry (MNRF) through the Species At Risk Stewardship Fund, and the Government of Canada through the federal Habitat Stewardship Program for Species at Risk.

For more information contact:  
Brad Carberry (226-979-2465)

Marianne Stewart, Communication Specialist, OSCIA



# 2015 OSCIA Annual Meeting

**February 9 - 10, 2016**

Lamplighter Inn & Conference  
Centre, London



## Featuring:

2015 Ontario Forage Master Winner, Chris Brown representing Frontenac County

## Keynote Speakers:

**Dr. Tim Harrigan**, Michigan State University, *"US Agriculture's Response to Lake Erie Algal Blooms"*

**John Burk**, Farmer, Bay City, Michigan, *"Cover Crop Choices & Management Practices on My Farm"*

**Blake Vince**, Farmer, Kent County, *"Cover Crops, the New Paradigm. Financial Yield Not Physical Yield"*

**Dr. Merrin Macrae**, University of Waterloo, *"Reducing Phosphorus Export in Agricultural Runoff"*

**Dr. John Varty**, McMaster University, *"Tractor Canada"*

...and much much more

**Updates will be posted on our website.**



**Grassroots Innovation Since 1939**

# SOIL CHAMPION AWARD

Brought to you by the  
Ontario Soil and Crop Improvement  
Association



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## Nominate a deserving champion!

To be eligible for the annual Soil Champion Award, an individual must be a resident of Ontario *or* have contributed to soil management in a way that directly influences improved soil health and crop productive sustainability in Ontario.

Sustainable soil management practices may be defined as those that:

- Make the most efficient use of nutrients;
- Support systems with no net loss of organic matter and soil aggregate stability;
- Builds the population and diversity of soil organisms;
- Effectively manages surface water to support reduced tillage systems.

**The 2016 OSCIA Soil Champion will be introduced at the Annual Meeting in February.**

## How to make a nomination

The nomination form will be available in January from the OSCIA website at: <http://www.ontariosoilcrop.org>

Completed forms and supporting material can be sent to [avandeppeer@ontariosoilcrop.org](mailto:avandeppeer@ontariosoilcrop.org).

Deadline for all nominations and supporting documents is **September 30, 2016**.







# Growing Forward 2

A federal-provincial-territorial initiative

## 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

## 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

## Biosecurity Workshop

At this one-day workshop, an experienced veterinarian 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 Webinars

Looking to keep up to date on the latest food safety practices and help strengthen your Growing Forward 2 application? Join us for any or all of the food safety workshops, covering a variety of important food safety topics. All workshops are online as webinars, taken from the comfort of your home or business.

## Workshops and Webinars in your area

### EFP Workshop Schedule

Alliston	Day 1 - Jan. 7	Day 2 - Jan. 14
Mount Forest	Day 1 - Jan. 11	Day 2 - Jan. 18
Linwood	Day 1 - Jan. 19	Day 2 - Jan. 26
Orangeville	Day 1 - Jan. 25	Day 2 - Feb. 1
Wingham	Day 1 - Feb. 11	Day 2 - Feb. 18
St. Mary's	Day 1 - Feb. 17	Day 2 - Feb. 24
Paisley	Day 1 - Mar. 22	Day 2 - Mar. 29
Markdale	Day 1 - Mar. 23	Day 2 - Mar. 30
Arthur	Day 1 - Mar. 23	Day 2 - Mar. 30

### GYFP Workshop Schedule

Orangeville	Day 1 - Jan. 5	Day 2 - Jan. 12
Listowel	Day 1 - Jan. 6	Day 2 - Jan. 13
Cargill	Day 1 - Jan. 20	Day 2 - Jan. 27
Rostock	Day 1 - Feb. 2	Day 2 - Feb. 9
Elora	Day 1 - Feb. 3	Day 2 - Feb. 10
Markdale	Day 1 - Feb. 5	Day 2 - Feb. 12
Alliston	Day 1 - Mar. 1	Day 2 - Mar. 8
Fergus	Day 1 - Mar. 1	Day 2 - Mar. 8
Wingham	Day 1 - Mar. 3	Day 2 - Mar. 10

### Food Safety

Creemore	Day 1 - Feb. 9	Day 2 - Feb. 16
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### Biosecurity and Traceability

Elora	Day 1-March 17	Day 2 -March 25
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Register Online at [www.ontariosoilcrop.org](http://www.ontariosoilcrop.org)



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# # ROOTS NOT IRON

Heartland and Thames Valley Region's 3 year cover crop trial.

This plot near Drayton shows a strip of ryegrass in corn vs fall tillage.



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